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权利要求书 2 页 说明书 419 页

[54] 发明名称

毒力基因、蛋白及其用途

[57] 摘要

本发明显示了一系列来自脑膜炎奈瑟氏球菌的基因编码的产物涉及毒力。因此鉴定这些基因可以产生减毒微生物。此外,所述基因或其编码产物可用于制备治疗用的疫苗。

1. 用于治疗或诊断应用的肽，由操纵子编码，所述操纵子包括在此鉴定的如 SEQ ID NO. 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99, 101, 103, 105, 107, 109, 111, 113, 115, 117, 119, 121, 123, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165, 167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195, 197, 199, 201, 203, 205, 207 所示的脑膜炎奈瑟氏球菌的任何核苷酸序列，或革兰氏阴性细菌中在肽或核苷酸水平具有至少 60% 序列相似性或同一性的相关分子，或其功能片段。

2. 根据权利要求 1 的肽，其中序列相似性或同一性为至少 90%。

3. 根据权利要求 1 的肽，其包含在此鉴定的如 SEQ ID NO. 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204, 206 和 208 所示的氨基酸序列。

4. 编码任何一项前述权利要求的肽的多核苷酸，用于治疗或诊断应用。

5. 经转化表达权利要求 1-3 中任一项的肽的宿主。

6. 减毒微生物，其包含破坏下列核苷酸序列的表达的突变：如 SEQ ID NO. 1 定义的核苷酸序列，或权利要求 1 中定义的任何核苷酸序列，除外如 SEQ ID NO. 89 和 157 定义的核苷酸序列。

7. 根据权利要求 6 的微生物，其中所述突变是插入失活或基因

缺失。

8. 根据权利要求 6 或 7 的微生物，其中所述微生物是脑膜炎奈瑟氏球菌。

9. 根据权利要求 6-8 中任一项的微生物，其包含在第二条核苷酸序列中的第二个突变。

10. 根据权利要求 6-9 中任一项的微生物，用于治疗或诊断应用。

11. 根据权利要求 6-10 中任一项的微生物，其包含异源性抗原、治疗性肽或核酸。

12. 疫苗，其包含权利要求 1-3 中任一项的肽，或其表达工具。

13. 疫苗，其包含权利要求 6-11 中任一项的微生物。

14. 针对权利要求 1-3 中任一项的肽产生的抗体。

15. 权利要求 1-11 中任一项的产物在制备用于治疗或预防与奈瑟氏球菌属或革兰氏阴性细菌感染有关的病症的药物中的用途。

16. 根据权利要求 15 的用途，其中所述病症是脑膜炎。

17. 根据权利要求 15 或 16 的用途，用于兽医治疗。

18. 权利要求 1-11 中任一项的产物在鉴定抗微生物药物的筛选试验中的用途。

毒力基因、蛋白及其用途

本申请是申请日为 2001 年 5 月 8 日、发明名称为“毒力基因、蛋白及其用途”的中国发明专利申请 No. 01809191.1 的分案申请。

发明领域

本发明涉及毒力基因和蛋白及其用途。更具体地说，本发明涉及从脑膜炎奈瑟氏球菌（*Neisseria meningitidis*）中得到的基因和蛋白质/肽，及其在治疗和筛选药物中的应用。

发明背景

脑膜炎奈瑟氏球菌是一种引起败血症性休克和细菌性脑膜炎的革兰氏阴性致病菌。在发展中国家这种细菌是细菌性脑膜炎的主要病因，并在非洲和中国引起大规模流行。在英国，脑膜炎奈瑟氏球菌是除道路交通事故外儿童死亡的主要原因。该细菌天然栖居于人鼻咽部，然后进入血流并由此引起严重的败血症或脑膜炎。尽管现有的抗微生物药可以有效地将细菌从机体中清除，脑膜炎球菌性败血症的死亡率仍相当可观。期望提供治疗或预防由脑膜炎奈瑟氏球菌引起的病症的方法，例如通过免疫。

发明概述

本发明是基于发现了脑膜炎奈瑟氏球菌中的毒力基因。

根据本发明的第一方面，本发明的肽是由操纵子编码的，所述操纵子包括权利要求 1 中鉴定的任何核苷酸序列，或其在革兰氏阴性细菌中的同源物、或其功能片段，用于治疗或诊断。

所述肽对于治疗奈瑟氏球菌感染具有许多治疗应用，包括用于预防性应用的疫苗中。

根据第二方面，编码上述肽的多核苷酸也可以用于治疗或诊断。

根据第三方面，编码所述肽的基因可以用于制备减毒微生物。减毒微生物通常具有破坏在此鉴定的一个或多个基因的表达的突变，从而提供缺乏毒力的菌株。这些微生物也可用于治疗 and 诊断。

根据第四方面，本发明的肽、基因和减毒微生物可以用于治疗或预防与奈瑟氏球菌或革兰氏阴性细菌感染有关的病症。

发明详述

本发明是基于发现了编码涉及毒力的肽的基因。因此本发明的肽和基因可用于制备治疗感染的治疗剂。应该理解治疗还包括预防性治疗，如接种疫苗。此外，尽管本发明的产物主要旨在治疗人类患者的感染，认为兽医应用也在本发明的范围之内。

本发明针对脑膜炎奈瑟氏球菌进行描述。然而所有的奈瑟氏球菌菌株和许多其它革兰氏阴性菌株很可能包括与在此鉴定的肽或蛋白具有氨基酸序列同一性或相似性的相关肽或蛋白。可能含有所述肽的微生物包括但不限于沙门氏菌属 (*Salmonella*)、肠杆菌属 (*Enterobacter*)、克雷伯氏菌属 (*Klebsiella*)、志贺氏菌属 (*Shigella*) 和耶尔森氏菌属 (*Yersinia*)。

为鉴定本发明的毒力基因而进行的试验使用了脑膜炎奈瑟氏球菌 B 株。对 A 株数据库进行了源性检索，然而优选 B 株的蛋白和基因。

优选地，可用于本发明各方面的肽与在此鉴定的肽具有大于 40% 的相似性。更优选地，所述肽具有大于 60% 的序列相似性。最优选地，所述肽具有大于 80% 的序列相似性，如 95% 相似性。对于在此鉴定的多核苷酸序列，可用于本发明各方面的相关多核苷酸可以与在此鉴定的序列具有大于 40% 的同一性。更优选地，所述多核苷酸序列具有大于 60% 的序列同一性。最优选地，所述多核苷酸序列具有大于 80% 的序列同一性，如 95% 同一性。

术语“相似性”和“同一性”在本领域中是已知的。使用术语“同一性”是指基于在所比较序列中对应相同位点之间相同匹配的序列比较。术语“相似性”指氨基酸序列之间的比较，并且不仅考虑在相应位点的相同氨基酸，还考虑在相应位点的功能相似氨基酸。因而多肽序列之间的相似性除了序列相似性之外还表示功能相似性。

基因序列之间的同一性水平和氨基酸序列之间的同一性或相似

性水平可以用已知方法计算。关于本发明，公众可得到的确定同一性和相似性的基于计算机的方法包括 BLASTP、BLASTN 和 FASTA (Atschul 等, J. Molec. Biol., 1990; 215: 403-410), 可从 NCBI 得到的 BLASTX 程序, 以及 Genetics Computer Group, Madison WI 的 GAP 程序。在此提供的相似性和同一性水平, 是用 GAP 程序获得的, 用 GAP 罚为 12 和 GAP 长度罚为 4 来确定氨基酸序列比较, 用 GAP 罚为 50 和 GAP 长度罚为 3 来进行多核苷酸序列比较。

通过表征本发明的基因, 可以使用所述基因序列在其它微生物中搜索相关的基因或肽。这可以通过在现有的数据库如 EMBL 或 GenBank 中搜索来进行。

本发明的肽或蛋白可以用本领域已知的方法进行纯化和分离。特别是, 鉴定了基因序列后, 可以使用重组技术在合适的宿主中表达所述基因。可以鉴定出活性片段和相关分子并用于治疗。例如, 所述肽或其活性片段可以用作疫苗中的抗原决定簇以引发免疫应答。它们还可以用于制备抗体, 用于被动免疫或诊断应用。合适的抗体包括单克隆抗体或其片段, 包括单链 Fv 片段。制备抗体的方法对本领域的技术人员是显而易见的。

所述肽的活性片段是那些保留肽的生物学功能的片段。例如, 当用于引发免疫应答时, 所述片段的大小足以使由该片段产生的抗体区分该肽与细菌微生物上的其它肽。通常, 片段大小为至少 30 个核苷酸 (10 个氨基酸), 优选 60 个核苷酸 (20 个氨基酸), 最优选大于 90 个核苷酸 (30 个氨基酸)。

同时应该理解, 除了来自其它微生物的相关分子之外, 本发明还包括对在此鉴定的肽和多核苷酸所作的不明显改变其生物学功能的修饰。本领域的技术人员很清楚, 遗传密码子的简并性可以产生与在此鉴定的多核苷酸具有较小碱基改变的多核苷酸, 但仍编码相同的肽。互补多核苷酸也在本发明范围之内。还可以预计在氨基酸水平的保守替换, 即不同的酸性或碱性氨基酸可以被置换而实质上不丧失功能。

基于减毒微生物制备疫苗是本领域技术人员已知的。可以用合适的载体或佐剂如明矾，作为必需或理想成分，来配制疫苗组合物，以提供对抗感染的有效免疫。疫苗制剂的制备对本领域的技术人员是显而易见的。可以制备带有破坏在此鉴定的任何基因表达的突变的减毒微生物。本领域的技术人员知晓破坏特定基因表达的方法。可以使用的技术包括插入失活或基因缺失技术。本发明的减毒微生物还可以包含其它基因的额外突变，例如在第二个在此鉴定的基因或微生物生长所需的单独基因中，如 *aro* 突变，或对于沙门氏菌来说，在 WO-A-96/17951 中鉴定的位于 SP12 区的基因中。

还可以将减毒微生物用作递送异源性抗原、治疗性蛋白或核酸（DNA 或 RNA）的载体系统。在这个技术方案中，用减毒微生物递送异源性抗原、蛋白或核酸至体内的特定部位。可以通过常规技术将异源性抗原、肽或核酸引入减毒微生物，包括使用重组构建体，如载体，其包含表达异源性抗原或治疗性蛋白的多核苷酸，还包括适合的启动子序列。或者，可以将编码异源性抗原或蛋白的基因引入微生物的基因组，并且内源启动子用于控制表达。

更普遍地，正如本领域的技术人员所熟知的，可以选择合适量的本发明的活性成分以及合适的载体或赋形剂和给药途径用于治疗。可以根据已知的指标如待治疗的病症的性质/严重程度、受治疗者的类型和/或健康情况等选择或确定这些因素。

在一个独立的技术方案中，可以将本发明的产物用于鉴定潜在有效抗微生物药物或检测毒力的筛选试验中。常规的筛选试验是本领域技术人员熟知的，并可以用本发明的产物以适宜的方式作改动。例如，可以将本发明的产物用作潜在药物的作用靶，药物使靶失活或与靶结合的能力表示其潜在的抗微生物活性。

本发明的各种产物还可以用于兽医应用。

以下简要概括用于鉴定毒力基因的试验步骤。

用特征-标记诱变（STM）（Hensel 等，Science，1995；269：400-403）鉴定脑膜炎奈瑟氏球菌中引起败血症感染必需的基因。在

STM 中，用独特的序列标识标记各突变体，使得可以同时分析大量的突变体。但是，必需构建插入突变体的文库，这是目前在研究脑膜炎奈瑟氏球菌中的一个局限。用 Tn10 转座的纯化成分在体外修饰奈瑟氏球菌 DNA 从而成功地完成诱变。由于脑膜炎奈瑟氏球菌能有效地摄取外源 DNA，随后将经修饰的等位基因通过转化引入脑膜炎奈瑟氏球菌。然后筛选突变体引起全身感染的能力。

使用载体 pSTM115 (Sun 等, Nature Medicine, 2000; 6 (11): 1269-1273) 作为在体外诱变的转座子供体。在 96 个独立的转座反应中包括各含独特的特征标记的 96 个 pSTM115 衍生物。修复经修饰的基因组 DNA，并通过转化返还宿主。为了确定 Tn10 插入是否发生在不同位点，通过 DNA 印迹分析评估来自单个转座反应的 40 个转化体。每个转化体均具有单一的不同的 Tn10 插入。为了确定 Tn10 整合在幼鼠全身感染期间是否稳定，比较 6 个突变体在经大鼠传代之前和之后的杂交模式。在感染之前和之后得到相同的杂交模式。

所用的试验条件如下：

细菌菌株和生长：

C311+是从一名侵袭性脑膜炎球菌感染患者中分离到的 ET-5 血清群 B 脑膜炎奈瑟氏球菌 (Virji 等, Mol. Microbiol., 1991; 5: 1831-1841)。在含有 5% Levinthal 补充物的脑-心浸液培养基上培养脑膜炎奈瑟氏球菌。在 Luria Bertani 培养基上繁殖大肠杆菌菌株。将卡那霉素按需分别以 75 µg/ml (脑膜炎奈瑟氏球菌) 和 50 µg/ml (大肠杆菌) 的浓度加入固体培养基。

在体外转座和插入位点表征：

用 pSTM115 中的 pACYC184 复制起点通过标记获救来分离插入位点。用染料终止法进行核苷酸测序 (Perkin Elmer, Norwalk, Connecticut)，使用引物 NG62 (5'-TTGGTTAATTGGTTGTAACACTGG-3') (SEQ ID NO. 209) 或 NG99 (5'-ATTCTCATGTTTGACAGCG-3') (SEQ ID NO. 210)。对蛋白质数据库 (<http://www.ncbi.nlm.nih.gov/>) 进

行同源性检索，包括脑膜炎奈瑟氏球菌血清群 A 和 B 以及淋病奈瑟氏球菌（*N. gonorrhoeae*）基因组序列（分别在 http://www.sanger.ac.uk/Projects/N_meningitidis 和 <http://www.tigr.org>，以及 <http://dnal.chem.ou.edu/gono.html>）。

标记扩增、克隆和 DNA 印迹分析：

如 Hensel 等上文所述进行斑点印迹的杂交和制备，除外标记用引物 NG13（5'-ATCCTACAACCTCAAGCT-3'）（SEQ ID NO. 211）和 NG14（5'-ATCCATTCTAACCAAGC-3'）（SEQ ID NO. 212）扩增，并将 PCR 产物而不是质粒 DNA 固定到膜上。将寡核苷酸 S1（5'-AAGAGATTACGCGCAGACC-3'）（SEQ ID NO. 213）和 S2（5'-AATACGCAACCGCCTCTC-3'）（SEQ ID NO. 214）与 pSTM115 中‘特征标记’两侧的序列退火，并用于从各 pSTM115 衍生物扩增 367 碱基对的产物。对于 DNA 印迹分析，用随机引物方法（NEB）标记来自 pSTM115 的卡那霉素抗性盒，并将其用作针对用 *Cla*I 消化的基因组 DNA 的探针。

动物模型：

为了筛选 STM 库，将突变体在微量滴定板中各培养 18 小时。收集细菌，然后重悬于 PBS 中。用 100 μ l 悬液对 Wistar 大鼠（出生 5 天）作腹膜内接种，并监测 48 小时。为了确定突变体的竞争指数，将野生型和突变体细菌在固体培养基上培养 18 小时，并收集到 PBS 中，用 1: 1 突变体对野生型细胞的比例以 5×10^6 CFU 的总接种量接种大鼠。突变体（卡那霉素耐药）对野生型（卡那霉素敏感）细菌的比例通过将重复样本平板接种到添加有抗生素或无抗生素的培养基平板上培养来确定。

同源性搜索的结果如表 1 所示。

表 1

SEQ ID NO.	蛋白质	收藏号	微生物
3 & 4	3'脱氢奎尼酸合酶	NMB0647	淋病奈瑟氏球菌
25 & 26	糖基转移酶	LS12	淋病奈瑟氏球菌
35 & 36	多核糖核苷酸核苷酸转移酶	NMB0758	脑膜炎奈瑟氏球菌
37 & 38	甲酰甘氨酸酰胺核苷酸合酶	PURL	大肠杆菌
43 & 44	莽草酸脱氢酶	AROE	脑膜炎奈瑟氏球菌
47 & 48	假设的 21.7KD 蛋白	NMB0673	脑膜炎奈瑟氏球菌
53 & 54	推定的细胞结合因子	NMB0345	脑膜炎奈瑟氏球菌
57 & 58	假设的蛋白	HI0633	流感嗜血杆菌
61 & 62	Na ⁺ /H ⁺ 反向转运蛋白	NMBN0536	脑膜炎奈瑟氏球菌
63 & 64	分支酸合酶	AROC	鳃弧菌
67 & 68	百草枯诱导蛋白 B	PQ15B	大肠杆菌
71 & 72	5'-甲基四氢蝶酰三谷氨酸-同型半胱氨酸甲基转移酶	NMB0944	脑膜炎奈瑟氏球菌
79 & 80	α -1, 2N-乙酰葡糖胺转移酶	RFAK	脑膜炎奈瑟氏球菌
83 & 84	推定的 RNA 甲基化酶	NMB1348	脑膜炎奈瑟氏球菌
89 & 90	L-乳酸通透酶	NMB0543	脑膜炎奈瑟氏球菌
91 & 92	ABC 转运蛋白	NMB1240	脑膜炎奈瑟氏球菌
103 & 104	可能的 GTP 结合蛋白	HI0393	流感嗜血杆菌
109 & 110	荚膜多糖修饰蛋白	LIPB	脑膜炎奈瑟氏球菌
113 & 114	假设的 17.8KD 蛋白	NMB0734	脑膜炎奈瑟氏球菌
115 & 116	大肠杆菌假设蛋白	YIGC	鼠伤寒沙门氏菌
119 & 120	核糖核酸酶 III	NMB0686	脑膜炎奈瑟氏球菌
121 & 122	AMPD 蛋白	NMB0668	脑膜炎奈瑟氏球菌
123 & 124	5-甲基四氢蝶酰三谷氨酸-同型半胱氨酸甲基转移酶	NMB0944	脑膜炎奈瑟氏球菌
133 & 134	推定的 ATP 依赖性 RNA 解旋酶	NMB1422	脑膜炎奈瑟氏球菌
137 & 138	推定的 RNA 甲基化酶	NMB1348	脑膜炎奈瑟氏球菌
141 & 142	莽草酸脱氢酶	AROE	脑膜炎奈瑟氏球菌
143 & 144	推定的外膜蛋白	OMPU	脑膜炎奈瑟氏球菌
145 & 146	TONB 蛋白	TONB	脑膜炎奈瑟氏球菌
147 & 148	推定的载脂蛋白 N-酰基转移酶	NMB0713	脑膜炎奈瑟氏球菌
149 & 150	转座酶	NMB0991	脑膜炎奈瑟氏球菌
153 & 154	UTP-葡萄糖-1-磷酸尿苷酰转移酶	NMB0638	脑膜炎奈瑟氏球菌
157 & 158	ADP 庚糖-LPS 庚糖基转移酶 II	NMB1527	脑膜炎奈瑟氏球菌
161 & 162	推定的膜结合裂解胞壁质转糖基酶 B	NMB1279	脑膜炎奈瑟氏球菌
171 & 172	推定的细胞结合因子	NMB0345	脑膜炎奈瑟氏球菌
173 & 174	对氨基苯甲酸合成酶	PABB	幽门螺杆菌 J99
177 & 178	5'-甲基四氢蝶酰三谷氨酸-同型半胱氨酸甲基转移酶	NMB0944	脑膜炎奈瑟氏球菌
183 & 184	保守的假设蛋白	NMB0183	脑膜炎奈瑟氏球菌
185 & 186	大肠杆菌假设蛋白	YIGC	伤寒沙门氏菌 LT12

对于在此鉴定的其余序列，没有获得同源性结果。

用基因产物产生多克隆抗体，将抗体在 Elisa 分析中针对各种脑膜炎奈瑟氏球菌菌株进行测试，以评价其作为候选疫苗的有效性。

所用的菌株为：

脑膜炎奈瑟氏球菌 (B) 1000 型

脑膜炎奈瑟氏球菌 (B) NGE31 型

脑膜炎奈瑟氏球菌 (B) NGH15 型

脑膜炎奈瑟氏球菌 (B) SW2 107 型

脑膜炎奈瑟氏球菌 (B) NHG38 型

脑膜炎奈瑟氏球菌 (B) NGE28 型

脑膜炎奈瑟氏球菌 (B) 2996 型

这提供了关于被这些抗体识别的脑膜炎奈瑟氏球菌菌株的多样性的信息。

将脑膜炎奈瑟氏球菌在含有巧克力化马血的哥伦比亚琼脂 (Oxoid) 上在 37℃ 5% CO₂ 中培养 14 小时。从琼脂平板上将细胞刮下并重悬于 50ml 试管内的 20ml PBS 中。将细胞悬液在 56℃ 加热 30 分钟以杀死细菌。

取 50μl 经加热杀死的脑膜炎奈瑟氏球菌样本铺展在含有巧克力化马血的哥伦比亚琼脂上并在 37℃ 5% CO₂ 中培养 18 小时。这可以证实所有的脑膜炎奈瑟氏球菌细胞已被杀死。相对于 PBS 将悬液的 OD₆₂₀ 调节到 0.1 OD 单位。

用经加热杀死的脑膜炎奈瑟氏球菌进行 Elisa

采用下列方案用经加热杀死的脑膜炎奈瑟氏球菌进行 Elisa 测定。用经加热杀死的细胞将 Elisa 板包被过夜 (向 96 孔板的每孔中加入 50μl 死细菌的 PBS 悬液，并在 4℃ 温育)。

遵循标准的 Elisa 方案，所有的温育均在 37℃ 进行 1 小时。使用 PBS/3% BSA 封闭液，PBS/Tween 0.1% 冲洗液，抗兔 AP 结合二抗 (Sigma) 和 Sigma Fast 对硝基苯磷酸检测试剂 (Sigma)。用适宜的微量滴定板读出器在 405nm 读取数据。所用的血清是初次加强接种后

7 天（初次接种后 35 天）得到的。

所测试的抗体是那些针对如 SEQ ID NO.8, 102, 140, 158 和 202 所示基因产物产生的抗体。在每种情况下结果均显示抗血清识别几株不同的脑膜炎奈瑟氏球菌 B 菌株。

离体/体外筛选

对人类脑膜炎球菌疾病的保护与存在对抗脑膜炎奈瑟氏球菌的杀菌性抗体有关（Goldscheider 等, J. Exp. Med., 1969; 129: 1307-1326）。还有证据提示存在可检测到的杀菌活性与体内模型中的保护相关（参见 Martin, J. Bacteriol., 2000; 83: 27-31）。因此，用产生的抗血清评价所产生的抗体的杀菌活性。

用免疫前血清和针对候选抗原产生的相应兔抗血清进行杀菌试验。进行预筛选以排除仅依靠补体的杀伤之后用市售的兔血清作为补体来源。在必要时用 Dulbecco 氏 PBS（Gibco）作为缓冲液。在用于试验之前将脑膜炎奈瑟氏球菌菌株 MC58 在 37℃（5% CO₂）培养 14 小时。

将 50μl 体积的含 200-400 CFU 的 MC58 在补体（50μl）存在下与 100μl 系列稀释的热灭活血清一起温育。将在 0 时间的样本平板接种到含有巧克力化马血的哥伦比亚琼脂（Oxoid）上培养。温育 60 分钟后，通过在含有巧克力化马血的哥伦比亚琼脂（Oxoid）上平板培养来估计存活的细菌数。杀菌活性表示为 60 分钟后细菌存活的百分比。所有的样本测试一式两份并且平板培养一式三份。使用所有适宜的阳性和阴性对照。在各测试样本中，杀菌活性实质上都大于免疫前血清。

体内筛选

为了评估候选疫苗的保护效力，用在此鉴定的如 SEQ ID NO.102 和 108 所示的重组蛋白免疫成年小鼠，通过活细菌攻击测定保护性应答。对每种候选疫苗，用 25μg 抗原分别在相隔 3 周的两个时间对 15 只 6 周龄的小鼠（6 周龄 balb/C 小鼠）进行接种。

免疫接种方案结束后一周，用同种细菌菌株 MC58 攻击该组。用

在脑心浸液/0.5%铁葡聚糖培养基中的 500 μ l 细菌悬液以 10^7 cfu 的剂量进行腹膜内接种。先前的结果显示在这些动物中需要铁来引发菌血性疾病。该模型之前被用于证实疫苗接种的保护性效力 (Lissolo 等, Infect.Immun., 1995; 63: 884-890)。

对照组包括单独用佐剂接种的动物 (阴性对照) 或用佐剂联合纯化 PorA 接种的动物 (阳性对照)。PorA 是一种仅由脑膜炎奈瑟氏球菌表达的外膜蛋白, 并且是由外膜囊疫苗诱导产生的杀菌抗体的主要攻击目标。也已显示针对 PorA 的单克隆抗体在幼鼠模型中被动地保护动物。然而 PorA 在菌株之间差异很大, 因此尽管其在用同种菌株攻击时引发某些保护, 它并不是理想的候选疫苗。在攻击后监测存活率。阴性对照在 48 小时后无存活。用 PorA 接种的动物在 72 小时时有 6 只存活。而用 SEQ ID NO.102 和 108 蛋白接种的动物分别有 5 只和 3 只存活。

序列表

<110> Microscience Limited

<120> 毒力基因和蛋白质及其用途

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<141> 2001-05-08

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<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

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ggc gtg ttt tcc cac gat ttg tgg aat cct gac gaa cct gcc gtc tat  144
Gly Val Phe Ser His Asp Leu Trp Asn Pro Asp Glu Pro Ala Val Tyr
        35             40             45

acc gcc gtc gaa gca ctg gca ggc agc ccc acc cct ttg gtt gcc cat  192
Thr Ala Val Glu Ala Leu Ala Gly Ser Pro Thr Pro Leu Val Ala His
        50             55             60

ctg ttc ggt caa atc gat ttc ggc ata ccg ccc gtg tat ctt tgg gtt  240
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Asp Ala Ala Arg Phe Ala Gly Val Phe Phe Ala Val Val Gly Leu Thr
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Ser Cys Gly Phe Ala Gly Phe Asn Phe Leu Gly Arg His His Gly Arg
      115                      120                      125

agc gtc gtc ctg att ctc atc ggc tgt atc ggg ctg att ccg acc gta 432
Ser Val Val Leu Ile Leu Ile Gly Cys Ile Gly Leu Ile Pro Thr Val
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His Phe Leu Asn Pro Ala Ala Ala Ala Phe Ala Ala Ala Gly Leu Val
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Leu His Gly Tyr Ser Leu Ala Arg Arg Arg Val Ile Ala Ala Ser Phe
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Ala Ala Phe Ala Leu Met Leu Pro Leu Pro Val Leu Met Phe Phe Arg
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Pro Trp Gln Ser Arg Arg Leu Met Leu Thr Ala Val Ala Ser Leu Ala
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Phe Ala Leu Pro Leu Met Thr Val Tyr Pro Leu Leu Leu Ala Lys Thr
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Gln Pro Ala Leu Phe Ala Gln Trp Leu Asp Asp His Val Phe Gly Thr
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Phe Gly Gly Val Arg His Ile Gln Thr Ala Phe Ser Leu Phe Tyr Tyr
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Ala Gly Val Thr Leu Thr Trp Ala Leu Leu Met Thr Leu Phe Leu Pro
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Trp Leu Asp Ala Ala Lys Ser His Ala Pro Val Val Arg Ser Met Glu
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Cys Ile Asp Ile Gly Gly Gly Asp Leu His Thr Arg Ile Val Trp Thr
485 490 495

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<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

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           20             25             30

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acc acg ctc atc gca ctg ggc ggc ggc gtg atc ggc gat atg acg ggt     336
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Phe Ala Ala Ala Thr Tyr Gln Arg Gly Ala Pro Phe Val Gln Ile Pro
           115            120            125

act act tta tta agt cag gtc gat tcc tcc gtc ggc ggc aaa acc gcc     432
Thr Thr Leu Leu Ser Gln Val Asp Ser Ser Val Gly Gly Lys Thr Ala
           130            135            140

atc aac cac ccg ctc ggc aaa aat atg atc ggc gcg ttc tac cag ccg     480
Ile Asn His Pro Leu Gly Lys Asn Met Ile Gly Ala Phe Tyr Gln Pro
           145            150            155            160

cag gcg gtg ctt gcc gac ttg gac acg ctg cac acc ctg ccc gcc cgc     528
Gln Ala Val Leu Ala Asp Leu Asp Thr Leu His Thr Leu Pro Ala Arg
           165            170            175

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gaa ctg tcc gcc ggt atg gcg gaa gtc atc aaa tac ggc acg ctc ggc 576
Glu Leu Ser Ala Gly Met Ala Glu Val Ile Lys Tyr Gly Thr Leu Gly
      180              185              190

gac att agt ttt ttt gaa tgg ctg gaa cag cat atg ccc gaa ctg atg 624
Asp Ile Ser Phe Phe Glu Trp Leu Glu Gln His Met Pro Glu Leu Met
      195              200              205

gca ctc gaa cgc gcg ccc ctc atc caa gcc gtg tac cgc tgt tgc caa 672
Ala Leu Glu Arg Ala Pro Leu Ile Gln Ala Val Tyr Arg Cys Cys Gln
      210              215              220

atg aag gca gac atc gtc gcc caa gac gaa acc gaa cag ggc ata cgc 720
Met Lys Ala Asp Ile Val Ala Gln Asp Glu Thr Glu Gln Gly Ile Arg
      225              230              235              240

gca tgg ctc aac ctc gga cac acc ttc gga cac gcc att gaa acc gag 768
Ala Trp Leu Asn Leu Gly His Thr Phe Gly His Ala Ile Glu Thr Glu
      245              250              255

atg ggt tac ggt act tgg ctg cac ggc gag gcc gtc gcc gcc ggc tgc 816
Met Gly Tyr Gly Thr Trp Leu His Gly Glu Ala Val Ala Ala Gly Cys
      260              265              270

gtg ttg gcg gcg cgt ttg tcc gaa caa ctg ggc aaa atc tcc gcc gca 864
Val Leu Ala Ala Arg Leu Ser Glu Gln Leu Gly Lys Ile Ser Ala Ala
      275              280              285

gat acc gcg cgg ctc gcc gcc ctg ctc gaa gcc gcc gga ctg ccg tcc 912
Asp Thr Ala Arg Leu Ala Ala Leu Leu Glu Ala Ala Gly Leu Pro Ser
      290              295              300

gcg cca ccc gtg ttt gcc ttt gaa aaa tgg ctg gaa cac atg agc cac 960
Ala Pro Pro Val Phe Ala Phe Glu Lys Trp Leu Glu His Met Ser His
      305              310              315              320

gat aaa aaa gtc agc ggc ggc atc atg cgc ttt atc ggt ctg aac cgg 1008
Asp Lys Lys Val Ser Gly Gly Ile Met Arg Phe Ile Gly Leu Asn Arg
      325              330              335

ctg ggc gaa gcc aac atc acc gaa att acc gac acg gac atc ctc cgc 1056
Leu Gly Glu Ala Asn Ile Thr Glu Ile Thr Asp Thr Asp Ile Leu Arg
      340              345              350

cgc acc ctg caa ccg tat ctc 1077
Arg Thr Leu Gln Pro Tyr Leu
      355

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<210> 4

<211> 359

<212> PRT

<213> 脑膜炎奈瑟氏球菌(*Neisseria meningitidis*)

<400> 4

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Met Lys Thr Leu Thr Val His Thr Pro Ser His Ser Tyr Pro Ile Phe
  1             5             10             15

Ile Gly Asn Gly Leu Leu Pro Gln Ala Gly Ser Leu Leu Lys Pro His
      20             25             30

Leu Gly Lys Arg Ala Ala Ile Ile Thr Asn Glu Thr Val Ala Pro Leu
      35             40             45

Tyr Leu Gly Thr Leu Gln Thr Ala Leu Asp Ala Ala Gly Val Ser His
      50             55             60

Phe Ser Ile Ile Leu Pro Asp Gly Glu Ala His Lys Asn Trp Gln Thr
      65             70             75             80

Leu Asn Leu Ile Phe Asp Gly Leu Met Gln Asn Arg Ala Glu Arg Lys
      85             90             95

Thr Thr Leu Ile Ala Leu Gly Gly Gly Val Ile Gly Asp Met Thr Gly
      100            105            110

Phe Ala Ala Ala Thr Tyr Gln Arg Gly Ala Pro Phe Val Gln Ile Pro
      115            120            125

Thr Thr Leu Leu Ser Gln Val Asp Ser Ser Val Gly Gly Lys Thr Ala
      130            135            140

Ile Asn His Pro Leu Gly Lys Asn Met Ile Gly Ala Phe Tyr Gln Pro
      145            150            155            160

Gln Ala Val Leu Ala Asp Leu Asp Thr Leu His Thr Leu Pro Ala Arg
      165            170            175

Glu Leu Ser Ala Gly Met Ala Glu Val Ile Lys Tyr Gly Thr Leu Gly
      180            185            190

Asp Ile Ser Phe Phe Glu Trp Leu Glu Gln His Met Pro Glu Leu Met
      195            200            205

Ala Leu Glu Arg Ala Pro Leu Ile Gln Ala Val Tyr Arg Cys Cys Gln
      210            215            220

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Met Lys Ala Asp Ile Val Ala Gln Asp Glu Thr Glu Gln Gly Ile Arg
225 230 235 240

Ala Trp Leu Asn Leu Gly His Thr Phe Gly His Ala Ile Glu Thr Glu
245 250 255

Met Gly Tyr Gly Thr Trp Leu His Gly Glu Ala Val Ala Ala Gly Cys
260 265 270

Val Leu Ala Ala Arg Leu Ser Glu Gln Leu Gly Lys Ile Ser Ala Ala
275 280 285

Asp Thr Ala Arg Leu Ala Ala Leu Leu Glu Ala Ala Gly Leu Pro Ser
290 295 300

Ala Pro Pro Val Phe Ala Phe Glu Lys Trp Leu Glu His Met Ser His
305 310 315 320

Asp Lys Lys Val Ser Gly Gly Ile Met Arg Phe Ile Gly Leu Asn Arg
325 330 335

Leu Gly Glu Ala Asn Ile Thr Glu Ile Thr Asp Thr Asp Ile Leu Arg
340 345 350

Arg Thr Leu Gln Pro Tyr Leu
355

<210> 5

<211> 1053

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1053)

<400> 5

atg aca cac cat tac ccc aca gac gat att aag att aaa gaa gtt aaa 48
Met Thr His His Tyr Pro Thr Asp Asp Ile Lys Ile Lys Glu Val Lys
1 5 10 15

gag ttg ttg ccg ccg att gcc cat ctt tac gag ctg ccg att tcc aaa 96
Glu Leu Leu Pro Pro Ile Ala His Leu Tyr Glu Leu Pro Ile Ser Lys
20 25 30

gag gct tcg ggc ttg gtt cac cgc acc cgt cag gaa att tcc gat ttg	144
Glu Ala Ser Gly Leu Val His Arg Thr Arg Gln Glu Ile Ser Asp Leu	
35 40 45	
gtt cac ggc agg gac aag cgg ctg ttg gtt att atc ggg ccg tgt tcg	192
Val His Gly Arg Asp Lys Arg Leu Leu Val Ile Ile Gly Pro Cys Ser	
50 55 60	
att cac gat ccg aaa gcg gcg ttg gaa tat gcg gag cgt ttg ttg aaa	240
Ile His Asp Pro Lys Ala Ala Leu Glu Tyr Ala Glu Arg Leu Leu Lys	
65 70 75 80	
ctc cgc aag cag tat gaa aac gag ctt ttg att gtg atg cgc gtt tat	288
Leu Arg Lys Gln Tyr Glu Asn Glu Leu Leu Ile Val Met Arg Val Tyr	
85 90 95	
ttc gag aag ccg agg acg acg gtg ggt tgg aaa ggt ttg att aac gac	336
Phe Glu Lys Pro Arg Thr Thr Val Gly Trp Lys Gly Leu Ile Asn Asp	
100 105 110	
ccg cat ttg gac ggt acg ttt gac atc aat ttc ggt ttg cgt cag gca	384
Pro His Leu Asp Gly Thr Phe Asp Ile Asn Phe Gly Leu Arg Gln Ala	
115 120 125	
cgc agc ctg ttg ttg tcg ctg aac aat atg ggt atg cct gcc tct acc	432
Arg Ser Leu Leu Leu Ser Leu Asn Asn Met Gly Met Pro Ala Ser Thr	
130 135 140	
gag ttt ttg gat atg att acg ccg caa tat tat gcg gac ttg att tct	480
Glu Phe Leu Asp Met Ile Thr Pro Gln Tyr Tyr Ala Asp Leu Ile Ser	
145 150 155 160	
tgg ggg gca atc ggc gcg cgg acg acc gaa agc caa gtt cac cgc gaa	528
Trp Gly Ala Ile Gly Ala Arg Thr Thr Glu Ser Gln Val His Arg Glu	
165 170 175	
ttg gca agc ggg ctg tcc tgc ccc gtc ggc ttt aaa aac ggt acg gat	576
Leu Ala Ser Gly Leu Ser Cys Pro Val Gly Phe Lys Asn Gly Thr Asp	
180 185 190	
ggc aat ttg aag att gcc atc gac gca atc ggt gcg gcg agc cat tcg	624
Gly Asn Leu Lys Ile Ala Ile Asp Ala Ile Gly Ala Ala Ser His Ser	
195 200 205	
cat cat ttc ctg tct gta acc aag gcc ggg cat tcc gcc att gtc cat	672
His His Phe Leu Ser Val Thr Lys Ala Gly His Ser Ala Ile Val His	
210 215 220	

acc ggc ggc aat cct gac tgt cat gtc att ttg cgc ggc gga aaa gag 720
 Thr Gly Gly Asn Pro Asp Cys His Val Ile Leu Arg Gly Gly Lys Glu
 225 230 235 240

ccg aat tat gat gcg gga cac gtc agc gag gcg gcg gaa caa ctg cgt 768
 Pro Asn Tyr Asp Ala Gly His Val Ser Glu Ala Ala Glu Gln Leu Arg
 245 250 255

gcg gca ggc gta acc gac aag ctg atg att gat tgc agc cac gcc aac 816
 Ala Ala Gly Val Thr Asp Lys Leu Met Ile Asp Cys Ser His Ala Asn
 260 265 270

agc cgc aag gat tac acc cga cag atg gaa gtg gcg caa gac att gcc 864
 Ser Arg Lys Asp Tyr Thr Arg Gln Met Glu Val Ala Gln Asp Ile Ala
 275 280 285

gcc caa ttg gaa cag gac ggc ggc aat att atg ggc gtg atg gtg gaa 912
 Ala Gln Leu Glu Gln Asp Gly Gly Asn Ile Met Gly Val Met Val Glu
 290 295 300

agc cat ttg gtc gaa ggc agg cag gac aag ccg gaa gtg tac gcc aaa 960
 Ser His Leu Val Glu Gly Arg Gln Asp Lys Pro Glu Val Tyr Gly Lys
 305 310 315 320

agc att acc gat gcg tgt att ggt tgg gac gcg act gaa gaa ctg ttg 1008
 Ser Ile Thr Asp Ala Cys Ile Gly Trp Asp Ala Thr Glu Glu Leu Leu
 325 330 335

gca ttg ttg gca ggt gca aac aaa aaa cgt atg gcg cgc gcc ggt 1053
 Ala Leu Leu Ala Gly Ala Asn Lys Lys Arg Met Ala Arg Ala Gly
 340 345 350

<210> 6

<211> 351

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 6

Met Thr His His Tyr Pro Thr Asp Asp Ile Lys Ile Lys Glu Val Lys
 1 5 10 15

Glu Leu Leu Pro Pro Ile Ala His Leu Tyr Glu Leu Pro Ile Ser Lys
 20 25 30

Glu Ala Ser Gly Leu Val His Arg Thr Arg Gln Glu Ile Ser Asp Leu
 35 40 45

Val His Gly Arg Asp Lys Arg Leu Leu Val Ile Ile Gly Pro Cys Ser
 50 55 60

Ile His Asp Pro Lys Ala Ala Leu Glu Tyr Ala Glu Arg Leu Leu Lys
 65 70 75 80

Leu Arg Lys Gln Tyr Glu Asn Glu Leu Leu Ile Val Met Arg Val Tyr
 85 90 95

Phe Glu Lys Pro Arg Thr Thr Val Gly Trp Lys Gly Leu Ile Asn Asp
 100 105 110

Pro His Leu Asp Gly Thr Phe Asp Ile Asn Phe Gly Leu Arg Gln Ala
 115 120 125

Arg Ser Leu Leu Leu Ser Leu Asn Asn Met Gly Met Pro Ala Ser Thr
 130 135 140

Glu Phe Leu Asp Met Ile Thr Pro Gln Tyr Tyr Ala Asp Leu Ile Ser
 145 150 155 160

Trp Gly Ala Ile Gly Ala Arg Thr Thr Glu Ser Gln Val His Arg Glu
 165 170 175

Leu Ala Ser Gly Leu Ser Cys Pro Val Gly Phe Lys Asn Gly Thr Asp
 180 185 190

Gly Asn Leu Lys Ile Ala Ile Asp Ala Ile Gly Ala Ala Ser His Ser
 195 200 205

His His Phe Leu Ser Val Thr Lys Ala Gly His Ser Ala Ile Val His
 210 215 220

Thr Gly Gly Asn Pro Asp Cys His Val Ile Leu Arg Gly Gly Lys Glu
 225 230 235 240

Pro Asn Tyr Asp Ala Gly His Val Ser Glu Ala Ala Glu Gln Leu Arg
 245 250 255

Ala Ala Gly Val Thr Asp Lys Leu Met Ile Asp Cys Ser His Ala Asn
 260 265 270

Ser Arg Lys Asp Tyr Thr Arg Gln Met Glu Val Ala Gln Asp Ile Ala
 275 280 285

Ala Gln Leu Glu Gln Asp Gly Gly Asn Ile Met Gly Val Met Val Glu
 290 295 300

Ser His Leu Val Glu Gly Arg Gln Asp Lys Pro Glu Val Tyr Gly Lys
305 310 315 320

Ser Ile Thr Asp Ala Cys Ile Gly Trp Asp Ala Thr Glu Glu Leu Leu
325 330 335

Ala Leu Leu Ala Gly Ala Asn Lys Lys Arg Met Ala Arg Ala Gly
340 345 350

<210> 7

<211> 1686

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1686)

<400> 7

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atg tta caa tcc gaa aat tcg aaa aat tta atc tct tgt tca ata aag 48
Met Leu Gln Ser Glu Asn Ser Lys Asn Leu Ile Ser Cys Ser Ile Lys
  1          5          10          15

gct tta cca atc atg att tct acc aac ggc atc acc atg cag ttc ggc 96
Ala Leu Pro Ile Met Ile Ser Thr Asn Gly Ile Thr Met Gln Phe Gly
      20          25          30

gcg aag ccg ctg ttt gaa aac gta tcc gtt aaa ttc ggc gaa ggc aac 144
Ala Lys Pro Leu Phe Glu Asn Val Ser Val Lys Phe Gly Glu Gly Asn
      35          40          45

cgc tac ggt ttg atc ggc gcg aac ggc tca ggc aaa tcc acc ttc atg 192
Arg Tyr Gly Leu Ile Gly Ala Asn Gly Ser Gly Lys Ser Thr Phe Met
      50          55          60

aaa atc ctc ggc ggc gat ttg gaa cag aca gcc ggc gaa gtg gcg att 240
Lys Ile Leu Gly Gly Asp Leu Glu Gln Thr Ala Gly Glu Val Ala Ile
      65          70          75          80

gaa aac ggc gtg cgt ttg ggt aaa ttg cgc caa gac cag ttt gcc tac 288
Glu Asn Gly Val Arg Leu Gly Lys Leu Arg Gln Asp Gln Phe Ala Tyr
      85          90          95

gaa gat atg cgc gtg ctg gac gtg gta atg atg ggt cac acc gaa atg 336
Glu Asp Met Arg Val Leu Asp Val Val Met Met Gly His Thr Glu Met
      100          105          110

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tgg gcg gcg atg acc gaa cgt gat gcg att tac gcc aat ccc gaa gcc 384
Trp Ala Ala Met Thr Glu Arg Asp Ala Ile Tyr Ala Asn Pro Glu Ala
      115                120                125

acc gaa gac gac tac atg aaa gcc gca gaa ctg gaa gcc aag ttc gcc 432
Thr Glu Asp Asp Tyr Met Lys Ala Ala Glu Leu Glu Ala Lys Phe Ala
      130                135                140

gaa tac gac ggc tac acc gcc gaa gcg cgt gcc gcc gag ttg ttg agc 480
Glu Tyr Asp Gly Tyr Thr Ala Glu Ala Arg Ala Ala Glu Leu Leu Ser
      145                150                155                160

ggc gtg ggc att tcc gaa gat ttg cac aat gca acc atg gca gaa gtt 528
Gly Val Gly Ile Ser Glu Asp Leu His Asn Ala Thr Met Ala Glu Val
      165                170                175

gcc ccg ggc ttc aaa ctg cgc gta ttg ctg gcg caa gcc ctg ttc tcc 576
Ala Pro Gly Phe Lys Leu Arg Val Leu Leu Ala Gln Ala Leu Phe Ser
      180                185                190

aag ccg gat gta ttg ctc ttg gac gaa ccg acc aat aac ttg gac att 624
Lys Pro Asp Val Leu Leu Leu Asp Glu Pro Thr Asn Asn Leu Asp Ile
      195                200                205

aat acc atc cgt tgg ttg gaa ggc gtg ttg aac cag tac gac tcc acg 672
Asn Thr Ile Arg Trp Leu Glu Gly Val Leu Asn Gln Tyr Asp Ser Thr
      210                215                220

atg att atc atc tcg cac gac cgc cac ttc ttg aac gaa gtc tgc acg 720
Met Ile Ile Ile Ser His Asp Arg His Phe Leu Asn Glu Val Cys Thr
      225                230                235                240

cat atg gca gat ttg gat tac aac acc atc acc atc tat ccg ggc aac 768
His Met Ala Asp Leu Asp Tyr Asn Thr Ile Thr Ile Tyr Pro Gly Asn
      245                250                255

tac gac gac tat atg ctc gcc tcc gcc caa tcg cgc gaa cgc gcc ctg 816
Tyr Asp Asp Tyr Met Leu Ala Ser Ala Gln Ser Arg Glu Arg Ala Leu
      260                265                270

aaa gac aat gcc aag gcg aag gaa aaa ttg cag gaa ttg caa gaa ttt 864
Lys Asp Asn Ala Lys Ala Lys Glu Lys Leu Gln Glu Leu Gln Glu Phe
      275                280                285

gtg gcg ccg ttc agt gcc aac aaa tcc aaa gcc cgt cag gca acc agc 912
Val Ala Arg Phe Ser Ala Asn Lys Ser Lys Ala Arg Gln Ala Thr Ser
      290                295                300

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cgt ctg aaa cag gca gac aaa atc aaa tcg gag atg gtc gag gtc aaa 960
Arg Leu Lys Gln Ala Asp Lys Ile Lys Ser Glu Met Val Glu Val Lys
305          310          315          320

ccc tct acc cgt caa aac ccg tat atc cgt ttt gaa gcc gat gaa aaa 1008
Pro Ser Thr Arg Gln Asn Pro Tyr Ile Arg Phe Glu Ala Asp Glu Lys
          325          330          335

gcc aag ctg cac cgt cag gct gtg gaa gtt gaa aaa ctg gcg aaa cgc 1056
Ala Lys Leu His Arg Gln Ala Val Glu Val Glu Lys Leu Ala Lys Arg
          340          345          350

ttt gaa acc cag ttg ttt aaa aac ctg aac ttt atc ctt gaa gcg gga 1104
Phe Glu Thr Gln Leu Phe Lys Asn Leu Asn Phe Ile Leu Glu Ala Gly
          355          360          365

caa cgc ctc gcc atc atc ggc ccg aac ggc gcg ggc aaa tcc acc ctg 1152
Gln Arg Leu Ala Ile Ile Gly Pro Asn Gly Ala Gly Lys Ser Thr Leu
          370          375          380

ctg aaa ctc ttg gcc ggc gcg tac aac ccc gaa tat tca gac ggt ctg 1200
Leu Lys Leu Leu Ala Gly Ala Tyr Asn Pro Glu Tyr Ser Asp Gly Leu
385          390          395          400

ctg ccg gac gaa ggc agc atc aaa tgg gcg gaa aaa gcc agc gtc ggc 1248
Leu Pro Asp Glu Gly Ser Ile Lys Trp Ala Glu Lys Ala Ser Val Gly
          405          410          415

tac tat ccg caa gat cac gaa aac gac ttc gat gtc gat atg gat ttg 1296
Tyr Tyr Pro Gln Asp His Glu Asn Asp Phe Asp Val Asp Met Asp Leu
          420          425          430

agc gaa tgg atg cgc caa tgg ggg cag gac ggc gac gac gaa caa gtc 1344
Ser Glu Trp Met Arg Gln Trp Gly Gln Asp Gly Asp Asp Glu Gln Val
          435          440          445

atc cgc ggc act ttg ggg cgt ttg ctc ttc ggc agt aac gat gtc gtg 1392
Ile Arg Gly Thr Leu Gly Arg Leu Leu Phe Gly Ser Asn Asp Val Val
          450          455          460

aaa aaa gtg aag gtt ctc tcc ggt ggt gaa aaa ggc cgt atg ctt tac 1440
Lys Lys Val Lys Val Leu Ser Gly Gly Glu Lys Gly Arg Met Leu Tyr
465          470          475          480

ggc aaa ctg ttg ctg ttg aaa ccc aat gtc tta gtc atg gat gaa ccg 1488
Gly Lys Leu Leu Leu Leu Lys Pro Asn Val Leu Val Met Asp Glu Pro
          485          490          495

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acc aac cac atg gac atg gaa agc atc gaa tcc ttg aac atg gcg ctg 1536
Thr Asn His Met Asp Met Glu Ser Ile Glu Ser Leu Asn Met Ala Leu
      500              505              510

gaa aaa tac aac ggc acg ctg att ttc gtc tcc cac gac cgt cag ttc 1584
Glu Lys Tyr Asn Gly Thr Leu Ile Phe Val Ser His Asp Arg Gln Phe
      515              520              525

gtt tct tcc ctg gct acc caa atc att gaa ttg gac ggc aaa ggc gga 1632
Val Ser Ser Leu Ala Thr Gln Ile Ile Glu Leu Asp Gly Lys Gly Gly
      530              535              540

tat gaa cac tac ttg ggc gat tac gaa agc tat ctc gag aaa aaa ggc 1680
Tyr Glu His Tyr Leu Gly Asp Tyr Glu Ser Tyr Leu Glu Lys Lys Gly
      545              550              555              560

gta gca 1686
Val Ala

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<210> 8

<211> 562

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 8

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Met Leu Gln Ser Glu Asn Ser Lys Asn Leu Ile Ser Cys Ser Ile Lys
  1              5              10              15

Ala Leu Pro Ile Met Ile Ser Thr Asn Gly Ile Thr Met Gln Phe Gly
      20              25              30

Ala Lys Pro Leu Phe Glu Asn Val Ser Val Lys Phe Gly Glu Gly Asn
      35              40              45

Arg Tyr Gly Leu Ile Gly Ala Asn Gly Ser Gly Lys Ser Thr Phe Met
      50              55              60

Lys Ile Leu Gly Gly Asp Leu Glu Gln Thr Ala Gly Glu Val Ala Ile
      65              70              75              80

Glu Asn Gly Val Arg Leu Gly Lys Leu Arg Gln Asp Gln Phe Ala Tyr
      85              90              95

Glu Asp Met Arg Val Leu Asp Val Val Met Met Gly His Thr Glu Met
      100              105              110

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Trp Ala Ala Met Thr Glu Arg Asp Ala Ile Tyr Ala Asn Pro Glu Ala
 115 120 125

Thr Glu Asp Asp Tyr Met Lys Ala Ala Glu Leu Glu Ala Lys Phe Ala
 130 135 140

Glu Tyr Asp Gly Tyr Thr Ala Glu Ala Arg Ala Ala Glu Leu Leu Ser
 145 150 155 160

Gly Val Gly Ile Ser Glu Asp Leu His Asn Ala Thr Met Ala Glu Val
 165 170 175

Ala Pro Gly Phe Lys Leu Arg Val Leu Leu Ala Gln Ala Leu Phe Ser
 180 185 190

Lys Pro Asp Val Leu Leu Leu Asp Glu Pro Thr Asn Asn Leu Asp Ile
 195 200 205

Asn Thr Ile Arg Trp Leu Glu Gly Val Leu Asn Gln Tyr Asp Ser Thr
 210 215 220

Met Ile Ile Ile Ser His Asp Arg His Phe Leu Asn Glu Val Cys Thr
 225 230 235 240

His Met Ala Asp Leu Asp Tyr Asn Thr Ile Thr Ile Tyr Pro Gly Asn
 245 250 255

Tyr Asp Asp Tyr Met Leu Ala Ser Ala Gln Ser Arg Glu Arg Ala Leu
 260 265 270

Lys Asp Asn Ala Lys Ala Lys Glu Lys Leu Gln Glu Leu Gln Glu Phe
 275 280 285

Val Ala Arg Phe Ser Ala Asn Lys Ser Lys Ala Arg Gln Ala Thr Ser
 290 295 300

Arg Leu Lys Gln Ala Asp Lys Ile Lys Ser Glu Met Val Glu Val Lys
 305 310 315 320

Pro Ser Thr Arg Gln Asn Pro Tyr Ile Arg Phe Glu Ala Asp Glu Lys
 325 330 335

Ala Lys Leu His Arg Gln Ala Val Glu Val Glu Lys Leu Ala Lys Arg
 340 345 350

Phe Glu Thr Gln Leu Phe Lys Asn Leu Asn Phe Ile Leu Glu Ala Gly
 355 360 365

Gln Arg Leu Ala Ile Ile Gly Pro Asn Gly Ala Gly Lys Ser Thr Leu
 370 375 380
 Leu Lys Leu Leu Ala Gly Ala Tyr Asn Pro Glu Tyr Ser Asp Gly Leu
 385 390 395 400
 Leu Pro Asp Glu Gly Ser Ile Lys Trp Ala Glu Lys Ala Ser Val Gly
 405 410 415
 Tyr Tyr Pro Gln Asp His Glu Asn Asp Phe Asp Val Asp Met Asp Leu
 420 425 430
 Ser Glu Trp Met Arg Gln Trp Gly Gln Asp Gly Asp Asp Glu Gln Val
 435 440 445
 Ile Arg Gly Thr Leu Gly Arg Leu Leu Phe Gly Ser Asn Asp Val Val
 450 455 460
 Lys Lys Val Lys Val Leu Ser Gly Gly Glu Lys Gly Arg Met Leu Tyr
 465 470 475 480
 Gly Lys Leu Leu Leu Leu Lys Pro Asn Val Leu Val Met Asp Glu Pro
 485 490 495
 Thr Asn His Met Asp Met Glu Ser Ile Glu Ser Leu Asn Met Ala Leu
 500 505 510
 Glu Lys Tyr Asn Gly Thr Leu Ile Phe Val Ser His Asp Arg Gln Phe
 515 520 525
 Val Ser Ser Leu Ala Thr Gln Ile Ile Glu Leu Asp Gly Lys Gly Gly
 530 535 540
 Tyr Glu His Tyr Leu Gly Asp Tyr Glu Ser Tyr Leu Glu Lys Lys Gly
 545 550 555 560
 Val Ala

<210> 9

<211> 1632

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1632)

<400> 9

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atg ata aaa ccg aac ctg agg ccg aag ctc ggc tct tcc gcg ctg att 48
Met Ile Lys Pro Asn Leu Arg Pro Lys Leu Gly Ser Ser Ala Leu Ile
  1           5           10          15

gcc ttc ctt tcc ctg tat tcc tcg ctg gta ttg aat tac gcc ttt ttt 96
Ala Phe Leu Ser Leu Tyr Ser Ser Leu Val Leu Asn Tyr Ala Phe Phe
      20           25           30

gcc aaa gtt gtc gag ctt cat cct ttt aac ggc acc ggg gcg gat atc 144
Ala Lys Val Val Glu Leu His Pro Phe Asn Gly Thr Gly Ala Asp Ile
      35           40           45

ttc ctc tat acg atg ccg gtg gtg ctg ttt ttt tta agt aat ttc gtt 192
Phe Leu Tyr Thr Met Pro Val Val Leu Phe Phe Leu Ser Asn Phe Val
      50           55           60

ttt cac gtc att gcc ctg cct ttc gtg cat aag gta ttg att ccg ttg 240
Phe His Val Ile Ala Leu Pro Phe Val His Lys Val Leu Ile Pro Leu
      65           70           75           80

ata ttg gtt atc agt gcg gcg gtg tct tac caa gaa ata ttt ttc aat 288
Ile Leu Val Ile Ser Ala Ala Val Ser Tyr Gln Glu Ile Phe Phe Asn
      85           90           95

atc tat ttc aac aag tcg atg ttg aat aat gtc ttg caa act acg gct 336
Ile Tyr Phe Asn Lys Ser Met Leu Asn Asn Val Leu Gln Thr Thr Ala
      100          105          110

gcc gaa agc gcg cgc ctg att acg ccg ggc tat gtg ctg tgg att gta 384
Ala Glu Ser Ala Arg Leu Ile Thr Pro Gly Tyr Val Leu Trp Ile Val
      115          120          125

tgt ttg ggc gta ttg ccc gcg ctg gcg tat atc gcc gtc aag gtt aaa 432
Cys Leu Gly Val Leu Pro Ala Leu Ala Tyr Ile Ala Val Lys Val Lys
      130          135          140

tac cgc gtt tgg tat aag gag ctt ttg acg cgc ctt gtg ctt gcc gcc 480
Tyr Arg Val Trp Tyr Lys Glu Leu Leu Thr Arg Leu Val Leu Ala Ala
      145          150          155          160

gtt tcc ttt ttg tgc gcg ttg ggc atc gca atg ttg caa tat cag gat 528
Val Ser Phe Leu Cys Ala Leu Gly Ile Ala Met Leu Gln Tyr Gln Asp
      165          170          175

tac gcc tcg ttt ttc cgc aac aat aaa tca gta acc cat ctg att gtg 576

```



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Asn Asp Lys Asp Ala Val Leu Ile Leu His Thr Ile Gly Ser His Gly
 370                      375                      380

ccg acg tat tac gaa cgc tat acc gaa gcc gaa cgc aaa ttc acg ccg 1200
Pro Thr Tyr Tyr Glu Arg Tyr Thr Glu Ala Glu Arg Lys Phe Thr Pro
385                      390                      395                      400

acc tgc gac acc aac gaa atc aac aaa tgc acc cgc gcc acg ctg gtc 1248
Thr Cys Asp Thr Asn Glu Ile Asn Lys Cys Thr Arg Ala Thr Leu Val
                      405                      410                      415

aac act tac gac aat acg gtt ttg tat gtg gac cag ttt atc gac aag 1296
Asn Thr Tyr Asp Asn Thr Val Leu Tyr Val Asp Gln Phe Ile Asp Lys
                      420                      425                      430

gtt atc cgc aaa ctt gaa aac cgc gac gat ttg gaa agc gtg gtg cat 1344
Val Ile Arg Lys Leu Glu Asn Arg Asp Asp Leu Glu Ser Val Val His
                      435                      440                      445

tat gtt tcc gac cac gcc gaa agt ttg gcc gaa aac ggg atg tac ctg 1392
Tyr Val Ser Asp His Gly Glu Ser Leu Gly Glu Asn Gly Met Tyr Leu
                      450                      455                      460

cac gcc gcg cct tac gcc atc gcg cct tcc ggg cag acg cat atc ccg 1440
His Ala Ala Pro Tyr Ala Ile Ala Pro Ser Gly Gln Thr His Ile Pro
465                      470                      475                      480

atg gtt atg tgg ttt tcc aaa gcc ttc cgc caa cac ggg ggc ata gat 1488
Met Val Met Trp Phe Ser Lys Ala Phe Arg Gln His Gly Gly Ile Asp
                      485                      490                      495

ttc caa tgc ctc aaa caa aaa gcg gcg gaa aac gaa tat tcg cac gac 1536
Phe Gln Cys Leu Lys Gln Lys Ala Ala Glu Asn Glu Tyr Ser His Asp
                      500                      505                      510

cac tat ttc agc acg gta ttg ggg ctg atg gac att tcc aac agc caa 1584
His Tyr Phe Ser Thr Val Leu Gly Leu Met Asp Ile Ser Asn Ser Gln
                      515                      520                      525

acc tat cgg aag gaa atg gat ata ttg gca gcc tgc cgc cgt ccg cgc 1632
Thr Tyr Arg Lys Glu Met Asp Ile Leu Ala Ala Cys Arg Arg Pro Arg
530                      535                      540

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<210> 10

<211> 544

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 10

Met Ile Lys Pro Asn Leu Arg Pro Lys Leu Gly Ser Ser Ala Leu Ile
1 5 10 15

Ala Phe Leu Ser Leu Tyr Ser Ser Leu Val Leu Asn Tyr Ala Phe Phe
20 25 30

Ala Lys Val Val Glu Leu His Pro Phe Asn Gly Thr Gly Ala Asp Ile
35 40 45

Phe Leu Tyr Thr Met Pro Val Val Leu Phe Phe Leu Ser Asn Phe Val
50 55 60

Phe His Val Ile Ala Leu Pro Phe Val His Lys Val Leu Ile Pro Leu
65 70 75 80

Ile Leu Val Ile Ser Ala Ala Val Ser Tyr Gln Glu Ile Phe Phe Asn
85 90 95

Ile Tyr Phe Asn Lys Ser Met Leu Asn Asn Val Leu Gln Thr Thr Ala
100 105 110

Ala Glu Ser Ala Arg Leu Ile Thr Pro Gly Tyr Val Leu Trp Ile Val
115 120 125

Cys Leu Gly Val Leu Pro Ala Leu Ala Tyr Ile Ala Val Lys Val Lys
130 135 140

Tyr Arg Val Trp Tyr Lys Glu Leu Leu Thr Arg Leu Val Leu Ala Ala
145 150 155 160

Val Ser Phe Leu Cys Ala Leu Gly Ile Ala Met Leu Gln Tyr Gln Asp
165 170 175

Tyr Ala Ser Phe Phe Arg Asn Asn Lys Ser Val Thr His Leu Ile Val
180 185 190

Pro Ser Asn Phe Ile Gly Ala Gly Val Ser Lys Tyr Lys Asp Trp Lys
195 200 205

Arg Ser Asn Ile Pro Tyr Thr Gln Leu Asp Met Ala Val Val Gln Asn
210 215 220

Arg Pro Ala Gly Ser Leu Arg Arg Phe Val Val Leu Val Val Gly Glu
225 230 235 240

Thr Thr Arg Ala Ala Asn Trp Gly Leu Asn Gly Tyr Ser Arg Gln Thr

	245		250		255
Thr Pro Leu Leu Ala Ala Arg Gly Asp Glu Ile Val Asn Phe Pro Gln					
	260		265		270
Val Arg Ser Cys Gly Thr Ser Thr Ala His Ser Leu Pro Cys Met Phe					
	275		280		285
Ser Thr Phe Asp Arg Thr Asp Tyr Asp Glu Ile Lys Ala Glu His Gln					
	290		295		300
Asp Asn Leu Leu Asp Ile Val Gln Arg Ala Gly Val Glu Val Thr Trp					
305		310		315	320
Leu Glu Asn Asp Ser Gly Cys Lys Gly Val Cys Gly Lys Val Pro Asn					
	325		330		335
Thr Asp Val Thr Ser Leu Asn Leu Pro Glu Tyr Cys Arg Asn Gly Glu					
	340		345		350
Cys Leu Asp Asn Ile Leu Leu Thr Lys Phe Asp Glu Val Leu Asn Lys					
	355		360		365
Asn Asp Lys Asp Ala Val Leu Ile Leu His Thr Ile Gly Ser His Gly					
	370		375		380
Pro Thr Tyr Tyr Glu Arg Tyr Thr Glu Ala Glu Arg Lys Phe Thr Pro					
385		390		395	400
Thr Cys Asp Thr Asn Glu Ile Asn Lys Cys Thr Arg Ala Thr Leu Val					
	405		410		415
Asn Thr Tyr Asp Asn Thr Val Leu Tyr Val Asp Gln Phe Ile Asp Lys					
	420		425		430
Val Ile Arg Lys Leu Glu Asn Arg Asp Asp Leu Glu Ser Val Val His					
	435		440		445
Tyr Val Ser Asp His Gly Glu Ser Leu Gly Glu Asn Gly Met Tyr Leu					
	450		455		460
His Ala Ala Pro Tyr Ala Ile Ala Pro Ser Gly Gln Thr His Ile Pro					
465		470		475	480
Met Val Met Trp Phe Ser Lys Ala Phe Arg Gln His Gly Gly Ile Asp					
	485		490		495
Phe Gln Cys Leu Lys Gln Lys Ala Ala Glu Asn Glu Tyr Ser His Asp					

500	505	510
His Tyr Phe Ser Thr Val Leu Gly Leu Met Asp Ile Ser Asn Ser Gln		
515	520	525
Thr Tyr Arg Lys Glu Met Asp Ile Leu Ala Ala Cys Arg Arg Pro Arg		
530	535	540

<210> 11

<211> 1052

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1050)

<400> 11

atg aca cac cat tac ccc aca gac gat att aag att aaa gaa gtt aaa	48
Met Thr His His Tyr Pro Thr Asp Asp Ile Lys Ile Lys Glu Val Lys	
1 5 10 15	
gag ttg ttg ccg ccg att gcc cat ctt tac gag ctg ccg att tcc aaa	96
Glu Leu Leu Pro Pro Ile Ala His Leu Tyr Glu Leu Pro Ile Ser Lys	
20 25 30	
gag gct tcg ggc ttg gtt cac cgc acc cgt cag gaa att tcc gat ttg	144
Glu Ala Ser Gly Leu Val His Arg Thr Arg Gln Glu Ile Ser Asp Leu	
35 40 45	
gtt cac ggc agg gac aag cgg ctg ttg gtt att atc ggg ccg tgt tcg	192
Val His Gly Arg Asp Lys Arg Leu Leu Val Ile Ile Gly Pro Cys Ser	
50 55 60	
att cac gat ccg aaa gcg gcg ttg gaa tat gcg gag cgt ttg ttg aaa	240
Ile His Asp Pro Lys Ala Ala Leu Glu Tyr Ala Glu Arg Leu Leu Lys	
65 70 75 80	
ctc cgc aag cag tat gaa aac gag ctt ttg att gtg atg cgc gtt tat	288
Leu Arg Lys Gln Tyr Glu Asn Glu Leu Leu Ile Val Met Arg Val Tyr	
85 90 95	
ttc gag aag ccg agg acg acg gtg ggt tgg aaa ggt ttg att aac gac	336
Phe Glu Lys Pro Arg Thr Thr Val Gly Trp Lys Gly Leu Ile Asn Asp	
100 105 110	

ccg cat ttg gac ggt acg ttt gac atc aat ttc ggt ttg cgt cag gca	384
Pro His Leu Asp Gly Thr Phe Asp Ile Asn Phe Gly Leu Arg Gln Ala	
115 120 125	
cgc agc ctg ttg ttg tcg ctg aac aat atg ggt atg cct gcc tct acc	432
Arg Ser Leu Leu Leu Ser Leu Asn Asn Met Gly Met Pro Ala Ser Thr	
130 135 140	
gag ttt ttg gat atg att acg ccg caa tat tat gcg gac ttg att tct	480
Glu Phe Leu Asp Met Ile Thr Pro Gln Tyr Tyr Ala Asp Leu Ile Ser	
145 150 155 160	
tgg ggg gca atc ggc gcg cgg acg acc gaa agc caa gtt cac cgc gaa	528
Trp Gly Ala Ile Gly Ala Arg Thr Thr Glu Ser Gln Val His Arg Glu	
165 170 175	
ttg gca agc ggg ctg tcc tgc ccc gtc ggc ttt aaa aac ggt acg gat	576
Leu Ala Ser Gly Leu Ser Cys Pro Val Gly Phe Lys Asn Gly Thr Asp	
180 185 190	
ggc aat ttg aag att gcc atc gac gca atc ggt gcg gcg agc cat tcg	624
Gly Asn Leu Lys Ile Ala Ile Asp Ala Ile Gly Ala Ala Ser His Ser	
195 200 205	
cat cat ttc ctg tct gta acc aag gcc ggg cat tcc gcc att gtc cat	672
His His Phe Leu Ser Val Thr Lys Ala Gly His Ser Ala Ile Val His	
210 215 220	
acc ggc ggc aat cct gac tgt cat gtc att ttg cgc ggc gga aaa gag	720
Thr Gly Gly Asn Pro Asp Cys His Val Ile Leu Arg Gly Gly Lys Glu	
225 230 235 240	
ccg aat tat gat gcg gga cac gtc agc gag gcg gcg gaa caa ctg cgt	768
Pro Asn Tyr Asp Ala Gly His Val Ser Glu Ala Ala Glu Gln Leu Arg	
245 250 255	
gcg gca ggc gta acc gac aag ctg atg att gat tgc agc cac gcc aac	816
Ala Ala Gly Val Thr Asp Lys Leu Met Ile Asp Cys Ser His Ala Asn	
260 265 270	
agc cgc aag gat tac acc cga cag atg gaa gtg gcg caa gac att gcc	864
Ser Arg Lys Asp Tyr Thr Arg Gln Met Glu Val Ala Gln Asp Ile Ala	
275 280 285	
gcc caa ttg gaa cag gac ggc ggc aat att atg ggc gtg atg gtg gaa	912
Ala Gln Leu Glu Gln Asp Gly Gly Asn Ile Met Gly Val Met Val Glu	
290 295 300	

agc cat ttg gtc gaa ggc agg cag gac aag ccg gaa gtg tac ggc aaa 960
 Ser His Leu Val Glu Gly Arg Gln Asp Lys Pro Glu Val Tyr Gly Lys
 305 310 315 320

agc att acc gat gcg tgt att ggt tgg gac gcg act gaa gaa ctg ttg 1008
 Ser Ile Thr Asp Ala Cys Ile Gly Trp Asp Ala Thr Glu Glu Leu Leu
 325 330 335

gca ttg ttg gca ggt gca aac aaa aaa cgt atg gcg cgc gcc gg 1052
 Ala Leu Leu Ala Gly Ala Asn Lys Lys Arg Met Ala Arg Ala
 340 345 350

<210> 12

<211> 350

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 12

Met Thr His His Tyr Pro Thr Asp Asp Ile Lys Ile Lys Glu Val Lys
 1 5 10 15

Glu Leu Leu Pro Pro Ile Ala His Leu Tyr Glu Leu Pro Ile Ser Lys
 20 25 30

Glu Ala Ser Gly Leu Val His Arg Thr Arg Gln Glu Ile Ser Asp Leu
 35 40 45

Val His Gly Arg Asp Lys Arg Leu Leu Val Ile Ile Gly Pro Cys Ser
 50 55 60

Ile His Asp Pro Lys Ala Ala Leu Glu Tyr Ala Glu Arg Leu Leu Lys
 65 70 75 80

Leu Arg Lys Gln Tyr Glu Asn Glu Leu Leu Ile Val Met Arg Val Tyr
 85 90 95

Phe Glu Lys Pro Arg Thr Thr Val Gly Trp Lys Gly Leu Ile Asn Asp
 100 105 110

Pro His Leu Asp Gly Thr Phe Asp Ile Asn Phe Gly Leu Arg Gln Ala
 115 120 125

Arg Ser Leu Leu Leu Ser Leu Asn Asn Met Gly Met Pro Ala Ser Thr
 130 135 140

Glu Phe Leu Asp Met Ile Thr Pro Gln Tyr Tyr Ala Asp Leu Ile Ser
 145 150 155 160

Trp Gly Ala Ile Gly Ala Arg Thr Thr Glu Ser Gln Val His Arg Glu
 165 170 175
 Leu Ala Ser Gly Leu Ser Cys Pro Val Gly Phe Lys Asn Gly Thr Asp
 180 185 190
 Gly Asn Leu Lys Ile Ala Ile Asp Ala Ile Gly Ala Ala Ser His Ser
 195 200 205
 His His Phe Leu Ser Val Thr Lys Ala Gly His Ser Ala Ile Val His
 210 215 220
 Thr Gly Gly Asn Pro Asp Cys His Val Ile Leu Arg Gly Gly Lys Glu
 225 230 235 240
 Pro Asn Tyr Asp Ala Gly His Val Ser Glu Ala Ala Glu Gln Leu Arg
 245 250 255
 Ala Ala Gly Val Thr Asp Lys Leu Met Ile Asp Cys Ser His Ala Asn
 260 265 270
 Ser Arg Lys Asp Tyr Thr Arg Gln Met Glu Val Ala Gln Asp Ile Ala
 275 280 285
 Ala Gln Leu Glu Gln Asp Gly Gly Asn Ile Met Gly Val Met Val Glu
 290 295 300
 Ser His Leu Val Glu Gly Arg Gln Asp Lys Pro Glu Val Tyr Gly Lys
 305 310 315 320
 Ser Ile Thr Asp Ala Cys Ile Gly Trp Asp Ala Thr Glu Glu Leu Leu
 325 330 335
 Ala Leu Leu Ala Gly Ala Asn Lys Lys Arg Met Ala Arg Ala
 340 345 350

<210> 13

<211> 432

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(432)

<400> 13

atg gca ttt ggt tcg atg aat tcc ggc gac gat tct ccg atg tcc gac 48
 Met Ala Phe Gly Ser Met Asn Ser Gly Asp Asp Ser Pro Met Ser Asp
 1 5 10 15

atc aac gtt acg ccg ttg gtg gac gtg atg ctg gtg ttg ctg att gtg 96
 Ile Asn Val Thr Pro Leu Val Asp Val Met Leu Val Leu Leu Ile Val
 20 25 30

ttt atg att act atg ccg gtg ctg acg cat tcc atc cct ttg gaa ctg 144
 Phe Met Ile Thr Met Pro Val Leu Thr His Ser Ile Pro Leu Glu Leu
 35 40 45

ccg acc gcg tcc gag cag aca aac aag cag gac aaa cag cct aaa gac 192
 Pro Thr Ala Ser Glu Gln Thr Asn Lys Gln Asp Lys Gln Pro Lys Asp
 50 55 60

ccc ctg cgc ctg acg att gat gcg aac ggc ggc tat tat gtc ggc ggc 240
 Pro Leu Arg Leu Thr Ile Asp Ala Asn Gly Gly Tyr Tyr Val Gly Gly
 65 70 75 80

gat tct gca agc aaa gtg gaa atc ggg gaa gtg gaa agc cgt ctg aaa 288
 Asp Ser Ala Ser Lys Val Glu Ile Gly Glu Val Glu Ser Arg Leu Lys
 85 90 95

gcc gcc aag gag cag aat gaa aac gtg att gtg gcg att gcg gca gac 336
 Ala Ala Lys Glu Gln Asn Glu Asn Val Ile Val Ala Ile Ala Ala Asp
 100 105 110

aag gcg gtg gaa tac gat tat gta aac aaa gct tta gaa gcc gcc cgt 384
 Lys Ala Val Glu Tyr Asp Tyr Val Asn Lys Ala Leu Glu Ala Ala Arg
 115 120 125

cag gca gga atc acc aaa atc ggt ttt gta acc gaa acc aag gcg caa 432
 Gln Ala Gly Ile Thr Lys Ile Gly Phe Val Thr Glu Thr Lys Ala Gln
 130 135 140

<210> 14

<211> 144

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 14

Met Ala Phe Gly Ser Met Asn Ser Gly Asp Asp Ser Pro Met Ser Asp
 1 5 10 15

Ile Asn Val Thr Pro Leu Val Asp Val Met Leu Val Leu Leu Ile Val

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                20                25                30
Phe Met Ile Thr Met Pro Val Leu Thr His Ser Ile Pro Leu Glu Leu
      35                40                45
Pro Thr Ala Ser Glu Gln Thr Asn Lys Gln Asp Lys Gln Pro Lys Asp
      50                55                60
Pro Leu Arg Leu Thr Ile Asp Ala Asn Gly Gly Tyr Tyr Val Gly Gly
      65                70                75                80
Asp Ser Ala Ser Lys Val Glu Ile Gly Glu Val Glu Ser Arg Leu Lys
      85                90                95
Ala Ala Lys Glu Gln Asn Glu Asn Val Ile Val Ala Ile Ala Ala Asp
      100                105                110
Lys Ala Val Glu Tyr Asp Tyr Val Asn Lys Ala Leu Glu Ala Ala Arg
      115                120                125
Gln Ala Gly Ile Thr Lys Ile Gly Phe Val Thr Glu Thr Lys Ala Gln
      130                135                140

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<210> 15

<211> 267

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(267)

<400> 15

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atg ctc aaa caa tcc atc gaa atc atc aac aaa ctc gga ctc cac gcc      48
Met Leu Lys Gln Ser Ile Glu Ile Ile Asn Lys Leu Gly Leu His Ala
  1                5                10                15

cgc gcg tcc aac aag ttc acc caa acc gcg tcc caa ttc aaa agc gaa      96
Arg Ala Ser Asn Lys Phe Thr Gln Thr Ala Ser Gln Phe Lys Ser Glu
      20                25                30

gtc tgg gtt acg aaa aac gac agc cgc gtc aac ggc aaa agc att atg      144
Val Trp Val Thr Lys Asn Asp Ser Arg Val Asn Gly Lys Ser Ile Met
      35                40                45

ggg ctg atg atg ctc gcc gcc gcc aag ggt acg gtc atc gaa ctg gag      192

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Gly Leu Met Met Leu Ala Ala Ala Lys Gly Thr Val Ile Glu Leu Glu
 50 55 60

acg gac ggc gcg gac gag gcg gaa gcg atg cgc gcc ctg acc gac tta 240
 Thr Asp Gly Ala Asp Glu Ala Glu Ala Met Arg Ala Leu Thr Asp Leu
 65 70 75 80

atc aac ggc tac ttc ggc gag ggc gaa 267
 Ile Asn Gly Tyr Phe Gly Glu Gly Glu
 85

<210> 16

<211> 89

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 16

Met Leu Lys Gln Ser Ile Glu Ile Ile Asn Lys Leu Gly Leu His Ala
 1 5 10 15

Arg Ala Ser Asn Lys Phe Thr Gln Thr Ala Ser Gln Phe Lys Ser Glu
 20 25 30

Val Trp Val Thr Lys Asn Asp Ser Arg Val Asn Gly Lys Ser Ile Met
 35 40 45

Gly Leu Met Met Leu Ala Ala Ala Lys Gly Thr Val Ile Glu Leu Glu
 50 55 60

Thr Asp Gly Ala Asp Glu Ala Glu Ala Met Arg Ala Leu Thr Asp Leu
 65 70 75 80

Ile Asn Gly Tyr Phe Gly Glu Gly Glu
 85

<210> 17

<211> 633

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1) .. (633)

<400> 17


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atg ccc atg aac ctt ttt caa aac gcc aaa ttc ttc acg acg gta aac 48
Met Pro Met Asn Leu Phe Gln Asn Ala Lys Phe Phe Thr Thr Val Asn
1 5 10 15

cat ctc aaa gac ctg ccg gac aca ccg ctc gaa att gcc ttt gtc ggc 96
His Leu Lys Asp Leu Pro Asp Thr Pro Leu Glu Ile Ala Phe Val Gly
20 25 30

agg agc aat gcc gga aaa tcc agt gcc atc aat acc ctg acc aac cat 144
Arg Ser Asn Ala Gly Lys Ser Ser Ala Ile Asn Thr Leu Thr Asn His
35 40 45

gtc cgt ctt gcc tac gtt tca aaa aca ccc gga cgg acg cag cat atc 192
Val Arg Leu Ala Tyr Val Ser Lys Thr Pro Gly Arg Thr Gln His Ile
50 55 60

aac ttc ttc gag ctg cag aac ggc aat ttt atg gtc gat ttg ccc ggc 240
Asn Phe Phe Glu Leu Gln Asn Gly Asn Phe Met Val Asp Leu Pro Gly
65 70 75 80

tac ggt tat gcc caa gtc ccc gaa gca gta cgc gca cat tgg gtc aat 288
Tyr Gly Tyr Ala Gln Val Pro Glu Ala Val Arg Ala His Trp Val Asn
85 90 95

ctg ctc ggc gac tat ctg caa cag cgc aaa cag ctt atc ggg ctg gtt 336
Leu Leu Gly Asp Tyr Leu Gln Gln Arg Lys Gln Leu Ile Gly Leu Val
100 105 110

ttg att atg gat gcc cgc cat cct tta aaa gaa ctc gac atc cgt atg 384
Leu Ile Met Asp Ala Arg His Pro Leu Lys Glu Leu Asp Ile Arg Met
115 120 125

ctg gac ttt ttc cac acg acc ggc aga ccg gtt cac atc ctg ctg tca 432
Leu Asp Phe Phe His Thr Thr Gly Arg Pro Val His Ile Leu Leu Ser
130 135 140

aaa gcc gac aaa tta tcc aaa aac gaa cag ata aaa acc ctg tcc caa 480
Lys Ala Asp Lys Leu Ser Lys Asn Glu Gln Ile Lys Thr Leu Ser Gln
145 150 155 160

gtc aaa aaa ctg ctc aaa cct tat tcc gac agg caa aac atc agc gta 528
Val Lys Lys Leu Leu Lys Pro Tyr Ser Asp Arg Gln Asn Ile Ser Val
165 170 175

cag ctg ttt tcc agc ctg aaa aaa caa ggt att gac gag gcc aac cga 576
Gln Leu Phe Ser Ser Leu Lys Lys Gln Gly Ile Asp Glu Ala Asn Arg
180 185 190

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act gtc gga agc tgg ttt gac gca gca gat gcc gcc gct tcc tct cca 624
 Thr Val Gly Ser Trp Phe Asp Ala Ala Asp Ala Ala Ala Ser Ser Pro
 195 200 205

aag gaa aac 633
 Lys Glu Asn
 210

<210> 18

<211> 211

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 18

Met Pro Met Asn Leu Phe Gln Asn Ala Lys Phe Phe Thr Thr Val Asn
 1 5 10 15

His Leu Lys Asp Leu Pro Asp Thr Pro Leu Glu Ile Ala Phe Val Gly
 20 25 30

Arg Ser Asn Ala Gly Lys Ser Ser Ala Ile Asn Thr Leu Thr Asn His
 35 40 45

Val Arg Leu Ala Tyr Val Ser Lys Thr Pro Gly Arg Thr Gln His Ile
 50 55 60

Asn Phe Phe Glu Leu Gln Asn Gly Asn Phe Met Val Asp Leu Pro Gly
 65 70 75 80

Tyr Gly Tyr Ala Gln Val Pro Glu Ala Val Arg Ala His Trp Val Asn
 85 90 95

Leu Leu Gly Asp Tyr Leu Gln Gln Arg Lys Gln Leu Ile Gly Leu Val
 100 105 110

Leu Ile Met Asp Ala Arg His Pro Leu Lys Glu Leu Asp Ile Arg Met
 115 120 125

Leu Asp Phe Phe His Thr Thr Gly Arg Pro Val His Ile Leu Leu Ser
 130 135 140

Lys Ala Asp Lys Leu Ser Lys Asn Glu Gln Ile Lys Thr Leu Ser Gln
 145 150 155 160

Val Lys Lys Leu Leu Lys Pro Tyr Ser Asp Arg Gln Asn Ile Ser Val
 165 170 175

Gln Leu Phe Ser Ser Leu Lys Lys Gln Gly Ile Asp Glu Ala Asn Arg
 180 185 190

Thr Val Gly Ser Trp Phe Asp Ala Ala Asp Ala Ala Ala Ser Ser Pro
 195 200 205

Lys Glu Asn
 210

<210> 19

<211> 621

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(621)

<400> 19

atg aaa cga ttg act tta ttg gcc ttt gtt ttg gct gcc ggt gcg gtt 48
 Met Lys Arg Leu Thr Leu Leu Ala Phe Val Leu Ala Ala Gly Ala Val
 1 5 10 15

tcc gca tct ccc aaa gca gac gtg gaa aaa ggc aaa cag gtt gcc gca 96
 Ser Ala Ser Pro Lys Ala Asp Val Glu Lys Gly Lys Gln Val Ala Ala
 20 25 30

acg gtt tgt gcg gct tgc cat gca gca gac ggt aac agc ggc att gcg 144
 Thr Val Cys Ala Ala Cys His Ala Ala Asp Gly Asn Ser Gly Ile Ala
 35 40 45

atg tat ccg cgt ttg gcg gca cag cat act gct tac atc tat cat caa 192
 Met Tyr Pro Arg Leu Ala Ala Gln His Thr Ala Tyr Ile Tyr His Gln
 50 55 60

acc atc ggc atc cgc gac ggt aaa cgc acc cac ggt tcg gca gct gtg 240
 Thr Ile Gly Ile Arg Asp Gly Lys Arg Thr His Gly Ser Ala Ala Val
 65 70 75 80

atg aaa ccg gtg gta atg aat ttg agc gat cag gat att ttg aac gta 288
 Met Lys Pro Val Val Met Asn Leu Ser Asp Gln Asp Ile Leu Asn Val
 85 90 95

tcc gca ttc tat gcc aaa cag cag ccc aaa tcc ggt gaa gcc aat cct 336
 Ser Ala Phe Tyr Ala Lys Gln Gln Pro Lys Ser Gly Glu Ala Asn Pro
 100 105 110

```

aag gaa aat ccc gaa ttg ggt gcg aaa atc tat cgc ggc ggt ttg agc 384
Lys Glu Asn Pro Glu Leu Gly Ala Lys Ile Tyr Arg Gly Gly Leu Ser
    115                120                125

gat aaa aaa gtg ccg gcg tgt atg tcc tgc cac ggt ccg agc ggt gcg 432
Asp Lys Lys Val Pro Ala Cys Met Ser Cys His Gly Pro Ser Gly Ala
    130                135                140

ggt atg ccg ggg ggc gga agc gaa att cag gct tat ccg cgt ttg ggc 480
Gly Met Pro Gly Gly Gly Ser Glu Ile Gln Ala Tyr Pro Arg Leu Gly
    145                150                155                160

ggt cag cat cag gca tat att gtt gaa cag atg aat gcc tac aag tcc 528
Gly Gln His Gln Ala Tyr Ile Val Glu Gln Met Asn Ala Tyr Lys Ser
                165                170                175

ggt cag cgt aaa aat acc atc atg gaa gat att gca aac cgt atg tct 576
Gly Gln Arg Lys Asn Thr Ile Met Glu Asp Ile Ala Asn Arg Met Ser
                180                185                190

gaa gaa gat ttg aaa gcg gtc gcc aac ttt atc caa ggt ttg cgt 621
Glu Glu Asp Leu Lys Ala Val Ala Asn Phe Ile Gln Gly Leu Arg
    195                200                205

```

<210> 20

<211> 207

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 20

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Met Lys Arg Leu Thr Leu Leu Ala Phe Val Leu Ala Ala Gly Ala Val
  1                5                10                15

Ser Ala Ser Pro Lys Ala Asp Val Glu Lys Gly Lys Gln Val Ala Ala
    20                25                30

Thr Val Cys Ala Ala Cys His Ala Ala Asp Gly Asn Ser Gly Ile Ala
    35                40                45

Met Tyr Pro Arg Leu Ala Ala Gln His Thr Ala Tyr Ile Tyr His Gln
    50                55                60

Thr Ile Gly Ile Arg Asp Gly Lys Arg Thr His Gly Ser Ala Ala Val
    65                70                75                80

Met Lys Pro Val Val Met Asn Leu Ser Asp Gln Asp Ile Leu Asn Val

```

```

      85              90              95
Ser Ala Phe Tyr Ala Lys Gln Gln Pro Lys Ser Gly Glu Ala Asn Pro
      100              105              110

Lys Glu Asn Pro Glu Leu Gly Ala Lys Ile Tyr Arg Gly Gly Leu Ser
      115              120              125

Asp Lys Lys Val Pro Ala Cys Met Ser Cys His Gly Pro Ser Gly Ala
      130              135              140

Gly Met Pro Gly Gly Gly Ser Glu Ile Gln Ala Tyr Pro Arg Leu Gly
      145              150              155              160

Gly Gln His Gln Ala Tyr Ile Val Glu Gln Met Asn Ala Tyr Lys Ser
      165              170              175

Gly Gln Arg Lys Asn Thr Ile Met Glu Asp Ile Ala Asn Arg Met Ser
      180              185              190

Glu Glu Asp Leu Lys Ala Val Ala Asn Phe Ile Gln Gly Leu Arg
      195              200              205

```

<210> 21

<211> 765

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(765)

<400> 21

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atg ccg tct gaa gcc cga ttt ttc agg ctt cag acg gca ttt ccc cgt   48
Met Pro Ser Glu Ala Arg Phe Phe Arg Leu Gln Thr Ala Phe Pro Arg
  1              5              10              15

ttg att tgc ggt ata atc cgc ctt tac cca ttg ttt gca aag cac aat   96
Leu Ile Cys Gly Ile Ile Arg Leu Tyr Pro Leu Phe Ala Lys His Asn
      20              25              30

atg aca cgc aaa atc ctc gtt acc tcc gcc ctg ccc tat gcc aac ggc   144
Met Thr Arg Lys Ile Leu Val Thr Ser Ala Leu Pro Tyr Ala Asn Gly
      35              40              45

agc atc cac ctc ggc cac atg gtc gaa cac atc caa acc gac gtt tgg   192

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His Asp Gly Lys Pro His Leu Gln Ala Glu Ala Leu Asn Lys Met
245 250 255

<210> 22

<211> 255

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 22

Met Pro Ser Glu Ala Arg Phe Phe Arg Leu Gln Thr Ala Phe Pro Arg
1 5 10 15

Leu Ile Cys Gly Ile Ile Arg Leu Tyr Pro Leu Phe Ala Lys His Asn
20 25 30

Met Thr Arg Lys Ile Leu Val Thr Ser Ala Leu Pro Tyr Ala Asn Gly
35 40 45

Ser Ile His Leu Gly His Met Val Glu His Ile Gln Thr Asp Val Trp
50 55 60

Val Arg Phe Gln Lys Leu Arg Gly Asn Glu Cys His Tyr Cys Cys Ala
65 70 75 80

Asp Asp Thr His Gly Thr Pro Val Met Leu Ala Ala Gln Lys Gln Gly
85 90 95

Ile Ala Pro Glu Asp Met Ile Ala Lys Val Arg Glu Glu His Leu Ala
100 105 110

Asp Phe Thr Gly Phe Phe Ile Gly Tyr Asp Asn Tyr Tyr Ser Thr His
115 120 125

Ser Pro Glu Asn Lys Gln Phe Ser Gln Asp Ile Tyr Arg Ala Leu Lys
130 135 140

Ala Asn Gly Lys Ile Glu Ser Arg Val Ile Glu Gln Leu Phe Asp Pro
145 150 155 160

Glu Lys Gln Met Phe Leu Pro Asp Arg Phe Val Lys Gly Glu Cys Pro
165 170 175

Lys Cys His Ala Gln Asp Gln Tyr Gly Asp Asn Cys Glu Val Cys Gly
180 185 190

Thr Thr Tyr Ser Pro Thr Glu Leu Ile Asn Pro Tyr Ser Ala Val Ser
195 200 205

Gly Ala Lys Pro Glu Leu Arg Glu Ser Glu His Phe Phe Phe Lys Leu
210 215 220

Gly Glu Cys Ala Asp Phe Leu Lys Ala Trp Thr Ser Gly Asn Asn Pro
225 230 235 240

His Asp Gly Lys Pro His Leu Gln Ala Glu Ala Leu Asn Lys Met
245 250 255

<210> 23

<211> 1539

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1539)

<400> 23

atg aag ttt tta gac cgt gag gca agc att gcc aag ccg ggt ttc aac 48
Met Lys Phe Leu Asp Arg Glu Ala Ser Ile Ala Lys Pro Gly Phe Asn
1 5 10 15

cgt tgg ctc gta ccg ccc gca gca ttg gcg gta cac ctt gcc atc ggg 96
Arg Trp Leu Val Pro Pro Ala Ala Leu Ala Val His Leu Ala Ile Gly
20 25 30

cag att tac gcc tat tcc gta ttc aac gcg ccg ctg acc aaa ctt atc 144
Gln Ile Tyr Ala Tyr Ser Val Phe Asn Ala Pro Leu Thr Lys Leu Ile
35 40 45

ggc ata acc gaa tcg gcg gcc gga gat tgg aag ctg acg acc gta ggt 192
Gly Ile Thr Glu Ser Ala Ala Gly Asp Trp Lys Leu Thr Thr Val Gly
50 55 60

tgg att ttc agt atc gca ctc gcg atg ctg ggc gcg tcg gcc gcc ctg 240
Trp Ile Phe Ser Ile Ala Leu Ala Met Leu Gly Ala Ser Ala Ala Leu
65 70 75 80

ttc ggt acg tgg atg gaa cgg gta ggg ccg cgc aaa gcc ata ttt gcc 288
Phe Gly Thr Trp Met Glu Arg Val Gly Pro Arg Lys Ala Ile Phe Ala
85 90 95

gcc gcc tgc tgt ttc agc ctg ggc ttc ttc gta tcc gca ttc ggc gtg 336
Ala Ala Cys Cys Phe Ser Leu Gly Phe Phe Val Ser Ala Phe Gly Val

100	105	110	
cgt acg cac aac ctc ttc ctg ctc tat ttg ggc aac ggc gtc atc ggc			384
Arg Thr His Asn Leu Phe Leu Leu Tyr Leu Gly Asn Gly Val Ile Gly			
115	120	125	
ggc gta ggc ttg ggt ttg ggc tac atc ggg ccg gtt tcc aca ctg atg			432
Gly Val Gly Leu Gly Leu Gly Tyr Ile Gly Pro Val Ser Thr Leu Met			
130	135	140	
aaa tgg ttt ccc gac aag ccg ggt atg gcg acc ggt ttg gcg att atg			480
Lys Trp Phe Pro Asp Lys Pro Gly Met Ala Thr Gly Leu Ala Ile Met			
145	150	155	160
ggg ttc ggt ggc ggc gca atg ctg gcc tcg ccg ctt tcc gta tca ctg			528
Gly Phe Gly Gly Gly Ala Met Leu Ala Ser Pro Leu Ser Val Ser Leu			
165	170	175	
atg aac acc ttt tca aac gct act tcg gtt ggg gtt gcc gaa acc ttc			576
Met Asn Thr Phe Ser Asn Ala Thr Ser Val Gly Val Ala Glu Thr Phe			
180	185	190	
gcc gta ttg ggt ctg ctt tac ctc gca ctg atg atg ttc ggc gcg ttt			624
Ala Val Leu Gly Leu Leu Tyr Leu Ala Leu Met Met Phe Gly Ala Phe			
195	200	205	
acc atc cgc gta cct gcc gac ggc tgg aaa cct gaa ggc tat acc gcg			672
Thr Ile Arg Val Pro Ala Asp Gly Trp Lys Pro Glu Gly Tyr Thr Ala			
210	215	220	
ccg aaa acg caa aac aag ctg gtc agc agc aat cat gtc aac gtg tcc			720
Pro Lys Thr Gln Asn Lys Leu Val Ser Ser Asn His Val Asn Val Ser			
225	230	235	240
caa gcc atg aaa acg ccg cag ttt tgg ctg ttg ttc tgg gta ttg tgc			768
Gln Ala Met Lys Thr Pro Gln Phe Trp Leu Leu Phe Trp Val Leu Cys			
245	250	255	
ctg aac gta act gcc ggc atc ggc gta ttg ggt cag gca tcc gtg atg			816
Leu Asn Val Thr Ala Gly Ile Gly Val Leu Gly Gln Ala Ser Val Met			
260	265	270	
att cag gaa ctc ttt tcc gaa acc tcc ata ggc agg cag gcg gca gtc			864
Ile Gln Glu Leu Phe Ser Glu Thr Ser Ile Gly Arg Gln Ala Ala Val			
275	280	285	
ggc gca ggt gcg gcg gca ggc ttc gtc agc ctc ctg agc ctg ttt aac			912
Gly Ala Gly Ala Ala Ala Gly Phe Val Ser Leu Leu Ser Leu Phe Asn			

290	295	300	
atg ggc gga cgc ttt ttg tgg tcg agc gtt tcc gac aaa atc gga cgc			960
Met Gly Gly Arg Phe Leu Trp Ser Ser Val Ser Asp Lys Ile Gly Arg			
305	310	315	320
aaa aac acc tac acc atc ttc ttc gta ctc ggt tcg ctg ctg tat ttc			1008
Lys Asn Thr Tyr Thr Ile Phe Phe Val Leu Gly Ser Leu Leu Tyr Phe			
	325	330	335
gcc gtt ccc tcc atc ggc gag ggc ggc agc aaa gcc ctg ttc atc atc			1056
Ala Val Pro Ser Ile Gly Glu Gly Gly Ser Lys Ala Leu Phe Ile Ile			
	340	345	350
ggc ttt tgc gtg att att tcc atg tac ggc ggc gga ttt gcc gcc att			1104
Gly Phe Cys Val Ile Ile Ser Met Tyr Gly Gly Gly Phe Ala Ala Ile			
	355	360	365
ccc gcc tac ctg aaa gac ctg ttc ggc acc tat cag gtc ggc gcg att			1152
Pro Ala Tyr Leu Lys Asp Leu Phe Gly Thr Tyr Gln Val Gly Ala Ile			
	370	375	380
cac gga cgc atc ctg ctg gcc tgg tca acc gcc gcc gtc atc ggc ccg			1200
His Gly Arg Ile Leu Leu Ala Trp Ser Thr Ala Ala Val Ile Gly Pro			
385	390	395	400
gta ctg gtc aat tac ata cgc caa agc caa atc gac agc ggc ata ccg			1248
Val Leu Val Asn Tyr Ile Arg Gln Ser Gln Ile Asp Ser Gly Ile Pro			
	405	410	415
gcg gca cag gca tac agc gta acc atg tac atc atg gcg ggt ctg ctg			1296
Ala Ala Gln Ala Tyr Ser Val Thr Met Tyr Ile Met Ala Gly Leu Leu			
	420	425	430
att atc ggt ttg ttg tgc aac ctc gcc gtc aaa tcc gta cac gaa aaa			1344
Ile Ile Gly Leu Leu Cys Asn Leu Ala Val Lys Ser Val His Glu Lys			
	435	440	445
cac cac gaa aaa gac atc aaa acc gcc gca cac agc ggc aac ccc gat			1392
His His Glu Lys Asp Ile Lys Thr Ala Ala His Ser Gly Asn Pro Asp			
	450	455	460
gac gaa acc gcc ata tcc gac gct tac ctt gtg ggc gaa aaa gtt tcc			1440
Asp Glu Thr Ala Ile Ser Asp Ala Tyr Leu Val Gly Glu Lys Val Ser			
465	470	475	480
ggc ggc ggc ata tcg gtc tgg tgg cgt tgg gca ttg gcc gtc ata ccg			1488
Gly Gly Gly Ile Ser Val Trp Trp Arg Trp Ala Leu Ala Val Ile Pro			

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                485                490                495

ctc gcc tac ggc gtg gtg atg atc ttt gtc aaa gca ctc gac ctt ttc 1536
Leu Ala Tyr Gly Val Val Met Ile Phe Val Lys Ala Leu Asp Leu Phe
                500                505                510

tcc
Ser

1539

<210> 24
<211> 513
<212> PRT
<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 24
Met Lys Phe Leu Asp Arg Glu Ala Ser Ile Ala Lys Pro Gly Phe Asn
  1             5             10             15

Arg Trp Leu Val Pro Pro Ala Ala Leu Ala Val His Leu Ala Ile Gly
  20             25             30

Gln Ile Tyr Ala Tyr Ser Val Phe Asn Ala Pro Leu Thr Lys Leu Ile
  35             40             45

Gly Ile Thr Glu Ser Ala Ala Gly Asp Trp Lys Leu Thr Thr Val Gly
  50             55             60

Trp Ile Phe Ser Ile Ala Leu Ala Met Leu Gly Ala Ser Ala Ala Leu
  65             70             75             80

Phe Gly Thr Trp Met Glu Arg Val Gly Pro Arg Lys Ala Ile Phe Ala
  85             90             95

Ala Ala Cys Cys Phe Ser Leu Gly Phe Phe Val Ser Ala Phe Gly Val
  100            105            110

Arg Thr His Asn Leu Phe Leu Leu Tyr Leu Gly Asn Gly Val Ile Gly
  115            120            125

Gly Val Gly Leu Gly Leu Gly Tyr Ile Gly Pro Val Ser Thr Leu Met
  130            135            140

Lys Trp Phe Pro Asp Lys Pro Gly Met Ala Thr Gly Leu Ala Ile Met
  145            150            155            160

Gly Phe Gly Gly Gly Ala Met Leu Ala Ser Pro Leu Ser Val Ser Leu
  165            170            175

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Met Asn Thr Phe Ser Asn Ala Thr Ser Val Gly Val Ala Glu Thr Phe
      180                      185                      190

Ala Val Leu Gly Leu Leu Tyr Leu Ala Leu Met Met Phe Gly Ala Phe
      195                      200                      205

Thr Ile Arg Val Pro Ala Asp Gly Trp Lys Pro Glu Gly Tyr Thr Ala
      210                      215                      220

Pro Lys Thr Gln Asn Lys Leu Val Ser Ser Asn His Val Asn Val Ser
      225                      230                      235                      240

Gln Ala Met Lys Thr Pro Gln Phe Trp Leu Leu Phe Trp Val Leu Cys
      245                      250                      255

Leu Asn Val Thr Ala Gly Ile Gly Val Leu Gly Gln Ala Ser Val Met
      260                      265                      270

Ile Gln Glu Leu Phe Ser Glu Thr Ser Ile Gly Arg Gln Ala Ala Val
      275                      280                      285

Gly Ala Gly Ala Ala Ala Gly Phe Val Ser Leu Leu Ser Leu Phe Asn
      290                      295                      300

Met Gly Gly Arg Phe Leu Trp Ser Ser Val Ser Asp Lys Ile Gly Arg
      305                      310                      315                      320

Lys Asn Thr Tyr Thr Ile Phe Phe Val Leu Gly Ser Leu Leu Tyr Phe
      325                      330                      335

Ala Val Pro Ser Ile Gly Glu Gly Gly Ser Lys Ala Leu Phe Ile Ile
      340                      345                      350

Gly Phe Cys Val Ile Ile Ser Met Tyr Gly Gly Gly Phe Ala Ala Ile
      355                      360                      365

Pro Ala Tyr Leu Lys Asp Leu Phe Gly Thr Tyr Gln Val Gly Ala Ile
      370                      375                      380

His Gly Arg Ile Leu Leu Ala Trp Ser Thr Ala Ala Val Ile Gly Pro
      385                      390                      395                      400

Val Leu Val Asn Tyr Ile Arg Gln Ser Gln Ile Asp Ser Gly Ile Pro
      405                      410                      415

Ala Ala Gln Ala Tyr Ser Val Thr Met Tyr Ile Met Ala Gly Leu Leu
      420                      425                      430

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Ile Ile Gly Leu Leu Cys Asn Leu Ala Val Lys Ser Val His Glu Lys
435 440 445

His His Glu Lys Asp Ile Lys Thr Ala Ala His Ser Gly Asn Pro Asp
450 455 460

Asp Glu Thr Ala Ile Ser Asp Ala Tyr Leu Val Gly Glu Lys Val Ser
465 470 475 480

Gly Gly Gly Ile Ser Val Trp Trp Arg Trp Ala Leu Ala Val Ile Pro
485 490 495

Leu Ala Tyr Gly Val Val Met Ile Phe Val Lys Ala Leu Asp Leu Phe
500 505 510

Ser

<210> 25

<211> 1038

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1038)

<400> 25

ttg cag cct tta gtc agc gta ttg att tgc gcc tac aac gta gaa aaa 48
Leu Gln Pro Leu Val Ser Val Leu Ile Cys Ala Tyr Asn Val Glu Lys
1 5 10 15

tat ttc gcc caa tca tta gcc acc gtc gtg aat cag act tgg cgc aac 96
Tyr Phe Ala Gln Ser Leu Ala Thr Val Val Asn Gln Thr Trp Arg Asn
20 25 30

ttg gag att ttg att gtc gat gac ggc tcg aca gac ggt acg ctt gcc 144
Leu Glu Ile Leu Ile Val Asp Asp Gly Ser Thr Asp Gly Thr Leu Ala
35 40 45

att gcc aag gat ttt caa aag cgg gac agc cgt atc aaa atc ctt gca 192
Ile Ala Lys Asp Phe Gln Lys Arg Asp Ser Arg Ile Lys Ile Leu Ala
50 55 60

caa gct caa aat tcc ggc ctg att ccc tct tta aac atc ggg ctg gac 240

Gln	Ala	Gln	Asn	Ser	Gly	Leu	Ile	Pro	Ser	Leu	Asn	Ile	Gly	Leu	Asp	
65						70					75				80	
gaa	ttg	gca	aag	tca	gga	atg	ggg	gaa	tat	att	gca	cgc	acc	gat	gcc	288
Glu	Leu	Ala	Lys	Ser	Gly	Met	Gly	Glu	Tyr	Ile	Ala	Arg	Thr	Asp	Ala	
				85					90					95		
gac	gat	att	gcc	gcc	ccc	gac	tgg	att	gag	aaa	atc	gtg	ggc	gag	atg	336
Asp	Asp	Ile	Ala	Ala	Pro	Asp	Trp	Ile	Glu	Lys	Ile	Val	Gly	Glu	Met	
			100					105					110			
gaa	aaa	gac	cgc	agc	atc	atc	gcg	atg	ggc	gcg	tgg	ctg	gaa	gtt	ttg	384
Glu	Lys	Asp	Arg	Ser	Ile	Ile	Ala	Met	Gly	Ala	Trp	Leu	Glu	Val	Leu	
			115					120				125				
tcg	gaa	gaa	aag	gac	ggc	aac	cgg	ctg	gcg	cgg	cat	cac	agg	cac	ggc	432
Ser	Glu	Glu	Lys	Asp	Gly	Asn	Arg	Leu	Ala	Arg	His	His	Arg	His	Gly	
			130				135				140					
aaa	att	tgg	aaa	aag	ccg	acc	cgg	cac	gaa	gat	att	gcc	gac	ttt	ttc	480
Lys	Ile	Trp	Lys	Lys	Pro	Thr	Arg	His	Glu	Asp	Ile	Ala	Asp	Phe	Phe	
145						150				155					160	
cct	ttc	ggc	aac	ccc	ata	cac	aac	aac	acg	atg	att	atg	cgg	cgc	agc	528
Pro	Phe	Gly	Asn	Pro	Ile	His	Asn	Asn	Thr	Met	Ile	Met	Arg	Arg	Ser	
				165					170					175		
gtc	att	gac	ggc	gga	ttg	cgt	tac	aac	acc	gag	cgg	gat	tgg	gcg	gaa	576
Val	Ile	Asp	Gly	Gly	Leu	Arg	Tyr	Asn	Thr	Glu	Arg	Asp	Trp	Ala	Glu	
			180					185					190			
gat	tac	caa	ttt	tgg	tac	gat	gtc	agc	aaa	ttg	ggc	agg	ctg	gct	tat	624
Asp	Tyr	Gln	Phe	Trp	Tyr	Asp	Val	Ser	Lys	Leu	Gly	Arg	Leu	Ala	Tyr	
			195					200				205				
tat	ccc	gaa	gcc	ttg	gtc	aaa	tac	cgc	ctt	cac	gcc	aat	cag	gtt	tca	672
Tyr	Pro	Glu	Ala	Leu	Val	Lys	Tyr	Arg	Leu	His	Ala	Asn	Gln	Val	Ser	
			210				215				220					
tcc	aaa	tac	agc	atc	cgc	caa	cac	gaa	atc	gcg	caa	ggc	atc	caa	aaa	720
Ser	Lys	Tyr	Ser	Ile	Arg	Gln	His	Glu	Ile	Ala	Gln	Gly	Ile	Gln	Lys	
225						230				235					240	
acc	gcc	aga	aac	gat	ttt	ttg	cag	tct	atg	ggt	ttt	aaa	acc	cgg	ttc	768
Thr	Ala	Arg	Asn	Asp	Phe	Leu	Gln	Ser	Met	Gly	Phe	Lys	Thr	Arg	Phe	
				245					250					255		
gac	agc	ctt	gaa	tac	cgc	caa	ata	aaa	gca	gta	gcg	tat	gaa	ttg	ctg	816

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Asp Ser Leu Glu Tyr Arg Gln Ile Lys Ala Val Ala Tyr Glu Leu Leu
      260              265              270

gag aaa cat ttg ccg gaa gaa gat ttt gaa cgc gcc cgc cgg ttt ttg      864
Glu Lys His Leu Pro Glu Glu Asp Phe Glu Arg Ala Arg Arg Phe Leu
      275              280              285

tac caa tgc ttc aaa cgg acg gac acg ccg ccc gcc ggc gcg tgg ctg      912
Tyr Gln Cys Phe Lys Arg Thr Asp Thr Pro Pro Ala Gly Ala Trp Leu
      290              295              300

gat ttc gcg gca gac ggc aag atg agg cgg ctg ttt acc atg agg caa      960
Asp Phe Ala Ala Asp Gly Lys Met Arg Arg Leu Phe Thr Met Arg Gln
      305              310              315              320

tac ttc ggc att ttg cac cgg ctg att aaa aac cgc cgg cag gcg cgg      1008
Tyr Phe Gly Ile Leu His Arg Leu Ile Lys Asn Arg Arg Gln Ala Arg
      325              330              335

tcg gat tcg gca ggg aaa gaa cag gag att                                1038
Ser Asp Ser Ala Gly Lys Glu Gln Glu Ile
      340              345

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<210> 26

<211> 346

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 26

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Leu Gln Pro Leu Val Ser Val Leu Ile Cys Ala Tyr Asn Val Glu Lys
  1              5              10              15

Tyr Phe Ala Gln Ser Leu Ala Thr Val Val Asn Gln Thr Trp Arg Asn
      20              25              30

Leu Glu Ile Leu Ile Val Asp Asp Gly Ser Thr Asp Gly Thr Leu Ala
      35              40              45

Ile Ala Lys Asp Phe Gln Lys Arg Asp Ser Arg Ile Lys Ile Leu Ala
      50              55              60

Gln Ala Gln Asn Ser Gly Leu Ile Pro Ser Leu Asn Ile Gly Leu Asp
      65              70              75              80

Glu Leu Ala Lys Ser Gly Met Gly Glu Tyr Ile Ala Arg Thr Asp Ala
      85              90              95

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Asp Asp Ile Ala Ala Pro Asp Trp Ile Glu Lys Ile Val Gly Glu Met
      100              105              110

Glu Lys Asp Arg Ser Ile Ile Ala Met Gly Ala Trp Leu Glu Val Leu
      115              120              125

Ser Glu Glu Lys Asp Gly Asn Arg Leu Ala Arg His His Arg His Gly
      130              135              140

Lys Ile Trp Lys Lys Pro Thr Arg His Glu Asp Ile Ala Asp Phe Phe
145              150              155              160

Pro Phe Gly Asn Pro Ile His Asn Asn Thr Met Ile Met Arg Arg Ser
      165              170              175

Val Ile Asp Gly Gly Leu Arg Tyr Asn Thr Glu Arg Asp Trp Ala Glu
      180              185              190

Asp Tyr Gln Phe Trp Tyr Asp Val Ser Lys Leu Gly Arg Leu Ala Tyr
      195              200              205

Tyr Pro Glu Ala Leu Val Lys Tyr Arg Leu His Ala Asn Gln Val Ser
      210              215              220

Ser Lys Tyr Ser Ile Arg Gln His Glu Ile Ala Gln Gly Ile Gln Lys
225              230              235              240

Thr Ala Arg Asn Asp Phe Leu Gln Ser Met Gly Phe Lys Thr Arg Phe
      245              250              255

Asp Ser Leu Glu Tyr Arg Gln Ile Lys Ala Val Ala Tyr Glu Leu Leu
      260              265              270

Glu Lys His Leu Pro Glu Glu Asp Phe Glu Arg Ala Arg Arg Phe Leu
      275              280              285

Tyr Gln Cys Phe Lys Arg Thr Asp Thr Pro Pro Ala Gly Ala Trp Leu
      290              295              300

Asp Phe Ala Ala Asp Gly Lys Met Arg Arg Leu Phe Thr Met Arg Gln
305              310              315              320

Tyr Phe Gly Ile Leu His Arg Leu Ile Lys Asn Arg Arg Gln Ala Arg
      325              330              335

Ser Asp Ser Ala Gly Lys Glu Gln Glu Ile
      340              345

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<210> 27

<211> 1856

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> {1}..(1857)

<400> 27

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atg cca gaa tac cgc tcc aaa acc tcc acc cac ggt cgc aat atg gcg      48
Met Pro Glu Tyr Arg Ser Lys Thr Ser Thr His Gly Arg Asn Met Ala
   1             5             10             15

ggc gcg cgc gcg ttg tgg cgc gcc acc ggc gtg atg gaa acc gac ttc      96
Gly Ala Arg Ala Leu Trp Arg Ala Thr Gly Val Met Glu Thr Asp Phe
           20           25           30

ggc aaa ccg att atc gcc gtt gcc aac tcg ttc acc caa ttc gtg cca     144
Gly Lys Pro Ile Ile Ala Val Ala Asn Ser Phe Thr Gln Phe Val Pro
       35           40           45

ggt cat gtc cac ctg cac aat atg ggc cag ctg gtt gcc cgc gaa atc     192
Gly His Val His Leu His Asn Met Gly Gln Leu Val Ala Arg Glu Ile
       50           55           60

gaa aaa gcc ggc gcc atc gcc aaa gaa ttc aac acc atc gcc atc gac     240
Glu Lys Ala Gly Ala Ile Ala Lys Glu Phe Asn Thr Ile Ala Ile Asp
       65           70           75           80

gac ggc atc gct atg gga cac agc ggt atg ctg tat tcc ctg ccc agc     288
Asp Gly Ile Ala Met Gly His Ser Gly Met Leu Tyr Ser Leu Pro Ser
       85           90           95

cgc gat ttg att gcc gac tcc atc gaa tat atg gtc aat gcc cac tgc     336
Arg Asp Leu Ile Ala Asp Ser Ile Glu Tyr Met Val Asn Ala His Cys
      100           105           110

gcc gac gcg ctg gtg tgc att tcc aac tgc gac aaa atc acc ccg ggc     384
Ala Asp Ala Leu Val Cys Ile Ser Asn Cys Asp Lys Ile Thr Pro Gly
      115           120           125

atg ctg att gcc gcg atg cgc ctg aac atc ccg acc atc ttc gtt tcc     432
Met Leu Ile Ala Ala Met Arg Leu Asn Ile Pro Thr Ile Phe Val Ser
      130           135           140

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ggc ggt ccg atg gaa gca ggt aaa gtt atc ggc gtg gca aac atc cag 480
Gly Gly Pro Met Glu Ala Gly Lys Val Ile Gly Val Ala Asn Ile Gln
145          150          155          160

ccc gaa cgc cgt ttg gac ttg att gac gcg atg att gaa tcg gcg gac 528
Pro Glu Arg Arg Leu Asp Leu Ile Asp Ala Met Ile Glu Ser Ala Asp
          165          170          175

gac aat atc agc aac cgg caa gtt gaa gaa gtc gaa caa aac gcc tgc 576
Asp Asn Ile Ser Asn Arg Gln Val Glu Glu Val Glu Gln Asn Ala Cys
          180          185          190

ccg acc tgc ggc tcg tgt tcg ggt atg ttt acg gca aac tcg atg aac 624
Pro Thr Cys Gly Ser Cys Ser Gly Met Phe Thr Ala Asn Ser Met Asn
          195          200          205

tgc ctg acc gaa gca ctc ggg ctg tcc ctg ccg ggc aac ggt tct tac 672
Cys Leu Thr Glu Ala Leu Gly Leu Ser Leu Pro Gly Asn Gly Ser Tyr
          210          215          220

ctc gcc acc cac gtc ggc cgc aaa gaa ctg ttc ctc gaa gcc ggc cgt 720
Leu Ala Thr His Val Gly Arg Lys Glu Leu Phe Leu Glu Ala Gly Arg
225          230          235          240

atg att gtc gaa atc acc aaa cgc tat tac gag caa aac gat gaa acc 768
Met Ile Val Glu Ile Thr Lys Arg Tyr Tyr Glu Gln Asn Asp Glu Thr
          245          250          255

gtg tta ccg cgc agc att gcc acc aaa aaa gcg ttt gaa aac gct atg 816
Val Leu Pro Arg Ser Ile Ala Thr Lys Lys Ala Phe Glu Asn Ala Met
          260          265          270

acc atg gac att gcc atg ggc ggc agc acc aac act att ttg cat tta 864
Thr Met Asp Ile Ala Met Gly Gly Ser Thr Asn Thr Ile Leu His Leu
          275          280          285

ctc gcc gtt gcc aac gaa gcg ggc gtg gat ttc aaa atg gca gac atc 912
Leu Ala Val Ala Asn Glu Ala Gly Val Asp Phe Lys Met Ala Asp Ile
          290          295          300

gac cgc tta agc cgc gtt gtg ccc tgc atc tgc aaa acc gca ccc aac 960
Asp Arg Leu Ser Arg Val Val Pro Cys Ile Cys Lys Thr Ala Pro Asn
305          310          315          320

aac cac gac tac tat atg gaa gac gtg cac cga gcc ggc ggc atc ttc 1008
Asn His Asp Tyr Tyr Met Glu Asp Val His Arg Ala Gly Gly Ile Phe
          325          330          335

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gcc atc ctg aaa gaa ttg gac aaa gcg ggc aag ctg cac acc gac gtg	1056
Ala Ile Leu Lys Glu Leu Asp Lys Ala Gly Lys Leu His Thr Asp Val	
340 345 350	
cac act atc cac gcg ccg acg ctg aaa gac gcg att gaa aaa tgg gac	1104
His Thr Ile His Ala Pro Thr Leu Lys Asp Ala Ile Glu Lys Trp Asp	
355 360 365	
gta acc aac cct gaa aac acc cac gcc atc gaa cgc ttc aaa gcc gcg	1152
Val Thr Asn Pro Glu Asn Thr His Ala Ile Glu Arg Phe Lys Ala Ala	
370 375 380	
ccc ggc ggc gta cgc acc acc caa gcg ttc tcg caa aac cgt atg tgg	1200
Pro Gly Gly Val Arg Thr Thr Gln Ala Phe Ser Gln Asn Arg Met Trp	
385 390 395 400	
aaa acc ctc gac ctc gac cgc gaa aaa ggc tgt atc cgc gac gtg gca	1248
Lys Thr Leu Asp Leu Asp Arg Glu Lys Gly Cys Ile Arg Asp Val Ala	
405 410 415	
cac gcc tac tcg caa gac ggc ggt ttg gcg gtc ttg ttc ggc aac atc	1296
His Ala Tyr Ser Gln Asp Gly Gly Leu Ala Val Leu Phe Gly Asn Ile	
420 425 430	
gcc gag cgc ggc tgc gtg gta aaa acc gca ggc gtg gac gag agc atc	1344
Ala Glu Arg Gly Cys Val Val Lys Thr Ala Gly Val Asp Glu Ser Ile	
435 440 445	
ctc aaa ttc acc ggc cgc gcc cgc gtg ttt gaa agc caa gaa gac gca	1392
Leu Lys Phe Thr Gly Arg Ala Arg Val Phe Glu Ser Gln Glu Asp Ala	
450 455 460	
gta gaa ggc att ttg ggc aac caa atc gtc gcc ggc gac atc gtc atc	1440
Val Glu Gly Ile Leu Gly Asn Gln Ile Val Ala Gly Asp Ile Val Ile	
465 470 475 480	
atc cgc tac gaa ggc ccg aaa ggc ggc ccg ggc atg cag gaa atg ctg	1488
Ile Arg Tyr Glu Gly Pro Lys Gly Gly Pro Gly Met Gln Glu Met Leu	
485 490 495	
tat ccg act tcc tac ctg aaa tot aaa ggc ctc ggc aaa gcc tgc gct	1536
Tyr Pro Thr Ser Tyr Leu Lys Ser Lys Gly Leu Gly Lys Ala Cys Ala	
500 505 510	
ctc tta acc gac gga cgc ttc tcc ggc ggc aca tca ggt ttg tcc atc	1584
Leu Leu Thr Asp Gly Arg Phe Ser Gly Gly Thr Ser Gly Leu Ser Ile	
515 520 525	

gga cac gcc tcg ccc gaa gcg gcg gaa ggt ggc gcg atc ggt ttg gta 1632
 Gly His Ala Ser Pro Glu Ala Ala Glu Gly Gly Ala Ile Gly Leu Val
 530 535 540

cac gaa ggc gat acc gtc gaa atc gac atc ccc aac cgc agc atc cgc 1680
 His Glu Gly Asp Thr Val Glu Ile Asp Ile Pro Asn Arg Ser Ile Arg
 545 550 555 560

ctt gtc att tcc gac gaa gaa ctc gcc gcc cgc cgt gcc gaa atg gaa 1728
 Leu Val Ile Ser Asp Glu Glu Leu Ala Ala Arg Arg Ala Glu Met Glu
 565 570 575

gca cgc ggc agc aaa gcg tgg aaa ccg gaa aac cgc gac cgc tac gtc 1776
 Ala Arg Gly Ser Lys Ala Trp Lys Pro Glu Asn Arg Asp Arg Tyr Val
 580 585 590

tcc gcc gca tta aga gct tac ggc gcg atg gcg act tcc gcc gac aaa 1824
 Ser Ala Ala Leu Arg Ala Tyr Gly Ala Met Ala Thr Ser Ala Asp Lys
 595 600 605

ggc gcg gtg cgc gac gta gcg caa atc gaa aga 1857
 Gly Ala Val Arg Asp Val Ala Gln Ile Glu Arg
 610 615

<210> 28

<211> 619

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 28

Met Pro Glu Tyr Arg Ser Lys Thr Ser Thr His Gly Arg Asn Met Ala
 1 5 10 15

Gly Ala Arg Ala Leu Trp Arg Ala Thr Gly Val Met Glu Thr Asp Phe
 20 25 30

Gly Lys Pro Ile Ile Ala Val Ala Asn Ser Phe Thr Gln Phe Val Pro
 35 40 45

Gly His Val His Leu His Asn Met Gly Gln Leu Val Ala Arg Glu Ile
 50 55 60

Glu Lys Ala Gly Ala Ile Ala Lys Glu Phe Asn Thr Ile Ala Ile Asp
 65 70 75 80

Asp Gly Ile Ala Met Gly His Ser Gly Met Leu Tyr Ser Leu Pro Ser
 85 90 95

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Arg Asp Leu Ile Ala Asp Ser Ile Glu Tyr Met Val Asn Ala His Cys
      100              105              110

Ala Asp Ala Leu Val Cys Ile Ser Asn Cys Asp Lys Ile Thr Pro Gly
      115              120              125

Met Leu Ile Ala Ala Met Arg Leu Asn Ile Pro Thr Ile Phe Val Ser
      130              135              140

Gly Gly Pro Met Glu Ala Gly Lys Val Ile Gly Val Ala Asn Ile Gln
      145              150              155              160

Pro Glu Arg Arg Leu Asp Leu Ile Asp Ala Met Ile Glu Ser Ala Asp
      165              170              175

Asp Asn Ile Ser Asn Arg Gln Val Glu Glu Val Glu Gln Asn Ala Cys
      180              185              190

Pro Thr Cys Gly Ser Cys Ser Gly Met Phe Thr Ala Asn Ser Met Asn
      195              200              205

Cys Leu Thr Glu Ala Leu Gly Leu Ser Leu Pro Gly Asn Gly Ser Tyr
      210              215              220

Leu Ala Thr His Val Gly Arg Lys Glu Leu Phe Leu Glu Ala Gly Arg
      225              230              235              240

Met Ile Val Glu Ile Thr Lys Arg Tyr Tyr Glu Gln Asn Asp Glu Thr
      245              250              255

Val Leu Pro Arg Ser Ile Ala Thr Lys Lys Ala Phe Glu Asn Ala Met
      260              265              270

Thr Met Asp Ile Ala Met Gly Gly Ser Thr Asn Thr Ile Leu His Leu
      275              280              285

Leu Ala Val Ala Asn Glu Ala Gly Val Asp Phe Lys Met Ala Asp Ile
      290              295              300

Asp Arg Leu Ser Arg Val Val Pro Cys Ile Cys Lys Thr Ala Pro Asn
      305              310              315              320

Asn His Asp Tyr Tyr Met Glu Asp Val His Arg Ala Gly Gly Ile Phe
      325              330              335

Ala Ile Leu Lys Glu Leu Asp Lys Ala Gly Lys Leu His Thr Asp Val
      340              345              350

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His Thr Ile His Ala Pro Thr Leu Lys Asp Ala Ile Glu Lys Trp Asp
 355 360 365
 Val Thr Asn Pro Glu Asn Thr His Ala Ile Glu Arg Phe Lys Ala Ala
 370 375 380
 Pro Gly Gly Val Arg Thr Thr Gln Ala Phe Ser Gln Asn Arg Met Trp
 385 390 395 400
 Lys Thr Leu Asp Leu Asp Arg Glu Lys Gly Cys Ile Arg Asp Val Ala
 405 410 415
 His Ala Tyr Ser Gln Asp Gly Gly Leu Ala Val Leu Phe Gly Asn Ile
 420 425 430
 Ala Glu Arg Gly Cys Val Val Lys Thr Ala Gly Val Asp Glu Ser Ile
 435 440 445
 Leu Lys Phe Thr Gly Arg Ala Arg Val Phe Glu Ser Gln Glu Asp Ala
 450 455 460
 Val Glu Gly Ile Leu Gly Asn Gln Ile Val Ala Gly Asp Ile Val Ile
 465 470 475 480
 Ile Arg Tyr Glu Gly Pro Lys Gly Gly Pro Gly Met Gln Glu Met Leu
 485 490 495
 Tyr Pro Thr Ser Tyr Leu Lys Ser Lys Gly Leu Gly Lys Ala Cys Ala
 500 505 510
 Leu Leu Thr Asp Gly Arg Phe Ser Gly Gly Thr Ser Gly Leu Ser Ile
 515 520 525
 Gly His Ala Ser Pro Glu Ala Ala Glu Gly Gly Ala Ile Gly Leu Val
 530 535 540
 His Glu Gly Asp Thr Val Glu Ile Asp Ile Pro Asn Arg Ser Ile Arg
 545 550 555 560
 Leu Val Ile Ser Asp Glu Glu Leu Ala Ala Arg Arg Ala Glu Met Glu
 565 570 575
 Ala Arg Gly Ser Lys Ala Trp Lys Pro Glu Asn Arg Asp Arg Tyr Val
 580 585 590
 Ser Ala Ala Leu Arg Ala Tyr Gly Ala Met Ala Thr Ser Ala Asp Lys
 595 600 605

Gly Ala Val Arg Asp Val Ala Gln Ile Glu Arg
610 615

<210> 29

<211> 1725

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1725)

<400> 29

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atg cag cta tca ggc gcg caa atc ata gtg cag agt ctc aaa gcc gaa 48
Met Gln Leu Ser Gly Ala Gln Ile Ile Val Gln Ser Leu Lys Ala Glu
  1           5           10          15

ggg gtc gag tac gtt ttc ggt tat ccc ggc ggt gcg gtt atc gaa atc 96
Gly Val Glu Tyr Val Phe Gly Tyr Pro Gly Gly Ala Val Ile Glu Ile
      20           25           30

tac gat gcc ctt ttc caa ctc aat aaa ttc aag cac att ctg acc cgt 144
Tyr Asp Ala Leu Phe Gln Leu Asn Lys Phe Lys His Ile Leu Thr Arg
      35           40           45

cac gag cag gcg gca gta cac gcg gca gat gcg tat gcg cgc gtc agc 192
His Glu Gln Ala Ala Val His Ala Ala Asp Ala Tyr Ala Arg Val Ser
      50           55           60

ggg aag gtg ggc gtg gca ttg gtt aca tcc ggc ccg ggc gtt acc aat 240
Gly Lys Val Gly Val Ala Leu Val Thr Ser Gly Pro Gly Val Thr Asn
      65           70           75           80

gca ctg acc ggt att gct act gcc tat acg gat tcg att ccg atg gtg 288
Ala Leu Thr Gly Ile Ala Thr Ala Tyr Thr Asp Ser Ile Pro Met Val
      85           90           95

gtc atc agc ggg cag gta ggc aat tcc ctg att ggt acg gat gcg ttc 336
Val Ile Ser Gly Gln Val Gly Asn Ser Leu Ile Gly Thr Asp Ala Phe
      100          105          110

caa gaa gtt gat acg gtg ggt att acc cgt ccg tgc gtc aaa cac aat 384
Gln Glu Val Asp Thr Val Gly Ile Thr Arg Pro Cys Val Lys His Asn
      115          120          125

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ttc ctg gtt acg gac atc aat gag ttg gcg gaa acc att aaa aag gcg	432
Phe Leu Val Thr Asp Ile Asn Glu Leu Ala Glu Thr Ile Lys Lys Ala	
130 135 140	
ttc caa att gcc gca agc ggc cga ccg ggg ccc gtg gtg gtt gat gtc	480
Phe Gln Ile Ala Ala Ser Gly Arg Pro Gly Pro Val Val Val Asp Val	
145 150 155 160	
ccg aaa gat gtt acg cag gcg atg gcg aaa ttc agc tat cct cag gaa	528
Pro Lys Asp Val Thr Gln Ala Met Ala Lys Phe Ser Tyr Pro Gln Glu	
165 170 175	
gac att ttt atc cgt tcg tat caa ccg gtt gtt caa ggg cat atc ggt	576
Asp Ile Phe Ile Arg Ser Tyr Gln Pro Val Val Gln Gly His Ile Gly	
180 185 190	
cag att aaa aag gcc gtg cag atg ttg gca tct gcc aaa cgt ccg gtc	624
Gln Ile Lys Lys Ala Val Gln Met Leu Ala Ser Ala Lys Arg Pro Val	
195 200 205	
gtc tat ttt ggc ggc ggc gtg gtg ttg ggt aat gct tct gaa gag ctg	672
Val Tyr Phe Gly Gly Gly Val Val Leu Gly Asn Ala Ser Glu Glu Leu	
210 215 220	
acc cga ttt gtc cga atg acg ggt gct ccg tgc acg ggt acg ctg atg	720
Thr Arg Phe Val Arg Met Thr Gly Ala Pro Cys Thr Gly Thr Leu Met	
225 230 235 240	
ggc ttg ggc gct tat cct tcc ggc gac cgc caa ttc ctc ggt atg ctc	768
Gly Leu Gly Ala Tyr Pro Ser Gly Asp Arg Gln Phe Leu Gly Met Leu	
245 250 255	
ggt atg cac ggt act tac gag gca aac ctt gcc atg cag aat gcg gat	816
Gly Met His Gly Thr Tyr Glu Ala Asn Leu Ala Met Gln Asn Ala Asp	
260 265 270	
gtc gtt ctt gcc gta ggt gcg cgt ttt gac gac cgt gtg gtt tcc gta	864
Val Val Leu Ala Val Gly Ala Arg Phe Asp Asp Arg Val Val Ser Val	
275 280 285	
ccg tcc aaa ttt ttc gag aag gcg aag aag gtt atc cat atc gat gtc	912
Pro Ser Lys Phe Phe Glu Lys Ala Lys Lys Val Ile His Ile Asp Val	
290 295 300	
gat cct tcc agc atc gcc aaa cgc gtg aag gcg gac att ccg att gtc	960
Asp Pro Ser Ser Ile Ala Lys Arg Val Lys Ala Asp Ile Pro Ile Val	
305 310 315 320	


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ggc gac gtg aaa aac gtt ttg tcc gag atg gtt gcg ctg tgg caa aaa 1008
Gly Asp Val Lys Asn Val Leu Ser Glu Met Val Ala Leu Trp Gln Lys
          325                      330                      335

caa gag tcc gtg ccg tct gaa gat gct ttg ggc aaa tgg tgg aaa acc 1056
Gln Glu Ser Val Pro Ser Glu Asp Ala Leu Gly Lys Trp Trp Lys Thr
          340                      345                      350

ata gag gaa tgg cgt tcc cgc gat tgc ttg tgg ttt gac aac ggc agc 1104
Ile Glu Glu Trp Arg Ser Arg Asp Cys Leu Trp Phe Asp Asn Gly Ser
          355                      360                      365

gaa att atc aag cca caa tat gtg att cag aag ctt gcc gag att acc 1152
Glu Ile Ile Lys Pro Gln Tyr Val Ile Gln Lys Leu Ala Glu Ile Thr
          370                      375                      380

ggc aat tcg gca atc atc aca tcg gat gta ggg cag cat caa atg ttt 1200
Gly Asn Ser Ala Ile Ile Thr Ser Asp Val Gly Gln His Gln Met Phe
          385                      390                      395                      400

gcg gct caa tat tat ccc ttc gaa cgt ccg cgc caa tgg ctc aac tcc 1248
Ala Ala Gln Tyr Tyr Pro Phe Glu Arg Pro Arg Gln Trp Leu Asn Ser
          405                      410                      415

ggc ggt ttg ggt acg atg ggc gtt ggt ctg cct tat gcg att ggt gca 1296
Gly Gly Leu Gly Thr Met Gly Val Gly Leu Pro Tyr Ala Ile Gly Ala
          420                      425                      430

aaa ctt gcc gcc ccg gat caa gac gta ttc tgt att acc ggc gac ggc 1344
Lys Leu Ala Ala Pro Asp Gln Asp Val Phe Cys Ile Thr Gly Asp Gly
          435                      440                      445

tcg atc cag atg aac atc caa gag ctg tcc acc tgt ttc caa tat cgg 1392
Ser Ile Gln Met Asn Ile Gln Glu Leu Ser Thr Cys Phe Gln Tyr Arg
          450                      455                      460

att ccg gtt aac gtc att acg ctg aac aac ggt tat ctc ggt atg gta 1440
Ile Pro Val Asn Val Ile Thr Leu Asn Asn Gly Tyr Leu Gly Met Val
          465                      470                      475                      480

cgc cag tgg cag gaa ata tat tac ggc gga cga gag tcg gaa acc tat 1488
Arg Gln Trp Gln Glu Ile Tyr Tyr Gly Gly Arg Glu Ser Glu Thr Tyr
          485                      490                      495

ttc gat tct ttg ccc gat ttc gtc aaa ctt gcc gag gca tac ggc cat 1536
Phe Asp Ser Leu Pro Asp Phe Val Lys Leu Ala Glu Ala Tyr Gly His
          500                      505                      510

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atc ggt atc cgc gtg gac aag aag tct gat gtg gaa ggt gcg ttg ttg 1584
 Ile Gly Ile Arg Val Asp Lys Lys Ser Asp Val Glu Gly Ala Leu Leu
 515 520 525

gaa gca ttg aac caa aaa gac agg ctg gtg ttt atc gac ttc ctg acc 1632
 Glu Ala Leu Asn Gln Lys Asp Arg Leu Val Phe Ile Asp Phe Leu Thr
 530 535 540

gac cag aaa cag aat gtg atg ccc atg gtc ggc aac ggc aaa ggt ttg 1680
 Asp Gln Lys Gln Asn Val Met Pro Met Val Gly Asn Gly Lys Gly Leu
 545 550 555 560

gac gaa atg gta ctt ccg ccg cat atg cgt gcg gac gga aag gcg 1725
 Asp Glu Met Val Leu Pro Pro His Met Arg Ala Asp Gly Lys Ala
 565 570 575

<210> 30

<211> 575

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 30

Met Gln Leu Ser Gly Ala Gln Ile Ile Val Gln Ser Leu Lys Ala Glu
 1 5 10 15

Gly Val Glu Tyr Val Phe Gly Tyr Pro Gly Gly Ala Val Ile Glu Ile
 20 25 30

Tyr Asp Ala Leu Phe Gln Leu Asn Lys Phe Lys His Ile Leu Thr Arg
 35 40 45

His Glu Gln Ala Ala Val His Ala Ala Asp Ala Tyr Ala Arg Val Ser
 50 55 60

Gly Lys Val Gly Val Ala Leu Val Thr Ser Gly Pro Gly Val Thr Asn
 65 70 75 80

Ala Leu Thr Gly Ile Ala Thr Ala Tyr Thr Asp Ser Ile Pro Met Val
 85 90 95

Val Ile Ser Gly Gln Val Gly Asn Ser Leu Ile Gly Thr Asp Ala Phe
 100 105 110

Gln Glu Val Asp Thr Val Gly Ile Thr Arg Pro Cys Val Lys His Asn
 115 120 125

Phe Leu Val Thr Asp Ile Asn Glu Leu Ala Glu Thr Ile Lys Lys Ala

130	135	140	
Phe Gln Ile Ala Ala Ser Gly Arg Pro Gly Pro Val Val Val Asp Val			
145	150	155	160
Pro Lys Asp Val Thr Gln Ala Met Ala Lys Phe Ser Tyr Pro Gln Glu			
	165	170	175
Asp Ile Phe Ile Arg Ser Tyr Gln Pro Val Val Gln Gly His Ile Gly			
	180	185	190
Gln Ile Lys Lys Ala Val Gln Met Leu Ala Ser Ala Lys Arg Pro Val			
	195	200	205
Val Tyr Phe Gly Gly Gly Val Val Leu Gly Asn Ala Ser Glu Glu Leu			
	210	215	220
Thr Arg Phe Val Arg Met Thr Gly Ala Pro Cys Thr Gly Thr Leu Met			
	225	230	235
Gly Leu Gly Ala Tyr Pro Ser Gly Asp Arg Gln Phe Leu Gly Met Leu			
	245	250	255
Gly Met His Gly Thr Tyr Glu Ala Asn Leu Ala Met Gln Asn Ala Asp			
	260	265	270
Val Val Leu Ala Val Gly Ala Arg Phe Asp Asp Arg Val Val Ser Val			
	275	280	285
Pro Ser Lys Phe Phe Glu Lys Ala Lys Lys Val Ile His Ile Asp Val			
	290	295	300
Asp Pro Ser Ser Ile Ala Lys Arg Val Lys Ala Asp Ile Pro Ile Val			
	305	310	315
Gly Asp Val Lys Asn Val Leu Ser Glu Met Val Ala Leu Trp Gln Lys			
	325	330	335
Gln Glu Ser Val Pro Ser Glu Asp Ala Leu Gly Lys Trp Trp Lys Thr			
	340	345	350
Ile Glu Glu Trp Arg Ser Arg Asp Cys Leu Trp Phe Asp Asn Gly Ser			
	355	360	365
Glu Ile Ile Lys Pro Gln Tyr Val Ile Gln Lys Leu Ala Glu Ile Thr			
	370	375	380
Gly Asn Ser Ala Ile Ile Thr Ser Asp Val Gly Gln His Gln Met Phe			

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385              390              395              400
Ala Ala Gln Tyr Tyr Pro Phe Glu Arg Pro Arg Gln Trp Leu Asn Ser
              405              410              415
Gly Gly Leu Gly Thr Met Gly Val Gly Leu Pro Tyr Ala Ile Gly Ala
              420              425              430
Lys Leu Ala Ala Pro Asp Gln Asp Val Phe Cys Ile Thr Gly Asp Gly
              435              440              445
Ser Ile Gln Met Asn Ile Gln Glu Leu Ser Thr Cys Phe Gln Tyr Arg
              450              455              460
Ile Pro Val Asn Val Ile Thr Leu Asn Asn Gly Tyr Leu Gly Met Val
465              470              475              480
Arg Gln Trp Gln Glu Ile Tyr Tyr Gly Gly Arg Glu Ser Glu Thr Tyr
              485              490              495
Phe Asp Ser Leu Pro Asp Phe Val Lys Leu Ala Glu Ala Tyr Gly His
              500              505              510
Ile Gly Ile Arg Val Asp Lys Lys Ser Asp Val Glu Gly Ala Leu Leu
              515              520              525
Glu Ala Leu Asn Gln Lys Asp Arg Leu Val Phe Ile Asp Phe Leu Thr
              530              535              540
Asp Gln Lys Gln Asn Val Met Pro Met Val Gly Asn Gly Lys Gly Leu
545              550              555              560
Asp Glu Met Val Leu Pro Pro His Met Arg Ala Asp Gly Lys Ala
              565              570              575

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<210> 31

<211> 651

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(651)

<400> 31

atg ttt tcc gta ccg cgt tcc ttt ttg ccg ggc gtt ttc gta ctt gcc 48

Met	Phe	Ser	Val	Pro	Arg	Ser	Phe	Leu	Pro	Gly	Val	Phe	Val	Leu	Ala	
1				5					10					15		
gcg	ctt	gcc	gcc	tgc	aaa	cct	caa	gac	aac	agt	gcg	gcg	caa	gtc	gct	96
Ala	Leu	Ala	Ala	Cys	Lys	Pro	Gln	Asp	Asn	Ser	Ala	Ala	Gln	Val	Ala	
			20					25					30			
tct	tca	agt	gca	tcc	gcg	tcg	gct	gcg	gaa	aat	gcg	gca	aag	ccg	caa	144
Ser	Ser	Ser	Ala	Ser	Ala	Ser	Ala	Ala	Glu	Asn	Ala	Ala	Lys	Pro	Gln	
		35					40					45				
acg	cgc	ggc	acg	gat	atg	cgt	aag	gaa	gac	atc	ggc	ggc	gat	ttc	acg	192
Thr	Arg	Gly	Thr	Asp	Met	Arg	Lys	Glu	Asp	Ile	Gly	Gly	Asp	Phe	Thr	
	50					55					60					
ctg	acc	gac	ggc	gaa	ggc	aag	cct	ttc	aac	ctg	agc	gat	ttg	aaa	ggc	240
Leu	Thr	Asp	Gly	Glu	Gly	Lys	Pro	Phe	Asn	Leu	Ser	Asp	Leu	Lys	Gly	
65					70					75				80		
aag	gtc	gtg	att	ctg	tct	ttc	ggc	ttt	acg	cac	tgt	ccc	gat	gtc	tgc	288
Lys	Val	Val	Ile	Leu	Ser	Phe	Gly	Phe	Thr	His	Cys	Pro	Asp	Val	Cys	
				85					90					95		
ccg	aca	gag	ctt	ttg	acg	tac	agc	gac	acg	ttg	aag	cag	ttg	ggc	ggg	336
Pro	Thr	Glu	Leu	Leu	Thr	Tyr	Ser	Asp	Thr	Leu	Lys	Gln	Leu	Gly	Gly	
			100					105					110			
cag	gct	aag	gac	gtg	aaa	gtg	gtg	ttc	gtc	agc	atc	gat	ccg	gaa	cgc	384
Gln	Ala	Lys	Asp	Val	Lys	Val	Phe	Val	Ser	Ile	Asp	Pro	Glu	Arg		
		115					120				125					
gac	acg	cct	gaa	atc	atc	ggc	aag	tat	gcc	aaa	cag	ttc	aat	ccg	gac	432
Asp	Thr	Pro	Glu	Ile	Ile	Gly	Lys	Tyr	Ala	Lys	Gln	Phe	Asn	Pro	Asp	
		130				135					140					
ttt	atc	ggc	ctg	acg	gca	acg	ggc	gac	caa	aac	ctg	ccg	gtc	atc	aag	480
Phe	Ile	Gly	Leu	Thr	Ala	Thr	Gly	Asp	Gln	Asn	Leu	Pro	Val	Ile	Lys	
145					150					155				160		
cag	caa	tac	cgc	gtg	gtt	tct	gcc	aaa	gtc	aat	caa	aaa	gac	gac	agc	528
Gln	Gln	Tyr	Arg	Val	Val	Ser	Ala	Lys	Val	Asn	Gln	Lys	Asp	Asp	Ser	
				165					170				175			
gaa	aac	tat	ttg	gtc	gac	cac	tct	tcc	ggc	gac	tat	ctc	atc	gac	aaa	576
Glu	Asn	Tyr	Leu	Val	Asp	His	Ser	Ser	Gly	Ala	Tyr	Leu	Ile	Asp	Lys	
			180					185				190				
aac	ggc	gag	gtt	gcc	att	ttc	tcg	cct	tac	gga	agc	gag	ccg	gaa	acg	624

Asn Gly Glu Val Ala Ile Phe Ser Pro Tyr Gly Ser Glu Pro Glu Thr
 195 200 205

att gct gcc gat gta agg acc ctg ctc 651
 ile Ala Ala Asp Val Arg Thr Leu Leu
 210 215

<210> 32

<211> 217

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 32

Met Phe Ser Val Pro Arg Ser Phe Leu Pro Gly Val Phe Val Leu Ala
 1 5 10 15

Ala Leu Ala Ala Cys Lys Pro Gln Asp Asn Ser Ala Ala Gln Val Ala
 20 25 30

Ser Ser Ser Ala Ser Ala Ser Ala Ala Glu Asn Ala Ala Lys Pro Gln
 35 40 45

Thr Arg Gly Thr Asp Met Arg Lys Glu Asp Ile Gly Gly Asp Phe Thr
 50 55 60

Leu Thr Asp Gly Glu Gly Lys Pro Phe Asn Leu Ser Asp Leu Lys Gly
 65 70 75 80

Lys Val Val Ile Leu Ser Phe Gly Phe Thr His Cys Pro Asp Val Cys
 85 90 95

Pro Thr Glu Leu Leu Thr Tyr Ser Asp Thr Leu Lys Gln Leu Gly Gly
 100 105 110

Gln Ala Lys Asp Val Lys Val Val Phe Val Ser Ile Asp Pro Glu Arg
 115 120 125

Asp Thr Pro Glu Ile Ile Gly Lys Tyr Ala Lys Gln Phe Asn Pro Asp
 130 135 140

Phe Ile Gly Leu Thr Ala Thr Gly Asp Gln Asn Leu Pro Val Ile Lys
 145 150 155 160

Gln Gln Tyr Arg Val Val Ser Ala Lys Val Asn Gln Lys Asp Asp Ser
 165 170 175

Glu Asn Tyr Leu Val Asp His Ser Ser Gly Ala Tyr Leu Ile Asp Lys

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                180                185                190
Asn Gly Glu Val Ala Ile Phe Ser Pro Tyr Gly Ser Glu Pro Glu Thr
      195                200                205

Ile Ala Ala Asp Val Arg Thr Leu Leu
      210                215

<210> 33
<211> 330
<212> DNA
<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>
<221> CDS
<222> (1)..(330)

<400> 33
ttg ccg ctg ctt tgt tgt ctt tgg ttt tgg cag cct gcg gcg gtg aaa 48
Leu Pro Leu Leu Cys Cys Leu Trp Phe Trp Gln Pro Ala Ala Val Lys
      1                5                10                15

aag ccg ctg aag ctc ccg ctg ctg aag cac ctg ccg ccg aag ctc ccg 96
Lys Pro Leu Lys Leu Pro Leu Leu Lys His Leu Pro Pro Lys Leu Pro
      20                25                30

cta ctg aag cac ctg ccg ccg aag ctc ccg ctg ctg aag cac ctg ccg 144
Leu Leu Lys His Leu Pro Pro Lys Leu Pro Leu Leu Lys His Leu Pro
      35                40                45

ccg aag ctc ctg cta ctg aag cac ctg ccg ccg aag ctc ccg ctg ctg 192
Pro Lys Leu Leu Leu Leu Lys His Leu Pro Pro Lys Leu Pro Leu Leu
      50                55                60

aag ctg ccg cta ccg aag cac ctg ccg ctg aag ctg ccg cta ccg aag 240
Lys Leu Pro Leu Pro Lys His Leu Pro Leu Lys Leu Pro Leu Pro Lys
      65                70                75                80

cac ctg ccg ctg aag ctc ctg ctg ccg aag ctg caa aat aag cat ttt 288
His Leu Pro Leu Lys Leu Leu Leu Pro Lys Leu Gln Asn Lys His Phe
      85                90                95

ccg ctt gca aaa aag cag gat acg ttc agt atc ctg ctt ttt 330
Pro Leu Ala Lys Lys Gln Asp Thr Phe Ser Ile Leu Leu Phe
      100                105                110

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<210> 34

<211> 110

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 34

Leu Pro Leu Leu Cys Cys Leu Trp Phe Trp Gln Pro Ala Ala Val Lys
 1 5 10 15

Lys Pro Leu Lys Leu Pro Leu Leu Lys His Leu Pro Pro Lys Leu Pro
 20 25 30

Leu Leu Lys His Leu Pro Pro Lys Leu Pro Leu Leu Lys His Leu Pro
 35 40 45

Pro Lys Leu Leu Leu Leu Lys His Leu Pro Pro Lys Leu Pro Leu Leu
 50 55 60

Lys Leu Pro Leu Pro Lys His Leu Pro Leu Lys Leu Pro Leu Pro Lys
 65 70 75 80

His Leu Pro Leu Lys Leu Leu Leu Pro Lys Leu Gln Asn Lys His Phe
 85 90 95

Pro Leu Ala Lys Lys Gln Asp Thr Phe Ser Ile Leu Leu Phe
 100 105 110

<210> 35

<211> 2118

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(2118)

<400> 35

atg ttc gac aaa cac gtt aag acc ttc caa tac ggt aat cag acc gtt 48
 Met Phe Asp Lys His Val Lys Thr Phe Gln Tyr Gly Asn Gln Thr Val
 1 5 10 15

act ttg gaa acc ggc gaa att gcc cgc caa gcc gcc gct gcc gtt aaa 96
 Thr Leu Glu Thr Gly Glu Ile Ala Arg Gln Ala Ala Ala Val Lys
 20 25 30


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gtc tct atg ggc gac acc gtg gtt ttg gtt gcc gtt acc acc aac aaa 144
Val Ser Met Gly Asp Thr Val Val Leu Val Ala Val Thr Thr Asn Lys
      35              40              45

gaa gtg aaa gaa ggc caa gac ttc ttc ccc ctg acc gtc gat tat ttg 192
Glu Val Lys Glu Gly Gln Asp Phe Phe Pro Leu Thr Val Asp Tyr Leu
      50              55              60

gaa cgc act tac gcc gca ggt aaa atc ccc ggc ggt ttc ttc aaa cgc 240
Glu Arg Thr Tyr Ala Ala Gly Lys Ile Pro Gly Gly Phe Phe Lys Arg
      65              70              75              80

gaa ggc aaa caa agc gaa aaa gaa atc ctg acc agc cgt ctg atc gac 288
Glu Gly Lys Gln Ser Glu Lys Glu Ile Leu Thr Ser Arg Leu Ile Asp
      85              90              95

cgc ccg att cgt ccg ctg ttc ccc gaa ggt ttc tac cac gac atc caa 336
Arg Pro Ile Arg Pro Leu Phe Pro Glu Gly Phe Tyr His Asp Ile Gln
     100              105              110

atc gta gcg atg gtc gtg tcc gtc gat ccc gaa atc gat tcc gac att 384
Ile Val Ala Met Val Val Ser Val Asp Pro Glu Ile Asp Ser Asp Ile
     115              120              125

cct gca atg ttg ggc gcg tct gcc gcg ctg gtg ttg agc ggc gta ccg 432
Pro Ala Met Leu Gly Ala Ser Ala Ala Leu Val Leu Ser Gly Val Pro
     130              135              140

ttt gcc ggt ccg att ggt gcg gca cgc gtg ggt tat ata aac ggc gtg 480
Phe Ala Gly Pro Ile Gly Ala Ala Arg Val Gly Tyr Ile Asn Gly Val
     145              150              155              160

tac gtt ttg aac ccg act aaa gcc gaa ttg gcg aaa tcg caa ttg gac 528
Tyr Val Leu Asn Pro Thr Lys Ala Glu Leu Ala Lys Ser Gln Leu Asp
     165              170              175

ttg gtg gtc gcc ggt act tca aaa gcc gtg ttg atg gtg gaa tcc gaa 576
Leu Val Val Ala Gly Thr Ser Lys Ala Val Leu Met Val Glu Ser Glu
     180              185              190

gcc aaa atc ctg ccc gaa gac gtg atg ctg ggc gcg gtg gtt tac ggc 624
Ala Lys Ile Leu Pro Glu Asp Val Met Leu Gly Ala Val Val Tyr Gly
     195              200              205

cac gat caa atg cag gtt gcc atc aat gca atc aat gaa ttt gcc gac 672
His Asp Gln Met Gln Val Ala Ile Asn Ala Ile Asn Glu Phe Ala Asp
     210              215              220

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gaa gtc aat ccg gaa ctt tgg gat tgg aaa gca cct gaa acc aat gag	720
Glu Val Asn Pro Glu Leu Trp Asp Trp Lys Ala Pro Glu Thr Asn Glu	
225 230 235 240	
gaa ctg gtt gcc aaa gtc cgc ggg att gcc ggc gaa acc att aaa gaa	768
Glu Leu Val Ala Lys Val Arg Gly Ile Ala Gly Glu Thr Ile Lys Glu	
245 250 255	
gcg ttc aaa atc cgt caa aaa caa gcg cgt tct gcc aaa ttg gac gaa	816
Ala Phe Lys Ile Arg Gln Lys Gln Ala Arg Ser Ala Lys Leu Asp Glu	
260 265 270	
gct tgg agt gcg gta aaa gaa gcc ttg att acc gaa gaa acc gac acg	864
Ala Trp Ser Ala Val Lys Glu Ala Leu Ile Thr Glu Glu Thr Asp Thr	
275 280 285	
ctg gca gcc aac gaa atc aaa ggc att ttc aaa cac ttg gaa gcc gat	912
Leu Ala Ala Asn Glu Ile Lys Gly Ile Phe Lys His Leu Glu Ala Asp	
290 295 300	
gtc gtc cgc agc caa att ttg gac ggc caa ccg cgc atc gac ggc cgc	960
Val Val Arg Ser Gln Ile Leu Asp Gly Gln Pro Arg Ile Asp Gly Arg	
305 310 315 320	
gac acc cgc acc gtc cgt ccg ctg aac atc caa acc ggc gta ttg ccg	1008
Asp Thr Arg Thr Val Arg Pro Leu Asn Ile Gln Thr Gly Val Leu Pro	
325 330 335	
cgc acg cac ggt tcc gca ttg ttt acc cgt ggc gaa acc caa gcc ctt	1056
Arg Thr His Gly Ser Ala Leu Phe Thr Arg Gly Glu Thr Gln Ala Leu	
340 345 350	
gcc gta gcg act ttg ggt act tcg cgc gac gag caa atc atc gac gcg	1104
Ala Val Ala Thr Leu Gly Thr Ser Arg Asp Glu Gln Ile Ile Asp Ala	
355 360 365	
ctg tcc ggc gaa tac acc gac cgc ttt atg ctg cac tac aac ttt ccg	1152
Leu Ser Gly Glu Tyr Thr Asp Arg Phe Met Leu His Tyr Asn Phe Pro	
370 375 380	
ccg tac tct acc ggc gaa gtg ggc cgc atg ggc gcg ccg aaa cgc cgt	1200
Pro Tyr Ser Thr Gly Glu Val Gly Arg Met Gly Ala Pro Lys Arg Arg	
385 390 395 400	
gaa atc ggt cac ggt cgt ttg gct aaa cgt gca ttg ttg gcc gta ttg	1248
Glu Ile Gly His Gly Arg Leu Ala Lys Arg Ala Leu Leu Ala Val Leu	
405 410 415	

ccg aaa cct gaa gat ttc agc tac acc atg cgc gtg gtc tcc gaa att	1296
Pro Lys Pro Glu Asp Phe Ser Tyr Thr Met Arg Val Val Ser Glu Ile	
420 425 430	
acc gaa tcc aac ggc tct tcc tct atg gct tcc gtc tgc ggc ggc tgc	1344
Thr Glu Ser Asn Gly Ser Ser Ser Met Ala Ser Val Cys Gly Gly Cys	
435 440 445	
ttg agc ctg ctg tcc gcc ggc gtg cct ttg aaa gca cac gtt gcc ggt	1392
Leu Ser Leu Leu Ser Ala Gly Val Pro Leu Lys Ala His Val Ala Gly	
450 455 460	
atc gcg atg ggt ctg att ctg gaa ggc aat aag ttt gcc gtc ctg acc	1440
Ile Ala Met Gly Leu Ile Leu Glu Gly Asn Lys Phe Ala Val Leu Thr	
465 470 475 480	
gac att ttg ggc gac gaa gac cac ttg ggc gat atg gac ttt aaa gtg	1488
Asp Ile Leu Gly Asp Glu Asp His Leu Gly Asp Met Asp Phe Lys Val	
485 490 495	
gct ggt acg acc gaa ggc gtt acc gcg ctg caa atg gac atc aaa atc	1536
Ala Gly Thr Thr Glu Gly Val Thr Ala Leu Gln Met Asp Ile Lys Ile	
500 505 510	
caa ggc att acc aaa gag att atg caa atc gct ttg gcg cag gcc aaa	1584
Gln Gly Ile Thr Lys Glu Ile Met Gln Ile Ala Leu Ala Gln Ala Lys	
515 520 525	
gaa gcg cgt ctg cac atc ttg gat cag atg aaa gcc gcc gtt gcg ggc	1632
Glu Ala Arg Leu His Ile Leu Asp Gln Met Lys Ala Ala Val Ala Gly	
530 535 540	
ccg caa gag ctg tcc gca cac gcg cca cgc ttg ttc acg atg aaa atc	1680
Pro Gln Glu Leu Ser Ala His Ala Pro Arg Leu Phe Thr Met Lys Ile	
545 550 555 560	
aac caa gac aaa atc cgc gaa gtt atc ggt aag ggc ggt gaa acc atc	1728
Asn Gln Asp Lys Ile Arg Glu Val Ile Gly Lys Gly Gly Glu Thr Ile	
565 570 575	
cgt gcg att acc gct gaa acc ggt acg gaa atc aat att gcc gaa gac	1776
Arg Ala Ile Thr Ala Glu Thr Gly Thr Glu Ile Asn Ile Ala Glu Asp	
580 585 590	
ggt acg att acc att gcc gca acc act caa gaa gcc ggc gat gcg gcg	1824
Gly Thr Ile Thr Ile Ala Ala Thr Thr Gln Glu Ala Gly Asp Ala Ala	
595 600 605	

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aaa aaa cgc atc gag cag att act gcc gaa gtg gaa gtg ggc aaa gtg 1872
Lys Lys Arg Ile Glu Gln Ile Thr Ala Glu Val Glu Val Gly Lys Val
610 615 620

tac gaa ggc act gtg gtg aaa atc ctc gac aac aat gtc ggc gcg att 1920
Tyr Glu Gly Thr Val Val Lys Ile Leu Asp Asn Asn Val Gly Ala Ile
625 630 635 640

gtc agt gtg atg ccg ggc aaa gac ggt ttg gta cac atc agc caa atc 1968
Val Ser Val Met Pro Gly Lys Asp Gly Leu Val His Ile Ser Gln Ile
645 650 655

gcc cac gag cgc gta cgc aat gtc ggc gac tac ctg caa gtc ggt cag 2016
Ala His Glu Arg Val Arg Asn Val Gly Asp Tyr Leu Gln Val Gly Gln
660 665 670

gtg gtg aac gtg aaa gca ttg gaa gtg gac gac aga ggc cgt gtc cgt 2064
Val Val Asn Val Lys Ala Leu Glu Val Asp Asp Arg Gly Arg Val Arg
675 680 685

ctg tcc atc aaa gcc ctg ctg gac gcg cct gcc cgt gag gaa aat gcc 2112
Leu Ser Ile Lys Ala Leu Leu Asp Ala Pro Ala Arg Glu Glu Asn Ala
690 695 700

gcc gag 2118
Ala Glu
705

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<210> 36

<211> 706

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 36

```

Met Phe Asp Lys His Val Lys Thr Phe Gln Tyr Gly Asn Gln Thr Val
1 5 10 15

Thr Leu Glu Thr Gly Glu Ile Ala Arg Gln Ala Ala Ala Val Lys
20 25 30

Val Ser Met Gly Asp Thr Val Val Leu Val Ala Val Thr Thr Asn Lys
35 40 45

Glu Val Lys Glu Gly Gln Asp Phe Phe Pro Leu Thr Val Asp Tyr Leu
50 55 60

Glu Arg Thr Tyr Ala Ala Gly Lys Ile Pro Gly Gly Phe Phe Lys Arg

```

65		70		75		80
Glu Gly Lys Gln Ser	Glu Lys Glu Ile Leu Thr Ser Arg Leu Ile Asp					
	85		90		95	
Arg Pro Ile Arg Pro Leu Phe Pro Glu Gly Phe Tyr His Asp Ile Gln						
	100		105		110	
Ile Val Ala Met Val Val Ser Val Asp Pro Glu Ile Asp Ser Asp Ile						
	115		120		125	
Pro Ala Met Leu Gly Ala Ser Ala Ala Leu Val Leu Ser Gly Val Pro						
	130		135		140	
Phe Ala Gly Pro Ile Gly Ala Ala Arg Val Gly Tyr Ile Asn Gly Val						
145		150		155		160
Tyr Val Leu Asn Pro Thr Lys Ala Glu Leu Ala Lys Ser Gln Leu Asp						
	165		170		175	
Leu Val Val Ala Gly Thr Ser Lys Ala Val Leu Met Val Glu Ser Glu						
	180		185		190	
Ala Lys Ile Leu Pro Glu Asp Val Met Leu Gly Ala Val Val Tyr Gly						
	195		200		205	
His Asp Gln Met Gln Val Ala Ile Asn Ala Ile Asn Glu Phe Ala Asp						
	210		215		220	
Glu Val Asn Pro Glu Leu Trp Asp Trp Lys Ala Pro Glu Thr Asn Glu						
225		230		235		240
Glu Leu Val Ala Lys Val Arg Gly Ile Ala Gly Glu Thr Ile Lys Glu						
	245		250		255	
Ala Phe Lys Ile Arg Gln Lys Gln Ala Arg Ser Ala Lys Leu Asp Glu						
	260		265		270	
Ala Trp Ser Ala Val Lys Glu Ala Leu Ile Thr Glu Glu Thr Asp Thr						
	275		280		285	
Leu Ala Ala Asn Glu Ile Lys Gly Ile Phe Lys His Leu Glu Ala Asp						
	290		295		300	
Val Val Arg Ser Gln Ile Leu Asp Gly Gln Pro Arg Ile Asp Gly Arg						
305		310		315		320
Asp Thr Arg Thr Val Arg Pro Leu Asn Ile Gln Thr Gly Val Leu Pro						

	325		330		335
Arg Thr His Gly Ser Ala Leu Phe Thr Arg Gly Glu Thr Gln Ala Leu					
	340		345		350
Ala Val Ala Thr Leu Gly Thr Ser Arg Asp Glu Gln Ile Ile Asp Ala					
	355		360		365
Leu Ser Gly Glu Tyr Thr Asp Arg Phe Met Leu His Tyr Asn Phe Pro					
	370		375		380
Pro Tyr Ser Thr Gly Glu Val Gly Arg Met Gly Ala Pro Lys Arg Arg					
	385		390		395
					400
Glu Ile Gly His Gly Arg Leu Ala Lys Arg Ala Leu Leu Ala Val Leu					
		405		410	415
Pro Lys Pro Glu Asp Phe Ser Tyr Thr Met Arg Val Val Ser Glu Ile					
	420		425		430
Thr Glu Ser Asn Gly Ser Ser Ser Met Ala Ser Val Cys Gly Gly Cys					
	435		440		445
Leu Ser Leu Leu Ser Ala Gly Val Pro Leu Lys Ala His Val Ala Gly					
	450		455		460
Ile Ala Met Gly Leu Ile Leu Glu Gly Asn Lys Phe Ala Val Leu Thr					
	465		470		475
					480
Asp Ile Leu Gly Asp Glu Asp His Leu Gly Asp Met Asp Phe Lys Val					
	485		490		495
Ala Gly Thr Thr Glu Gly Val Thr Ala Leu Gln Met Asp Ile Lys Ile					
	500		505		510
Gln Gly Ile Thr Lys Glu Ile Met Gln Ile Ala Leu Ala Gln Ala Lys					
	515		520		525
Glu Ala Arg Leu His Ile Leu Asp Gln Met Lys Ala Ala Val Ala Gly					
	530		535		540
Pro Gln Glu Leu Ser Ala His Ala Pro Arg Leu Phe Thr Met Lys Ile					
	545		550		555
					560
Asn Gln Asp Lys Ile Arg Glu Val Ile Gly Lys Gly Gly Glu Thr Ile					
	565		570		575
Arg Ala Ile Thr Ala Glu Thr Gly Thr Glu Ile Asn Ile Ala Glu Asp					

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                    580                585                590
Gly Thr Ile Thr Ile Ala Ala Thr Thr Gln Glu Ala Gly Asp Ala Ala
    595                600                605

Lys Lys Arg Ile Glu Gln Ile Thr Ala Glu Val Glu Val Gly Lys Val
    610                615                620

Tyr Glu Gly Thr Val Val Lys Ile Leu Asp Asn Asn Val Gly Ala Ile
    625                630                635                640

Val Ser Val Met Pro Gly Lys Asp Gly Leu Val His Ile Ser Gln Ile
                645                650                655

Ala His Glu Arg Val Arg Asn Val Gly Asp Tyr Leu Gln Val Gly Gln
                660                665                670

Val Val Asn Val Lys Ala Leu Glu Val Asp Asp Arg Gly Arg Val Arg
    675                680                685

Leu Ser Ile Lys Ala Leu Leu Asp Ala Pro Ala Arg Glu Glu Asn Ala
    690                695                700

Ala Glu
    705

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<210> 37

<211> 3972

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(3972)

<400> 37

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gtg agc cga att atg tct gtc gtt ttg ccc ttg cgc ggc gtt acc gcc    48
Val Ser Arg Ile Met Ser Val Val Leu Pro Leu Arg Gly Val Thr Ala
    1                5                10                15

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ctt tcc gat ttc cgt gtt gaa aaa ctc ttg caa aaa gcc gcc gca ctc    96
Leu Ser Asp Phe Arg Val Glu Lys Leu Leu Gln Lys Ala Ala Ala Leu
    20                25                30

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ggc ctg ccc gaa gtc aaa tta agc agc gaa ttt tgg tat ttc gtc ggc    144
Gly Leu Pro Glu Val Lys Leu Ser Ser Glu Phe Trp Tyr Phe Val Gly

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35	40	45	
agc gag aaa gca ctt gat gcc gcg act gtc gaa aaa ctg caa gcc ttg			192
Ser Glu Lys Ala Leu Asp Ala Ala Thr Val Glu Lys Leu Gln Ala Leu			
50	55	60	
ttg gcg gcg caa agc gtt gaa caa acg cca aaa gcg cgc gag ggc ttg			240
Leu Ala Ala Gln Ser Val Glu Gln Thr Pro Lys Ala Arg Glu Gly Leu			
65	70	75	80
cat ttg ttt ttg gtc acg ccc cgt ttg ggt acg att tcg ccg tgg gct			288
His Leu Phe Leu Val Thr Pro Arg Leu Gly Thr Ile Ser Pro Trp Ala			
85	90	95	
tcc aag gcg acc aat atc gcg gaa aac tgc ggt ttg gca ggc atc gaa			336
Ser Lys Ala Thr Asn Ile Ala Glu Asn Cys Gly Leu Ala Gly Ile Glu			
100	105	110	
cgc atc gag cgc ggc atg gcg gtg tgg ctg gaa ggt gcg ctt acc gat			384
Arg Ile Glu Arg Gly Met Ala Val Trp Leu Glu Gly Ala Leu Thr Asp			
115	120	125	
gaa cag caa cag caa tgg gcg gct ttg ctg cac gac cgc atg act gaa			432
Glu Gln Gln Gln Gln Trp Ala Ala Leu Leu His Asp Arg Met Thr Glu			
130	135	140	
tcc gtg ctg ccc gat ttt cag acg gca tcc aaa tta ttc cac cat ctc			480
Ser Val Leu Pro Asp Phe Gln Thr Ala Ser Lys Leu Phe His His Leu			
145	150	155	160
gaa tcc gaa acc ttt tcc acc gtc gat gtt ttg ggc ggc ggt aaa gag			528
Glu Ser Glu Thr Phe Ser Thr Val Asp Val Leu Gly Gly Gly Lys Glu			
165	170	175	
gct ttg gtc aaa gcc aat acc gaa atg ggt ttg gca ctc tcc gcc gac			576
Ala Leu Val Lys Ala Asn Thr Glu Met Gly Leu Ala Leu Ser Ala Asp			
180	185	190	
gaa atc gat tat ctg gtt gaa aac tat cag gct ttg cag cgc aat ccg			624
Glu Ile Asp Tyr Leu Val Glu Asn Tyr Gln Ala Leu Gln Arg Asn Pro			
195	200	205	
tct gat gtg gag ctg atg atg ttc gcg cag gca aac agc gaa cac tgc			672
Ser Asp Val Glu Leu Met Met Phe Ala Gln Ala Asn Ser Glu His Cys			
210	215	220	
cgc cac aaa atc ttc aac gcc gac ttc atc ctc aac ggc gaa aaa cag			720
Arg His Lys Ile Phe Asn Ala Asp Phe Ile Leu Asn Gly Glu Lys Gln			

225	230	235	240	
ccg aaa tcg ctc ttc ggt atg ata cgc gac acg cac aac gcg cat ccc				768
Pro Lys Ser Leu Phe Gly Met Ile Arg Asp Thr His Asn Ala His Pro				
	245	250	255	
gaa ggc aca gtc gtt gcc tac aaa gac aac tca tcc gtg atc gaa ggc				816
Glu Gly Thr Val Val Ala Tyr Lys Asp Asn Ser Ser Val Ile Glu Gly				
	260	265	270	
gca aaa gtc gaa cgt ttc tat cca aat gcg gca gaa aac caa ggc tac				864
Ala Lys Val Glu Arg Phe Tyr Pro Asn Ala Ala Glu Asn Gln Gly Tyr				
	275	280	285	
cgt ttc cac gag gaa gac acg cat atc atc atg aaa gtg gaa acg cac				912
Arg Phe His Glu Glu Asp Thr His Ile Ile Met Lys Val Glu Thr His				
	290	295	300	
aac cac ccg acc gcc atc gcg ccg ttt gcg ggc gcg gca acg ggc gcg				960
Asn His Pro Thr Ala Ile Ala Pro Phe Ala Gly Ala Ala Thr Gly Ala				
	305	310	315	320
ggc ggc gaa atc cgc gac gaa ggt gcg acg ggc aaa ggt tcg cgt ccg				1008
Gly Gly Glu Ile Arg Asp Glu Gly Ala Thr Gly Lys Gly Ser Arg Pro				
	325	330	335	
aaa gca ggc ttg acc ggc ttt acc gtg tcc aac ctc aac atc ccc ggc				1056
Lys Ala Gly Leu Thr Gly Phe Thr Val Ser Asn Leu Asn Ile Pro Gly				
	340	345	350	
ctc aaa cag ccg tgg gaa caa gat tac ggc aag ccg gaa cat att tcc				1104
Leu Lys Gln Pro Trp Glu Gln Asp Tyr Gly Lys Pro Glu His Ile Ser				
	355	360	365	
tcg ccg ctg gac att atg att gaa ggc ccc atc ggc ggc gcg gcg ttc				1152
Ser Pro Leu Asp Ile Met Ile Glu Gly Pro Ile Gly Gly Ala Ala Phe				
	370	375	380	
aac aac gaa ttc ggc cgc ccc aac ctc ttg ggc tac ttc cgc act ttt				1200
Asn Asn Glu Phe Gly Arg Pro Asn Leu Leu Gly Tyr Phe Arg Thr Phe				
	385	390	395	400
gaa gaa aaa ttt gac ggt cag gtt cgc ggc tac cac aaa ccg att atg				1248
Glu Glu Lys Phe Asp Gly Gln Val Arg Gly Tyr His Lys Pro Ile Met				
	405	410	415	
att gcc ggc ggc ttg ggc agc att cag gcg cag cag acg cat aaa gac				1296
Ile Ala Gly Gly Leu Gly Ser Ile Gln Ala Gln Gln Thr His Lys Asp				

420	425	430	
gaa atc ccc gaa ggc gcg ttg ctg atc caa ctg ggc ggc ccg ggt atg			1344
Glu Ile Pro Glu Gly Ala Leu Leu Ile Gln Leu Gly Gly Pro Gly Met			
435	440	445	
ctt atc ggc ttg ggc ggc ggc gcg gct tct tcg atg gat acc ggc aca			1392
Leu Ile Gly Leu Gly Gly Gly Ala Ala Ser Ser Met Asp Thr Gly Thr			
450	455	460	
aac gac gcg tct tta gac ttc aac tcc gta caa cgc ggc aac ccc gaa			1440
Asn Asp Ala Ser Leu Asp Phe Asn Ser Val Gln Arg Gly Asn Pro Glu			
465	470	475	480
atc gaa cgc cgc gcg cag gaa gtg atc gac cgc tgc tgg cag ctc ggc			1488
Ile Glu Arg Arg Ala Gln Glu Val Ile Asp Arg Cys Trp Gln Leu Gly			
485	490	495	
gac aaa aac ccg att atc tcc atc cac gac gtt ggc gcg ggc ggc ttg			1536
Asp Lys Asn Pro Ile Ile Ser Ile His Asp Val Gly Ala Gly Gly Leu			
500	505	510	
tcc aac gcc ttc ccc gaa ctc gtc aac gat gcc gga cgc ggc gcg gta			1584
Ser Asn Ala Phe Pro Glu Leu Val Asn Asp Ala Gly Arg Gly Ala Val			
515	520	525	
ttc aag ctg cgc gaa gtg ccg ctg gaa gaa cac ggt ctc aac ccg ctg			1632
Phe Lys Leu Arg Glu Val Pro Leu Glu Glu His Gly Leu Asn Pro Leu			
530	535	540	
caa atc tgg tgc aac gaa tcg caa gag cgt tat gta ttg tcg att ttg			1680
Gln Ile Trp Cys Asn Glu Ser Gln Glu Arg Tyr Val Leu Ser Ile Leu			
545	550	555	560
gaa aaa gat ttg gac atc ttc cgc tcc atc tgc gaa cgt gaa cgc tgc			1728
Glu Lys Asp Leu Asp Ile Phe Arg Ser Ile Cys Glu Arg Glu Arg Cys			
565	570	575	
ccg ttt gcg gta gtc ggt acg gcg acc gac gac ggc cat ttg aaa gta			1776
Pro Phe Ala Val Val Gly Thr Ala Thr Asp Asp Gly His Leu Lys Val			
580	585	590	
cgc gac gat ttg ttc tcc aac aac cct gtc gat ttg ccg ttg aac gtc			1824
Arg Asp Asp Leu Phe Ser Asn Asn Pro Val Asp Leu Pro Leu Asn Val			
595	600	605	
ttg ctc ggc aaa ccg ccc aaa acc acg cgt acc gac aaa acg gtt gcg			1872
Leu Leu Gly Lys Pro Pro Lys Thr Thr Arg Thr Asp Lys Thr Val Ala			

610	615	620	
ccg tcc aaa aaa ccg ttt cac gcg ggc gat atc gac att act gaa gcc			1920
Pro Ser Lys Lys Pro Phe His Ala Gly Asp Ile Asp Ile Thr Glu Ala			
625	630	635	640
gcc tac cgc gtt ctg cgc ctg cct gcc gta gcc gcc aaa aac ttc ctg			1968
Ala Tyr Arg Val Leu Arg Leu Pro Ala Val Ala Ala Lys Asn Phe Leu			
	645	650	655
att acc atc ggc gac cgc agc gtc ggc ggc atg acc cac cgc gac caa			2016
Ile Thr Ile Gly Asp Arg Ser Val Gly Gly Met Thr His Arg Asp Gln			
	660	665	670
atg gtc ggc aaa tac caa acc ccc gta gcc gac tgc gcc gtt acc atg			2064
Met Val Gly Lys Tyr Gln Thr Pro Val Ala Asp Cys Ala Val Thr Met			
	675	680	685
atg ggc ttc aac act tat cgc ggc gaa gcg atg agc atg ggc gaa aaa			2112
Met Gly Phe Asn Thr Tyr Arg Gly Glu Ala Met Ser Met Gly Glu Lys			
	690	695	700
ccg acc gtc gcc ctg ttt gac gcg cct gct tcg ggc aga atg tgc gtc			2160
Pro Thr Val Ala Leu Phe Asp Ala Pro Ala Ser Gly Arg Met Cys Val			
705	710	715	720
ggc gaa gcc atc acc aac atc gcg gca gcc aat atc ggc gac atc ggc			2208
Gly Glu Ala Ile Thr Asn Ile Ala Ala Ala Asn Ile Gly Asp Ile Gly			
	725	730	735
aac atc aaa ctc tcc gcc aac tgg atg gcg gcg tgc ggc aac gaa ggc			2256
Asn Ile Lys Leu Ser Ala Asn Trp Met Ala Ala Cys Gly Asn Glu Gly			
	740	745	750
gaa gac gaa aaa ctc tac cgc acc gtc gaa gcg gtt tcc aaa gcc tgt			2304
Glu Asp Glu Lys Leu Tyr Arg Thr Val Glu Ala Val Ser Lys Ala Cys			
	755	760	765
cag gca ttg gat ttg agc att ccc gtg ggc aaa gac agc ctg tcg atg			2352
Gln Ala Leu Asp Leu Ser Ile Pro Val Gly Lys Asp Ser Leu Ser Met			
	770	775	780
aaa acc gtg tgg cag gac ggc gaa gag aaa aaa tcc gtc gtt tcg ccg			2400
Lys Thr Val Trp Gln Asp Gly Glu Glu Lys Lys Ser Val Val Ser Pro			
785	790	795	800
ttg agc ctg att atc tcc gcg ttc gcg ccg gtt caa gac gta cgc aaa			2448
Leu Ser Leu Ile Ile Ser Ala Phe Ala Pro Val Gln Asp Val Arg Lys			

805	810	815	
acc gtt acg ccc gaa ttg aaa aac gtc gag gac agc gta ttg ctg ttt			2496
Thr Val Thr Pro Glu Leu Lys Asn Val Glu Asp Ser Val Leu Leu Phe			
820	825	830	
gtc gat ttg ggc ttc ggc aaa gcg cgt atg ggc ggc tcg gcg ttt ggt			2544
Val Asp Leu Gly Phe Gly Lys Ala Arg Met Gly Gly Ser Ala Phe Gly			
835	840	845	
cag gtg tac aac aat atg agc ggc gac gcg ccc gat ttg gac gat aca			2592
Gln Val Tyr Asn Asn Met Ser Gly Asp Ala Pro Asp Leu Asp Asp Thr			
850	855	860	
agt cgt ctg aaa gcg ttt tac aac gtg att cag cag ctt gtc gcc gaa			2640
Ser Arg Leu Lys Ala Phe Tyr Asn Val Ile Gln Gln Leu Val Ala Glu			
865	870	875	880
gac aaa ctc ttg gcg tat cac gac cgc agc gac ggc ggc ttg ttt gcc			2688
Asp Lys Leu Leu Ala Tyr His Asp Arg Ser Asp Gly Gly Leu Phe Ala			
885	890	895	
gtt ttg gta gaa atg gcg ttt gca ggg cgg tgc ggc ttg gat ata gat			2736
Val Leu Val Glu Met Ala Phe Ala Gly Arg Cys Gly Leu Asp Ile Asp			
900	905	910	
tta aat tta ttg ctt gca caa aca ttt att acc aac cat acc gct ctg			2784
Leu Asn Leu Leu Leu Ala Gln Thr Phe Ile Thr Asn His Thr Ala Leu			
915	920	925	
tct caa tca ttg cgg act gaa gag gta aaa gcg ttg gct gaa tgg caa			2832
Ser Gln Ser Leu Arg Thr Glu Glu Val Lys Ala Leu Ala Glu Trp Gln			
930	935	940	
gaa acc att gcc cgc aca tta ttt aat gaa gag ttg ggt gct gtt atc			2880
Glu Thr Ile Ala Arg Thr Leu Phe Asn Glu Glu Leu Gly Ala Val Ile			
945	950	955	960
caa gtt aga aaa caa gat gtt gcc gat att atc aat tta ttc tat caa			2928
Gln Val Arg Lys Gln Asp Val Ala Asp Ile Ile Asn Leu Phe Tyr Gln			
965	970	975	
caa cag ctg cat cat aat gtc ttt gaa atc ggt acg tta act gat gag			2976
Gln Gln Leu His His Asn Val Phe Glu Ile Gly Thr Leu Thr Asp Glu			
980	985	990	
aac acg tta atc atc cgc gac ggg caa acg cac ctt att tct gac aac			3024
Asn Thr Leu Ile Ile Arg Asp Gly Gln Thr His Leu Ile Ser Asp Asn			

995	1000	1005	
cta atc aaa ctg caa caa acc tgg caa gaa acc agc cat caa atc caa			3072
Leu Ile Lys Leu Gln Gln Thr Trp Gln Glu Thr Ser His Gln Ile Gln			
1010	1015	1020	
cgc ctg cgc gac aac cct gcc tgc gcc gac agc gag ttt gcc ctg att			3120
Arg Leu Arg Asp Asn Pro Ala Cys Ala Asp Ser Glu Phe Ala Leu Ile			
1025	1030	1035	1040
ggc gac aac gga cgc agc gca ttg ttt gcc aac ctg aaa ttc gac gtg			3168
Gly Asp Asn Gly Arg Ser Ala Leu Phe Ala Asn Leu Lys Phe Asp Val			
1045	1050	1055	
aac gaa gac atc gcc gcg ccg ttt atc aac agc ggc gcg aaa ccc aaa			3216
Asn Glu Asp Ile Ala Ala Pro Phe Ile Asn Ser Gly Ala Lys Pro Lys			
1060	1065	1070	
atc gcc atc ctg cgc gaa cag ggc gta aac ggg caa atc gaa atg gcc			3264
Ile Ala Ile Leu Arg Glu Gln Gly Val Asn Gly Gln Ile Glu Met Ala			
1075	1080	1085	
gcc gcc ttc acc cgt gcc ggt ttc gat gcc tac gac gtg cat atg tcc			3312
Ala Ala Phe Thr Arg Ala Gly Phe Asp Ala Tyr Asp Val His Met Ser			
1090	1095	1100	
gac ctg atg gca ggc cgc gtc cac ctt gcc gac ttc aaa atg ctg gcg			3360
Asp Leu Met Ala Gly Arg Val His Leu Ala Asp Phe Lys Met Leu Ala			
1105	1110	1115	1120
gcg tgc ggc ggc ttc agc tac ggc gac gta ctc ggc gcg ggc aaa ggc			3408
Ala Cys Gly Gly Phe Ser Tyr Gly Asp Val Leu Gly Ala Gly Lys Gly			
1125	1130	1135	
tgg gcg aaa tcc atc ctg ttc cac ccc gcc tta cgc gac cag ttc gcc			3456
Trp Ala Lys Ser Ile Leu Phe His Pro Ala Leu Arg Asp Gln Phe Ala			
1140	1145	1150	
gcc ttc ttc acc gac ccg aac acg ctg aca ttg ggc gtg tgc aac ggc			3504
Ala Phe Phe Thr Asp Pro Asn Thr Leu Thr Leu Gly Val Cys Asn Gly			
1155	1160	1165	
tgc cag atg gtc agc aac ctc gcc gaa atc atc ccc ggc acg gca ggc			3552
Cys Gln Met Val Ser Asn Leu Ala Glu Ile Ile Pro Gly Thr Ala Gly			
1170	1175	1180	
tgg ccg aag ttc aag cgc aac ctg agc gaa cag ttc gaa gcg cgc ctg			3600
Trp Pro Lys Phe Lys Arg Asn Leu Ser Glu Gln Phe Glu Ala Arg Leu			

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1185              1190              1195              1200

agc atg gtt cac gtc ccc aaa tca gcc tcc ctg att ctg aac gaa atg 3648
Ser Met Val His Val Pro Lys Ser Ala Ser Leu Ile Leu Asn Glu Met
              1205              1210              1215

caa ggc tcc agc ctg ccc gtc gtc gtc agc cac ggc gaa ggc cgc gcc 3696
Gln Gly Ser Ser Leu Pro Val Val Val Ser His Gly Glu Gly Arg Ala
              1220              1225              1230

gac ttc gcg ctt cac ggc ggc aac att tct gcc gat ttg ggc att gcg 3744
Asp Phe Ala Leu His Gly Gly Asn Ile Ser Ala Asp Leu Gly Ile Ala
              1235              1240              1245

ttg caa tat gtg gac gga caa aac caa att acc caa acc tac ccg ctc 3792
Leu Gln Tyr Val Asp Gly Gln Asn Gln Ile Thr Gln Thr Tyr Pro Leu
              1250              1255              1260

aac ccc aac ggc tcg ccg caa ggc atc gcc ggc gtg acc aac gcc gac 3840
Asn Pro Asn Gly Ser Pro Gln Gly Ile Ala Gly Val Thr Asn Ala Asp
1265              1270              1275              1280

ggc cgc gtt acc atc atg atg ccg cat cct gaa cgt gta tac cgc gcc 3888
Gly Arg Val Thr Ile Met Met Pro His Pro Glu Arg Val Tyr Arg Ala
              1285              1290              1295

gca caa atg agc tgg aaa ccg gaa gac tgg acg gaa ttg tcc ggc tgg 3936
Ala Gln Met Ser Trp Lys Pro Glu Asp Trp Thr Glu Leu Ser Gly Trp
              1300              1305              1310

tac cgc ctc ttc gcc ggc gca cgt aaa gcc ttg ggc 3972
Tyr Arg Leu Phe Ala Gly Ala Arg Lys Ala Leu Gly
              1315              1320

```

<210> 38

<211> 1324

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 38

```

Val Ser Arg Ile Met Ser Val Val Leu Pro Leu Arg Gly Val Thr Ala
  1              5              10              15

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Leu Ser Asp Phe Arg Val Glu Lys Leu Leu Gln Lys Ala Ala Ala Leu
  20              25              30

```

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Gly Leu Pro Glu Val Lys Leu Ser Ser Glu Phe Trp Tyr Phe Val Gly

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35	40	45
Ser Glu Lys Ala Leu Asp Ala Ala Thr Val Glu Lys Leu Gln Ala Leu		
50	55	60
Leu Ala Ala Gln Ser Val Glu Gln Thr Pro Lys Ala Arg Glu Gly Leu		
65	70	75
His Leu Phe Leu Val Thr Pro Arg Leu Gly Thr Ile Ser Pro Trp Ala		
85	90	95
Ser Lys Ala Thr Asn Ile Ala Glu Asn Cys Gly Leu Ala Gly Ile Glu		
100	105	110
Arg Ile Glu Arg Gly Met Ala Val Trp Leu Glu Gly Ala Leu Thr Asp		
115	120	125
Glu Gln Gln Gln Gln Trp Ala Ala Leu Leu His Asp Arg Met Thr Glu		
130	135	140
Ser Val Leu Pro Asp Phe Gln Thr Ala Ser Lys Leu Phe His His Leu		
145	150	155
Glu Ser Glu Thr Phe Ser Thr Val Asp Val Leu Gly Gly Gly Lys Glu		
165	170	175
Ala Leu Val Lys Ala Asn Thr Glu Met Gly Leu Ala Leu Ser Ala Asp		
180	185	190
Glu Ile Asp Tyr Leu Val Glu Asn Tyr Gln Ala Leu Gln Arg Asn Pro		
195	200	205
Ser Asp Val Glu Leu Met Met Phe Ala Gln Ala Asn Ser Glu His Cys		
210	215	220
Arg His Lys Ile Phe Asn Ala Asp Phe Ile Leu Asn Gly Glu Lys Gln		
225	230	235
Pro Lys Ser Leu Phe Gly Met Ile Arg Asp Thr His Asn Ala His Pro		
245	250	255
Glu Gly Thr Val Val Ala Tyr Lys Asp Asn Ser Ser Val Ile Glu Gly		
260	265	270
Ala Lys Val Glu Arg Phe Tyr Pro Asn Ala Ala Glu Asn Gln Gly Tyr		
275	280	285
Arg Phe His Glu Glu Asp Thr His Ile Ile Met Lys Val Glu Thr His		

290	295	300
Asn His Pro Thr Ala Ile Ala Pro Phe Ala Gly Ala Ala Thr Gly Ala		
305	310	315 320
Gly Gly Glu Ile Arg Asp Glu Gly Ala Thr Gly Lys Gly Ser Arg Pro		
	325	330 335
Lys Ala Gly Leu Thr Gly Phe Thr Val Ser Asn Leu Asn Ile Pro Gly		
	340	345 350
Leu Lys Gln Pro Trp Glu Gln Asp Tyr Gly Lys Pro Glu His Ile Ser		
	355	360 365
Ser Pro Leu Asp Ile Met Ile Glu Gly Pro Ile Gly Gly Ala Ala Phe		
370	375	380
Asn Asn Glu Phe Gly Arg Pro Asn Leu Leu Gly Tyr Phe Arg Thr Phe		
385	390	395 400
Glu Glu Lys Phe Asp Gly Gln Val Arg Gly Tyr His Lys Pro Ile Met		
	405	410 415
Ile Ala Gly Gly Leu Gly Ser Ile Gln Ala Gln Gln Thr His Lys Asp		
	420	425 430
Glu Ile Pro Glu Gly Ala Leu Leu Ile Gln Leu Gly Gly Pro Gly Met		
	435	440 445
Leu Ile Gly Leu Gly Gly Gly Ala Ala Ser Ser Met Asp Thr Gly Thr		
450	455	460
Asn Asp Ala Ser Leu Asp Phe Asn Ser Val Gln Arg Gly Asn Pro Glu		
465	470	475 480
Ile Glu Arg Arg Ala Gln Glu Val Ile Asp Arg Cys Trp Gln Leu Gly		
	485	490 495
Asp Lys Asn Pro Ile Ile Ser Ile His Asp Val Gly Ala Gly Gly Leu		
	500	505 510
Ser Asn Ala Phe Pro Glu Leu Val Asn Asp Ala Gly Arg Gly Ala Val		
	515	520 525
Phe Lys Leu Arg Glu Val Pro Leu Glu Glu His Gly Leu Asn Pro Leu		
530	535	540
Gln Ile Trp Cys Asn Glu Ser Gln Glu Arg Tyr Val Leu Ser Ile Leu		

545	550	555	560
Glu Lys Asp Leu Asp Ile Phe Arg Ser Ile Cys Glu Arg Glu Arg Cys			
	565	570	575
Pro Phe Ala Val Val Gly Thr Ala Thr Asp Asp Gly His Leu Lys Val			
	580	585	590
Arg Asp Asp Leu Phe Ser Asn Asn Pro Val Asp Leu Pro Leu Asn Val			
	595	600	605
Leu Leu Gly Lys Pro Pro Lys Thr Thr Arg Thr Asp Lys Thr Val Ala			
	610	615	620
Pro Ser Lys Lys Pro Phe His Ala Gly Asp Ile Asp Ile Thr Glu Ala			
	625	630	635
Ala Tyr Arg Val Leu Arg Leu Pro Ala Val Ala Ala Lys Asn Phe Leu			
	645	650	655
Ile Thr Ile Gly Asp Arg Ser Val Gly Gly Met Thr His Arg Asp Gln			
	660	665	670
Met Val Gly Lys Tyr Gln Thr Pro Val Ala Asp Cys Ala Val Thr Met			
	675	680	685
Met Gly Phe Asn Thr Tyr Arg Gly Glu Ala Met Ser Met Gly Glu Lys			
	690	695	700
Pro Thr Val Ala Leu Phe Asp Ala Pro Ala Ser Gly Arg Met Cys Val			
	705	710	715
Gly Glu Ala Ile Thr Asn Ile Ala Ala Ala Asn Ile Gly Asp Ile Gly			
	725	730	735
Asn Ile Lys Leu Ser Ala Asn Trp Met Ala Ala Cys Gly Asn Glu Gly			
	740	745	750
Glu Asp Glu Lys Leu Tyr Arg Thr Val Glu Ala Val Ser Lys Ala Cys			
	755	760	765
Gln Ala Leu Asp Leu Ser Ile Pro Val Gly Lys Asp Ser Leu Ser Met			
	770	775	780
Lys Thr Val Trp Gln Asp Gly Glu Glu Lys Lys Ser Val Val Ser Pro			
	785	790	795
Leu Ser Leu Ile Ile Ser Ala Phe Ala Pro Val Gln Asp Val Arg Lys			
			800

	805		810		815
Thr Val Thr Pro Glu Leu Lys Asn Val Glu Asp Ser Val Leu Leu Phe					
	820		825		830
Val Asp Leu Gly Phe Gly Lys Ala Arg Met Gly Gly Ser Ala Phe Gly					
	835		840		845
Gln Val Tyr Asn Asn Met Ser Gly Asp Ala Pro Asp Leu Asp Asp Thr					
	850		855		860
Ser Arg Leu Lys Ala Phe Tyr Asn Val Ile Gln Gln Leu Val Ala Glu					
865		870		875	880
Asp Lys Leu Leu Ala Tyr His Asp Arg Ser Asp Gly Gly Leu Phe Ala					
	885		890		895
Val Leu Val Glu Met Ala Phe Ala Gly Arg Cys Gly Leu Asp Ile Asp					
	900		905		910
Leu Asn Leu Leu Leu Ala Gln Thr Phe Ile Thr Asn His Thr Ala Leu					
	915		920		925
Ser Gln Ser Leu Arg Thr Glu Glu Val Lys Ala Leu Ala Glu Trp Gln					
	930		935		940
Glu Thr Ile Ala Arg Thr Leu Phe Asn Glu Glu Leu Gly Ala Val Ile					
945		950		955	960
Gln Val Arg Lys Gln Asp Val Ala Asp Ile Ile Asn Leu Phe Tyr Gln					
	965		970		975
Gln Gln Leu His His Asn Val Phe Glu Ile Gly Thr Leu Thr Asp Glu					
	980		985		990
Asn Thr Leu Ile Ile Arg Asp Gly Gln Thr His Leu Ile Ser Asp Asn					
	995		1000		1005
Leu Ile Lys Leu Gln Gln Thr Trp Gln Glu Thr Ser His Gln Ile Gln					
	1010		1015		1020
Arg Leu Arg Asp Asn Pro Ala Cys Ala Asp Ser Glu Phe Ala Leu Ile					
025		1030		1035	1040
Gly Asp Asn Gly Arg Ser Ala Leu Phe Ala Asn Leu Lys Phe Asp Val					
	1045		1050		1055
Asn Glu Asp Ile Ala Ala Pro Phe Ile Asn Ser Gly Ala Lys Pro Lys					

1060	1065	1070
Ile Ala Ile Leu Arg Glu Gln Gly Val Asn Gly Gln Ile Glu Met Ala		
1075	1080	1085
Ala Ala Phe Thr Arg Ala Gly Phe Asp Ala Tyr Asp Val His Met Ser		
1090	1095	1100
Asp Leu Met Ala Gly Arg Val His Leu Ala Asp Phe Lys Met Leu Ala		
1105	1110	1115 1120
Ala Cys Gly Gly Phe Ser Tyr Gly Asp Val Leu Gly Ala Gly Lys Gly		
1125	1130	1135
Trp Ala Lys Ser Ile Leu Phe His Pro Ala Leu Arg Asp Gln Phe Ala		
1140	1145	1150
Ala Phe Phe Thr Asp Pro Asn Thr Leu Thr Leu Gly Val Cys Asn Gly		
1155	1160	1165
Cys Gln Met Val Ser Asn Leu Ala Glu Ile Ile Pro Gly Thr Ala Gly		
1170	1175	1180
Trp Pro Lys Phe Lys Arg Asn Leu Ser Glu Gln Phe Glu Ala Arg Leu		
1185	1190	1195 1200
Ser Met Val His Val Pro Lys Ser Ala Ser Leu Ile Leu Asn Glu Met		
1205	1210	1215
Gln Gly Ser Ser Leu Pro Val Val Val Ser His Gly Glu Gly Arg Ala		
1220	1225	1230
Asp Phe Ala Leu His Gly Gly Asn Ile Ser Ala Asp Leu Gly Ile Ala		
1235	1240	1245
Leu Gln Tyr Val Asp Gly Gln Asn Gln Ile Thr Gln Thr Tyr Pro Leu		
1250	1255	1260
Asn Pro Asn Gly Ser Pro Gln Gly Ile Ala Gly Val Thr Asn Ala Asp		
1265	1270	1275 1280
Gly Arg Val Thr Ile Met Met Pro His Pro Glu Arg Val Tyr Arg Ala		
1285	1290	1295
Ala Gln Met Ser Trp Lys Pro Glu Asp Trp Thr Glu Leu Ser Gly Trp		
1300	1305	1310
Tyr Arg Leu Phe Ala Gly Ala Arg Lys Ala Leu Gly		

1315

1320

<210> 39

<211> 471

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<220>

<221> CDS

<222> (1)..(471)

<400> 39

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atg tcc cgc aat acc gaa gag ctg caa ggc atc tcg ctt ttg ggt aat 48
Met Ser Arg Asn Thr Glu Glu Leu Gln Gly Ile Ser Leu Leu Gly Asn
  1             5             10            15

cag aaa acc cga tat ccg acc ggc tac gcg cct gaa att ctc gaa gca 96
Gln Lys Thr Arg Tyr Pro Thr Gly Tyr Ala Pro Glu Ile Leu Glu Ala
      20             25            30

ttc gac aac aaa cat ccc gac aac gac tat ttc gtc aaa ttc gtc tgc 144
Phe Asp Asn Lys His Pro Asp Asn Asp Tyr Phe Val Lys Phe Val Cys
      35             40            45

cca gag ttc acc agc ctc tgc ccc atg acc ggg cag ccc gac ttc gcc 192
Pro Glu Phe Thr Ser Leu Cys Pro Met Thr Gly-Gln Pro Asp Phe Ala
      50             55            60

acc atc tac atc cgc tac att ccg cac atc aaa atg gtg gaa agc aaa 240
Thr Ile Tyr Ile Arg Tyr Ile Pro His Ile Lys Met Val Glu Ser Lys
      65             70            75            80

tcc ctg aaa ctc tac ctc ttc agc ttc cgc aac cac ggc gat ttt cat 288
Ser Leu Lys Leu Tyr Leu Phe Ser Phe Arg Asn His Gly Asp Phe His
      85             90            95

gaa gac tgc gtc aac atc atc atg aaa gac ctc att gcc ctg atg gat 336
Glu Asp Cys Val Asn Ile Ile Met Lys Asp Leu Ile Ala Leu Met Asp
      100            105            110

ccg aaa tac atc gaa gta ttc ggc gag ttc aca ccg cgc ggc ggc atc 384
Pro Lys Tyr Ile Glu Val Phe Gly Glu Phe Thr Pro Arg Gly Gly Ile
      115            120            125

gcc att cat cct ttc gcc aat tac ggc aaa gca ggc acc gag ttt gaa 432
Ala Ile His Pro Phe Ala Asn Tyr Gly Lys Ala Gly Thr Glu Phe Glu

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130          135          140

gca ttg gcg cgt aaa cgc ctg ttt gag cac gac gca caa          471
Ala Leu Ala Arg Lys Arg Leu Phe Glu His Asp Ala Gln
145          150          155

<210> 40
<211> 157
<212> PRT
<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 40
Met Ser Arg Asn Thr Glu Glu Leu Gln Gly Ile Ser Leu Leu Gly Asn
  1          5          10          15

Gln Lys Thr Arg Tyr Pro Thr Gly Tyr Ala Pro Glu Ile Leu Glu Ala
      20          25          30

Phe Asp Asn Lys His Pro Asp Asn Asp Tyr Phe Val Lys Phe Val Cys
      35          40          45

Pro Glu Phe Thr Ser Leu Cys Pro Met Thr Gly Gln Pro Asp Phe Ala
      50          55          60

Thr Ile Tyr Ile Arg Tyr Ile Pro His Ile Lys Met Val Glu Ser Lys
      65          70          75          80

Ser Leu Lys Leu Tyr Leu Phe Ser Phe Arg Asn His Gly Asp Phe His
      85          90          95

Glu Asp Cys Val Asn Ile Ile Met Lys Asp Leu Ile Ala Leu Met Asp
      100          105          110

Pro Lys Tyr Ile Glu Val Phe Gly Glu Phe Thr Pro Arg Gly Gly Ile
      115          120          125

Ala Ile His Pro Phe Ala Asn Tyr Gly Lys Ala Gly Thr Glu Phe Glu
      130          135          140

Ala Leu Ala Arg Lys Arg Leu Phe Glu His Asp Ala Gln
      145          150          155

<210> 41
<211> 504
<212> DNA

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<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(504)

<400> 41

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atg ccc cta cta gac agt ttc aaa gtc gat cac acc cgt atg cat gcc 48
Met Pro Leu Leu Asp Ser Phe Lys Val Asp His Thr Arg Met His Ala
1 5 10 15

```

```

ccc gcc gta cgc gtg gcg aaa acc atg acc acg ccc aaa ggc gac acc 96
Pro Ala Val Arg Val Ala Lys Thr Met Thr Thr Pro Lys Gly Asp Thr
20 25 30

```

```

att acc gtg ttc gac ctg cgc ttt tgc gtt ccc aat aaa gaa atc ctg 144
Ile Thr Val Phe Asp Leu Arg Phe Cys Val Pro Asn Lys Glu Ile Leu
35 40 45

```

```

cct gaa aaa ggc ata cac acg ctg gag cat ttg ttc gca ggt ttt atg 192
Pro Glu Lys Gly Ile His Thr Leu Glu His Leu Phe Ala Gly Phe Met
50 55 60

```

```

cgc gac cac ttg aac ggc aac ggc gtg gaa atc atc gac att tcc ccg 240
Arg Asp His Leu Asn Gly Asn Gly Val Glu Ile Ile Asp Ile Ser Pro
65 70 75 80

```

```

atg ggc tgc cgc acc ggt ttt tat atg agc ctt atc ggc acg cct tcc 288
Met Gly Cys Arg Thr Gly Phe Tyr Met Ser Leu Ile Gly Thr Pro Ser
85 90 95

```

```

gaa cag cag gtc gcc gat gcg tgg ctg gct tcg atg cag gat gtt ttg 336
Glu Gln Gln Val Ala Asp Ala Trp Leu Ala Ser Met Gln Asp Val Leu
100 105 110

```

```

aat gtc aaa gac caa agc aaa atc ccc gag ttg aac gaa tac caa tgc 384
Asn Val Lys Asp Gln Ser Lys Ile Pro Glu Leu Asn Glu Tyr Gln Cys
115 120 125

```

```

ggc act tat caa atg cac tcg ctc gcc gaa gcg cag caa atc gcg caa 432
Gly Thr Tyr Gln Met His Ser Leu Ala Glu Ala Gln Gln Ile Ala Gln
130 135 140

```

```

aac gtg ttg gcg cgc aaa gtg gcg gtg aac aaa aat gaa gag ctg acg 480
Asn Val Leu Ala Arg Lys Val Ala Val Asn Lys Asn Glu Glu Leu Thr
145 150 155 160

```

```

ctg gat gaa ggc ctg ctg aac gcc 504

```

Leu Asp Glu Gly Leu Leu Asn Ala
165

<210> 42

<211> 168

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 42

Met Pro Leu Leu Asp Ser Phe Lys Val Asp His Thr Arg Met His Ala
1 5 10 15

Pro Ala Val Arg Val Ala Lys Thr Met Thr Thr Pro Lys Gly Asp Thr
20 25 30

Ile Thr Val Phe Asp Leu Arg Phe Cys Val Pro Asn Lys Glu Ile Leu
35 40 45

Pro Glu Lys Gly Ile His Thr Leu Glu His Leu Phe Ala Gly Phe Met
50 55 60

Arg Asp His Leu Asn Gly Asn Gly Val Glu Ile Ile Asp Ile Ser Pro
65 70 75 80

Met Gly Cys Arg Thr Gly Phe Tyr Met Ser Leu Ile Gly Thr Pro Ser
85 90 95

Glu Gln Gln Val Ala Asp Ala Trp Leu Ala Ser Met Gln Asp Val Leu
100 105 110

Asn Val Lys Asp Gln Ser Lys Ile Pro Glu Leu Asn Glu Tyr Gln Cys
115 120 125

Gly Thr Tyr Gln Met His Ser Leu Ala Glu Ala Gln Gln Ile Ala Gln
130 135 140

Asn Val Leu Ala Arg Lys Val Ala Val Asn Lys Asn Glu Glu Leu Thr
145 150 155 160

Leu Asp Glu Gly Leu Leu Asn Ala
165

<210> 43

<211> 813

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<220>

<221> CDS

<222> (1)..(813)

<400> 43

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atg act atg cac gcc ctc ccc cgc tac gcc gtt ttt ggc aac ccc gtc   48
Met Thr Met His Ala Leu Pro Arg Tyr Ala Val Phe Gly Asn Pro Val
   1             5             10             15

gcc cac agc aaa tcg ccg caa att cat caa caa ttt gcc ctt cag gaa   96
Ala His Ser Lys Ser Pro Gln Ile His Gln Gln Phe Ala Leu Gln Glu
      20             25             30

ggc gtt gac att gaa tac gaa cgc att tgc gcc gac atc ggc ggt ttc  144
Gly Val Asp Ile Glu Tyr Glu Arg Ile Cys Ala Asp Ile Gly Gly Phe
      35             40             45

gcg cag gcg gtt tcg aca ttt ttt gaa aca ggc ggt tgc ggg gca aac  192
Ala Gln Ala Val Ser Thr Phe Phe Glu Thr Gly Gly Cys Gly Ala Asn
      50             55             60

gtt acc gta ccg ttc aag cag gaa gcg ttt cat ctg gcg gac gag cat  240
Val Thr Val Pro Phe Lys Gln Glu Ala Phe His Leu Ala Asp Glu His
      65             70             75             80

tct gaa cgc gca ttg gct gcc ggc gcg gtc aac acg ctg att ttt ctg  288
Ser Glu Arg Ala Leu Ala Ala Gly Ala Val Asn Thr Leu Ile Phe Leu
      85             90             95

aaa aac gga aaa ctg cgc ggc gac aat acc gac ggt atc ggt ttg gcc  336
Lys Asn Gly Lys Leu Arg Gly Asp Asn Thr Asp Gly Ile Gly Leu Ala
      100            105            110

aac gac atc acg cag gtc aaa aac att gcc atc gaa ggc aaa acc atc  384
Asn Asp Ile Thr Gln Val Lys Asn Ile Ala Ile Glu Gly Lys Thr Ile
      115            120            125

ttg ctt ttg ggc gcg ggc ggc gcg gtg cgc ggc gtg att cct gtt ttg  432
Leu Leu Leu Gly Ala Gly Gly Ala Val Arg Gly Val Ile Pro Val Leu
      130            135            140

aaa gaa cac cgt cct gcc cgt atc gtc att gcc aac cgt acc cgc gcc  480
Lys Glu His Arg Pro Ala Arg Ile Val Ile Ala Asn Arg Thr Arg Ala
      145            150            155            160

aaa gcc gag gaa ttg gcg cag ctt ttc ggc att gaa gcc gtc ccg atg  528

```



```

Lys Ala Glu Glu Leu Ala Gln Leu Phe Gly Ile Glu Ala Val Pro Met
      165                      170                      175

gcg gat gtg aac ggc ggt ttt gat atc atc atc aac ggc acg tcg ggc 576
Ala Asp Val Asn Gly Gly Phe Asp Ile Ile Ile Asn Gly Thr Ser Gly
      180                      185                      190

ggt cta aac ggt cag att ccc gat att ccg ccc gat att ttt caa aac 624
Gly Leu Asn Gly Gln Ile Pro Asp Ile Pro Pro Asp Ile Phe Gln Asn
      195                      200                      205

tgc gcg ctt gcc tac gat atg gtg tac ggc tgc gcg gca aaa ccg ttt 672
Cys Ala Leu Ala Tyr Asp Met Val Tyr Gly Cys Ala Ala Lys Pro Phe
      210                      215                      220

tta gat ttt gca cga caa tcg ggt gcg aaa aaa act gcc gac gga ctg 720
Leu Asp Phe Ala Arg Gln Ser Gly Ala Lys Lys Thr Ala Asp Gly Leu
      225                      230                      235                      240

ggt atg cta gtc ggt caa gcg gcg gct tcc tac gcc ctc tgg cgc gga 768
Gly Met Leu Val Gly Gln Ala Ala Ala Ser Tyr Ala Leu Trp Arg Gly
      245                      250                      255

ttt acg ccc gat atc cgc ccc gtt atc gaa tac atg aaa gcc cta 813
Phe Thr Pro Asp Ile Arg Pro Val Ile Glu Tyr Met Lys Ala Leu
      260                      265                      270

```

<210> 44

<211> 271

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 44

```

Met Thr Met His Ala Leu Pro Arg Tyr Ala Val Phe Gly Asn Pro Val
  1              5              10              15

Ala His Ser Lys Ser Pro Gln Ile His Gln Gln Phe Ala Leu Gln Glu
      20              25              30

Gly Val Asp Ile Glu Tyr Glu Arg Ile Cys Ala Asp Ile Gly Gly Phe
      35              40              45

Ala Gln Ala Val Ser Thr Phe Phe Glu Thr Gly Gly Cys Gly Ala Asn
      50              55              60

Val Thr Val Pro Phe Lys Gln Glu Ala Phe His Leu Ala Asp Glu His
      65              70              75              80

```

Ser Glu Arg Ala Leu Ala Ala Gly Ala Val Asn Thr Leu Ile Phe Leu
85 90 95

Lys Asn Gly Lys Leu Arg Gly Asp Asn Thr Asp Gly Ile Gly Leu Ala
100 105 110

Asn Asp Ile Thr Gln Val Lys Asn Ile Ala Ile Glu Gly Lys Thr Ile
115 120 125

Leu Leu Leu Gly Ala Gly Gly Ala Val Arg Gly Val Ile Pro Val Leu
130 135 140

Lys Glu His Arg Pro Ala Arg Ile Val Ile Ala Asn Arg Thr Arg Ala
145 150 155 160

Lys Ala Glu Glu Leu Ala Gln Leu Phe Gly Ile Glu Ala Val Pro Met
165 170 175

Ala Asp Val Asn Gly Gly Phe Asp Ile Ile Ile Asn Gly Thr Ser Gly
180 185 190

Gly Leu Asn Gly Gln Ile Pro Asp Ile Pro Pro Asp Ile Phe Gln Asn
195 200 205

Cys Ala Leu Ala Tyr Asp Met Val Tyr Gly Cys Ala Ala Lys Pro Phe
210 215 220

Leu Asp Phe Ala Arg Gln Ser Gly Ala Lys Lys Thr Ala Asp Gly Leu
225 230 235 240

Gly Met Leu Val Gly Gln Ala Ala Ala Ser Tyr Ala Leu Trp Arg Gly
245 250 255

Phe Thr Pro Asp Ile Arg Pro Val Ile Glu Tyr Met Lys Ala Leu
260 265 270

<210> 45

<211> 546

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(546)

<400> 45

```

ttg ctt tct cat ttg gat atg aaa ttc gtc agc gac ctt ttg tct gtc 48
Leu Leu Ser His Leu Asp Met Lys Phe Val Ser Asp Leu Leu Ser Val
  1           5           10           15

atc ttg ttt ttt gct act tat acc gtt acc aaa aat atg att gcc gct 96
Ile Leu Phe Phe Ala Thr Tyr Thr Val Thr Lys Asn Met Ile Ala Ala
      20           25           30

acg gcg gtt gcc ttg gtt gcc ggt gtg gtt cag gcg gct ttt ctg tat 144
Thr Ala Val Ala Leu Val Ala Gly Val Val Gln Ala Ala Phe Leu Tyr
      35           40           45

tgg aaa tat aaa aag ctg gat acg atg cag tgg gtc gga ctg gtg ctg 192
Trp Lys Tyr Lys Lys Leu Asp Thr Met Gln Trp Val Gly Leu Val Leu
      50           55           60

att gtc gta ttc ggc ggc gca acc att gtt ttg ggc gac agc cgc ttc 240
Ile Val Val Phe Gly Gly Ala Thr Ile Val Leu Gly Asp Ser Arg Phe
      65           70           75           80

att atg tgg aag ccg agc gtt ttg ttt tgg ctg ggc gcg ctg ttc ctg 288
Ile Met Trp Lys Pro Ser Val Leu Phe Trp Leu Gly Ala Leu Phe Leu
      85           90           95

tgg ggc agc cac ctc gcc ggt aaa aac ggc ttg aag gcg agt atc ggc 336
Trp Gly Ser His Leu Ala Gly Lys Asn Gly Leu Lys Ala Ser Ile Gly
      100           105           110

agg gag att cag ctt ccg gat gcc gta tgg gcg aaa ttg acg tat atg 384
Arg Glu Ile Gln Leu Pro Asp Ala Val Trp Ala Lys Leu Thr Tyr Met
      115           120           125

tgg gtc ggt ttc ctg att ttt atg ggt atc gcc aac tgg ttt gtg ttt 432
Trp Val Gly Phe Leu Ile Phe Met Gly Ile Ala Asn Trp Phe Val Phe
      130           135           140

acc cgg ttc gag tcg caa tgg gtc aac tat aaa atg ttc ggc tcg act 480
Thr Arg Phe Glu Ser Gln Trp Val Asn Tyr Lys Met Phe Gly Ser Thr
      145           150           155           160

gca ctg atg ctt gtt ttc ttt att att cag ggt att tat ctg agt acc 528
Ala Leu Met Leu Val Phe Phe Ile Ile Gln Gly Ile Tyr Leu Ser Thr
      165           170           175

tgt ctg aaa aag gag gat 546
Cys Leu Lys Lys Glu Asp
      180

```

<210> 46

<211> 182

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 46

Leu Leu Ser His Leu Asp Met Lys Phe Val Ser Asp Leu Leu Ser Val
 1 5 10 15

Ile Leu Phe Phe Ala Thr Tyr Thr Val Thr Lys Asn Met Ile Ala Ala
 20 25 30

Thr Ala Val Ala Leu Val Ala Gly Val Val Gln Ala Ala Phe Leu Tyr
 35 40 45

Trp Lys Tyr Lys Lys Leu Asp Thr Met Gln Trp Val Gly Leu Val Leu
 50 55 60

Ile Val Val Phe Gly Gly Ala Thr Ile Val Leu Gly Asp Ser Arg Phe
 65 70 75 80

Ile Met Trp Lys Pro Ser Val Leu Phe Trp Leu Gly Ala Leu Phe Leu
 85 90 95

Trp Gly Ser His Leu Ala Gly Lys Asn Gly Leu Lys Ala Ser Ile Gly
 100 105 110

Arg Glu Ile Gln Leu Pro Asp Ala Val Trp Ala Lys Leu Thr Tyr Met
 115 120 125

Trp Val Gly Phe Leu Ile Phe Met Gly Ile Ala Asn Trp Phe Val Phe
 130 135 140

Thr Arg Phe Glu Ser Gln Trp Val Asn Tyr Lys Met Phe Gly Ser Thr
 145 150 155 160

Ala Leu Met Leu Val Phe Phe Ile Ile Gln Gly Ile Tyr Leu Ser Thr
 165 170 175

Cys Leu Lys Lys Glu Asp
 180

<210> 47

<211> 585

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<220>

<221> CDS

<222> (1)..(585)

<400> 47

```

ttg aat att aaa ctg aaa acc ttg tta ttg ccc ttc gcc acg ctg gca 48
Leu Asn Ile Lys Leu Lys Thr Leu Leu Leu Pro Phe Ala Thr Leu Ala
   1             5             10             15

ttg tgc acc aat gct ttt gcc gcc ccg ccc agc gac gcg tcg ttg gcg 96
Leu Cys Thr Asn Ala Phe Ala Ala Pro Pro Ser Asp Ala Ser Leu Ala
          20             25             30

cgt tgg ctg gat acg cag aat ttt gac cgg gat ata gaa aaa aat atg 144
Arg Trp Leu Asp Thr Gln Asn Phe Asp Arg Asp Ile Glu Lys Asn Met
      35             40             45

att gag ggc ttt aat gcc gga ttt aaa ccg tat gcg gac aaa gcc ctt 192
Ile Glu Gly Phe Asn Ala Gly Phe Lys Pro Tyr Ala Asp Lys Ala Leu
      50             55             60

gcc gaa atg ccg gaa gcg aaa aaa gat cag gcg gca gaa gcc ttt aac 240
Ala Glu Met Pro Glu Ala Lys Lys Asp Gln Ala Ala Glu Ala Phe Asn
      65             70             75             80

cgt tat cgt gag aat gtt ttg aaa gat ttg att acg ccc gaa gtg aaa 288
Arg Tyr Arg Glu Asn Val Leu Lys Asp Leu Ile Thr Pro Glu Val Lys
          85             90             95

cag gct gtc cgc aat act tta ttg aag aat gcc cgt gag ata tac acg 336
Gln Ala Val Arg Asn Thr Leu Leu Lys Asn Ala Arg Glu Ile Tyr Thr
          100             105             110

caa gaa gaa att gac ggc atg att gcc ttt tac ggt tcg cct gtc ggt 384
Gln Glu Glu Ile Asp Gly Met Ile Ala Phe Tyr Gly Ser Pro Val Gly
          115             120             125

cag tcc gtc gtt gcc aaa aat ccg cgc tta atc aag aaa tcg atg agt 432
Gln Ser Val Val Ala Lys Asn Pro Arg Leu Ile Lys Lys Ser Met Ser
          130             135             140

gaa ata gcg gta tct tgg act gca ttg tca ggg aaa atc gcg caa cat 480
Glu Ile Ala Val Ser Trp Thr Ala Leu Ser Gly Lys Ile Ala Gln His
          145             150             155             160

```

cat ctg ccc gag ttt acg gaa gag ttg cgg cgc atc atc tgc ggc ggt 528
 His Leu Pro Glu Phe Thr Glu Glu Leu Arg Arg Ile Ile Cys Gly Gly
 165 170 175

aaa aat ccc gat gcg ggc tgt aaa caa gcc gga cag gtt ggg aaa agg 576
 Lys Asn Pro Asp Ala Gly Cys Lys Gln Ala Gly Gln Val Gly Lys Arg
 180 185 190

cat cag aaa 585
 His Gln Lys
 195

<210> 48

<211> 195

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 48

Leu Asn Ile Lys Leu Lys Thr Leu Leu Leu Pro Phe Ala Thr Leu Ala
 1 5 10 15

Leu Cys Thr Asn Ala Phe Ala Ala Pro Pro Ser Asp Ala Ser Leu Ala
 20 25 30

Arg Trp Leu Asp Thr Gln Asn Phe Asp Arg Asp Ile Glu Lys Asn Met
 35 40 45

Ile Glu Gly Phe Asn Ala Gly Phe Lys Pro Tyr Ala Asp Lys Ala Leu
 50 55 60

Ala Glu Met Pro Glu Ala Lys Lys Asp Gln Ala Ala Glu Ala Phe Asn
 65 70 75 80

Arg Tyr Arg Glu Asn Val Leu Lys Asp Leu Ile Thr Pro Glu Val Lys
 85 90 95

Gln Ala Val Arg Asn Thr Leu Leu Lys Asn Ala Arg Glu Ile Tyr Thr
 100 105 110

Gln Glu Glu Ile Asp Gly Met Ile Ala Phe Tyr Gly Ser Pro Val Gly
 115 120 125

Gln Ser Val Val Ala Lys Asn Pro Arg Leu Ile Lys Lys Ser Met Ser
 130 135 140

Glu Ile Ala Val Ser Trp Thr Ala Leu Ser Gly Lys Ile Ala Gln His
 145 150 155 160

His Leu Pro Glu Phe Thr Glu Glu Leu Arg Arg Ile Ile Cys Gly Gly
165 170 175

Lys Asn Pro Asp Ala Gly Cys Lys Gln Ala Gly Gln Val Gly Lys Arg
180 185 190

His Gln Lys
195

<210> 49

<211> 462

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(462)

<400> 49

ttg ctt tgc ccg gaa aaa atg tcg ggg atg gcg gga cag tat ccg tac 48
Leu Leu Cys Pro Glu Lys Met Ser Gly Met Ala Gly Gln Tyr Pro Tyr
1 5 10 15

ggc gtc cgg tcg ggt ttg cgg agg aac ggc ttg aaa ctt tgg gat att 96
Gly Val Arg Ser Gly Leu Arg Arg Asn Gly Leu Lys Leu Trp Asp Ile
20 25 30

cat ttt aga atg acc cgt ttt atc gtc gca aga tgc ggt tta ttg ttt 144
His Phe Arg Met Thr Arg Phe Ile Val Ala Arg Cys Gly Leu Leu Phe
35 40 45

gca acc ctt aaa gga aaa acc atg aag aaa atg ttc gtg ctg ttc tgt 192
Ala Thr Leu Lys Gly Lys Thr Met Lys Lys Met Phe Val Leu Phe Cys
50 55 60

atg ctg ttc tcc tgc gcc ttc tcc ctt gcg gcg gta aac atc aat gcg 240
Met Leu Phe Ser Cys Ala Phe Ser Leu Ala Ala Val Asn Ile Asn Ala
65 70 75 80

gct tcg cag cag gag ctg gag gcg ctg ccg ggc ata ggc cct gcg aag 288
Ala Ser Gln Gln Glu Leu Glu Ala Leu Pro Gly Ile Gly Pro Ala Lys
85 90 95

gcg aag gcc att gcg gaa tac cgt gcg caa aac ggt gcg ttc aag tct 336
Ala Lys Ala Ile Ala Glu Tyr Arg Ala Gln Asn Gly Ala Phe Lys Ser

```

          100              105              110
gta gac gat ttg acc aag gta aag ggc atc ggc cct gcg gtg ctg gcg   384
Val Asp Asp Leu Thr Lys Val Lys Gly Ile Gly Pro Ala Val Leu Ala
      115              120              125

aag ctg aag gat cag gct tct gtc ggt gcg ccc gca cca aaa ggc cca   432
Lys Leu Lys Asp Gln Ala Ser Val Gly Ala Pro Ala Pro Lys Gly Pro
      130              135              140

gct aaa cca gtg ctg ccc gcg gat aaa aaa                               462
Ala Lys Pro Val Leu Pro Ala Asp Lys Lys
145              150

```

<210> 50

<211> 154

<212> PRT

<213> 脑膜炎奈瑟氏球菌(*Neisseria meningitidis*)

<400> 50

```

Leu Leu Cys Pro Glu Lys Met Ser Gly Met Ala Gly Gln Tyr Pro Tyr
  1              5              10              15

```

```

Gly Val Arg Ser Gly Leu Arg Arg Asn Gly Leu Lys Leu Trp Asp Ile
      20              25              30

```

```

His Phe Arg Met Thr Arg Phe Ile Val Ala Arg Cys Gly Leu Leu Phe
      35              40              45

```

```

Ala Thr Leu Lys Gly Lys Thr Met Lys Lys Met Phe Val Leu Phe Cys
      50              55              60

```

```

Met Leu Phe Ser Cys Ala Phe Ser Leu Ala Ala Val Asn Ile Asn Ala
      65              70              75              80

```

```

Ala Ser Gln Gln Glu Leu Glu Ala Leu Pro Gly Ile Gly Pro Ala Lys
      85              90              95

```

```

Ala Lys Ala Ile Ala Glu Tyr Arg Ala Gln Asn Gly Ala Phe Lys Ser
      100              105              110

```

```

Val Asp Asp Leu Thr Lys Val Lys Gly Ile Gly Pro Ala Val Leu Ala
      115              120              125

```

```

Lys Leu Lys Asp Gln Ala Ser Val Gly Ala Pro Ala Pro Lys Gly Pro
      130              135              140

```


Ala Lys Pro Val Leu Pro Ala Asp Lys Lys
145 150

<210> 51

<211> 969

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(969)

<400> 51

```

atg tcc gcc aag ttc caa caa gaa acc ctc aaa tcc cgt ttc gcg caa 48
Met Ser Ala Lys Phe Gln Gln Glu Thr Leu Lys Ser Arg Phe Ala Gln
  1          5          10          15

gcc aaa gtc ctg gtt gtc ggc gac gtg atg ctc gac cgc tat tgg ttc 96
Ala Lys Val Leu Val Val Gly Asp Val Met Leu Asp Arg Tyr Trp Phe
          20          25          30

ggc gat gtg tcc cgt att tcg ccc gaa gcc ccc gtg ccg gtg gcg aaa 144
Gly Asp Val Ser Arg Ile Ser Pro Glu Ala Pro Val Pro Val Ala Lys
          35          40          45

atc gga cga atc gac caa cgc gcg ggc gga gcg gca aat gtc gcg cgc 192
Ile Gly Arg Ile Asp Gln Arg Ala Gly Gly Ala Ala Asn Val Ala Arg
          50          55          60

aac atc gct tcg ctg ggc ggc aaa gta ggg ctg ttg tcg gta acc ggt 240
Asn Ile Ala Ser Leu Gly Gly Lys Val Gly Leu Leu Ser Val Thr Gly
          65          70          75          80

aac gac gaa gcc gcc gac gcg ctc gac gcg ctg atg gtg cag gac ggc 288
Asn Asp Glu Ala Ala Asp Ala Leu Asp Ala Leu Met Val Gln Asp Gly
          85          90          95

gtc gcc tcc tat ctg atg cgc gac aaa caa atc gcc acc acc gtc aaa 336
Val Ala Ser Tyr Leu Met Arg Asp Lys Gln Ile Ala Thr Thr Val Lys
          100          105          110

ctg cgc gtc gtc gcc cgc aac cag cag ctt atc cgc ctt gat ttt gaa 384
Leu Arg Val Val Ala Arg Asn Gln Gln Leu Ile Arg Leu Asp Phe Glu
          115          120          125

gaa cat ccc aac cgc gaa gtg ttg gaa caa atc aag cgg aaa tac cgc 432

```

Glu His Pro Asn Arg Glu Val Leu Glu Gln Ile Lys Arg Lys Tyr Arg	
130	135 140
gaa atc ttg ccc gaa tac gac gca atc att ttt tca gac tac ggc aaa 480	
Glu Ile Leu Pro Glu Tyr Asp Ala Ile Ile Phe Ser Asp Tyr Gly Lys	
145	150 155 160
ggc ggc ctg tcg cac atc tcc gat atg atc gat tgg gcg aaa cac gaa 528	
Gly Gly Leu Ser His Ile Ser Asp Met Ile Asp Trp Ala Lys His Glu	
	165 170 175
ggc aaa acc gta tta atc gac ccc aaa ggc gac gat tac gaa aaa tac 576	
Gly Lys Thr Val Leu Ile Asp Pro Lys Gly Asp Asp Tyr Glu Lys Tyr	
	180 185 190
gcc ggc gca acc ctg att acg ccc aac cgc gcc gaa ttg aaa gaa gtg 624	
Ala Gly Ala Thr Leu Ile Thr Pro Asn Arg Ala Glu Leu Lys Glu Val	
	195 200 205
gtc ggc agc tgg aaa aac gaa aat gat ttg acc gaa aaa gcc caa aac 672	
Val Gly Ser Trp Lys Asn Glu Asn Asp Leu Thr Glu Lys Ala Gln Asn	
	210 215 220
ctg cgc cgc cac ctc gac ttg acc gct att tta ctg acc cga agc gaa 720	
Leu Arg Arg His Leu Asp Leu Thr Ala Ile Leu Leu Thr Arg Ser Glu	
225	230 235 240
gaa ggc atg acc ttg ttc agc gaa ggc gaa ccc att tac cag ccc acc 768	
Glu Gly Met Thr Leu Phe Ser Glu Gly Glu Pro Ile Tyr Gln Pro Thr	
	245 250 255
cgc gcc caa gaa gtt tac gac gta tcc ggt gcg ggc gac acc gtc att 816	
Arg Ala Gln Glu Val Tyr Asp Val Ser Gly Ala Gly Asp Thr Val Ile	
	260 265 270
gcc gga atg ggc ttg ggt ttg gcg gca ggc tgc acc atg ccc gaa gcc 864	
Ala Gly Met Gly Leu Gly Leu Ala Ala Gly Cys Thr Met Pro Glu Ala	
	275 280 285
atg tac ctt gcc aat act gcg gcc ggg gtt gtc gtg gcg aaa ctc ggt 912	
Met Tyr Leu Ala Asn Thr Ala Ala Gly Val Val Ala Lys Leu Gly	
	290 295 300
acg gcg gtt tgc tcg ttt gcc gaa ttg acc aag gca ttg tca ggg caa 960	
Thr Ala Val Cys Ser Phe Ala Glu Leu Thr Lys Ala Leu Ser Gly Gln	
305	310 315 320
tca aca atg 969	

Ser Thr Met

<210> 52

<211> 323

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 52

Met Ser Ala Lys Phe Gln Gln Glu Thr Leu Lys Ser Arg Phe Ala Gln

1 5 10 15

Ala Lys Val Leu Val Val Gly Asp Val Met Leu Asp Arg Tyr Trp Phe

20 25 30

Gly Asp Val Ser Arg Ile Ser Pro Glu Ala Pro Val Pro Val Ala Lys

35 40 45

Ile Gly Arg Ile Asp Gln Arg Ala Gly Gly Ala Ala Asn Val Ala Arg

50 55 60

Asn Ile Ala Ser Leu Gly Gly Lys Val Gly Leu Leu Ser Val Thr Gly

65 70 75 80

Asn Asp Glu Ala Ala Asp Ala Leu Asp Ala Leu Met Val Gln Asp Gly

85 90 95

Val Ala Ser Tyr Leu Met Arg Asp Lys Gln Ile Ala Thr Thr Val Lys

100 105 110

Leu Arg Val Val Ala Arg Asn Gln Gln Leu Ile Arg Leu Asp Phe Glu

115 120 125

Glu His Pro Asn Arg Glu Val Leu Glu Gln Ile Lys Arg Lys Tyr Arg

130 135 140

Glu Ile Leu Pro Glu Tyr Asp Ala Ile Ile Phe Ser Asp Tyr Gly Lys

145 150 155 160

Gly Gly Leu Ser His Ile Ser Asp Met Ile Asp Trp Ala Lys His Glu

165 170 175

Gly Lys Thr Val Leu Ile Asp Pro Lys Gly Asp Asp Tyr Glu Lys Tyr

180 185 190

Ala Gly Ala Thr Leu Ile Thr Pro Asn Arg Ala Glu Leu Lys Glu Val

195 200 205

```

Val Gly Ser Trp Lys Asn Glu Asn Asp Leu Thr Glu Lys Ala Gln Asn
  210                215                220

Leu Arg Arg His Leu Asp Leu Thr Ala Ile Leu Leu Thr Arg Ser Glu
  225                230                235                240

Glu Gly Met Thr Leu Phe Ser Glu Gly Glu Pro Ile Tyr Gln Pro Thr
          245                250                255

Arg Ala Gln Glu Val Tyr Asp Val Ser Gly Ala Gly Asp Thr Val Ile
          260                265                270

Ala Gly Met Gly Leu Gly Leu Ala Ala Gly Cys Thr Met Pro Glu Ala
          275                280                285

Met Tyr Leu Ala Asn Thr Ala Ala Gly Val Val Val Ala Lys Leu Gly
          290                295                300

Thr Ala Val Cys Ser Phe Ala Glu Leu Thr Lys Ala Leu Ser Gly Gln
  305                310                315                320

Ser Thr Met

```

<210> 53

<211> 864

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(864)

<400> 53

atg aaa gca aaa atc ctg act tcc gtt gca ctg ctt gcc tgt tcc ggc 48

Met Lys Ala Lys Ile Leu Thr Ser Val Ala Leu Leu Ala Cys Ser Gly

1

5

10

15

agc ctg ttt gcc caa acg ctg gca acc gtc aac ggt cag aaa atc gac 96

Ser Leu Phe Ala Gln Thr Leu Ala Thr Val Asn Gly Gln Lys Ile Asp

20

25

30

agt tcc gtc att gat gcg cag gtt gcc gca ttc cgt gcg gaa aac agc 144

Ser Ser Val Ile Asp Ala Gln Val Ala Ala Phe Arg Ala Glu Asn Ser

35

40

45

```

cgt gcc gaa gac acg ccg caa ctg cgc caa tcc ctg ctg gaa aac gaa 192
Arg Ala Glu Asp Thr Pro Gln Leu Arg Gln Ser Leu Leu Glu Asn Glu
    50                55                60

gtg gtc aac acc gtg gtc gca cag gaa gtg aaa cgc ctg aaa ctc gac 240
Val Val Asn Thr Val Val Ala Gln Glu Val Lys Arg Leu Lys Leu Asp
    65                70                75                80

cgg tcg gca gag ttt aaa aat gcg ctt gcc aaa ttg cgt gcc gaa gcg 288
Arg Ser Ala Glu Phe Lys Asn Ala Leu Ala Lys Leu Arg Ala Glu Ala
                85                90                95

aaa aag tcg ggc gac gac aag aaa ccg tcc ttc aaa acc gtt tgg cag 336
Lys Lys Ser Gly Asp Asp Lys Lys Pro Ser Phe Lys Thr Val Trp Gln
                100                105                110

gcg gta aaa tat ggc ttg aac ggc gag gca tac gcg ctg cat atc gcc 384
Ala Val Lys Tyr Gly Leu Asn Gly Glu Ala Tyr Ala Leu His Ile Ala
                115                120                125

aaa acc caa ccg gtt tcc gag cag gaa gta aaa gcc gca tat gac aat 432
Lys Thr Gln Pro Val Ser Glu Gln Glu Val Lys Ala Ala Tyr Asp Asn
                130                135                140

atc agc ggt ttt tac aaa ggt acg cag gaa gtc cag ttg ggc gaa atc 480
Ile Ser Gly Phe Tyr Lys Gly Thr Gln Glu Val Gln Leu Gly Glu Ile
    145                150                155                160

ctg acc gac aag gaa gaa aat gca aaa aaa gcg gtt gcc gac ttg aag 528
Leu Thr Asp Lys Glu Glu Asn Ala Lys Lys Ala Val Ala Asp Leu Lys
                165                170                175

gcg aaa aaa ggt ttc gat gcc gtc ttg aaa caa tat tcc ctc aac gac 576
Ala Lys Lys Gly Phe Asp Ala Val Leu Lys Gln Tyr Ser Leu Asn Asp
                180                185                190

cgt acc aaa cag acc ggt gcg ccg gtc gga tat gtg ccg ctg aaa gat 624
Arg Thr Lys Gln Thr Gly Ala Pro Val Gly Tyr Val Pro Leu Lys Asp
                195                200                205

ttg gaa cag ggt gtt ccg ccg ctt tat cag gca att aag gac ttg aaa 672
Leu Glu Gln Gly Val Pro Pro Leu Tyr Gln Ala Ile Lys Asp Leu Lys
                210                215                220

aaa ggc gaa ttt acg gca acg ccg ctg aaa aac ggc gat ttc tac ggc 720
Lys Gly Glu Phe Thr Ala Thr Pro Leu Lys Asn Gly Asp Phe Tyr Gly
    225                230                235                240

```

gtt tat tat gtc aac gac agc cgc gag gta aaa gtg cct tct ttt gat 768
 Val Tyr Tyr Val Asn Asp Ser Arg Glu Val Lys Val Pro Ser Phe Asp
 245 250 255

gaa atg aaa gga cag att gcg ggc aac ctt cag gcg gaa cgg att gac 816
 Glu Met Lys Gly Gln Ile Ala Gly Asn Leu Gln Ala Glu Arg Ile Asp
 260 265 270

cgt gcc gtc ggt gca ctg ttg ggc aag gca aac atc aaa cct gca aaa 864
 Arg Ala Val Gly Ala Leu Leu Gly Lys Ala Asn Ile Lys Pro Ala Lys
 275 280 285

<210> 54

<211> 288

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 54

Met Lys Ala Lys Ile Leu Thr Ser Val Ala Leu Leu Ala Cys Ser Gly
 1 5 10 15

Ser Leu Phe Ala Gln Thr Leu Ala Thr Val Asn Gly Gln Lys Ile Asp
 20 25 30

Ser Ser Val Ile Asp Ala Gln Val Ala Ala Phe Arg Ala Glu Asn Ser
 35 40 45

Arg Ala Glu Asp Thr Pro Gln Leu Arg Gln Ser Leu Leu Glu Asn Glu
 50 55 60

Val Val Asn Thr Val Val Ala Gln Glu Val Lys Arg Leu Lys Leu Asp
 65 70 75 80

Arg Ser Ala Glu Phe Lys Asn Ala Leu Ala Lys Leu Arg Ala Glu Ala
 85 90 95

Lys Lys Ser Gly Asp Asp Lys Lys Pro Ser Phe Lys Thr Val Trp Gln
 100 105 110

Ala Val Lys Tyr Gly Leu Asn Gly Glu Ala Tyr Ala Leu His Ile Ala
 115 120 125

Lys Thr Gln Pro Val Ser Glu Gln Glu Val Lys Ala Ala Tyr Asp Asn
 130 135 140

Ile Ser Gly Phe Tyr Lys Gly Thr Gln Glu Val Gln Leu Gly Glu Ile
 145 150 155 160

Leu Thr Asp Lys Glu Glu Asn Ala Lys Lys Ala Val Ala Asp Leu Lys
165 170 175

Ala Lys Lys Gly Phe Asp Ala Val Leu Lys Gln Tyr Ser Leu Asn Asp
180 185 190

Arg Thr Lys Gln Thr Gly Ala Pro Val Gly Tyr Val Pro Leu Lys Asp
195 200 205

Leu Glu Gln Gly Val Pro Pro Leu Tyr Gln Ala Ile Lys Asp Leu Lys
210 215 220

Lys Gly Glu Phe Thr Ala Thr Pro Leu Lys Asn Gly Asp Phe Tyr Gly
225 230 235 240

Val Tyr Tyr Val Asn Asp Ser Arg Glu Val Lys Val Pro Ser Phe Asp
245 250 255

Glu Met Lys Gly Gln Ile Ala Gly Asn Leu Gln Ala Glu Arg Ile Asp
260 265 270

Arg Ala Val Gly Ala Leu Leu Gly Lys Ala Asn Ile Lys Pro Ala Lys
275 280 285

<210> 55

<211> 1257

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1257)

<400> 55

atg aaa cag acc gtc ctc aaa aat aac ctg caa aac ctg ctt gaa agc 48
Met Lys Gln Thr Val Leu Lys Asn Asn Leu Gln Asn Leu Leu Glu Ser
1 5 10 15

gca gaa aat atc ctg ctg ctt caa ggc cct gtc ggc gat ttt ttt ctg 96
Ala Glu Asn Ile Leu Leu Leu Gln Gly Pro Val Gly Asp Phe Phe Leu
20 25 30

cgc ctt gcc gac tgg ctg act gca aac ggc aaa acc gta cat aaa ttc 144
Arg Leu Ala Asp Trp Leu Thr Ala Asn Gly Lys Thr Val His Lys Phe
35 40 45

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aac ttt aat gca ggc gac gac tat ttt tat ccg ccc act caa gcg cat 192
Asn Phe Asn Ala Gly Asp Asp Tyr Phe Tyr Pro Pro Thr Gln Ala His
    50                55                60

acc gtt gtt ttt aac gac aac tac gat gcc ttt cct gag ttt ttg caa 240
Thr Val Val Phe Asn Asp Asn Tyr Asp Ala Phe Pro Glu Phe Leu Gln
    65                70                75                80

gaa tac atc act caa cat cac atc cag gcc gtt gtc tgc ttt ggc gac 288
Glu Tyr Ile Thr Gln His His Ile Gln Ala Val Val Cys Phe Gly Asp
                85                90                95

aca cgc cct tat cac gtc att gca aaa cgc att gca aac gaa aac caa 336
Thr Arg Pro Tyr His Val Ile Ala Lys Arg Ile Ala Asn Glu Asn Gln
                100                105                110

gcc agt ttc tgg gcg ttt gaa gaa ggc tat ttc cgc ccc tac tac atc 384
Ala Ser Phe Trp Ala Phe Glu Glu Gly Tyr Phe Arg Pro Tyr Tyr Ile
                115                120                125

acc tta gaa aaa gac ggc gtc aac gca ttt tcc ccg ttg ccg cgc cgt 432
Thr Leu Glu Lys Asp Gly Val Asn Ala Phe Ser Pro Leu Pro Arg Arg
                130                135                140

gcc gac ttt ttt ctt gaa caa ttc cct aag ctt gcc cag caa gaa tat 480
Ala Asp Phe Phe Leu Glu Gln Phe Pro Lys Leu Ala Gln Gln Glu Tyr
                145                150                155                160

aaa gcg cca acg ccg gta cac ggc ggt ttt acg ccc atg gca aaa aac 528
Lys Ala Pro Thr Pro Val His Gly Gly Phe Thr Pro Met Ala Lys Asn
                165                170                175

gct atc cgt tac tat atc gag ttg ttc cgc aat cta cgc aaa tac ccc 576
Ala Ile Arg Tyr Tyr Ile Glu Leu Phe Arg Asn Leu Arg Lys Tyr Pro
                180                185                190

gac tac atc cac cac cgc gca ccc aat gcc ggc cat tac ctc aaa ccg 624
Asp Tyr Ile His His Arg Ala Pro Asn Ala Gly His Tyr Leu Lys Pro
                195                200                205

tgg tcg ctc tcc atc ctc aag cgt ttg aac tac tat att gaa gac atc 672
Trp Ser Leu Ser Ile Leu Lys Arg Leu Asn Tyr Tyr Ile Glu Asp Ile
                210                215                220

caa atc gcc aaa cgt gtg gaa gca ggc aaa tac ggc aag ttt ttt att 720
Gln Ile Ala Lys Arg Val Glu Ala Gly Lys Tyr Gly Lys Phe Phe Ile
                225                230                235                240

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gtt ccc ttg cag gta ttc aac gac agc caa gtc cgt atc cat tgc gac	768
Val Pro Leu Gln Val Phe Asn Asp Ser Gln Val Arg Ile His Cys Asp	
245 250 255	
ttt ccc agc gtc cgc agc ttc ctg ctc cat gtt ttg agt tca ttt gcc	816
Phe Pro Ser Val Arg Ser Phe Leu Leu His Val Leu Ser Ser Phe Ala	
260 265 270	
gaa cac gcg cct gcc gat acc aac atc atc atc aag cat cat cct atg	864
Glu His Ala Pro Ala Asp Thr Asn Ile Ile Ile Lys His His Pro Met	
275 280 285	
gac cgc ggc ttt atc gac tac tgg cgc gac att aaa cgc ttt atc aaa	912
Asp Arg Gly Phe Ile Asp Tyr Trp Arg Asp Ile Lys Arg Phe Ile Lys	
290 295 300	
gaa cac ccc gaa ctc aaa ggc cgt gtg att tat gtc cat gat gtc ccc	960
Glu His Pro Glu Leu Lys Gly Arg Val Ile Tyr Val His Asp Val Pro	
305 310 315 320	
ctg ccc gtt ttc ctg cgc cac ggt ctc ggc atg gtt acc atc aac agc	1008
Leu Pro Val Phe Leu Arg His Gly Leu Gly Met Val Thr Ile Asn Ser	
325 330 335	
acc agc ggc ctg tcc gga ctg att cac aat atg cca gtt aag gtt ctc	1056
Thr Ser Gly Leu Ser Gly Leu Ile His Asn Met Pro Val Lys Val Leu	
340 345 350	
ggc cgt gcc tat tat gat att ccc ggc att act gac caa aat acc ttg	1104
Gly Arg Ala Tyr Tyr Asp Ile Pro Gly Ile Thr Asp Gln Asn Thr Leu	
355 360 365	
gca gaa ttt tgg aat cat ccg aca ccg cct gac aaa gag ctg ttc cat	1152
Ala Glu Phe Trp Asn His Pro Thr Pro Pro Asp Lys Glu Leu Phe His	
370 375 380	
gcc tac cga atg tac cac ctc aac gtg acc caa att aac ggc aac ttc	1200
Ala Tyr Arg Met Tyr His Leu Asn Val Thr Gln Ile Asn Gly Asn Phe	
385 390 395 400	
tac agt cag gtc ttt ttt cct aac aaa aac aca tcc gac tct tcc aca	1248
Tyr Ser Gln Val Phe Phe Pro Asn Lys Asn Thr Ser Asp Ser Ser Thr	
405 410 415	
cca aca acc	1257
Pro Thr Thr	

<210> 56.

<211> 419

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 56

Met Lys Gln Thr Val Leu Lys Asn Asn Leu Gln Asn Leu Leu Glu Ser
1 5 10 15

Ala Glu Asn Ile Leu Leu Leu Gln Gly Pro Val Gly Asp Phe Phe Leu
20 25 30

Arg Leu Ala Asp Trp Leu Thr Ala Asn Gly Lys Thr Val His Lys Phe
35 40 45

Asn Phe Asn Ala Gly Asp Asp Tyr Phe Tyr Pro Pro Thr Gln Ala His
50 55 60

Thr Val Val Phe Asn Asp Asn Tyr Asp Ala Phe Pro Glu Phe Leu Gln
65 70 75 80

Glu Tyr Ile Thr Gln His His Ile Gln Ala Val Val Cys Phe Gly Asp
85 90 95

Thr Arg Pro Tyr His Val Ile Ala Lys Arg Ile Ala Asn Glu Asn Gln
100 105 110

Ala Ser Phe Trp Ala Phe Glu Glu Gly Tyr Phe Arg Pro Tyr Tyr Ile
115 120 125

Thr Leu Glu Lys Asp Gly Val Asn Ala Phe Ser Pro Leu Pro Arg Arg
130 135 140

Ala Asp Phe Phe Leu Glu Gln Phe Pro Lys Leu Ala Gln Gln Glu Tyr
145 150 155 160

Lys Ala Pro Thr Pro Val His Gly Gly Phe Thr Pro Met Ala Lys Asn
165 170 175

Ala Ile Arg Tyr Tyr Ile Glu Leu Phe Arg Asn Leu Arg Lys Tyr Pro
180 185 190

Asp Tyr Ile His His Arg Ala Pro Asn Ala Gly His Tyr Leu Lys Pro
195 200 205

Trp Ser Leu Ser Ile Leu Lys Arg Leu Asn Tyr Tyr Ile Glu Asp Ile
210 215 220

<221> CDS

<222> (1)..(1407)

<400> 57

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atg acc tcc aca ttc ccc cgc cgc ctc gcc cgc aaa atc cgc caa acc 48
Met Thr Ser Thr Phe Pro Arg Arg Leu Ala Arg Lys Ile Arg Gln Thr
  1             5             10            15

cgc cgc ctg tcg cgc aaa agc atc gcc ttt ctg ttc ctt ttg gca ggt 96
Arg Arg Leu Ser Arg Lys Ser Ile Ala Phe Leu Phe Leu Leu Ala Gly
      20             25             30

tcg gca ctc gtc gcc ctg acc gcg ctg ttt ttt gcc cat ctt gcc gat 144
Ser Ala Leu Val Ala Leu Thr Ala Leu Phe Phe Ala His Leu Ala Asp
      35             40             45

ttt gcg ctg gaa ctg aac gcc aaa ctg gtt caa caa tac ccg tgg ttc 192
Phe Ala Leu Glu Leu Asn Ala Lys Leu Val Gln Gln Tyr Pro Trp Phe
      50             55             60

gcg tgg gtc gcg ctt cct ttg ggt tta ccg ctt att gcg tgg ctc aca 240
Ala Trp Val Ala Leu Pro Leu Gly Leu Pro Leu Ile Ala Trp Leu Thr
      65             70             75             80

cgc aaa ttc gcc ccc ttc acc gcc ggc agc ggc atc ccg cag gtc atc 288
Arg Lys Phe Ala Pro Phe Thr Ala Gly Ser Gly Ile Pro Gln Val Ile
      85             90             95

gcc tca ctg tcg ctg ccc tac ggc gca cag aaa acg cgg ctg atc cgc 336
Ala Ser Leu Ser Leu Pro Tyr Gly Ala Gln Lys Thr Arg Leu Ile Arg
      100            105            110

ctc ggg cag acg ctg ctg aag att ccg cta acc ttt ttg ggt atg ctg 384
Leu Gly Gln Thr Leu Leu Lys Ile Pro Leu Thr Phe Leu Gly Met Leu
      115            120            125

ttc ggc gcg tcc atc gga cgc gaa ggt ccg tcc gtg cag gtc ggc gcg 432
Phe Gly Ala Ser Ile Gly Arg Glu Gly Pro Ser Val Gln Val Gly Ala
      130            135            140

gca gtg atg ggc gcg tgg ggc gcg tgg tgc aag aaa cac ggc ttg gca 480
Ala Val Met Gly Ala Trp Gly Ala Trp Cys Lys Lys His Gly Leu Ala
      145            150            155            160

ttc aaa ggg atg cag gaa aac gat ttg atg gcg gcg ggc gcg gcg ggc 528
Phe Lys Gly Met Gln Glu Asn Asp Leu Met Ala Ala Gly Ala Ala Gly
      165            170            175

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ggt ttg gca gcc gcg ttc aac gcg ccg ctg gcg ggc gtg att ttc gcc 576
Gly Leu Ala Ala Ala Phe Asn Ala Pro Leu Ala Gly Val Ile Phe Ala
      180              185              190

att gag gaa ctc ggg cgc ggc atc atg ttg cgc tgg gag agg caa att 624
Ile Glu Glu Leu Gly Arg Gly Ile Met Leu Arg Trp Glu Arg Gln Ile
      195              200              205

ctt ttg ggc gtg ctc gcc tcc ggt ttc ata cag gtc gcc att cag ggc 672
Leu Leu Gly Val Leu Ala Ser Gly Phe Ile Gln Val Ala Ile Gln Gly
      210              215              220

aac aac ccg tat ttt tcc ggc ttc aac ggc ggc gta ttg gaa cat atc 720
Asn Asn Pro Tyr Phe Ser Gly Phe Asn Gly Gly Val Leu Glu His Ile
      225              230              235              240

ttt ctg tgg gtc gca ctg tcc ggc ctg gtt tgc ggc gcg gcg ggc ggc 768
Phe Leu Trp Val Ala Leu Ser Gly Leu Val Cys Gly Ala Ala Gly Gly
      245              250              255

ctg ttc gga cgt ttg ctc tat cgc ggt gcg gcg gcg ttt gca ccg cgc 816
Leu Phe Gly Arg Leu Leu Tyr Arg Gly Ala Ala Ala Phe Ala Pro Arg
      260              265              270

aag ata cgc ggc ttc atc cgc aac cgt ccg ctg ctg ctg gcg gca ctg 864
Lys Ile Arg Gly Phe Ile Arg Asn Arg Pro Leu Leu Leu Ala Ala Leu
      275              280              285

atg ggg ctg ctg ctc gcc ctg ctc ggc acg ttc tac caa ggc aaa acc 912
Met Gly Leu Leu Leu Ala Leu Leu Gly Thr Phe Tyr Gln Gly Lys Thr
      290              295              300

tac ggc acc ggc tac cac gaa gcc gcc caa gcc ctg cac ggc atc tac 960
Tyr Gly Thr Gly Tyr His Glu Ala Ala Gln Ala Leu His Gly Ile Tyr
      305              310              315              320

gaa gcc ccc ttc gga ctc gcc gcc gcc aaa tgg ctc gcc acc gta ttc 1008
Glu Ala Pro Phe Gly Leu Ala Ala Ala Lys Trp Leu Ala Thr Val Phe
      325              330              335

agc tat tgg gca ggc gtt ccg ggc ggc att ttc act ccc tcg ctg acc 1056
Ser Tyr Trp Ala Gly Val Pro Gly Gly Ile Phe Thr Pro Ser Leu Thr
      340              345              350

ata ggc gcg gtt ttg ggc gag cat atc gcc gcc atc gcc gac ata tcg 1104
Ile Gly Ala Val Leu Gly Glu His Ile Ala Ala Ile Ala Asp Ile Ser
      355              360              365

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cag ggt gca aac atc atc gtc ctc atc tgc atg gcg gca ttt ctg gcg 1152
Gln Gly Ala Asn Ile Ile Val Leu Ile Cys Met Ala Ala Phe Leu Ala
370 375 380

ggc gcg aca caa tcc ccg att act tcc gcc gtc gtc gtc atg gaa atg 1200
Gly Ala Thr Gln Ser Pro Ile Thr Ser Ala Val Val Val Met Glu Met
385 390 395 400

acg ggc gga caa agc ctg ctg ttt tgg atg ctg att gcc tgc att ttc 1248
Thr Gly Gly Gln Ser Leu Leu Phe Trp Met Leu Ile Ala Cys Ile Phe
405 410 415

gcc tcg cag gtt tcg cgc cag ttt tcg ccg cgt ccg ttc tac cac gca 1296
Ala Ser Gln Val Ser Arg Gln Phe Ser Pro Arg Pro Phe Tyr His Ala
420 425 430

tcg gga atg cgc ttc cgc cag cgc gtg ctt caa gaa acc gcc gcc caa 1344
Ser Gly Met Arg Phe Arg Gln Arg Val Leu Gln Glu Thr Ala Ala Gln
435 440 445

acc ggc aat gcg ccc gca aga ccg caa aca gca aac agc aaa acg gga 1392
Thr Gly Asn Ala Pro Ala Arg Pro Gln Thr Ala Asn Ser Lys Thr Gly
450 455 460

atg ccg tct gaa aat 1407
Met Pro Ser Glu Asn
465

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<210> 58

<211> 469

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 58

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Met Thr Ser Thr Phe Pro Arg Arg Leu Ala Arg Lys Ile Arg Gln Thr
1 5 10 15

Arg Arg Leu Ser Arg Lys Ser Ile Ala Phe Leu Phe Leu Leu Ala Gly
20 25 30

Ser Ala Leu Val Ala Leu Thr Ala Leu Phe Phe Ala His Leu Ala Asp
35 40 45

Phe Ala Leu Glu Leu Asn Ala Lys Leu Val Gln Gln Tyr Pro Trp Phe
50 55 60

Ala Trp Val Ala Leu Pro Leu Gly Leu Pro Leu Ile Ala Trp Leu Thr

```

65	70	75	80
Arg Lys Phe Ala Pro Phe Thr Ala Gly Ser Gly Ile Pro Gln Val Ile			
	85	90	95
Ala Ser Leu Ser Leu Pro Tyr Gly Ala Gln Lys Thr Arg Leu Ile Arg			
	100	105	110
Leu Gly Gln Thr Leu Leu Lys Ile Pro Leu Thr Phe Leu Gly Met Leu			
	115	120	125
Phe Gly Ala Ser Ile Gly Arg Glu Gly Pro Ser Val Gln Val Gly Ala			
	130	135	140
Ala Val Met Gly Ala Trp Gly Ala Trp Cys Lys Lys His Gly Leu Ala			
	145	150	155
Phe Lys Gly Met Gln Glu Asn Asp Leu Met Ala Ala Gly Ala Ala Gly			
	165	170	175
Gly Leu Ala Ala Ala Phe Asn Ala Pro Leu Ala Gly Val Ile Phe Ala			
	180	185	190
Ile Glu Glu Leu Gly Arg Gly Ile Met Leu Arg Trp Glu Arg Gln Ile			
	195	200	205
Leu Leu Gly Val Leu Ala Ser Gly Phe Ile Gln Val Ala Ile Gln Gly			
	210	215	220
Asn Asn Pro Tyr Phe Ser Gly Phe Asn Gly Gly Val Leu Glu His Ile			
	225	230	235
Phe Leu Trp Val Ala Leu Ser Gly Leu Val Cys Gly Ala Ala Gly Gly			
	245	250	255
Leu Phe Gly Arg Leu Leu Tyr Arg Gly Ala Ala Ala Phe Ala Pro Arg			
	260	265	270
Lys Ile Arg Gly Phe Ile Arg Asn Arg Pro Leu Leu Leu Ala Ala Leu			
	275	280	285
Met Gly Leu Leu Leu Ala Leu Leu Gly Thr Phe Tyr Gln Gly Lys Thr			
	290	295	300
Tyr Gly Thr Gly Tyr His Glu Ala Ala Gln Ala Leu His Gly Ile Tyr			
	305	310	315
Glu Ala Pro Phe Gly Leu Ala Ala Ala Lys Trp Leu Ala Thr Val Phe			

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                325                330                335
Ser Tyr Trp Ala Gly Val Pro Gly Gly Ile Phe Thr Pro Ser Leu Thr
                340                345                350

Ile Gly Ala Val Leu Gly Glu His Ile Ala Ala Ile Ala Asp Ile Ser
                355                360                365

Gln Gly Ala Asn Ile Ile Val Leu Ile Cys Met Ala Ala Phe Leu Ala
                370                375                380

Gly Ala Thr Gln Ser Pro Ile Thr Ser Ala Val Val Val Met Glu Met
385                390                395                400

Thr Gly Gly Gln Ser Leu Leu Phe Trp Met Leu Ile Ala Cys Ile Phe
                405                410                415

Ala Ser Gln Val Ser Arg Gln Phe Ser Pro Arg Pro Phe Tyr His Ala
                420                425                430

Ser Gly Met Arg Phe Arg Gln Arg Val Leu Gln Glu Thr Ala Ala Gln
                435                440                445

Thr Gly Asn Ala Pro Ala Arg Pro Gln Thr Ala Asn Ser Lys Thr Gly
                450                455                460

Met Pro Ser Glu Asn
465

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<210> 59

<211> 423

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(423)

<400> 59

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atg aca caa gaa acc gct ttg ggc gca gca ctg aaa tcc gcc gtc caa   48
Met Thr Gln Glu Thr Ala Leu Gly Ala Ala Leu Lys Ser Ala Val Gln
  1                5                10                15

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act atg agc aaa aag aaa cag aca gaa atg att gcc gac cac atc tac   96
Thr Met Ser Lys Lys Lys Gln Thr Glu Met Ile Ala Asp His Ile Tyr
                20                25                30

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ggc aaa tat gat gta ttc aaa cga ttt aaa ccg ttg gca ctc ggt atc 144
 Gly Lys Tyr Asp Val Phe Lys Arg Phe Lys Pro Leu Ala Leu Gly Ile
 35 40 45

gat cag gat ttg att gcc gct ttg ccc caa tac gat gcc gca ctg att 192
 Asp Gln Asp Leu Ile Ala Ala Leu Pro Gln Tyr Asp Ala Ala Leu Ile
 50 55 60

gca cgc gtc ctc gcc aac cac tgc cgc cgt ccg cgc tat ctg aaa gcc 240
 Ala Arg Val Leu Ala Asn His Cys Arg Arg Pro Arg Tyr Leu Lys Ala
 65 70 75 80

ttg gcg cgc ggt ggc aaa cgt ttc gat ttg aac aac cgt ttc aaa ggc 288
 Leu Ala Arg Gly Gly Lys Arg Phe Asp Leu Asn Asn Arg Phe Lys Gly
 85 90 95

gaa gtt acc ccc gaa gaa cag gca atc gcg caa aac cat cct ttc gtg 336
 Glu Val Thr Pro Glu Glu Gln Ala Ile Ala Gln Asn His Pro Phe Val
 100 105 110

cag cag gct ttg caa cag cag tcc gcc caa gct gtc gcc gaa acg ccg 384
 Gln Gln Ala Leu Gln Gln Gln Ser Ala Gln Ala Val Ala Glu Thr Pro
 115 120 125

tct gtt gaa gcc gaa gca gcc gaa tct tcc aca aca gaa 423
 Ser Val Glu Ala Glu Ala Ala Glu Ser Ser Thr Thr Glu
 130 135 140

<210> 60

<211> 141

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 60

Met Thr Gln Glu Thr Ala Leu Gly Ala Ala Leu Lys Ser Ala Val Gln
 1 5 10 15

Thr Met Ser Lys Lys Lys Gln Thr Glu Met Ile Ala Asp His Ile Tyr
 20 25 30

Gly Lys Tyr Asp Val Phe Lys Arg Phe Lys Pro Leu Ala Leu Gly Ile
 35 40 45

Asp Gln Asp Leu Ile Ala Ala Leu Pro Gln Tyr Asp Ala Ala Leu Ile
 50 55 60

Ala Arg Val Leu Ala Asn His Cys Arg Arg Pro Arg Tyr Leu Lys Ala
65 70 75 80

Leu Ala Arg Gly Gly Lys Arg Phe Asp Leu Asn Asn Arg Phe Lys Gly
85 90 95

Glu Val Thr Pro Glu Glu Gln Ala Ile Ala Gln Asn His Pro Phe Val
100 105 110

Gln Gln Ala Leu Gln Gln Gln Ser Ala Gln Ala Val Ala Glu Thr Pro
115 120 125

Ser Val Glu Ala Glu Ala Ala Glu Ser Ser Thr Thr Glu
130 135 140

<210> 61

<211> 1377

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1377)

<400> 61

atg ttc gct ttc aaa tcc tta ctc gat atg ccg cgc ggt gag gca ctt 48
Met Phe Ala Phe Lys Ser Leu Leu Asp Met Pro Arg Gly Glu Ala Leu
1 5 10 15

gcc gtc gtc gtc gct ctg att gcc gcg atg ggc tat acc atc att tca 96
Ala Val Val Val Ala Leu Ile Ala Ala Met Gly Tyr Thr Ile Ile Ser
20 25 30

ttg gag tgg ctg ccg cat atg tcc att att gcc gcc atc gtc gtg ctg 144
Leu Glu Trp Leu Pro His Met Ser Ile Ile Ala Ala Ile Val Val Leu
35 40 45

att ttg tac ggc ttg gcg cgc ggt ttg aaa tac aac gat atg cag cag 192
Ile Leu Tyr Gly Leu Ala Arg Gly Leu Lys Tyr Asn Asp Met Gln Gln
50 55 60

ggc atg ata ggc gcg ttg aat cag ggt atg ggc gcg att tac ctg ttt 240
Gly Met Ile Gly Ala Leu Asn Gln Gly Met Gly Ala Ile Tyr Leu Phe
65 70 75 80

ttc ttc atc ggg ctg atg gtc agc gcg ctg atg atg agc ggc gcg att 288

```

Phe Phe Ile Gly Leu Met Val Ser Ala Leu Met Met Ser Gly Ala Ile
      85                      90                      95

ccg acg ctg atg tat tac ggt ttc gga ctg att tcc ccg act tat ttt 336
Pro Thr Leu Met Tyr Tyr Gly Phe Gly Leu Ile Ser Pro Thr Tyr Phe
      100                      105                      110

tat ttt tcc gcc ttc gcg ctg tgt tcc gtc atc ggc gtg tcc atc ggc 384
Tyr Phe Ser Ala Phe Ala Leu Cys Ser Val Ile Gly Val Ser Ile Gly
      115                      120                      125

agc agc ctg acc acc tgc gcc act gtc ggc gtt gcc ttt atg ggt atg 432
Ser Ser Leu Thr Thr Cys Ala Thr Val Gly Val Ala Phe Met Gly Met
      130                      135                      140

gcg gcg gcg ttt cag gcc gat atg gcg atg acg gcg ggc gcg att gtt 480
Ala Ala Ala Phe Gln Ala Asp Met Ala Met Thr Ala Gly Ala Ile Val
      145                      150                      155                      160

tcg ggc gca ttt ttt ggc gac aaa atg tcc ccg ctt tcc gat acg acg 528
Ser Gly Ala Phe Phe Gly Asp Lys Met Ser Pro Leu Ser Asp Thr Thr
      165                      170                      175

ggc att tcc gcg tcc att gtc ggt atc gac ctg ttt gaa cac atc aaa 576
Gly Ile Ser Ala Ser Ile Val Gly Ile Asp Leu Phe Glu His Ile Lys
      180                      185                      190

aat atg atg tac acc acc att ccc gcg tgg ctc atc agt gcg gca ctg 624
Asn Met Met Tyr Thr Thr Ile Pro Ala Trp Leu Ile Ser Ala Ala Leu
      195                      200                      205

atg ctg tgg ctt ctt ccc agc gtc gcc gcg cag gat ttg aac agc gtc 672
Met Leu Trp Leu Leu Pro Ser Val Ala Ala Gln Asp Leu Asn Ser Val
      210                      215                      220

gaa tcc ttc cgc agc cag ctt gaa gcc acg gga ttg gtg cac tgc tat 720
Glu Ser Phe Arg Ser Gln Leu Glu Ala Thr Gly Leu Val His Cys Tyr
      225                      230                      235                      240

tcg ctg att ccg ttt gcg ctg ttg gtc gtt ttg gca ttg atg cgc gtc 768
Ser Leu Ile Pro Phe Ala Leu Leu Val Val Leu Ala Leu Met Arg Val
      245                      250                      255

aat gcc gtg gtc gct atg ctc ttt acc gtc att gcc gcc gtt gcc gta 816
Asn Ala Val Val Ala Met Leu Phe Thr Val Ile Ala Ala Val Ala Val
      260                      265                      270

acg tat ctg cac agc acg ccc gat ctg cgt cag ctc ggc gcg tgg ttt 864

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Thr Tyr Leu His Ser Thr Pro Asp Leu Arg Gln Leu Gly Ala Trp Phe	
275 280 285	
tac ggc ggc tac aaa ctc gaa ggc gaa gcg ttt aaa gac att gcc aaa	912
Tyr Gly Gly Tyr Lys Leu Glu Gly Glu Ala Phe Lys Asp Ile Ala Lys	
290 295 300	
ctc att tct cgc ggc ggt ttg gaa agt atg ttt ttc acg cag acc atc	960
Leu Ile Ser Arg Gly Gly Leu Glu Ser Met Phe Phe Thr Gln Thr Ile	
305 310 315 320	
gtg att ctt ggg atg agc ctt ggc ggg ctg ctg ttt gca ctg ggc gcg	1008
Val Ile Leu Gly Met Ser Leu Gly Gly Leu Leu Phe Ala Leu Gly Ala	
325 330 335	
att cct tcc ctg ctg gat gcc gtc cgc agc ttt ttg acg aat gcc ggg	1056
Ile Pro Ser Leu Leu Asp Ala Val Arg Ser Phe Leu Thr Asn Ala Gly	
340 345 350	
cgt gcc aca ttc agc gtt gcc atg act tcg gtc ggg gtt aat ttc ctg	1104
Arg Ala Thr Phe Ser Val Ala Met Thr Ser Val Gly Val Asn Phe Leu	
355 360 365	
atc ggc gag caa tat ttg agt att ttg ttg tcg ggt gaa acg ttc aaa	1152
Ile Gly Glu Gln Tyr Leu Ser Ile Leu Leu Ser Gly Glu Thr Phe Lys	
370 375 380	
cct gtt tac gat aag ctc ggt ctg cat tcg cgc aat ctg tcg cgg acg	1200
Pro Val Tyr Asp Lys Leu Gly Leu His Ser Arg Asn Leu Ser Arg Thr	
385 390 395 400	
ctg gaa gat gcg ggg acg gtc atc aac ccg ctc gta ccg tgg agc gta	1248
Leu Glu Asp Ala Gly Thr Val Ile Asn Pro Leu Val Pro Trp Ser Val	
405 410 415	
tgc ggc gtg ttc atc agc cac gcg ctg ggc gtg ccg gtt tgg gaa tat	1296
Cys Gly Val Phe Ile Ser His Ala Leu Gly Val Pro Val Trp Glu Tyr	
420 425 430	
ctg ccg tat gcc ttt ttc tgc tat ttg agt ttg gct ttg acc ctg tta	1344
Leu Pro Tyr Ala Phe Phe Cys Tyr Leu Ser Leu Ala Leu Thr Leu Leu	
435 440 445	
ttc ggt tgg acg ggg ctg act ttg agc aaa aaa	1377
Phe Gly Trp Thr Gly Leu Thr Leu Ser Lys Lys	
450 455	

<210> 62

<211> 459

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<400> 62

Met Phe Ala Phe Lys Ser Leu Leu Asp Met Pro Arg Gly Glu Ala Leu
 1 5 10 15

Ala Val Val Val Ala Leu Ile Ala Ala Met Gly Tyr Thr Ile Ile Ser
 20 25 30

Leu Glu Trp Leu Pro His Met Ser Ile Ile Ala Ala Ile Val Val Leu
 35 40 45

Ile Leu Tyr Gly Leu Ala Arg Gly Leu Lys Tyr Asn Asp Met Gln Gln
 50 55 60

Gly Met Ile Gly Ala Leu Asn Gln Gly Met Gly Ala Ile Tyr Leu Phe
 65 70 75 80

Phe Phe Ile Gly Leu Met Val Ser Ala Leu Met Met Ser Gly Ala Ile
 85 90 95

Pro Thr Leu Met Tyr Tyr Gly Phe Gly Leu Ile Ser Pro Thr Tyr Phe
 100 105 110

Tyr Phe Ser Ala Phe Ala Leu Cys Ser Val Ile Gly Val Ser Ile Gly
 115 120 125

Ser Ser Leu Thr Thr Cys Ala Thr Val Gly Val Ala Phe Met Gly Met
 130 135 140

Ala Ala Ala Phe Gln Ala Asp Met Ala Met Thr Ala Gly Ala Ile Val
 145 150 155 160

Ser Gly Ala Phe Phe Gly Asp Lys Met Ser Pro Leu Ser Asp Thr Thr
 165 170 175

Gly Ile Ser Ala Ser Ile Val Gly Ile Asp Leu Phe Glu His Ile Lys
 180 185 190

Asn Met Met Tyr Thr Thr Ile Pro Ala Trp Leu Ile Ser Ala Ala Leu
 195 200 205

Met Leu Trp Leu Leu Pro Ser Val Ala Ala Gln Asp Leu Asn Ser Val
 210 215 220

Glu Ser Phe Arg Ser Gln Leu Glu Ala Thr Gly Leu Val His Cys Tyr
225 230 235 240

Ser Leu Ile Pro Phe Ala Leu Leu Val Val Leu Ala Leu Met Arg Val
245 250 255

Asn Ala Val Val Ala Met Leu Phe Thr Val Ile Ala Ala Val Ala Val
260 265 270

Thr Tyr Leu His Ser Thr Pro Asp Leu Arg Gln Leu Gly Ala Trp Phe
275 280 285

Tyr Gly Gly Tyr Lys Leu Glu Gly Glu Ala Phe Lys Asp Ile Ala Lys
290 295 300

Leu Ile Ser Arg Gly Gly Leu Glu Ser Met Phe Phe Thr Gln Thr Ile
305 310 315 320

Val Ile Leu Gly Met Ser Leu Gly Gly Leu Leu Phe Ala Leu Gly Ala
325 330 335

Ile Pro Ser Leu Leu Asp Ala Val Arg Ser Phe Leu Thr Asn Ala Gly
340 345 350

Arg Ala Thr Phe Ser Val Ala Met Thr Ser Val Gly Val Asn Phe Leu
355 360 365

Ile Gly Glu Gln Tyr Leu Ser Ile Leu Leu Ser Gly Glu Thr Phe Lys
370 375 380

Pro Val Tyr Asp Lys Leu Gly Leu His Ser Arg Asn Leu Ser Arg Thr
385 390 395 400

Leu Glu Asp Ala Gly Thr Val Ile Asn Pro Leu Val Pro Trp Ser Val
405 410 415

Cys Gly Val Phe Ile Ser His Ala Leu Gly Val Pro Val Trp Glu Tyr
420 425 430

Leu Pro Tyr Ala Phe Phe Cys Tyr Leu Ser Leu Ala Leu Thr Leu Leu
435 440 445

Phe Gly Trp Thr Gly Leu Thr Leu Ser Lys Lys
450 455

<210> 63

<211> 1098

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<220>

<221> CDS

<222> (1)..(1098)

<400> 63

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atg gca ggc aac act ttc gga caa ctc ttc acc gtt acc acc ttc ggc   48
Met Ala Gly Asn Thr Phe Gly Gln Leu Phe Thr Val Thr Thr Phe Gly
   1             5             10             15

gaa agc cac ggc gcg ggt ttg ggc tgt atc atc gac ggc tgc ccg ccc   96
Glu Ser His Gly Ala Gly Leu Gly Cys Ile Ile Asp Gly Cys Pro Pro
          20             25             30

ggc ttg gaa tta agc gaa gcg gat atc caa ttt gac ctc gac cga cgc  144
Gly Leu Glu Leu Ser Glu Ala Asp Ile Gln Phe Asp Leu Asp Arg Arg
      35             40             45

aaa ccc ggc acc agc cgc cac gtt acc caa cgc cgc gaa gcc gac caa  192
Lys Pro Gly Thr Ser Arg His Val Thr Gln Arg Arg Glu Ala Asp Gln
      50             55             60

gtc gaa atc ctc tcc ggc gta ttc gaa ggc aaa acc acc ggc acg ccc  240
Val Glu Ile Leu Ser Gly Val Phe Glu Gly Lys Thr Thr Gly Thr Pro
      65             70             75             80

atc gcc ctc tta atc cgc aat acc gac cag cgc agc aaa gac tac ggc  288
Ile Ala Leu Leu Ile Arg Asn Thr Asp Gln Arg Ser Lys Asp Tyr Gly
          85             90             95

aac atc gcc acc agc ttc cgc ccc ggc cac gcc gac tat acc tat tgg  336
Asn Ile Ala Thr Ser Phe Arg Pro Gly His Ala Asp Tyr Thr Tyr Trp
      100             105             110

cac aaa tac ggc acg cgc gac tac cgg ggc ggc ggc agg agt tcc gcc  384
His Lys Tyr Gly Thr Arg Asp Tyr Arg Gly Gly Gly Arg Ser Ser Ala
      115             120             125

cgc gaa acc gcc gcc cgc gtt gcc gcc gga gcc gtt gcc aaa aaa tgg  432
Arg Glu Thr Ala Ala Arg Val Ala Ala Gly Ala Val Ala Lys Lys Trp
      130             135             140

ttg aaa gaa aaa ttc ggc acg gaa atc acc gcc tac gtt acc caa gtc  480
Leu Lys Glu Lys Phe Gly Thr Glu Ile Thr Ala Tyr Val Thr Gln Val
      145             150             155             160

```

ggc gaa aaa gaa atc cgg ttt gaa ggc tgc gaa cac att tcc caa aat	528
Gly Glu Lys Glu Ile Arg Phe Glu Gly Cys Glu His Ile Ser Gln Asn	
165 170 175	
cct ttt ttt gcc gcc aac cat agc caa att gcc gag ctg gaa aac tat	576
Pro Phe Phe Ala Ala Asn His Ser Gln Ile Ala Glu Leu Glu Asn Tyr	
180 185 190	
atg gac agc gtg cgc aaa tcc ttg gat tcc gtc ggc gcg aag ctg cat	624
Met Asp Ser Val Arg Lys Ser Leu Asp Ser Val Gly Ala Lys Leu His	
195 200 205	
att gaa gcc gcc aac gtc ccc gtc ggc ttg ggc gaa ccc gta ttc gac	672
Ile Glu Ala Ala Asn Val Pro Val Gly Leu Gly Glu Pro Val Phe Asp	
210 215 220	
cgc ctc gat gcc gaa atc gcc tac gcc atg atg ggc atc aac gcc gtc	720
Arg Leu Asp Ala Glu Ile Ala Tyr Ala Met Met Gly Ile Asn Ala Val	
225 230 235 240	
aaa ggc gtg gaa atc ggc gca ggt ttt gac agc gta acg caa cgc ggc	768
Lys Gly Val Glu Ile Gly Ala Gly Phe Asp Ser Val Thr Gln Arg Gly	
245 250 255	
agc gaa cac ggc gac gaa ctc acc ccg caa ggc ttc ctg tcc aac cac	816
Ser Glu His Gly Asp Glu Leu Thr Pro Gln Gly Phe Leu Ser Asn His	
260 265 270	
tca ggc ggc atc ctc ggc ggc atc agc acc gga caa gac atc cac gtc	864
Ser Gly Gly Ile Leu Gly Gly Ile Ser Thr Gly Gln Asp Ile His Val	
275 280 285	
aat atc gcc atc aaa ccc acc agc tcc atc gcc acc ccg cgc cgc agt	912
Asn Ile Ala Ile Lys Pro Thr Ser Ser Ile Ala Thr Pro Arg Arg Ser	
290 295 300	
atc gac atc aac ggc aac ccc atc gaa ctc gcc acg cac ggc agg cac	960
Ile Asp Ile Asn Gly Asn Pro Ile Glu Leu Ala Thr His Gly Arg His	
305 310 315 320	
gac ccc tgc gtc ggc ttg cgc gcc gcg ccg att gca gaa gct atg ctg	1008
Asp Pro Cys Val Gly Leu Arg Ala Ala Pro Ile Ala Glu Ala Met Leu	
325 330 335	
gca ttg gtt tta atc gac cac gcc ctg cgc cat cgc gcg caa aat gcg	1056
Ala Leu Val Leu Ile Asp His Ala Leu Arg His Arg Ala Gln Asn Ala	
340 345 350	

gat gtt cag gtt aat acg ccc gac att acc ctt tca aac aaa 1098
 Asp Val Gln Val Asn Thr Pro Asp Ile Thr Leu Ser Asn Lys
 355 360 365

<210> 64

<211> 366

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 64

Met Ala Gly Asn Thr Phe Gly Gln Leu Phe Thr Val Thr Thr Phe Gly
 1 5 10 15

Glu Ser His Gly Ala Gly Leu Gly Cys Ile Ile Asp Gly Cys Pro Pro
 20 25 30

Gly Leu Glu Leu Ser Glu Ala Asp Ile Gln Phe Asp Leu Asp Arg Arg
 35 40 45

Lys Pro Gly Thr Ser Arg His Val Thr Gln Arg Arg Glu Ala Asp Gln
 50 55 60

Val Glu Ile Leu Ser Gly Val Phe Glu Gly Lys Thr Thr Gly Thr Pro
 65 70 75 80

Ile Ala Leu Leu Ile Arg Asn Thr Asp Gln Arg Ser Lys Asp Tyr Gly
 85 90 95

Asn Ile Ala Thr Ser Phe Arg Pro Gly His Ala Asp Tyr Thr Tyr Trp
 100 105 110

His Lys Tyr Gly Thr Arg Asp Tyr Arg Gly Gly Gly Arg Ser Ser Ala
 115 120 125

Arg Glu Thr Ala Ala Arg Val Ala Ala Gly Ala Val Ala Lys Lys Trp
 130 135 140

Leu Lys Glu Lys Phe Gly Thr Glu Ile Thr Ala Tyr Val Thr Gln Val
 145 150 155 160

Gly Glu Lys Glu Ile Arg Phe Glu Gly Cys Glu His Ile Ser Gln Asn
 165 170 175

Pro Phe Phe Ala Ala Asn His Ser Gln Ile Ala Glu Leu Glu Asn Tyr
 180 185 190

Met Asp Ser Val Arg Lys Ser Leu Asp Ser Val Gly Ala Lys Leu His
195 200 205

Ile Glu Ala Ala Asn Val Pro Val Gly Leu Gly Glu Pro Val Phe Asp
210 215 220

Arg Leu Asp Ala Glu Ile Ala Tyr Ala Met Met Gly Ile Asn Ala Val
225 230 235 240

Lys Gly Val Glu Ile Gly Ala Gly Phe Asp Ser Val Thr Gln Arg Gly
245 250 255

Ser Glu His Gly Asp Glu Leu Thr Pro Gln Gly Phe Leu Ser Asn His
260 265 270

Ser Gly Gly Ile Leu Gly Gly Ile Ser Thr Gly Gln Asp Ile His Val
275 280 285

Asn Ile Ala Ile Lys Pro Thr Ser Ser Ile Ala Thr Pro Arg Arg Ser
290 295 300

Ile Asp Ile Asn Gly Asn Pro Ile Glu Leu Ala Thr His Gly Arg His
305 310 315 320

Asp Pro Cys Val Gly Leu Arg Ala Ala Pro Ile Ala Glu Ala Met Leu
325 330 335

Ala Leu Val Leu Ile Asp His Ala Leu Arg His Arg Ala Gln Asn Ala
340 345 350

Asp Val Gln Val Asn Thr Pro Asp Ile Thr Leu Ser Asn Lys
355 360 365

<210> 65

<211> 461

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(459)

<400> 65

atg caa agc ggt ttt aac gct att ttc agg aat gac acc atg cag gtt 48
Met Gln Ser Gly Phe Asn Ala Ile Phe Arg Asn Asp Thr Met Gln Val
1 5 10 15

```

aca tca aaa tgg ata gac gga atg tgc ttt gtc gga aca acg gaa ggc   96
Thr Ser Lys Trp Ile Asp Gly Met Cys Phe Val Gly Thr Thr Glu Gly
      20              25              30

ggg cac agc gtc gtt atg gag ggg tcg gcg gca gaa ggt gcg gcc aag   144
Gly His Ser Val Val Met Glu Gly Ser Ala Ala Glu Gly Ala Ala Lys
      35              40              45

cgc ggg ccc agc cct ttg gaa atg ctg ctg ttg ggc gtg gcg ggc tgt   192
Arg Gly Pro Ser Pro Leu Glu Met Leu Leu Leu Gly Val Ala Gly Cys
      50              55              60

tcg agc atc gat gtg gtg atg att gcc gaa aaa cag cgt cag aaa gtg   240
Ser Ser Ile Asp Val Val Met Ile Ala Glu Lys Gln Arg Gln Lys Val
      65              70              75              80

act gac tgc cgt gcg acg gtt acg gcg aaa cgg gcg gac gat gcg ccg   288
Thr Asp Cys Arg Ala Thr Val Thr Ala Lys Arg Ala Asp Asp Ala Pro
      85              90              95

cgc gtg ttt acc gaa atc cac atc cat ttc aaa gta ttc ggg cat gat   336
Arg Val Phe Thr Glu Ile His Ile His Phe Lys Val Phe Gly His Asp
      100             105             110

ttg aaa gaa tcg gcc att gag cgc gcc gtt cag atg tct gcc gaa aaa   384
Leu Lys Glu Ser Ala Ile Glu Arg Ala Val Gln Met Ser Ala Glu Lys
      115             120             125

tac tgt tcg gct tcg att atg ttg ggc aaa gcg gca aag att acc cac   432
Tyr Cys Ser Ala Ser Ile Met Leu Gly Lys Ala Ala Lys Ile Thr His
      130             135             140

agt ttt gaa att gcc ggg gca gat aaa ta                               461
Ser Phe Glu Ile Ala Gly Ala Asp Lys
145              150

```

<210> 66

<211> 153

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 66

```

Met Gln Ser Gly Phe Asn Ala Ile Phe Arg Asn Asp Thr Met Gln Val
  1              5              10              15

```

```

Thr Ser Lys Trp Ile Asp Gly Met Cys Phe Val Gly Thr Thr Glu Gly

```

```

                20                25                30
Gly His Ser Val Val Met Glu Gly Ser Ala Ala Glu Gly Ala Ala Lys
      35                40                45
Arg Gly Pro Ser Pro Leu Glu Met Leu Leu Leu Gly Val Ala Gly Cys
      50                55                60
Ser Ser Ile Asp Val Val Met Ile Ala Glu Lys Gln Arg Gln Lys Val
      65                70                75                80
Thr Asp Cys Arg Ala Thr Val Thr Ala Lys Arg Ala Asp Asp Ala Pro
                85                90                95
Arg Val Phe Thr Glu Ile His Ile His Phe Lys Val Phe Gly His Asp
                100                105                110
Leu Lys Glu Ser Ala Ile Glu Arg Ala Val Gln Met Ser Ala Glu Lys
                115                120                125
Tyr Cys Ser Ala Ser Ile Met Leu Gly Lys Ala Ala Lys Ile Thr His
                130                135                140
Ser Phe Glu Ile Ala Gly Ala Asp Lys
145                150

```

<210> 67

<211> 1659

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1659)

<400> 67

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atg act gac aac agc cct cct cca aac gga cac gcc caa gca cgc gtc   48
Met Thr Asp Asn Ser Pro Pro Pro Asn Gly His Ala Gln Ala Arg Val
  1                5                10                15

```

```

cgc aaa aac aac acc ttc ctc tct gcc gtc tgg ctg gtt ccg ctg atc   96
Arg Lys Asn Asn Thr Phe Leu Ser Ala Val Trp Leu Val Pro Leu Ile
      20                25                30

```

```

gcg ctg att gcc ggc ggc tgg ctt tgg gtt aag gaa atc cgc aac agg   144
Ala Leu Ile Ala Gly Gly Trp Leu Trp Val Lys Glu Ile Arg Asn Arg

```

35	40	45	
ggg cct gtg gtt acg ctc ttg atg gac agc gcg gaa ggc att gag gtc			192
Gly Pro Val Val Thr Leu Leu Met Asp Ser Ala Glu Gly Ile Glu Val			
50	55	60	
aac aat acg gtc atc aaa gta ttg agc atc gat gtc gga cgc gtt acc			240
Asn Asn Thr Val Ile Lys Val Leu Ser Ile Asp Val Gly Arg Val Thr			
65	70	75	80
cga atc aaa ctg cgc gac gac caa aaa ggc gtg gaa gta acc gcc caa			288
Arg Ile Lys Leu Arg Asp Asp Gln Lys Gly Val Glu Val Thr Ala Gln			
85	90	95	
ctc aat gcg gac gta tcc ggc ctc atc cgc agc gat acc cag ttt tgg			336
Leu Asn Ala Asp Val Ser Gly Leu Ile Arg Ser Asp Thr Gln Phe Trp			
100	105	110	
gtg gtc aag ccg cgt atc gac caa agc ggc gta acc ggt ttg ggt acg			384
Val Val Lys Pro Arg Ile Asp Gln Ser Gly Val Thr Gly Leu Gly Thr			
115	120	125	
ctg ctt tcg ggt tcg tac atc gcc ttt aca ccg ggc aaa agc gac gag			432
Leu Leu Ser Gly Ser Tyr Ile Ala Phe Thr Pro Gly Lys Ser Asp Glu			
130	135	140	
gca aaa gac gtg ttc caa gtg cag gac att ccg ccc gtt acc gcc atc			480
Ala Lys Asp Val Phe Gln Val Gln Asp Ile Pro Pro Val Thr Ala Ile			
145	150	155	160
ggg caa agc ggg ctg cgc ttg aat ttg att ggt aaa aac gac cgc atc			528
Gly Gln Ser Gly Leu Arg Leu Asn Leu Ile Gly Lys Asn Asp Arg Ile			
165	170	175	
ctc aac gtc aac agc cct gtt ttg tat gaa aac ttt atg gtc ggg caa			576
Leu Asn Val Asn Ser Pro Val Leu Tyr Glu Asn Phe Met Val Gly Gln			
180	185	190	
gtc gaa agc gcg cat ttc gac ccg tcc gac caa agc gtg cat tac acc			624
Val Glu Ser Ala His Phe Asp Pro Ser Asp Gln Ser Val His Tyr Thr			
195	200	205	
atc ttc atc caa agc ccc aac gac aaa ctg att cat tcc gcc agc cgt			672
Ile Phe Ile Gln Ser Pro Asn Asp Lys Leu Ile His Ser Ala Ser Arg			
210	215	220	
ttc tgg ctg gaa agc ggc atc aat atc gaa acc aca ggc agc ggc atc			720
Phe Trp Leu Glu Ser Gly Ile Asn Ile Glu Thr Thr Gly Ser Gly Ile			

225	230	235	240	
aaa ctc aat tcc gcc cct ctg cct gcc ctg ctg tcg ggc gcg att tca				768
Lys Leu Asn Ser Ala Pro Leu Pro Ala Leu Leu Ser Gly Ala Ile Ser				
245		250	255	
ttt gat tcg ccg aaa acc aaa aac agt aaa aac gtc aaa agc gaa gac				816
Phe Asp Ser Pro Lys Thr Lys Asn Ser Lys Asn Val Lys Ser Glu Asp				
260		265	270	
agc ttc acg ctt tac gac agc cgc agc gaa gtc gcc aac ctg cct gat				864
Ser Phe Thr Leu Tyr Asp Ser Arg Ser Glu Val Ala Asn Leu Pro Asp				
275		280	285	
gac cgt tcg ctg tac tac acc gcg ttt ttc aaa caa tcc gtg cgc gga				912
Asp Arg Ser Leu Tyr Tyr Thr Ala Phe Phe Lys Gln Ser Val Arg Gly				
290		295	300	
ctg acc gtc ggt tcg cct gtc gag tac aaa ggg ctg aat gtc ggc gtg				960
Leu Thr Val Gly Ser Pro Val Glu Tyr Lys Gly Leu Asn Val Gly Val				
305		310	315	320
gtt tcc gat gtt cct tat ttc gac cgc aac gac agc ctg cac ctg ttt				1008
Val Ser Asp Val Pro Tyr Phe Asp Arg Asn Asp Ser Leu His Leu Phe				
325		330	335	
gaa aac ggc tgg att ccc gta cgc atc cgt att gag cct tcc cgt ttg				1056
Glu Asn Gly Trp Ile Pro Val Arg Ile Arg Ile Glu Pro Ser Arg Leu				
340		345	350	
gaa atc aat gcc gac gaa caa agc aaa gaa cat tgg aaa caa caa ttt				1104
Glu Ile Asn Ala Asp Glu Gln Ser Lys Glu His Trp Lys Gln Gln Phe				
355		360	365	
cag acg gcc tta aac aaa ggc ctg acc gcc acc atc tcc agc aac aac				1152
Gln Thr Ala Leu Asn Lys Gly Leu Thr Ala Thr Ile Ser Ser Asn Asn				
370		375	380	
ctg ctg acc ggc agc aaa atg att gag ttg aac gat cag cct tcc gcc				1200
Leu Leu Thr Gly Ser Lys Met Ile Glu Leu Asn Asp Gln Pro Ser Ala				
385		390	395	400
tcg ccc aag ctg cga ccg cat acc gtt tat gca ggc gat acc gtt atc				1248
Ser Pro Lys Leu Arg Pro His Thr Val Tyr Ala Gly Asp Thr Val Ile				
405		410	415	
gcg acc cag ggc ggc ggt ttg gac gat ttg cag gtc aaa ttg gcg gat				1296
Ala Thr Gln Gly Gly Gly Leu Asp Asp Leu Gln Val Lys Leu Ala Asp				

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          420          425          430
    ttg ctg gac aag ttc gac aaa ctg cct tta gat aag acg gtt gcc gaa 1344
    Leu Leu Asp Lys Phe Asp Lys Leu Pro Leu Asp Lys Thr Val Ala Glu
          435          440          445

    ttg aac ggt tcg ctt gcc gag ctc aaa tcc aca ctc aaa tct gcc aat 1392
    Leu Asn Gly Ser Leu Ala Glu Leu Lys Ser Thr Leu Lys Ser Ala Asn
          450          455          460

    gcc gcc cta agc tcc atc gac aaa ctg gtc ggc aaa ccg cag aca caa 1440
    Ala Ala Leu Ser Ser Ile Asp Lys Leu Val Gly Lys Pro Gln Thr Gln
    465          470          475          480

    aac att ccg aac gaa ctg aac caa acc ctg aaa gag ttg cgc aca acc 1488
    Asn Ile Pro Asn Glu Leu Asn Gln Thr Leu Lys Glu Leu Arg Thr Thr
          485          490          495

    ctg caa ggc gta tcg cct caa tcg cct atc tac ggc gac gta caa aat 1536
    Leu Gln Gly Val Ser Pro Gln Ser Pro Ile Tyr Gly Asp Val Gln Asn
          500          505          510

    acg ctg caa agt ttg gac aaa acc tta aaa gac gtt caa ccc gtc att 1584
    Thr Leu Gln Ser Leu Asp Lys Thr Leu Lys Asp Val Gln Pro Val Ile
          515          520          525

    aac act ttg aaa gaa aaa ccc aac gcg ctg att ttc aac agc agc agc 1632
    Asn Thr Leu Lys Glu Lys Pro Asn Ala Leu Ile Phe Asn Ser Ser Ser
          530          535          540

    aaa gac cct atc ccg aaa gga agc cga 1659
    Lys Asp Pro Ile Pro Lys Gly Ser Arg
    545          550

```

<210> 68

<211> 553

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 68

```

Met Thr Asp Asn Ser Pro Pro Pro Asn Gly His Ala Gln Ala Arg Val
  1              5              10             15

Arg Lys Asn Asn Thr Phe Leu Ser Ala Val Trp Leu Val Pro Leu Ile
      20              25             30

Ala Leu Ile Ala Gly Gly Trp Leu Trp Val Lys Glu Ile Arg Asn Arg

```

35	40	45
Gly Pro Val Val Thr Leu Leu Met Asp Ser Ala Glu Gly Ile Glu Val		
50	55	60
Asn Asn Thr Val Ile Lys Val Leu Ser Ile Asp Val Gly Arg Val Thr		
65	70	75
Arg Ile Lys Leu Arg Asp Asp Gln Lys Gly Val Glu Val Thr Ala Gln		
	85	90
Leu Asn Ala Asp Val Ser Gly Leu Ile Arg Ser Asp Thr Gln Phe Trp		
100	105	110
Val Val Lys Pro Arg Ile Asp Gln Ser Gly Val Thr Gly Leu Gly Thr		
115	120	125
Leu Leu Ser Gly Ser Tyr Ile Ala Phe Thr Pro Gly Lys Ser Asp Glu		
130	135	140
Ala Lys Asp Val Phe Gln Val Gln Asp Ile Pro Pro Val Thr Ala Ile		
145	150	155
Gly Gln Ser Gly Leu Arg Leu Asn Leu Ile Gly Lys Asn Asp Arg Ile		
	165	170
Leu Asn Val Asn Ser Pro Val Leu Tyr Glu Asn Phe Met Val Gly Gln		
	180	185
Val Glu Ser Ala His Phe Asp Pro Ser Asp Gln Ser Val His Tyr Thr		
195	200	205
Ile Phe Ile Gln Ser Pro Asn Asp Lys Leu Ile His Ser Ala Ser Arg		
210	215	220
Phe Trp Leu Glu Ser Gly Ile Asn Ile Glu Thr Thr Gly Ser Gly Ile		
225	230	235
Lys Leu Asn Ser Ala Pro Leu Pro Ala Leu Leu Ser Gly Ala Ile Ser		
	245	250
Phe Asp Ser Pro Lys Thr Lys Asn Ser Lys Asn Val Lys Ser Glu Asp		
260	265	270
Ser Phe Thr Leu Tyr Asp Ser Arg Ser Glu Val Ala Asn Leu Pro Asp		
275	280	285
Asp Arg Ser Leu Tyr Tyr Thr Ala Phe Phe Lys Gln Ser Val Arg Gly		

290	295	300
Leu Thr Val Gly Ser Pro Val Glu Tyr Lys Gly Leu Asn Val Gly Val		
305	310	315 320
Val Ser Asp Val Pro Tyr Phe Asp Arg Asn Asp Ser Leu His Leu Phe		
	325	330 335
Glu Asn Gly Trp Ile Pro Val Arg Ile Arg Ile Glu Pro Ser Arg Leu		
	340	345 350
Glu Ile Asn Ala Asp Glu Gln Ser Lys Glu His Trp Lys Gln Gln Phe		
	355	360 365
Gln Thr Ala Leu Asn Lys Gly Leu Thr Ala Thr Ile Ser Ser Asn Asn		
	370	375 380
Leu Leu Thr Gly Ser Lys Met Ile Glu Leu Asn Asp Gln Pro Ser Ala		
385	390	395 400
Ser Pro Lys Leu Arg Pro His Thr Val Tyr Ala Gly Asp Thr Val Ile		
	405	410 415
Ala Thr Gln Gly Gly Gly Leu Asp Asp Leu Gln Val Lys Leu Ala Asp		
	420	425 430
Leu Leu Asp Lys Phe Asp Lys Leu Pro Leu Asp Lys Thr Val Ala Glu		
	435	440 445
Leu Asn Gly Ser Leu Ala Glu Leu Lys Ser Thr Leu Lys Ser Ala Asn		
	450	455 460
Ala Ala Leu Ser Ser Ile Asp Lys Leu Val Gly Lys Pro Gln Thr Gln		
465	470	475 480
Asn Ile Pro Asn Glu Leu Asn Gln Thr Leu Lys Glu Leu Arg Thr Thr		
	485	490 495
Leu Gln Gly Val Ser Pro Gln Ser Pro Ile Tyr Gly Asp Val Gln Asn		
	500	505 510
Thr Leu Gln Ser Leu Asp Lys Thr Leu Lys Asp Val Gln Pro Val Ile		
	515	520 525
Asn Thr Leu Lys Glu Lys Pro Asn Ala Leu Ile Phe Asn Ser Ser Ser		
	530	535 540
Lys Asp Pro Ile Pro Lys Gly Ser Arg		

545

550

<210> 69

<211> 330

<212> DNA

<213> 脑膜炎奈瑟氏球菌(*Neisseria meningitidis*)

<220>

<221> CDS

<222> (1)..(330)

<400> 69

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ttg ccg ctg ctt tgt tgt ctt tgg ttt tgg cag cct gcg gcg gtg aaa    48
Leu Pro Leu Leu Cys Cys Leu Trp Phe Trp Gln Pro Ala Ala Val Lys
   1             5             10             15

aag ccg ctg aag ctc ccg ctg ctg aag cac ctg ccg ccg aag ctc ccg    96
Lys Pro Leu Lys Leu Pro Leu Leu Lys His Leu Pro Pro Lys Leu Pro
           20             25             30

cta ctg aag cac ctg ccg ccg aag ctc ccg ctg ctg aag cac ctg ccg    144
Leu Leu Lys His Leu Pro Pro Lys Leu Pro Leu Leu Lys His Leu Pro
           35             40             45

ccg aag ctc ctg cta ctg aag cac ctg ccg ccg aag ctc ccg ctg ctg    192
Pro Lys Leu Leu Leu Leu Lys His Leu Pro Pro Lys Leu Pro Leu Leu
           50             55             60

aag ctg ccg cta ccg aag cac ctg ccg ctg aag ctg ccg cta ccg aag    240
Lys Leu Pro Leu Pro Lys His Leu Pro Leu Lys Leu Pro Leu Pro Lys
           65             70             75             80

cac ctg ccg ctg aag ctc ctg ctg ccg aag ctg caa aat aag cat ttt    288
His Leu Pro Leu Lys Leu Leu Leu Pro Lys Leu Gln Asn Lys His Phe
           85             90             95

ccg ctt gca aaa aag cag gat acg ttc agt atc ctg ctt ttt            330
Pro Leu Ala Lys Lys Gln Asp Thr Phe Ser Ile Leu Leu Phe
           100             105             110

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<210> 70

<211> 110

<212> PRT

<213> 脑膜炎奈瑟氏球菌(*Neisseria meningitidis*)

<400> 70

Leu Pro Leu Leu Cys Cys Leu Trp Phe Trp Gln Pro Ala Ala Val Lys
 1 5 10 15

Lys Pro Leu Lys Leu Pro Leu Leu Lys His Leu Pro Pro Lys Leu Pro
 20 25 30

Leu Leu Lys His Leu Pro Pro Lys Leu Pro Leu Leu Lys His Leu Pro
 35 40 45

Pro Lys Leu Leu Leu Leu Lys His Leu Pro Pro Lys Leu Pro Leu Leu
 50 55 60

Lys Leu Pro Leu Pro Lys His Leu Pro Leu Lys Leu Pro Leu Pro Lys
 65 70 75 80

His Leu Pro Leu Lys Leu Leu Leu Pro Lys Leu Gln Asn Lys His Phe
 85 90 95

Pro Leu Ala Lys Lys Gln Asp Thr Phe Ser Ile Leu Leu Phe
 100 105 110

<210> 71

<211> 2274

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(2274)

<400> 71

atg aca aca tta cat ttc tca ggc ttc ccg cgt gtc ggt gcc ttc cgc 48
 Met Thr Thr Leu His Phe Ser Gly Phe Pro Arg Val Gly Ala Phe Arg
 1 5 10 15

gaa ttg aaa ttc gca caa gaa aaa tac tgg cgc aaa gaa atc agc gag 96
 Glu Leu Lys Phe Ala Gln Glu Lys Tyr Trp Arg Lys Glu Ile Ser Glu
 20 25 30

caa gaa ttg ctg gct gtt gct aaa gac ttg cgc gag aaa aac tgg aaa 144
 Gln Glu Leu Leu Ala Val Ala Lys Asp Leu Arg Glu Lys Asn Trp Lys
 35 40 45

cac cag gcc gct gcc aac gcc gat tac gtt gcc gta ggc gat ttc act 192
 His Gln Ala Ala Ala Asn Ala Asp Tyr Val Ala Val Gly Asp Phe Thr

50	55	60	
ttc tac gac cac atc ctc gac ctg caa gtc gcc acc ggc gcg att ccc			240
Phe Tyr Asp His Ile Leu Asp Leu Gln Val Ala Thr Gly Ala Ile Pro			
65	70	75	80
gcc cgc ttc ggc ttc gac agc caa aac cta tct ttg gaa caa ttc ttc			288
Ala Arg Phe Gly Phe Asp Ser Gln Asn Leu Ser Leu Glu Gln Phe Phe			
85	90	95	
caa ctg gcg cgc ggt aac aaa gac caa ttc gct atc gaa atg acc aaa			336
Gln Leu Ala Arg Gly Asn Lys Asp Gln Phe Ala Ile Glu Met Thr Lys			
100	105	110	
tgg ttc gac acc aac tac cac tac ttg gtg cct gaa ttc cac gcc gat			384
Trp Phe Asp Thr Asn Tyr His Tyr Leu Val Pro Glu Phe His Ala Asp			
115	120	125	
acc gaa ttt aaa gcc aat gcc aaa cac tac gtt caa cag ctg caa gaa			432
Thr Glu Phe Lys Ala Asn Ala Lys His Tyr Val Gln Gln Leu Gln Glu			
130	135	140	
gcc caa gct ttg ggc ctg aaa gcc aaa ccg acc gtt gtg ggt ccg ttg			480
Ala Gln Ala Leu Gly Leu Lys Ala Lys Pro Thr Val Val Gly Pro Leu			
145	150	155	160
act ttc ctg tgg gtc ggt aaa gaa aaa ggc gcc gtt gaa ttc gac cgt			528
Thr Phe Leu Trp Val Gly Lys Glu Lys Gly Ala Val Glu Phe Asp Arg			
165	170	175	
ctg agc ctg ttg cct aaa ctg ttg cct gtt tac gtt gaa atc ctg act			576
Leu Ser Leu Leu Pro Lys Leu Leu Pro Val Tyr Val Glu Ile Leu Thr			
180	185	190	
gct ttg gtt gaa gcc ggt gcc gag tgg att caa atc gac gag cct gct			624
Ala Leu Val Glu Ala Gly Ala Glu Trp Ile Gln Ile Asp Glu Pro Ala			
195	200	205	
ttg act gtt gac ctg cct aaa gaa tgg gta gaa gca tac aaa gac gtt			672
Leu Thr Val Asp Leu Pro Lys Glu Trp Val Glu Ala Tyr Lys Asp Val			
210	215	220	
tac gcc act ttg agc aaa gta agt gcc aaa atc ctg ctg agc act tac			720
Tyr Ala Thr Leu Ser Lys Val Ser Ala Lys Ile Leu Leu Ser Thr Tyr			
225	230	235	240
ttc ggt tct gtt gcc gaa cac gcc gca ttg ttg aaa tcc ctg cct gtt			768
Phe Gly Ser Val Ala Glu His Ala Ala Leu Leu Lys Ser Leu Pro Val			

245	250	255	
gac ggc ctg cac atc gac ttg gta cgc gct cct gaa caa ctg gat gcg			816
Asp Gly Leu His Ile Asp Leu Val Arg Ala Pro Glu Gln Leu Asp Ala			
260	265	270	
ttc gcc gac tac gac aaa gtt ctg tct gcc ggc gtc att gac ggc cgc			864
Phe Ala Asp Tyr Asp Lys Val Leu Ser Ala Gly Val Ile Asp Gly Arg			
275	280	285	
aat att tgg cgc gcc aac ctg aac aaa gtt ttg gaa act gtt gag ctt			912
Asn Ile Trp Arg Ala Asn Leu Asn Lys Val Leu Glu Thr Val Glu Leu			
290	295	300	
ctg caa gcc aaa ctg ggc gac cgt ttg tgg att tcc agc tct tgc tcg			960
Leu Gln Ala Lys Leu Gly Asp Arg Leu Trp Ile Ser Ser Ser Cys Ser			
305	310	315	320
ctg ctg cac act ccg ttt gac ttg tca gtt gaa gaa aaa ctg aaa gcc			1008
Leu Leu His Thr Pro Phe Asp Leu Ser Val Glu Glu Lys Leu Lys Ala			
325	330	335	
aac aaa ccc gac ctg tac tct tgg ttg gca ttc acc ctg caa aaa acc			1056
Asn Lys Pro Asp Leu Tyr Ser Trp Leu Ala Phe Thr Leu Gln Lys Thr			
340	345	350	
caa gaa ttg cgc gtc ctg aaa gcc gca ttg aac gaa ggc cgt gat tct			1104
Gln Glu Leu Arg Val Leu Lys Ala Ala Leu Asn Glu Gly Arg Asp Ser			
355	360	365	
gtt gcc gaa gaa ctg gct gcc agc caa gct gct gcc gac tcc cgt gcc			1152
Val Ala Glu Glu Leu Ala Ala Ser Gln Ala Ala Ala Asp Ser Arg Ala			
370	375	380	
aac agc agc gaa atc cac cgt gca gac gtt gcc aaa cgc ctg gcc gat			1200
Asn Ser Ser Glu Ile His Arg Ala Asp Val Ala Lys Arg Leu Ala Asp			
385	390	395	400
ttg cct gcc aac gca gac caa cgc aaa tcc cca ttt gcc gac cgt atc			1248
Leu Pro Ala Asn Ala Asp Gln Arg Lys Ser Pro Phe Ala Asp Arg Ile			
405	410	415	
aaa gcg caa caa gca tgg ttg aac ctg cct ctg ctg ccg acg acc aac			1296
Lys Ala Gln Gln Ala Trp Leu Asn Leu Pro Leu Leu Pro Thr Thr Asn			
420	425	430	
atc ggt tct ttc ccg caa act acc gaa atc cgc caa gca cgc gca gcc			1344
Ile Gly Ser Phe Pro Gln Thr Thr Glu Ile Arg Gln Ala Arg Ala Ala			

435	440	445	
ttc aaa aaa ggc gaa ctg tct gcc gcc gat tac gaa gcc gcg atg aaa			1392
Phe Lys Lys Gly Glu Leu Ser Ala Ala Asp Tyr Glu Ala Ala Met Lys			
450	455	460	
aaa gaa atc gcc ttg gtg gtt gaa gag caa gaa aaa ctg gac ttg gac			1440
Lys Glu Ile Ala Leu Val Val Glu Glu Gln Glu Lys Leu Asp Leu Asp			
465	470	475	480
gta ctg gta cac ggc gaa gcc gag cgt aac gac atg gtt gaa tac ttc			1488
Val Leu Val His Gly Glu Ala Glu Arg Asn Asp Met Val Glu Tyr Phe			
485	490	495	
ggc gaa ttg ttg agc ggt ttt gca ttc acc caa tat ggc tgg gta caa			1536
Gly Glu Leu Leu Ser Gly Phe Ala Phe Thr Gln Tyr Gly Trp Val Gln			
500	505	510	
agc tac ggt tct cgc tgc gtt aaa cca ccg att atc ttc ggt gac gta			1584
Ser Tyr Gly Ser Arg Cys Val Lys Pro Pro Ile Ile Phe Gly Asp Val			
515	520	525	
agc cgt cct gaa gcc atg acc gta gct tgg tct act tac gca caa agc			1632
Ser Arg Pro Glu Ala Met Thr Val Ala Trp Ser Thr Tyr Ala Gln Ser			
530	535	540	
ctg acc aaa cgc ccg atg aaa ggt atg ttg acc ggc cct gta acc att			1680
Leu Thr Lys Arg Pro Met Lys Gly Met Leu Thr Gly Pro Val Thr Ile			
545	550	555	560
ctg caa tgg tct ttc gtc cgc aac gat att cct cgc tct acc gtg tgt			1728
Leu Gln Trp Ser Phe Val Arg Asn Asp Ile Pro Arg Ser Thr Val Cys			
565	570	575	
aaa caa atc gca ctg gct ctg aac gac gaa gta ttg gat ctg gaa aaa			1776
Lys Gln Ile Ala Leu Ala Leu Asn Asp Glu Val Leu Asp Leu Glu Lys			
580	585	590	
gca ggc atc aaa gtc atc caa atc gac gaa cct gcc atc cgc gaa ggc			1824
Ala Gly Ile Lys Val Ile Gln Ile Asp Glu Pro Ala Ile Arg Glu Gly			
595	600	605	
ctg cct ttg aaa cgt gcc gat tgg gat gcc tac ctg aac tgg gcc ggc			1872
Leu Pro Leu Lys Arg Ala Asp Trp Asp Ala Tyr Leu Asn Trp Ala Gly			
610	615	620	
gaa tct ttc cgc ctg tcc tct acc ggt tgc gaa gac agc act caa atc			1920
Glu Ser Phe Arg Leu Ser Ser Thr Gly Cys Glu Asp Ser Thr Gln Ile			

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625          630          635          640
cac acc cat atg tgc tac tct gag ttc aac gac atc ctg cct gcg att 1968
His Thr His Met Cys Tyr Ser Glu Phe Asn Asp Ile Leu Pro Ala Ile
          645          650          655

gct gca atg gat gcg gac gtg atc acc atc gag act tca cgt tcc gac 2016
Ala Ala Met Asp Ala Asp Val Ile Thr Ile Glu Thr Ser Arg Ser Asp
          660          665          670

atg gaa ctc ttg acc gcg ttc ggc gaa ttc aaa tac ccg aac gac atc 2064
Met Glu Leu Leu Thr Ala Phe Gly Glu Phe Lys Tyr Pro Asn Asp Ile
          675          680          685

ggc ccg ggg gtt tac gac atc cac agc ccg cgc gta ccg aca gaa gcc 2112
Gly Pro Gly Val Tyr Asp Ile His Ser Pro Arg Val Pro Thr Glu Ala
          690          695          700

gaa gtg gag cac ctg ttg cgc aaa gcc atc gag gtt gta ccg gtt gaa 2160
Glu Val Glu His Leu Leu Arg Lys Ala Ile Glu Val Val Pro Val Glu
705          710          715          720

cgt ctg tgg gtt aac ccg gac tgc ggc ctg aaa aca cgc ggc tgg aaa 2208
Arg Leu Trp Val Asn Pro Asp Cys Gly Leu Lys Thr Arg Gly Trp Lys
          725          730          735

gaa act ctg gaa caa ctc caa gtg atg atg aac gta acc cac aaa ttg 2256
Glu Thr Leu Glu Gln Leu Gln Val Met Met Asn Val Thr His Lys Leu
          740          745          750

cgt gcc gaa ttg gcg aaa 2274
Arg Ala Glu Leu Ala Lys
          755

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<210> 72

<211> 758

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 72

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Met Thr Thr Leu His Phe Ser Gly Phe Pro Arg Val Gly Ala Phe Arg
 1              5              10              15

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Glu Leu Lys Phe Ala Gln Glu Lys Tyr Trp Arg Lys Glu Ile Ser Glu
      20              25              30

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Gln Glu Leu Leu Ala Val Ala Lys Asp Leu Arg Glu Lys Asn Trp Lys

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35	40	45	
His Gln Ala Ala Ala Asn Ala Asp Tyr Val Ala Val Gly Asp Phe Thr			
50	55	60	
Phe Tyr Asp His Ile Leu Asp Leu Gln Val Ala Thr Gly Ala Ile Pro			
65	70	75	80
Ala Arg Phe Gly Phe Asp Ser Gln Asn Leu Ser Leu Glu Gln Phe Phe			
	85	90	95
Gln Leu Ala Arg Gly Asn Lys Asp Gln Phe Ala Ile Glu Met Thr Lys			
	100	105	110
Trp Phe Asp Thr Asn Tyr His Tyr Leu Val Pro Glu Phe His Ala Asp			
	115	120	125
Thr Glu Phe Lys Ala Asn Ala Lys His Tyr Val Gln Gln Leu Gln Glu			
	130	135	140
Ala Gln Ala Leu Gly Leu Lys Ala Lys Pro Thr Val Val Gly Pro Leu			
	145	150	155
Thr Phe Leu Trp Val Gly Lys Glu Lys Gly Ala Val Glu Phe Asp Arg			
	165	170	175
Leu Ser Leu Leu Pro Lys Leu Leu Pro Val Tyr Val Glu Ile Leu Thr			
	180	185	190
Ala Leu Val Glu Ala Gly Ala Glu Trp Ile Gln Ile Asp Glu Pro Ala			
	195	200	205
Leu Thr Val Asp Leu Pro Lys Glu Trp Val Glu Ala Tyr Lys Asp Val			
	210	215	220
Tyr Ala Thr Leu Ser Lys Val Ser Ala Lys Ile Leu Leu Ser Thr Tyr			
	225	230	235
Phe Gly Ser Val Ala Glu His Ala Ala Leu Leu Lys Ser Leu Pro Val			
	245	250	255
Asp Gly Leu His Ile Asp Leu Val Arg Ala Pro Glu Gln Leu Asp Ala			
	260	265	270
Phe Ala Asp Tyr Asp Lys Val Leu Ser Ala Gly Val Ile Asp Gly Arg			
	275	280	285
Asn Ile Trp Arg Ala Asn Leu Asn Lys Val Leu Glu Thr Val Glu Leu			

290	295	300
Leu Gln Ala Lys Leu Gly Asp Arg Leu Trp Ile Ser Ser Ser Cys Ser		
305	310	315 320
Leu Leu His Thr Pro Phe Asp Leu Ser Val Glu Glu Lys Leu Lys Ala		
	325	330 335
Asn Lys Pro Asp Leu Tyr Ser Trp Leu Ala Phe Thr Leu Gln Lys Thr		
	340	345 350
Gln Glu Leu Arg Val Leu Lys Ala Ala Leu Asn Glu Gly Arg Asp Ser		
	355	360 365
Val Ala Glu Glu Leu Ala Ala Ser Gln Ala Ala Ala Asp Ser Arg Ala		
	370	375 380
Asn Ser Ser Glu Ile His Arg Ala Asp Val Ala Lys Arg Leu Ala Asp		
385	390	395 400
Leu Pro Ala Asn Ala Asp Gln Arg Lys Ser Pro Phe Ala Asp Arg Ile		
	405	410 415
Lys Ala Gln Gln Ala Trp Leu Asn Leu Pro Leu Leu Pro Thr Thr Asn		
	420	425 430
Ile Gly Ser Phe Pro Gln Thr Thr Glu Ile Arg Gln Ala Arg Ala Ala		
	435	440 445
Phe Lys Lys Gly Glu Leu Ser Ala Ala Asp Tyr Glu Ala Ala Met Lys		
450	455	460
Lys Glu Ile Ala Leu Val Val Glu Glu Gln Glu Lys Leu Asp Leu Asp		
465	470	475 480
Val Leu Val His Gly Glu Ala Glu Arg Asn Asp Met Val Glu Tyr Phe		
	485	490 495
Gly Glu Leu Leu Ser Gly Phe Ala Phe Thr Gln Tyr Gly Trp Val Gln		
	500	505 510
Ser Tyr Gly Ser Arg Cys Val Lys Pro Pro Ile Ile Phe Gly Asp Val		
	515	520 525
Ser Arg Pro Glu Ala Met Thr Val Ala Trp Ser Thr Tyr Ala Gln Ser		
530	535	540
Leu Thr Lys Arg Pro Met Lys Gly Met Leu Thr Gly Pro Val Thr Ile		

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545              550              555              560
Leu Gln Trp Ser Phe Val Arg Asn Asp Ile Pro Arg Ser Thr Val Cys
              565              570              575
Lys Gln Ile Ala Leu Ala Leu Asn Asp Glu Val Leu Asp Leu Glu Lys
              580              585              590
Ala Gly Ile Lys Val Ile Gln Ile Asp Glu Pro Ala Ile Arg Glu Gly
              595              600              605
Leu Pro Leu Lys Arg Ala Asp Trp Asp Ala Tyr Leu Asn Trp Ala Gly
              610              615              620
Glu Ser Phe Arg Leu Ser Ser Thr Gly Cys Glu Asp Ser Thr Gln Ile
625              630              635              640
His Thr His Met Cys Tyr Ser Glu Phe Asn Asp Ile Leu Pro Ala Ile
              645              650              655
Ala Ala Met Asp Ala Asp Val Ile Thr Ile Glu Thr Ser Arg Ser Asp
              660              665              670
Met Glu Leu Leu Thr Ala Phe Gly Glu Phe Lys Tyr Pro Asn Asp Ile
              675              680              685
Gly Pro Gly Val Tyr Asp Ile His Ser Pro Arg Val Pro Thr Glu Ala
              690              695              700
Glu Val Glu His Leu Leu Arg Lys Ala Ile Glu Val Val Pro Val Glu
705              710              715              720
Arg Leu Trp Val Asn Pro Asp Cys Gly Leu Lys Thr Arg Gly Trp Lys
              725              730              735
Glu Thr Leu Glu Gln Leu Gln Val Met Met Asn Val Thr His Lys Leu
              740              745              750
Arg Ala Glu Leu Ala Lys
              755

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<210> 73

<211> 2118

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(2118)

<400> 73

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atg cgc cgt ttt cta ccg atc gca gcc ata tgc gcc gtc gtc ctg ttg   48
Met Arg Arg Phe Leu Pro Ile Ala Ala Ile Cys Ala Val Val Leu Leu
  1             5             10             15

tac gga ctg acg gcg gca acc ggc agc acc agt tcg ctg gcg gat tat   96
Tyr Gly Leu Thr Ala Ala Thr Gly Ser Thr Ser Ser Leu Ala Asp Tyr
             20             25             30

ttc tgg tgg att gtt gcg ttc agc gca atg ctg ctg ctg gtg ttg tcc  144
Phe Trp Trp Ile Val Ala Phe Ser Ala Met Leu Leu Leu Val Leu Ser
             35             40             45

gcc gtt ttg gca cgt tat gtc ata ttg ctg ttg aaa gac agg cgc gac  192
Ala Val Leu Ala Arg Tyr Val Ile Leu Leu Leu Lys Asp Arg Arg Asp
             50             55             60

ggc gta ttc ggt tcg cag att gcc aaa cgc ctt tcc ggg atg ttt acg  240
Gly Val Phe Gly Ser Gln Ile Ala Lys Arg Leu Ser Gly Met Phe Thr
             65             70             75             80

ctg gtt gcc gta ctg ccc ggc gtg ttt ctg ttc ggc gtt tcc gca cag  288
Leu Val Ala Val Leu Pro Gly Val Phe Leu Phe Gly Val Ser Ala Gln
             85             90             95

ttt atc aac ggc acg att aat tcg tgg ttc ggc aac gat acc cac gag  336
Phe Ile Asn Gly Thr Ile Asn Ser Trp Phe Gly Asn Asp Thr His Glu
             100            105            110

gcg ctt gaa cgc agc ctc aat ttg agc aag tcc gca ttg aat ctg gcg  384
Ala Leu Glu Arg Ser Leu Asn Leu Ser Lys Ser Ala Leu Asn Leu Ala
             115            120            125

gca gac aac gcc ctt ggc aac gcc atc ccc gtg cag ata gac ctc atc  432
Ala Asp Asn Ala Leu Gly Asn Ala Ile Pro Val Gln Ile Asp Leu Ile
             130            135            140

ggc gcg gct tcc ctg ccc ggg gat atg ggc agg gtg ctg gaa cat tac  480
Gly Ala Ala Ser Leu Pro Gly Asp Met Gly Arg Val Leu Glu His Tyr
             145            150            155            160

gcc ggc agc ggt ttt gcc cag ctt gcc ctg tac aat gcc gca agc ggc  528
Ala Gly Ser Gly Phe Ala Gln Leu Ala Tyr Asn Ala Ala Ser Gly
             165            170            175

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aaa atc gaa aaa agc atc aac ccg cac aag ctc gat cag ccg ttt cca	576
Lys Ile Glu Lys Ser Ile Asn Pro His Lys Leu Asp Gln Pro Phe Pro	
180 185 190	
ggt aag gcg cgt tgg gaa aaa atc caa cag gcg ggt tcg gtc agg gat	624
Gly Lys Ala Arg Trp Glu Lys Ile Gln Gln Ala Gly Ser Val Arg Asp	
195 200 205	
ttg gaa agc ata ggc ggc gta ttg tac gcg cag ggc tgg ctg tcg gca	672
Leu Glu Ser Ile Gly Gly Val Leu Tyr Ala Gln Gly Trp Leu Ser Ala	
210 215 220	
ggt acg cac aac ggg cgc gat tac gcc ttg ttt ttc cgt cag ccg gtt	720
Gly Thr His Asn Gly Arg Asp Tyr Ala Leu Phe Phe Arg Gln Pro Val	
225 230 235 240	
ccc aaa ggc gtg gca gag gat gcc gtc tta atc gaa aag gca agg gcg	768
Pro Lys Gly Val Ala Glu Asp Ala Val Leu Ile Glu Lys Ala Arg Ala	
245 250 255	
aaa tat gct gag ttg agt tac agc aaa aaa ggt ttg cag acc ttt ttc	816
Lys Tyr Ala Glu Leu Ser Tyr Ser Lys Lys Gly Leu Gln Thr Phe Phe	
260 265 270	
ctg gca acc ctg ctg att gcc tcg ctg ctg tog att ttt ctt gca ctg	864
Leu Ala Thr Leu Leu Ile Ala Ser Leu Leu Ser Ile Phe Leu Ala Leu	
275 280 285	
gtc atg gca ctg tat ttc gcc cgc cgt ttc gtc gaa ccc gtc cta tcg	912
Val Met Ala Leu Tyr Phe Ala Arg Arg Phe Val Glu Pro Val Leu Ser	
290 295 300	
ctt gcc gag ggg gcg aag gcg gtg gcg caa ggc gat ttc agc cag acg	960
Leu Ala Glu Gly Ala Lys Ala Val Ala Gln Gly Asp Phe Ser Gln Thr	
305 310 315 320	
cgc ccc gtg ttg cgc aac gac gag ttc gga cgc ttg acc aag ttg ttc	1008
Arg Pro Val Leu Arg Asn Asp Glu Phe Gly Arg Leu Thr Lys Leu Phe	
325 330 335	
aac cac atg acc gag cag ctt tcc atc gcc aaa gaa gca gac gag cgc	1056
Asn His Met Thr Glu Gln Leu Ser Ile Ala Lys Glu Ala Asp Glu Arg	
340 345 350	
aac cgc cgg cgc gag gaa gcc gcc aga cat tat ctc gaa tgc gtg ttg	1104
Asn Arg Arg Arg Glu Glu Ala Ala Arg His Tyr Leu Glu Cys Val Leu	
355 360 365	

gag ggg ctg acc acg ggc gtg gtg gtg ttt gac gaa caa ggc tgt ctg	1152
Glu Gly Leu Thr Thr Gly Val Val Val Phe Asp Glu Gln Gly Cys Leu	
370 375 380	
aaa acc ttc aac aaa gcg gcg gaa cag att ttg ggg atg ccg ctt acc	1200
Lys Thr Phe Asn Lys Ala Ala Glu Gln Ile Leu Gly Met Pro Leu Thr	
385 390 395 400	
ccc ctg tgg ggc agc agc cgg cac ggt tgg cac ggc gtt tcg gcg cag	1248
Pro Leu Trp Gly Ser Ser Arg His Gly Trp His Gly Val Ser Ala Gln	
405 410 415	
cag tcc ctg ctt gcc gaa gtg ttt gcc gcc atc ggc gcg gcg gca ggt	1296
Gln Ser Leu Leu Ala Glu Val Phe Ala Ala Ile Gly Ala Ala Ala Gly	
420 425 430	
acg gac aaa ccg gtc cat gtg aaa tat gcc gcg ccg gac gat gcc aaa	1344
Thr Asp Lys Pro Val His Val Lys Tyr Ala Ala Pro Asp Asp Ala Lys	
435 440 445	
atc ctg ctg ggc aag gca acc gtc ctg ccc gaa gac aac ggc aac ggc	1392
Ile Leu Leu Gly Lys Ala Thr Val Leu Pro Glu Asp Asn Gly Asn Gly	
450 455 460	
gtg gta atg gtg att gac gac atc acc gtt ttg ata cac gcg caa aaa	1440
Val Val Met Val Ile Asp Asp Ile Thr Val Leu Ile His Ala Gln Lys	
465 470 475 480	
gaa gcc gcg tgg ggc gaa gtg gca aaa ccg ctg gca cac gaa atc cgc	1488
Glu Ala Ala Trp Gly Glu Val Ala Lys Arg Leu Ala His Glu Ile Arg	
485 490 495	
aat ccg ctc acg ccc atc cag ctt tct gcc gaa ccg ctg gcg tgg aaa	1536
Asn Pro Leu Thr Pro Ile Gln Leu Ser Ala Glu Arg Leu Ala Trp Lys	
500 505 510	
ttg ggc ggg aag ctg gac gag cag gac gcg caa atc ctg aca cgt tcg	1584
Leu Gly Gly Lys Leu Asp Glu Gln Asp Ala Gln Ile Leu Thr Arg Ser	
515 520 525	
acc gac acc atc atc aaa caa gtg gcg gca tta aaa gaa atg gtc gag	1632
Thr Asp Thr Ile Ile Lys Gln Val Ala Ala Leu Lys Glu Met Val Glu	
530 535 540	
gca ttc cgc aat tac gcg cgt tcc cct tcg ctc aaa ttg gaa aat cag	1680
Ala Phe Arg Asn Tyr Ala Arg Ser Pro Ser Leu Lys Leu Glu Asn Gln	
545 550 555 560	

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gat ttg aac gcc tta atc ggc gat gtg ttg gca ttg tac gaa gct ggt 1728
Asp Leu Asn Ala Leu Ile Gly Asp Val Leu Ala Leu Tyr Glu Ala Gly
      565              570              575

ccg tgc cgg ttt gcg gcg gaa ctt gcc ggc gaa ccg ctg atg atg gcg 1776
Pro Cys Arg Phe Ala Ala Glu Leu Ala Gly Glu Pro Leu Met Met Ala
      580              585              590

gcg gat acg acc gcc atg cgg cag gtg ctg cac aat att ttc aaa aat 1824
Ala Asp Thr Thr Ala Met Arg Gln Val Leu His Asn Ile Phe Lys Asn
      595              600              605

gcc gcc gaa gcg gcg gaa gaa gcc gat gtg ccc gaa gtc agg gta aaa 1872
Ala Ala Glu Ala Ala Glu Glu Ala Asp Val Pro Glu Val Arg Val Lys
      610              615              620

tcg gaa gcg ggg cag gac gga cgg att gtc ctg aca gtt tgc gac aac 1920
Ser Glu Ala Gly Gln Asp Gly Arg Ile Val Leu Thr Val Cys Asp Asn
      625              630              635              640

ggc aag ggg ttc ggc agg gaa atg ctg cac aat gcc ttc gag ccg tat 1968
Gly Lys Gly Phe Gly Arg Glu Met Leu His Asn Ala Phe Glu Pro Tyr
      645              650              655

gta acg gac aaa ccg gct gga acg gga ttg gga ctg ccc gtg gtg aaa 2016
Val Thr Asp Lys Pro Ala Gly Thr Gly Leu Gly Leu Pro Val Val Lys
      660              665              670

aaa atc att gaa gaa cac ggc ggc cgc atc agc ctg agc aat cag gat 2064
Lys Ile Ile Glu Glu His Gly Gly Arg Ile Ser Leu Ser Asn Gln Asp
      675              680              685

gcg ggc ggc gcg tgt gtc aga atc atc ttg cca aaa acg gta gaa act 2112
Ala Gly Gly Ala Cys Val Arg Ile Ile Leu Pro Lys Thr Val Glu Thr
      690              695              700

tat gcg
Tyr Ala
705

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<210> 74

<211> 706

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 74

Met Arg Arg Phe Leu Pro Ile Ala Ala Ile Cys Ala Val Val Leu Leu
 1 5 10 15
 Tyr Gly Leu Thr Ala Ala Thr Gly Ser Thr Ser Ser Leu Ala Asp Tyr
 20 25 30
 Phe Trp Trp Ile Val Ala Phe Ser Ala Met Leu Leu Leu Val Leu Ser
 35 40 45
 Ala Val Leu Ala Arg Tyr Val Ile Leu Leu Leu Lys Asp Arg Arg Asp
 50 55 60
 Gly Val Phe Gly Ser Gln Ile Ala Lys Arg Leu Ser Gly Met Phe Thr
 65 70 75 80
 Leu Val Ala Val Leu Pro Gly Val Phe Leu Phe Gly Val Ser Ala Gln
 85 90 95
 Phe Ile Asn Gly Thr Ile Asn Ser Trp Phe Gly Asn Asp Thr His Glu
 100 105 110
 Ala Leu Glu Arg Ser Leu Asn Leu Ser Lys Ser Ala Leu Asn Leu Ala
 115 120 125
 Ala Asp Asn Ala Leu Gly Asn Ala Ile Pro Val Gln Ile Asp Leu Ile
 130 135 140
 Gly Ala Ala Ser Leu Pro Gly Asp Met Gly Arg Val Leu Glu His Tyr
 145 150 155 160
 Ala Gly Ser Gly Phe Ala Gln Leu Ala Leu Tyr Asn Ala Ala Ser Gly
 165 170 175
 Lys Ile Glu Lys Ser Ile Asn Pro His Lys Leu Asp Gln Pro Phe Pro
 180 185 190
 Gly Lys Ala Arg Trp Glu Lys Ile Gln Gln Ala Gly Ser Val Arg Asp
 195 200 205
 Leu Glu Ser Ile Gly Gly Val Leu Tyr Ala Gln Gly Trp Leu Ser Ala
 210 215 220
 Gly Thr His Asn Gly Arg Asp Tyr Ala Leu Phe Phe Arg Gln Pro Val
 225 230 235 240
 Pro Lys Gly Val Ala Glu Asp Ala Val Leu Ile Glu Lys Ala Arg Ala
 245 250 255

Lys Tyr Ala Glu Leu Ser Tyr Ser Lys Lys Gly Leu Gln Thr Phe Phe
 260 265 270
 Leu Ala Thr Leu Leu Ile Ala Ser Leu Leu Ser Ile Phe Leu Ala Leu
 275 280 285
 Val Met Ala Leu Tyr Phe Ala Arg Arg Phe Val Glu Pro Val Leu Ser
 290 295 300
 Leu Ala Glu Gly Ala Lys Ala Val Ala Gln Gly Asp Phe Ser Gln Thr
 305 310 315 320
 Arg Pro Val Leu Arg Asn Asp Glu Phe Gly Arg Leu Thr Lys Leu Phe
 325 330 335
 Asn His Met Thr Glu Gln Leu Ser Ile Ala Lys Glu Ala Asp Glu Arg
 340 345 350
 Asn Arg Arg Arg Glu Glu Ala Ala Arg His Tyr Leu Glu Cys Val Leu
 355 360 365
 Glu Gly Leu Thr Thr Gly Val Val Val Phe Asp Glu Gln Gly Cys Leu
 370 375 380
 Lys Thr Phe Asn Lys Ala Ala Glu Gln Ile Leu Gly Met Pro Leu Thr
 385 390 395 400
 Pro Leu Trp Gly Ser Ser Arg His Gly Trp His Gly Val Ser Ala Gln
 405 410 415
 Gln Ser Leu Leu Ala Glu Val Phe Ala Ala Ile Gly Ala Ala Ala Gly
 420 425 430
 Thr Asp Lys Pro Val His Val Lys Tyr Ala Ala Pro Asp Asp Ala Lys
 435 440 445
 Ile Leu Leu Gly Lys Ala Thr Val Leu Pro Glu Asp Asn Gly Asn Gly
 450 455 460
 Val Val Met Val Ile Asp Asp Ile Thr Val Leu Ile His Ala Gln Lys
 465 470 475 480
 Glu Ala Ala Trp Gly Glu Val Ala Lys Arg Leu Ala His Glu Ile Arg
 485 490 495
 Asn Pro Leu Thr Pro Ile Gln Leu Ser Ala Glu Arg Leu Ala Trp Lys
 500 505 510


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Leu Gly Gly Lys Leu Asp Glu Gln Asp Ala Gln Ile Leu Thr Arg Ser
    515                      520                      525

Thr Asp Thr Ile Ile Lys Gln Val Ala Ala Leu Lys Glu Met Val Glu
    530                      535                      540

Ala Phe Arg Asn Tyr Ala Arg Ser Pro Ser Leu Lys Leu Glu Asn Gln
    545                      550                      555                      560

Asp Leu Asn Ala Leu Ile Gly Asp Val Leu Ala Leu Tyr Glu Ala Gly
                      565                      570                      575

Pro Cys Arg Phe Ala Ala Glu Leu Ala Gly Glu Pro Leu Met Met Ala
                      580                      585                      590

Ala Asp Thr Thr Ala Met Arg Gln Val Leu His Asn Ile Phe Lys Asn
    595                      600                      605

Ala Ala Glu Ala Ala Glu Glu Ala Asp Val Pro Glu Val Arg Val Lys
    610                      615                      620

Ser Glu Ala Gly Gln Asp Gly Arg Ile Val Leu Thr Val Cys Asp Asn
    625                      630                      635                      640

Gly Lys Gly Phe Gly Arg Glu Met Leu His Asn Ala Phe Glu Pro Tyr
                      645                      650                      655

Val Thr Asp Lys Pro Ala Gly Thr Gly Leu Gly Leu Pro Val Val Lys
    660                      665                      670

Lys Ile Ile Glu Glu His Gly Gly Arg Ile Ser Leu Ser Asn Gln Asp
    675                      680                      685

Ala Gly Gly Ala Cys Val Arg Ile Ile Leu Pro Lys Thr Val Glu Thr
    690                      695                      700

Tyr Ala
705

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<210> 75

<211> 1686

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1686)

<400> 75

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atg tta caa tcc gaa aat tcg aaa aat tta atc tct tgt tca ata aag   48
Met Leu Gln Ser Glu Asn Ser Lys Asn Leu Ile Ser Cys Ser Ile Lys
   1             5             10             15

gct tta cca atc atg att tct acc aac ggc atc acc atg cag ttc ggc   96
Ala Leu Pro Ile Met Ile Ser Thr Asn Gly Ile Thr Met Gln Phe Gly
           20             25             30

gcg aag ccg ctg ttt gaa aac gta tcc gtt aaa ttc ggc gaa ggc aac  144
Ala Lys Pro Leu Phe Glu Asn Val Ser Val Lys Phe Gly Glu Gly Asn
       35             40             45

cgc tac ggt ttg atc ggc gcg aac ggc tca ggc aaa tcc acc ttc atg  192
Arg Tyr Gly Leu Ile Gly Ala Asn Gly Ser Gly Lys Ser Thr Phe Met
       50             55             60

aaa atc ctc ggc ggc gat ttg gaa cag aca gcc ggc gaa gtg gcg att  240
Lys Ile Leu Gly Gly Asp Leu Glu Gln Thr Ala Gly Glu Val Ala Ile
   65             70             75             80

gaa aac ggc gtg cgt ttg ggt aaa ttg cgc caa gac cag ttt gcc tac  288
Glu Asn Gly Val Arg Leu Gly Lys Leu Arg Gln Asp Gln Phe Ala Tyr
           85             90             95

gaa gat atg cgc gtg ctg gac gtg gta atg atg ggt cac acc gaa atg  336
Glu Asp Met Arg Val Leu Asp Val Val Met Met Gly His Thr Glu Met
       100             105             110

tgg gcg gcg atg acc gaa cgt gat gcg att tac gcc aat ccc gaa gcc  384
Trp Ala Ala Met Thr Glu Arg Asp Ala Ile Tyr Ala Asn Pro Glu Ala
       115             120             125

acc gaa gac gac tac atg aaa gcc gca gaa ctg gaa gcc aag ttc gcc  432
Thr Glu Asp Asp Tyr Met Lys Ala Ala Glu Leu Glu Ala Lys Phe Ala
       130             135             140

gaa tac gac ggc tac acc gcc gaa gcg cgt gcc gcc gag ttg ttg agc  480
Glu Tyr Asp Gly Tyr Thr Ala Glu Ala Arg Ala Ala Glu Leu Leu Ser
   145             150             155             160

ggc gtg ggc att tcc gaa gat ttg cac aat gca acc atg gca gaa gtt  528
Gly Val Gly Ile Ser Glu Asp Leu His Asn Ala Thr Met Ala Glu Val
           165             170             175

gcc ccg ggc ttc aaa ctg cgc gta ttg ctg gcg caa gcc ctg ttc tcc  576

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Ala Pro Gly Phe Lys Leu Arg Val Leu Leu Ala Gln Ala Leu Phe Ser	
180 185 190	
aag ccg gat gta ttg ctc ttg gac gaa ccg acc aat aac ttg gac att	624
Lys Pro Asp Val Leu Leu Leu Asp Glu Pro Thr Asn Asn Leu Asp Ile	
195 200 205	
aat acc atc cgt tgg ttg gaa ggc gtg ttg aac cag tac gac tcc acg	672
Asn Thr Ile Arg Trp Leu Glu Gly Val Leu Asn Gln Tyr Asp Ser Thr	
210 215 220	
atg att atc atc tcg cac gac cgc cac ttc ttg aac gaa gtc tgc acg	720
Met Ile Ile Ile Ser His Asp Arg His Phe Leu Asn Glu Val Cys Thr	
225 230 235 240	
cat atg gca gat ttg gat tac aac acc atc acc atc tat ccg ggc aac	768
His Met Ala Asp Leu Asp Tyr Asn Thr Ile Thr Ile Tyr Pro Gly Asn	
245 250 255	
tac gac gac tat atg ctc gcc tcc gcc caa tcg cgc gaa cgc gcc ctg	816
Tyr Asp Asp Tyr Met Leu Ala Ser Ala Gln Ser Arg Glu Arg Ala Leu	
260 265 270	
aaa gac aat gcc aag gcg aag gaa aaa ttg cag gaa ttg caa gaa ttt	864
Lys Asp Asn Ala Lys Ala Lys Glu Lys Leu Gln Glu Leu Gln Glu Phe	
275 280 285	
gtg gcg cgg ttc agt gcc aac aaa tcc aaa gcc cgt cag gca acc agc	912
Val Ala Arg Phe Ser Ala Asn Lys Ser Lys Ala Arg Gln Ala Thr Ser	
290 295 300	
cgt ctg aaa cag gca gac aaa atc aaa tcg gag atg gtc gag gtc aaa	960
Arg Leu Lys Gln Ala Asp Lys Ile Lys Ser Glu Met Val Glu Val Lys	
305 310 315 320	
ccc tct acc cgt caa aac ccg tat atc cgt ttt gaa gcc gat gaa aaa	1008
Pro Ser Thr Arg Gln Asn Pro Tyr Ile Arg Phe Glu Ala Asp Glu Lys	
325 330 335	
gcc aag ctg cac cgt cag gct gtg gaa gtt gaa aaa ctg gcg aaa cgc	1056
Ala Lys Leu His Arg Gln Ala Val Glu Val Glu Lys Leu Ala Lys Arg	
340 345 350	
ttt gaa acc cag ttg ttt aaa aac ctg aac ttt atc ctt gaa gcg gga	1104
Phe Glu Thr Gln Leu Phe Lys Asn Leu Asn Phe Ile Leu Glu Ala Gly	
355 360 365	
caa cgc ctc gcc atc atc ggc ccg aac ggc gcg ggc aaa tcc acc ctg	1152

Gln Arg Leu Ala Ile Ile Gly Pro Asn Gly Ala Gly Lys Ser Thr Leu	
370	375 380
ctg aaa ctc ttg gcc ggc gcg tac aac ccc gaa tat tca gac ggt ctg	1200
Leu Lys Leu Leu Ala Gly Ala Tyr Asn Pro Glu Tyr Ser Asp Gly Leu	
385	390 395 400
ctg ccg gac gaa ggc agc atc aaa tgg gcg gaa aaa gcc agc gtc ggc	1248
Leu Pro Asp Glu Gly Ser Ile Lys Trp Ala Glu Lys Ala Ser Val Gly	
	405 410 415
tac tat ccg caa gat cac gaa aac gac ttc gat gtc gat atg gat ttg	1296
Tyr Tyr Pro Gln Asp His Glu Asn Asp Phe Asp Val Asp Met Asp Leu	
	420 425 430
agc gaa tgg atg cgc caa tgg ggg cag gac ggc gac gac gaa caa gtc	1344
Ser Glu Trp Met Arg Gln Trp Gly Gln Asp Gly Asp Asp Glu Gln Val	
	435 440 445
atc cgc ggc act ttg ggg cgt ttg ctc ttc ggc agt aac gat gtc gtg	1392
Ile Arg Gly Thr Leu Gly Arg Leu Leu Phe Gly Ser Asn Asp Val Val	
	450 455 460
aaa aaa gtg aag gtt ctc tcc ggt ggt gaa aaa ggc cgt atg ctt tac	1440
Lys Lys Val Lys Val Leu Ser Gly Gly Glu Lys Gly Arg Met Leu Tyr	
465	470 475 480
ggc aaa ctg ttg ctg ttg aaa ccc aat gtc tta gtc atg gat gaa ccg	1488
Gly Lys Leu Leu Leu Leu Lys Pro Asn Val Leu Val Met Asp Glu Pro	
	485 490 495
acc aac cac atg gac atg gaa agc atc gaa tcc ttg aac atg gcg ctg	1536
Thr Asn His Met Asp Met Glu Ser Ile Glu Ser Leu Asn Met Ala Leu	
	500 505 510
gaa aaa tac aac ggc acg ctg att ttc gtc tcc cac gac cgt cag ttc	1584
Glu Lys Tyr Asn Gly Thr Leu Ile Phe Val Ser His Asp Arg Gln Phe	
	515 520 525
gtt tct tcc ctg gct acc caa atc att gaa ttg gac ggc aaa ggc gga	1632
Val Ser Ser Leu Ala Thr Gln Ile Ile Glu Leu Asp Gly Lys Gly Gly	
	530 535 540
tat gaa cac tac ttg ggc gat tac gaa agc tat ctc gag aaa aaa ggc	1680
Tyr Glu His Tyr Leu Gly Asp Tyr Glu Ser Tyr Leu Glu Lys Lys Gly	
545	550 555 560
gta gca	1686

Val Ala .

<210> 76

<211> 562

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 76

Met Leu Gln Ser Glu Asn Ser Lys Asn Leu Ile Ser Cys Ser Ile Lys
1 5 10 15

Ala Leu Pro Ile Met Ile Ser Thr Asn Gly Ile Thr Met Gln Phe Gly
20 25 30

Ala Lys Pro Leu Phe Glu Asn Val Ser Val Lys Phe Gly Glu Gly Asn
35 40 45

Arg Tyr Gly Leu Ile Gly Ala Asn Gly Ser Gly Lys Ser Thr Phe Met
50 55 60

Lys Ile Leu Gly Gly Asp Leu Glu Gln Thr Ala Gly Glu Val Ala Ile
65 70 75 80

Glu Asn Gly Val Arg Leu Gly Lys Leu Arg Gln Asp Gln Phe Ala Tyr
85 90 95

Glu Asp Met Arg Val Leu Asp Val Val Met Met Gly His Thr Glu Met
100 105 110

Trp Ala Ala Met Thr Glu Arg Asp Ala Ile Tyr Ala Asn Pro Glu Ala
115 120 125

Thr Glu Asp Asp Tyr Met Lys Ala Ala Glu Leu Glu Ala Lys Phe Ala
130 135 140

Glu Tyr Asp Gly Tyr Thr Ala Glu Ala Arg Ala Ala Glu Leu Leu Ser
145 150 155 160

Gly Val Gly Ile Ser Glu Asp Leu His Asn Ala Thr Met Ala Glu Val
165 170 175

Ala Pro Gly Phe Lys Leu Arg Val Leu Leu Ala Gln Ala Leu Phe Ser
180 185 190

Lys Pro Asp Val Leu Leu Leu Asp Glu Pro Thr Asn Asn Leu Asp Ile
195 200 205

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Asn Thr Ile Arg Trp Leu Glu Gly Val Leu Asn Gln Tyr Asp Ser Thr
  210                      215                      220

Met Ile Ile Ile Ser His Asp Arg His Phe Leu Asn Glu Val Cys Thr
  225                      230                      235                      240

His Met Ala Asp Leu Asp Tyr Asn Thr Ile Thr Ile Tyr Pro Gly Asn
      245                      250                      255

Tyr Asp Asp Tyr Met Leu Ala Ser Ala Gln Ser Arg Glu Arg Ala Leu
      260                      265                      270

Lys Asp Asn Ala Lys Ala Lys Glu Lys Leu Gln Glu Leu Gln Glu Phe
      275                      280                      285

Val Ala Arg Phe Ser Ala Asn Lys Ser Lys Ala Arg Gln Ala Thr Ser
      290                      295                      300

Arg Leu Lys Gln Ala Asp Lys Ile Lys Ser Glu Met Val Glu Val Lys
  305                      310                      315                      320

Pro Ser Thr Arg Gln Asn Pro Tyr Ile Arg Phe Glu Ala Asp Glu Lys
      325                      330                      335

Ala Lys Leu His Arg Gln Ala Val Glu Val Glu Lys Leu Ala Lys Arg
      340                      345                      350

Phe Glu Thr Gln Leu Phe Lys Asn Leu Asn Phe Ile Leu Glu Ala Gly
      355                      360                      365

Gln Arg Leu Ala Ile Ile Gly Pro Asn Gly Ala Gly Lys Ser Thr Leu
      370                      375                      380

Leu Lys Leu Leu Ala Gly Ala Tyr Asn Pro Glu Tyr Ser Asp Gly Leu
  385                      390                      395                      400

Leu Pro Asp Glu Gly Ser Ile Lys Trp Ala Glu Lys Ala Ser Val Gly
      405                      410                      415

Tyr Tyr Pro Gln Asp His Glu Asn Asp Phe Asp Val Asp Met Asp Leu
      420                      425                      430

Ser Glu Trp Met Arg Gln Trp Gly Gln Asp Gly Asp Asp Glu Gln Val
      435                      440                      445

Ile Arg Gly Thr Leu Gly Arg Leu Leu Phe Gly Ser Asn Asp Val Val
      450                      455                      460

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Lys Lys Val Lys Val Leu Ser Gly Gly Glu Lys Gly Arg Met Leu Tyr
465 470 475 480

Gly Lys Leu Leu Leu Lys Pro Asn Val Leu Val Met Asp Glu Pro
485 490 495

Thr Asn His Met Asp Met Glu Ser Ile Glu Ser Leu Asn Met Ala Leu
500 505 510

Glu Lys Tyr Asn Gly Thr Leu Ile Phe Val Ser His Asp Arg Gln Phe
515 520 525

Val Ser Ser Leu Ala Thr Gln Ile Ile Glu Leu Asp Gly Lys Gly Gly
530 535 540

Tyr Glu His Tyr Leu Gly Asp Tyr Glu Ser Tyr Leu Glu Lys Lys Gly
545 550 555 560

Val Ala

<210> 77

<211> 1773

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1773)

<400> 77

atg agt atc gtg ctg cac ggc gtg gcg gcg ggc aaa ggc att gcc gtc 48
Met Ser Ile Val Leu His Gly Val Ala Ala Gly Lys Gly Ile Ala Val
1 5 10 15

ggc tgc gcc cac ctg att gcg cgc ggt acg gag gaa gtg ccg cag tat 96
Gly Cys Ala His Leu Ile Ala Arg Gly Thr Glu Glu Val Pro Gln Tyr
20 25 30

gat gtt gcg gag gcg gac acc gat gcc gaa gcc gaa cgt ttc gat gcc 144
Asp Val Ala Glu Ala Asp Thr Asp Ala Glu Ala Glu Arg Phe Asp Ala
35 40 45

gcc gtc aaa gcc acg cgc aaa gag ttg gaa cag ctc cgc agc gcg att 192
Ala Val Lys Ala Thr Arg Lys Glu Leu Glu Gln Leu Arg Ser Ala Ile
50 55 60

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ccc gaa aac gcc ccg acc gag ttg ggc gcg ttc atc tcg ctg cac ctg   240
Pro Glu Asn Ala Pro Thr Glu Leu Gly Ala Phe Ile Ser Leu His Leu
  65                      70                      75                      80

atg ctc ttg acc gat gtt acc ttg tcg cgc gaa ccc gtc gat att tta   288
Met Leu Leu Thr Asp Val Thr Leu Ser Arg Glu Pro Val Asp Ile Leu
      85                      90                      95

agg gaa caa aaa atc aac gcc gag tgg gca ttg aag cag cag agc gac   336
Arg Glu Gln Lys Ile Asn Ala Glu Trp Ala Leu Lys Gln Gln Ser Asp
      100                      105                      110

aaa ctc gcc gcc caa ttc gac aat atg gac gat gcc tat ttg cgc gaa   384
Lys Leu Ala Ala Gln Phe Asp Asn Met Asp Asp Ala Tyr Leu Arg Glu
      115                      120                      125

cgc aag cag gat atg ctg caa gtc gtc cgc cgc atc cac aac aac ctg   432
Arg Lys Gln Asp Met Leu Gln Val Val Arg Arg Ile His Asn Asn Leu
      130                      135                      140

atc ggg cag ggc aac gag ttg gaa gtt gcc gac aac ctg ttt gac gaa   480
Ile Gly Gln Gly Asn Glu Leu Glu Val Ala Asp Asn Leu Phe Asp Glu
      145                      150                      155                      160

acc gtt ctg att gca aac gac ctt tcg ccc gcc gac acg gtt ttg ttt   528
Thr Val Leu Ile Ala Asn Asp Leu Ser Pro Ala Asp Thr Val Leu Phe
      165                      170                      175

aaa gag cag cgc att gcc gcc ttc gtt acc gat gcc ggc ggc ccc acc   576
Lys Glu Gln Arg Ile Ala Ala Phe Val Thr Asp Ala Gly Gly Pro Thr
      180                      185                      190

ggg cat acg gcg att ttg ggc agg agc ttg gac atc ccg tcc gtc gtc   624
Gly His Thr Ala Ile Leu Gly Arg Ser Leu Asp Ile Pro Ser Val Val
      195                      200                      205

ggg ctg cac aac gcg cgc aaa ctg att acc gag ggc gaa acg gtc att   672
Gly Leu His Asn Ala Arg Lys Leu Ile Thr Glu Gly Glu Thr Val Ile
      210                      215                      220

gtg gac ggt atc aac ggc gtg ttg att atc gcg ccg gat gag tcg gtg   720
Val Asp Gly Ile Asn Gly Val Leu Ile Ile Ala Pro Asp Glu Ser Val
      225                      230                      235                      240

ttg aac gaa tac cgc cgc cgt gcc cgc gaa tac cgc agc cac aaa cgc   768
Leu Asn Glu Tyr Arg Arg Arg Ala Arg Glu Tyr Arg Ser His Lys Arg
      245                      250                      255

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gat ttg aac aag ctc aaa aaa acc gcc gcc gcc acc gct gac ggg gtc	816
Asp Leu Asn Lys Leu Lys Lys Thr Ala Ala Ala Thr Ala Asp Gly Val	
260 265 270	
tgk atc gag ctt gtg ggc aat ata gaa tcc gcc gaa gac gtg aaa ccg	864
Cys Ile Glu Leu Val Gly Asn Ile Glu Ser Ala Glu Asp Val Lys Pro	
275 280 285	
ctg cac aac ctc ggc gca gac ggc atc ggg ctg ttc cgc agc gag ttt	912
Leu His Asn Leu Gly Ala Asp Gly Ile Gly Leu Phe Arg Ser Glu Phe	
290 295 300	
ctt tac ctg aac cgc gat acg atg ccg tct gaa gac gag cag tac gaa	960
Leu Tyr Leu Asn Arg Asp Thr Met Pro Ser Glu Asp Glu Gln Tyr Glu	
305 310 315 320	
gtg tac agc gcg att gtc aaa aaa atg aaa ggc aaa agc gta acg ata	1008
Val Tyr Ser Ala Ile Val Lys Lys Met Lys Gly Lys Ser Val Thr Ile	
325 330 335	
cgg aca gtc gat ttg ggt gtg gac aaa aac ccg cgc tgg ttc ggg aaa	1056
Arg Thr Val Asp Leu Gly Val Asp Lys Asn Pro Arg Trp Phe Gly Lys	
340 345 350	
aac agc acg ccc aac ggc agc ctc aac ccc gcg ctg ggc atg acc ggc	1104
Asn Ser Thr Pro Asn Gly Ser Leu Asn Pro Ala Leu Gly Met Thr Gly	
355 360 365	
atc cgc ctg tgc ctt gcc gaa ccg gtc atg ttc cgc acc cag atg cgc	1152
Ile Arg Leu Cys Leu Ala Glu Pro Val Met Phe Arg Thr Gln Met Arg	
370 375 380	
gcc atc ctc cgc gcc gcc gcc cac ggc ccc gtg cgg atg atg tgg ccg	1200
Ala Ile Leu Arg Ala Ala Ala His Gly Pro Val Arg Met Met Trp Pro	
385 390 395 400	
atg att acc tcc gta tcc gaa gtg cgc cag tgc ctc atc cac ctc gac	1248
Met Ile Thr Ser Val Ser Glu Val Arg Gln Cys Leu Ile His Leu Asp	
405 410 415	
acc gcg caa cgc cag ctt gcc gaa cgc ggc gat gcc ttc ggt aaa gtc	1296
Thr Ala Gln Arg Gln Leu Ala Glu Arg Gly Asp Ala Phe Gly Lys Val	
420 425 430	
ggc atc ggc tgt atg att gaa att ccg tct gcc gcg ctg acc gtc ggc	1344
Gly Ile Gly Cys Met Ile Glu Ile Pro Ser Ala Ala Leu Thr Val Gly	
435 440 445	

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agt att ttg aaa ctg gtc gat ttc atc tcc gtc ggt acc aac gac ctg 1392
Ser Ile Leu Lys Leu Val Asp Phe Ile Ser Val Gly Thr Asn Asp Leu
    450                455                460

att caa tac atc ttg tcc gtc gat cgc ggc gac gac agc gtc agc cac 1440
Ile Gln Tyr Ile Leu Ser Val Asp Arg Gly Asp Asp Ser Val Ser His
    465                470                475                480

ctc tac cag ccc ggc cat ccc gcc gtg ctg aaa atg ctg caa cac gtc 1488
Leu Tyr Gln Pro Gly His Pro Ala Val Leu Lys Met Leu Gln His Val
                485                490                495

atc cgt acc gcc aac cgc atg gac aaa gac gta tcc gta tgc ggc gag 1536
Ile Arg Thr Ala Asn Arg Met Asp Lys Asp Val Ser Val Cys Gly Glu
                500                505                510

atg gcg ggc gat acc gcg ttt acc cgc gtt tta ttg ggt atg ggg ctg 1584
Met Ala Gly Asp Thr Ala Phe Thr Arg Val Leu Leu Gly Met Gly Leu
    515                520                525

cgc cgt ttt tcc atg aac ccc aac aac atc ctg ccc gtc aaa aac atc 1632
Arg Arg Phe Ser Met Asn Pro Asn Asn Ile Leu Pro Val Lys Asn Ile
    530                535                540

att ctg cac agc aat gtc gga cag ctc gaa agc gat att gtg aaa gtc 1680
Ile Leu His Ser Asn Val Gly Gln Leu Glu Ser Asp Ile Val Lys Val
    545                550                555                560

atc cgc tgc gaa gac gaa gag aag tcg gaa aag ctg atc aaa cag atg 1728
Ile Arg Cys Glu Asp Glu Glu Lys Ser Glu Lys Leu Ile Lys Gln Met
                565                570                575

aac agc gtg tct gtc gag gaa gaa gcc gac ttc aag ggg cgg aaa 1773
Asn Ser Val Ser Val Glu Glu Glu Ala Asp Phe Lys Gly Arg Lys
                580                585                590

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<210> 78

<211> 591

<212> PRT

<213> 脑膜炎奈瑟氏球菌(*Neisseria meningitidis*)

<400> 78

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Met Ser Ile Val Leu His Gly Val Ala Ala Gly Lys Gly Ile Ala Val
    1                5                10                15

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Gly Cys Ala His Leu Ile Ala Arg Gly Thr Glu Glu Val Pro Gln Tyr

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20	25	30
Asp Val Ala Glu Ala Asp Thr Asp Ala Glu Ala Glu Arg Phe Asp Ala		
35	40	45
Ala Val Lys Ala Thr Arg Lys Glu Leu Glu Gln Leu Arg Ser Ala Ile		
50	55	60
Pro Glu Asn Ala Pro Thr Glu Leu Gly Ala Phe Ile Ser Leu His Leu		
65	70	75
Met Leu Leu Thr Asp Val Thr Leu Ser Arg Glu Pro Val Asp Ile Leu		
85	90	95
Arg Glu Gln Lys Ile Asn Ala Glu Trp Ala Leu Lys Gln Gln Ser Asp		
100	105	110
Lys Leu Ala Ala Gln Phe Asp Asn Met Asp Asp Ala Tyr Leu Arg Glu		
115	120	125
Arg Lys Gln Asp Met Leu Gln Val Val Arg Arg Ile His Asn Asn Leu		
130	135	140
Ile Gly Gln Gly Asn Glu Leu Glu Val Ala Asp Asn Leu Phe Asp Glu		
145	150	155
Thr Val Leu Ile Ala Asn Asp Leu Ser Pro Ala Asp Thr Val Leu Phe		
165	170	175
Lys Glu Gln Arg Ile Ala Ala Phe Val Thr Asp Ala Gly Gly Pro Thr		
180	185	190
Gly His Thr Ala Ile Leu Gly Arg Ser Leu Asp Ile Pro Ser Val Val		
195	200	205
Gly Leu His Asn Ala Arg Lys Leu Ile Thr Glu Gly Glu Thr Val Ile		
210	215	220
Val Asp Gly Ile Asn Gly Val Leu Ile Ile Ala Pro Asp Glu Ser Val		
225	230	235
Leu Asn Glu Tyr Arg Arg Arg Ala Arg Glu Tyr Arg Ser His Lys Arg		
245	250	255
Asp Leu Asn Lys Leu Lys Lys Thr Ala Ala Ala Thr Ala Asp Gly Val		
260	265	270
Cys Ile Glu Leu Val Gly Asn Ile Glu Ser Ala Glu Asp Val Lys Pro		

275	280	285
Leu His Asn Leu Gly Ala Asp Gly Ile Gly Leu Phe Arg Ser Glu Phe		
290	295	300
Leu Tyr Leu Asn Arg Asp Thr Met Pro Ser Glu Asp Glu Gln Tyr Glu		
305	310	315 320
Val Tyr Ser Ala Ile Val Lys Lys Met Lys Gly Lys Ser Val Thr Ile		
	325	330 335
Arg Thr Val Asp Leu Gly Val Asp Lys Asn Pro Arg Trp Phe Gly Lys		
	340	345 350
Asn Ser Thr Pro Asn Gly Ser Leu Asn Pro Ala Leu Gly Met Thr Gly		
	355	360 365
Ile Arg Leu Cys Leu Ala Glu Pro Val Met Phe Arg Thr Gln Met Arg		
	370	375 380
Ala Ile Leu Arg Ala Ala Ala His Gly Pro Val Arg Met Met Trp Pro		
385	390	395 400
Met Ile Thr Ser Val Ser Glu Val Arg Gln Cys Leu Ile His Leu Asp		
	405	410 415
Thr Ala Gln Arg Gln Leu Ala Glu Arg Gly Asp Ala Phe Gly Lys Val		
	420	425 430
Gly Ile Gly Cys Met Ile Glu Ile Pro Ser Ala Ala Leu Thr Val Gly		
	435	440 445
Ser Ile Leu Lys Leu Val Asp Phe Ile Ser Val Gly Thr Asn Asp Leu		
	450	455 460
Ile Gln Tyr Ile Leu Ser Val Asp Arg Gly Asp Asp Ser Val Ser His		
465	470	475 480
Leu Tyr Gln Pro Gly His Pro Ala Val Leu Lys Met Leu Gln His Val		
	485	490 495
Ile Arg Thr Ala Asn Arg Met Asp Lys Asp Val Ser Val Cys Gly Glu		
	500	505 510
Met Ala Gly Asp Thr Ala Phe Thr Arg Val Leu Leu Gly Met Gly Leu		
	515	520 525
Arg Arg Phe Ser Met Asn Pro Asn Asn Ile Leu Pro Val Lys Asn Ile		

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      530              535              540
Ile Leu His Ser Asn Val Gly Gln Leu Glu Ser Asp Ile Val Lys Val
545              550              555              560

Ile Arg Cys Glu Asp Glu Glu Lys Ser Glu Lys Leu Ile Lys Gln Met
      565              570              575

Asn Ser Val Ser Val Glu Glu Glu Ala Asp Phe Lys Gly Arg Lys
      580              585              590

```

<210> 79

<211> 1062

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1062)

<400> 79

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atg gaa aaa gaa ttc agg ata tta aat atc gta tcg gcc aag att tgg      48
Met Glu Lys Glu Phe Arg Ile Leu Asn Ile Val Ser Ala Lys Ile Trp
   1              5              10              15

ggg gga ggc gaa caa tat gtc tat gat gtt tca aaa gca ttg ggg ctt      96
Gly Gly Gly Glu Gln Tyr Val Tyr Asp Val Ser Lys Ala Leu Gly Leu
      20              25              30

cgg gac tgc aca atg ttt acc gcc gtc aat aaa aat aat gaa ttg atg      144
Arg Asp Cys Thr Met Phe Thr Ala Val Asn Lys Asn Asn Glu Leu Met
      35              40              45

cac agg cga ttt tcc gaa gtt tct tcc gtt ttc acg aca cgc ctt cac      192
His Arg Arg Phe Ser Glu Val Ser Ser Val Phe Thr Thr Arg Leu His
      50              55              60

acg ctc aac ggg ctg ttt tcg ctc tac gca ctt acc cgc ttt atc cgg      240
Thr Leu Asn Gly Leu Phe Ser Leu Tyr Ala Leu Thr Arg Phe Ile Arg
      65              70              75              80

aaa aac cgc att tcc cac ctg atg ata cac acc ggc aaa att gcc gcc      288
Lys Asn Arg Ile Ser His Leu Met Ile His Thr Gly Lys Ile Ala Ala
      85              90              95

tta tcc ata ctt ttg aaa aaa ctg acc ggg gtg cgc ctg ata ttt gtc      336

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Leu Ser Ile Leu Leu Lys Lys Leu Thr Gly Val Arg Leu Ile Phe Val
      100                      105                      110

aaa cat aat gtt gtc gcc aac aaa act gat ttt tat cac cgc ctg ata 384
Lys His Asn Val Val Ala Asn Lys Thr Asp Phe Tyr His Arg Leu Ile
      115                      120                      125

cag aaa aac acc gac cgc ttt att tgc gtt tcc cgt ctg gtt tac gat 432
Gln Lys Asn Thr Asp Arg Phe Ile Cys Val Ser Arg Leu Val Tyr Asp
      130                      135                      140

gtg caa acc gcc gac aat ccc ttt aaa gaa aaa tac cgg att gtt cat 480
Val Gln Thr Ala Asp Asn Pro Phe Lys Glu Lys Tyr Arg Ile Val His
      145                      150                      155                      160

aac ggt atc gat acc ggc cgt ttc cct ccc cct caa gaa aaa ccc gac 528
Asn Gly Ile Asp Thr Gly Arg Phe Pro Pro Pro Gln Glu Lys Pro Asp
      165                      170                      175

agc cgt ttt ttt acc gtc gcc tac gcc ggc agg atc agt ccg gaa aaa 576
Ser Arg Phe Phe Thr Val Ala Tyr Ala Gly Arg Ile Ser Pro Glu Lys
      180                      185                      190

gga ttg gaa aac ctg att gaa gcc tgt gtg ata ctg cat cgg aaa tat 624
Gly Leu Glu Asn Leu Ile Glu Ala Cys Val Ile Leu His Arg Lys Tyr
      195                      200                      205

cct caa atc agg ctc aaa ttg gca ggg gac gga cat ccg gat tat atg 672
Pro Gln Ile Arg Leu Lys Leu Ala Gly Asp Gly His Pro Asp Tyr Met
      210                      215                      220

tgt cgc ctg aag cgg gac gta tct gct tcg gga gca gaa cca ttt gtt 720
Cys Arg Leu Lys Arg Asp Val Ser Ala Ser Gly Ala Glu Pro Phe Val
      225                      230                      235                      240

tct ttt gaa ggg ttt acc gaa aaa ctt gct tcg ttt tac cgc caa agc 768
Ser Phe Glu Gly Phe Thr Glu Lys Leu Ala Ser Phe Tyr Arg Gln Ser
      245                      250                      255

gat gtc gtg gtt ttg ccc agc ctc gtc ccg gag gca ttc ggt ttg tca 816
Asp Val Val Val Leu Pro Ser Leu Val Pro Glu Ala Phe Gly Leu Ser
      260                      265                      270

tta tgc gag gcg atg tac tgc cga acg gcg gtg att tcc aat act ttg 864
Leu Cys Glu Ala Met Tyr Cys Arg Thr Ala Val Ile Ser Asn Thr Leu
      275                      280                      285

ggc gcg caa aag gaa att atc gaa cat cat caa tcg ggg att ctg ctg 912

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Gly Ala Gln Lys Glu Ile Ile Glu His His Gln Ser Gly Ile Leu Leu
 290                      295                      300

gat agg ctg aca cct gaa tct ttg gcg gac gaa atc gaa cgc ctc gtc   960
Asp Arg Leu Thr Pro Glu Ser Leu Ala Asp Glu Ile Glu Arg Leu Val
305                      310                      315                      320

tta aac cct gaa acg aaa aac gca ctg gca acg gca gga cat caa tgc   1008
Leu Asn Pro Glu Thr Lys Asn Ala Leu Ala Thr Ala Gly His Gln Cys
                      325                      330                      335

gtc gcc aac cgt ttt acc atc aac cat acc gcc gac aaa tta ttg gat   1056
Val Ala Asn Arg Phe Thr Ile Asn His Thr Ala Asp Lys Leu Leu Asp
                      340                      345                      350

gca ata
Ala Ile
                                           1062

<210> 80
<211> 354
<212> PRT
<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 80
Met Glu Lys Glu Phe Arg Ile Leu Asn Ile Val Ser Ala Lys Ile Trp
 1                      5                      10                      15

Gly Gly Gly Glu Gln Tyr Val Tyr Asp Val Ser Lys Ala Leu Gly Leu
 20                      25                      30

Arg Asp Cys Thr Met Phe Thr Ala Val Asn Lys Asn Asn Glu Leu Met
 35                      40                      45

His Arg Arg Phe Ser Glu Val Ser Ser Val Phe Thr Thr Arg Leu His
 50                      55                      60

Thr Leu Asn Gly Leu Phe Ser Leu Tyr Ala Leu Thr Arg Phe Ile Arg
 65                      70                      75                      80

Lys Asn Arg Ile Ser His Leu Met Ile His Thr Gly Lys Ile Ala Ala
 85                      90                      95

Leu Ser Ile Leu Leu Lys Lys Leu Thr Gly Val Arg Leu Ile Phe Val
100                      105                      110

Lys His Asn Val Val Ala Asn Lys Thr Asp Phe Tyr His Arg Leu Ile
115                      120                      125

```

Gln Lys Asn Thr Asp Arg Phe Ile Cys Val Ser Arg Leu Val Tyr Asp
 130 135 140
 Val Gln Thr Ala Asp Asn Pro Phe Lys Glu Lys Tyr Arg Ile Val His
 145 150 155 160
 Asn Gly Ile Asp Thr Gly Arg Phe Pro Pro Pro Gln Glu Lys Pro Asp
 165 170 175
 Ser Arg Phe Phe Thr Val Ala Tyr Ala Gly Arg Ile Ser Pro Glu Lys
 180 185 190
 Gly Leu Glu Asn Leu Ile Glu Ala Cys Val Ile Leu His Arg Lys Tyr
 195 200 205
 Pro Gln Ile Arg Leu Lys Leu Ala Gly Asp Gly His Pro Asp Tyr Met
 210 215 220
 Cys Arg Leu Lys Arg Asp Val Ser Ala Ser Gly Ala Glu Pro Phe Val
 225 230 235 240
 Ser Phe Glu Gly Phe Thr Glu Lys Leu Ala Ser Phe Tyr Arg Gln Ser
 245 250 255
 Asp Val Val Val Leu Pro Ser Leu Val Pro Glu Ala Phe Gly Leu Ser
 260 265 270
 Leu Cys Glu Ala Met Tyr Cys Arg Thr Ala Val Ile Ser Asn Thr Leu
 275 280 285
 Gly Ala Gln Lys Glu Ile Ile Glu His His Gln Ser Gly Ile Leu Leu
 290 295 300
 Asp Arg Leu Thr Pro Glu Ser Leu Ala Asp Glu Ile Glu Arg Leu Val
 305 310 315 320
 Leu Asn Pro Glu Thr Lys Asn Ala Leu Ala Thr Ala Gly His Gln Cys
 325 330 335
 Val Ala Asn Arg Phe Thr Ile Asn His Thr Ala Asp Lys Leu Leu Asp
 340 345 350
 Ala Ile

<210> 81

<211> 795

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<220>

<221> CDS

<222> (1)..(795)

<400> 81

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atg gcg gct gtt ttt tct gta tgt gcc tgt ttt atg tgt tcc tgc ctt 48
Met Ala Ala Val Phe Ser Val Cys Ala Cys Phe Met Cys Ser Cys Leu
  1             5             10             15

gtt gtc aaa aat acc gtt atc gga agc gga cgc acc aaa atc gcc gtg 96
Val Val Lys Asn Thr Val Ile Gly Ser Gly Arg Thr Lys Ile Ala Val
      20             25             30

ccg ctt gtc gcc cgc gat gcc gcc gta ctt tcc gcc gta ctt gac caa 144
Pro Leu Val Ala Arg Asp Ala Ala Val Leu Ser Ala Val Leu Asp Gln
      35             40             45

atc aaa aac ctg ccc ttc gat atc gtc gag ttc cgc gcc gat ttt ttg 192
Ile Lys Asn Leu Pro Phe Asp Ile Val Glu Phe Arg Ala Asp Phe Leu
      50             55             60

gaa tgc gcg ggc agc atc ggc gaa gta ttg cgc cac acg cag acc gtc 240
Glu Cys Ala Gly Ser Ile Gly Glu Val Leu Arg His Thr Gln Thr Val
      65             70             75             80

cgc gac gcg cta ccc gac aag ccg ctg ctg ttt acg ttc aga cgg cat 288
Arg Asp Ala Leu Pro Asp Lys Pro Leu Leu Phe Thr Phe Arg Arg His
      85             90             95

ggc gaa ggc ggc tcg ttc ccg tgt tcg gac gat tat tat ttt gaa ctg 336
Gly Glu Gly Gly Ser Phe Pro Cys Ser Asp Asp Tyr Tyr Phe Glu Leu
      100            105            110

ctc gac gcg ctg atc gaa agc cgc ctg ccc gac atc atc gac atc gag 384
Leu Asp Ala Leu Ile Glu Ser Arg Leu Pro Asp Ile Ile Asp Ile Glu
      115            120            125

ctg ttt tcc ggc gaa acc gcc gtc cgg tgc gcc gtg gca aat gct caa 432
Leu Phe Ser Gly Glu Thr Ala Val Arg Cys Ala Val Ala Asn Ala Gln
      130            135            140

aaa aac ggc atc gcc gcc ctg ctc tgc aat cat gag ttt cac cgc acg 480
Lys Asn Gly Ile Ala Ala Leu Leu Cys Asn His Glu Phe His Arg Thr

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145              150              155              160
ccg ccg caa gaa gaa atc gta tgc cgt ctg aaa cag atg gag gac tgc 528
Pro Pro Gln Glu Glu Ile Val Cys Arg Leu Lys Gln Met Glu Asp Cys
              165              170              175

ggc gcg gac atc tgc aaa att gcg gtg atg ccg caa agc gcg gaa gat 576
Gly Ala Asp Ile Cys Lys Ile Ala Val Met Pro Gln Ser Ala Glu Asp
              180              185              190

gtg ctg act ttg ctt tcc gcc acg ctc aaa gcg aaa gag ctt gcc gcc 624
Val Leu Thr Leu Leu Ser Ala Thr Leu Lys Ala Lys Glu Leu Ala Ala
              195              200              205

aaa ccg att gtt acg atg tgc atg ggg cag acg ggg gcg gtc agc cgg 672
Lys Pro Ile Val Thr Met Ser Met Gly Gln Thr Gly Ala Val Ser Arg
              210              215              220

ctt gcc gga cag gtg ttc gcc tca agc atc acg ttc ggt tgc gga acg 720
Leu Ala Gly Gln Val Phe Gly Ser Ser Ile Thr Phe Gly Ser Gly Thr
225              230              235              240

caa aac tcc gcg ccg ggg caa atc ggc gta tcc gcc ctc cgt gcg aca 768
Gln Asn Ser Ala Pro Gly Gln Ile Gly Val Ser Ala Leu Arg Ala Thr
              245              250              255

ctc gac tgc ctc gaa aac gga gca gac 795
Leu Asp Cys Leu Glu Asn Gly Ala Asp
              260              265

<210> 82
<211> 265
<212> PRT
<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 82
Met Ala Ala Val Phe Ser Val Cys Ala Cys Phe Met Cys Ser Cys Leu
  1              5              10              15

Val Val Lys Asn Thr Val Ile Gly Ser Gly Arg Thr Lys Ile Ala Val
              20              25              30

Pro Leu Val Ala Arg Asp Ala Ala Val Leu Ser Ala Val Leu Asp Gln
              35              40              45

Ile Lys Asn Leu Pro Phe Asp Ile Val Glu Phe Arg Ala Asp Phe Leu
  50              55              60

```

Glu Cys Ala Gly Ser Ile Gly Glu Val Leu Arg His Thr Gln Thr Val
65 70 75 80

Arg Asp Ala Leu Pro Asp Lys Pro Leu Leu Phe Thr Phe Arg Arg His
85 90 95

Gly Glu Gly Gly Ser Phe Pro Cys Ser Asp Asp Tyr Tyr Phe Glu Leu
100 105 110

Leu Asp Ala Leu Ile Glu Ser Arg Leu Pro Asp Ile Ile Asp Ile Glu
115 120 125

Leu Phe Ser Gly Glu Thr Ala Val Arg Cys Ala Val Ala Asn Ala Gln
130 135 140

Lys Asn Gly Ile Ala Ala Leu Leu Cys Asn His Glu Phe His Arg Thr
145 150 155 160

Pro Pro Gln Glu Glu Ile Val Cys Arg Leu Lys Gln Met Glu Asp Cys
165 170 175

Gly Ala Asp Ile Cys Lys Ile Ala Val Met Pro Gln Ser Ala Glu Asp
180 185 190

Val Leu Thr Leu Leu Ser Ala Thr Leu Lys Ala Lys Glu Leu Ala Ala
195 200 205

Lys Pro Ile Val Thr Met Ser Met Gly Gln Thr Gly Ala Val Ser Arg
210 215 220

Leu Ala Gly Gln Val Phe Gly Ser Ser Ile Thr Phe Gly Ser Gly Thr
225 230 235 240

Gln Asn Ser Ala Pro Gly Gln Ile Gly Val Ser Ala Leu Arg Ala Thr
245 250 255

Leu Asp Cys Leu Glu Asn Gly Ala Asp
260 265

<210> 83

<211> 876

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<220>

<221> CDS

<222> (1)..(876)

<400> 83

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ttg acc gtc cga acg aaa aag acg gcg cat tat acc cta ttc cat tcc 48
Leu Thr Val Arg Thr Lys Lys Thr Ala His Tyr Thr Leu Phe His Ser
  1             5             10             15

gac cga aaa ccg aac atg act act ctc aaa ccc gcc ctg ccc gct tat 96
Asp Arg Lys Pro Asn Met Thr Thr Leu Lys Pro Ala Leu Pro Ala Tyr
          20             25             30

ctg gac aac atc cgc atc atc ctc acg cgc acc agc cat ccc gcc aac 144
Leu Asp Asn Ile Arg Ile Ile Leu Thr Arg Thr Ser His Pro Ala Asn
          35             40             45

atc ggc tct gcc gcg cgc gcg atg aaa aca atg ggt ctg cac aaa ctg 192
Ile Gly Ser Ala Ala Arg Ala Met Lys Thr Met Gly Leu His Lys Leu
          50             55             60

acc atc gtc gcc cca aat ctg atg gca acg ccg atg acg gaa aac ccg 240
Thr Ile Val Ala Pro Asn Leu Met Ala Thr Pro Met Thr Glu Asn Pro
          65             70             75             80

ccc gtg ttt gac ccg gag cat cct caa tcg ttt aaa tta ccg gaa gaa 288
Pro Val Phe Asp Pro Glu His Pro Gln Ser Phe Lys Leu Pro Glu Glu
          85             90             95

agc ttc atc ctc gct tcc ggc gcg gca gac gtt ttg gaa aat gcc acc 336
Ser Phe Ile Leu Ala Ser Gly Ala Ala Asp Val Leu Glu Asn Ala Thr
          100             105             110

att gcc gct tct ttg gac gaa gcc ctt gcc gac acc acc atc gcc tgc 384
Ile Ala Ala Ser Leu Asp Glu Ala Leu Ala Asp Thr Thr Ile Ala Cys
          115             120             125

gcc ctg acc agc cgc cgc cgc gaa att act gcg ccg ctg caa acc ccg 432
Ala Leu Thr Ser Arg Arg Arg Glu Ile Thr Ala Pro Leu Gln Thr Pro
          130             135             140

cgc gat ttg gta tcc gaa tta ctg cag acc gca aac cga ggc gag aaa 480
Arg Asp Leu Val Ser Glu Leu Leu Gln Thr Ala Asn Arg Gly Glu Lys
          145             150             155             160

gtg gca ctg gtt ttc ggc aac gag act ttc ggc ttg agc atc gaa gaa 528
Val Ala Leu Val Phe Gly Asn Glu Thr Phe Gly Leu Ser Ile Glu Glu
          165             170             175

```

gtc caa gcc tgc aac cga ctg atg acc atc aac ggc aat ccc gac tat 576
Val Gln Ala Cys Asn Arg Leu Met Thr Ile Asn Gly Asn Pro Asp Tyr
180 185 190

ttc tcg ctc aac ctc gcc caa gcc gtg cag gtc gtg tgc tac gaa atc 624
Phe Ser Leu Asn Leu Ala Gln Ala Val Gln Val Val Cys Tyr Glu Ile
195 200 205

ttc agc caa acc ggt tcg ccc atg acc cat ctt caa caa gaa gac cac 672
Phe Ser Gln Thr Gly Ser Pro Met Thr His Leu Gln Gln Glu Asp His
210 215 220

gct gcg acc cac gag caa atc aaa ggc atg gtc gcc cac atg gaa agc 720
Ala Ala Thr His Glu Gln Ile Lys Gly Met Val Ala His Met Glu Ser
225 230 235 240

gtg atg aac gac atc ggc ttt ttc aac cgc cgc aac ggc gag cgt ctg 768
Val Met Asn Asp Ile Gly Phe Phe Asn Arg Arg Asn Gly Glu Arg Leu
245 250 255

atg cgc cgt atg cag agc ctg ttc gga cgc gcc aac acg caa acc gaa 816
Met Arg Arg Met Gln Ser Leu Phe Gly Arg Ala Asn Thr Gln Thr Glu
260 265 270

gac atc gat atc ctg cgc ggt ttt ttc aat acc gtc agc cat cgt atc 864
Asp Ile Asp Ile Leu Arg Gly Phe Phe Asn Thr Val Ser His Arg Ile
275 280 285

cat aaa aaa gac 876
His Lys Lys Asp
290

<210> 84

<211> 292

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 84

Leu Thr Val Arg Thr Lys Lys Thr Ala His Tyr Thr Leu Phe His Ser
1 5 10 15

Asp Arg Lys Pro Asn Met Thr Thr Leu Lys Pro Ala Leu Pro Ala Tyr
20 25 30

Leu Asp Asn Ile Arg Ile Ile Leu Thr Arg Thr Ser His Pro Ala Asn
35 40 45

```

Ile Gly Ser Ala Ala Arg Ala Met Lys Thr Met Gly Leu His Lys Leu
  50                      55                      60

Thr Ile Val Ala Pro Asn Leu Met Ala Thr Pro Met Thr Glu Asn Pro
  65                      70                      75                      80

Pro Val Phe Asp Pro Glu His Pro Gln Ser Phe Lys Leu Pro Glu Glu
                      85                      90                      95

Ser Phe Ile Leu Ala Ser Gly Ala Ala Asp Val Leu Glu Asn Ala Thr
      100                      105                      110

Ile Ala Ala Ser Leu Asp Glu Ala Leu Ala Asp Thr Thr Ile Ala Cys
      115                      120                      125

Ala Leu Thr Ser Arg Arg Arg Glu Ile Thr Ala Pro Leu Gln Thr Pro
      130                      135                      140

Arg Asp Leu Val Ser Glu Leu Leu Gln Thr Ala Asn Arg Gly Glu Lys
      145                      150                      155                      160

Val Ala Leu Val Phe Gly Asn Glu Thr Phe Gly Leu Ser Ile Glu Glu
                      165                      170                      175

Val Gln Ala Cys Asn Arg Leu Met Thr Ile Asn Gly Asn Pro Asp Tyr
                      180                      185                      190

Phe Ser Leu Asn Leu Ala Gln Ala Val Gln Val Val Cys Tyr Glu Ile
      195                      200                      205

Phe Ser Gln Thr Gly Ser Pro Met Thr His Leu Gln Gln Glu Asp His
      210                      215                      220

Ala Ala Thr His Glu Gln Ile Lys Gly Met Val Ala His Met Glu Ser
      225                      230                      235                      240

Val Met Asn Asp Ile Gly Phe Phe Asn Arg Arg Asn Gly Glu Arg Leu
                      245                      250                      255

Met Arg Arg Met Gln Ser Leu Phe Gly Arg Ala Asn Thr Gln Thr Glu
                      260                      265                      270

Asp Ile Asp Ile Leu Arg Gly Phe Phe Asn Thr Val Ser His Arg Ile
      275                      280                      285

His Lys Lys Asp
      290

```

<210> 85

<211> 1545

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1545)

<400> 85

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gtg cgt ctc aat cat ttc ata atg ata gcg att att ata tat gtg att   48
Val Arg Leu Asn His Phe Ile Met Ile Ala Ile Ile Ile Tyr Val Ile
   1             5             10             15

tcc cct gca aac aag ccg gcc cgc cgc cac agc gtt ccc act tat ccg   96
Ser Pro Ala Asn Lys Pro Ala Arg Arg His Ser Val Pro Thr Tyr Pro
           20             25             30

gct ttg cct tat aat tgc ttt ttt tat gta aca gat tta cct atg aat   144
Ala Leu Pro Tyr Asn Cys Phe Phe Tyr Val Thr Asp Leu Pro Met Asn
       35             40             45

ttc ccc aaa aca gcg gcc tcc ctg ctg ctg ctt ctc gcc tcc ctc gcc   192
Phe Pro Lys Thr Ala Ala Ser Leu Leu Leu Leu Ala Ser Leu Ala
       50             55             60

gca cac gcg ctc gat aca ggt cgc att ccg caa aac gaa atc gcc gta   240
Ala His Ala Leu Asp Thr Gly Arg Ile Pro Gln Asn Glu Ile Ala Val
       65             70             75             80

tat gtc caa gag ctt gac agc gga aaa gtc atc att gac cac cgc tcg   288
Tyr Val Gln Glu Leu Asp Ser Gly Lys Val Ile Ile Asp His Arg Ser
           85             90             95

gat gtc ccc gtc aac ccc gcc tcc aca atg aaa ctc gtt acc gcg ttt   336
Asp Val Pro Val Asn Pro Ala Ser Thr Met Lys Leu Val Thr Ala Phe
       100             105             110

gcc gcc ttc aaa acc ttc ggc agc aat tac cgc tgg gcg acc gag ttt   384
Ala Ala Phe Lys Thr Phe Gly Ser Asn Tyr Arg Trp Ala Thr Glu Phe
       115             120             125

aaa agc aac ggt acg gta aac gac ggc acg ctt gac gga aac ctg tat   432
Lys Ser Asn Gly Thr Val Asn Asp Gly Thr Leu Asp Gly Asn Leu Tyr
       130             135             140

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tgg	gcg	ggc	agc	ggc	gac	ccc	gtt	ttc	aat	cag	gaa	aac	ctg	ctt	gcc	480
Trp	Ala	Gly	Ser	Gly	Asp	Pro	Val	Phe	Asn	Gln	Glu	Asn	Leu	Leu	Ala	
145					150					155					160	
gtc	caa	cgc	cag	ttg	cgc	gaa	caa	ggc	ata	cgc	aat	atc	acg	gga	cac	528
Val	Gln	Arg	Gln	Leu	Arg	Glu	Gln	Gly	Ile	Arg	Asn	Ile	Thr	Gly	His	
				165					170					175		
ctg	atg	ctc	gac	cac	agc	ctg	tgg	ggc	gaa	gtc	ggc	agc	ccc	gac	gat	576
Leu	Met	Leu	Asp	His	Ser	Leu	Trp	Gly	Glu	Val	Gly	Ser	Pro	Asp	Asp	
			180					185					190			
ttc	gaa	gcc	gac	agc	ggc	tcg	ccg	ttt	atg	acg	ccc	ccc	aat	cca	act	624
Phe	Glu	Ala	Asp	Ser	Gly	Ser	Pro	Phe	Met	Thr	Pro	Pro	Asn	Pro	Thr	
	195						200					205				
atg	ctg	tct	gcc	ggc	atg	gtt	atg	gtg	cgc	gcc	gaa	cgc	aat	gcc	gcc	672
Met	Leu	Ser	Ala	Gly	Met	Val	Met	Val	Arg	Ala	Glu	Arg	Asn	Ala	Ala	
	210					215					220					
gac	agt	acc	gac	atc	ctc	acc	gat	ccg	cct	ttg	ccg	cat	att	ttc	gcc	720
Asp	Ser	Thr	Asp	Ile	Leu	Thr	Asp	Pro	Pro	Leu	Pro	His	Ile	Phe	Ala	
225					230					235					240	
caa	aac	aac	ttg	aaa	att	acc	gcc	tcc	caa	gct	gcc	tgc	cct	tcg	atc	768
Gln	Asn	Asn	Leu	Lys	Ile	Thr	Ala	Ser	Gln	Ala	Ala	Cys	Pro	Ser	Ile	
				245					250					255		
aaa	aaa	ctg	atg	cgt	gca	tct	ttt	tcg	gac	aat	acg	ctg	aaa	ttg	cgc	816
Lys	Lys	Leu	Met	Arg	Ala	Ser	Phe	Ser	Asp	Asn	Thr	Leu	Lys	Leu	Arg	
			260					265					270			
ggc	aat	att	ccc	gag	agc	tgt	ttg	ggc	aag	cct	gtc	ggc	gtc	cgg	atg	864
Gly	Asn	Ile	Pro	Glu	Ser	Cys	Leu	Gly	Lys	Pro	Val	Gly	Val	Arg	Met	
	275						280					285				
ttc	gcg	ctt	gac	gaa	ctg	atc	cgg	caa	agt	ttt	acc	aac	cac	tgg	ctg	912
Phe	Ala	Leu	Asp	Glu	Leu	Ile	Arg	Gln	Ser	Phe	Thr	Asn	His	Trp	Leu	
	290					295					300					
ctc	ggc	ggc	gga	cgg	att	tca	gac	ggc	atc	ggc	ata	tcc	gac	acg	ccg	960
Leu	Gly	Gly	Gly	Arg	Ile	Ser	Asp	Gly	Ile	Gly	Ile	Ser	Asp	Thr	Pro	
305					310					315					320	
gaa	ggc	gcg	cag	acg	ctt	gcc	gtt	gca	cac	tca	aag	ccg	atg	aag	gaa	1008
Glu	Gly	Ala	Gln	Thr	Leu	Ala	Val	Ala	His	Ser	Lys	Pro	Met	Lys	Glu	
				325					330					335		

att ttg acg gac atg aac aag cgt tgc gac aat cta att gcg cgt tcc	1056
Ile Leu Thr Asp Met Asn Lys Arg Ser Asp Asn Leu Ile Ala Arg Ser	
340 345 350	
gtc ttc ctc aaa ctc ggc ggc gac ggc aaa ctg ccc gcc gtt tcc gaa	1104
Val Phe Leu Lys Leu Gly Gly Asp Gly Lys Leu Pro Ala Val Ser Glu	
355 360 365	
cag gca gcg tct gcc gtc cgg cgt gaa ctt gcc gtg tgc ggc atc gat	1152
Gln Ala Ala Ser Ala Val Arg Arg Glu Leu Ala Val Ser Gly Ile Asp	
370 375 380	
gtt gcg gat ttg gtt ttg gaa aac ggt tca ggt ctg tcc aga aaa gaa	1200
Val Ala Asp Leu Val Leu Glu Asn Gly Ser Gly Leu Ser Arg Lys Glu	
385 390 395 400	
agg gta acg gcg aga atg atg gcg caa atg ttg gaa acg gct tat ttc	1248
Arg Val Thr Ala Arg Met Met Ala Gln Met Leu Glu Thr Ala Tyr Phe	
405 410 415	
agc ccg ttt gca caa gat ttc atc gat acg ctg ccc atc gcc ggc aca	1296
Ser Pro Phe Ala Gln Asp Phe Ile Asp Thr Leu Pro Ile Ala Gly Thr	
420 425 430	
gac ggg act tta cgc aac cgc ttc aaa caa agc ggc ggg ctg ttg cgc	1344
Asp Gly Thr Leu Arg Asn Arg Phe Lys Gln Ser Gly Gly Leu Leu Arg	
435 440 445	
tta aaa acc ggc acg ctc aac aat gtc cgc gcc ctt gca ggt tat tgg	1392
Leu Lys Thr Gly Thr Leu Asn Asn Val Arg Ala Leu Ala Gly Tyr Trp	
450 455 460	
ctg ggc gac aaa ccg atg gcg gtg gtc gtc atc atc aac agc ggc cgc	1440
Leu Gly Asp Lys Pro Met Ala Val Val Val Ile Ile Asn Ser Gly Arg	
465 470 475 480	
gcc gtt tcc ctg ctg ccc gac ttg gac aac ttc gtt gcc aac aac atc	1488
Ala Val Ser Leu Leu Pro Asp Leu Asp Asn Phe Val Ala Asn Asn Ile	
485 490 495	
atc tcc ggc ggc gat ggc tgg ctg gat gcg aaa ctg atg tgc aaa gaa	1536
Ile Ser Gly Gly Asp Gly Trp Leu Asp Ala Lys Leu Met Cys Lys Glu	
500 505 510	
cgc cga gcc	1545
Arg Arg Ala	
515	

<210> 86

<211> 515

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<400> 86

Val Arg Leu Asn His Phe Ile Met Ile Ala Ile Ile Ile Tyr Val Ile
1 5 10 15

Ser Pro Ala Asn Lys Pro Ala Arg Arg His Ser Val Pro Thr Tyr Pro
20 25 30

Ala Leu Pro Tyr Asn Cys Phe Phe Tyr Val Thr Asp Leu Pro Met Asn
35 40 45

Phe Pro Lys Thr Ala Ala Ser Leu Leu Leu Leu Ala Ser Leu Ala
50 55 60

Ala His Ala Leu Asp Thr Gly Arg Ile Pro Gln Asn Glu Ile Ala Val
65 70 75 80

Tyr Val Gln Glu Leu Asp Ser Gly Lys Val Ile Ile Asp His Arg Ser
85 90 95

Asp Val Pro Val Asn Pro Ala Ser Thr Met Lys Leu Val Thr Ala Phe
100 105 110

Ala Ala Phe Lys Thr Phe Gly Ser Asn Tyr Arg Trp Ala Thr Glu Phe
115 120 125

Lys Ser Asn Gly Thr Val Asn Asp Gly Thr Leu Asp Gly Asn Leu Tyr
130 135 140

Trp Ala Gly Ser Gly Asp Pro Val Phe Asn Gln Glu Asn Leu Leu Ala
145 150 155 160

Val Gln Arg Gln Leu Arg Glu Gln Gly Ile Arg Asn Ile Thr Gly His
165 170 175

Leu Met Leu Asp His Ser Leu Trp Gly Glu Val Gly Ser Pro Asp Asp
180 185 190

Phe Glu Ala Asp Ser Gly Ser Pro Phe Met Thr Pro Pro Asn Pro Thr
195 200 205

Met Leu Ser Ala Gly Met Val Met Val Arg Ala Glu Arg Asn Ala Ala
210 215 220

```

Asp Ser Thr Asp Ile Leu Thr Asp Pro Pro Leu Pro His Ile Phe Ala
225                230                235                240

Gln Asn Asn Leu Lys Ile Thr Ala Ser Gln Ala Ala Cys Pro Ser Ile
                245                250                255

Lys Lys Leu Met Arg Ala Ser Phe Ser Asp Asn Thr Leu Lys Leu Arg
                260                265                270

Gly Asn Ile Pro Glu Ser Cys Leu Gly Lys Pro Val Gly Val Arg Met
                275                280                285

Phe Ala Leu Asp Glu Leu Ile Arg Gln Ser Phe Thr Asn His Trp Leu
                290                295                300

Leu Gly Gly Gly Arg Ile Ser Asp Gly Ile Gly Ile Ser Asp Thr Pro
305                310                315                320

Glu Gly Ala Gln Thr Leu Ala Val Ala His Ser Lys Pro Met Lys Glu
                325                330                335

Ile Leu Thr Asp Met Asn Lys Arg Ser Asp Asn Leu Ile Ala Arg Ser
                340                345                350

Val Phe Leu Lys Leu Gly Gly Asp Gly Lys Leu Pro Ala Val Ser Glu
                355                360                365

Gln Ala Ala Ser Ala Val Arg Arg Glu Leu Ala Val Ser Gly Ile Asp
                370                375                380

Val Ala Asp Leu Val Leu Glu Asn Gly Ser Gly Leu Ser Arg Lys Glu
385                390                395                400

Arg Val Thr Ala Arg Met Met Ala Gln Met Leu Glu Thr Ala Tyr Phe
                405                410                415

Ser Pro Phe Ala Gln Asp Phe Ile Asp Thr Leu Pro Ile Ala Gly Thr
                420                425                430

Asp Gly Thr Leu Arg Asn Arg Phe Lys Gln Ser Gly Gly Leu Leu Arg
                435                440                445

Leu Lys Thr Gly Thr Leu Asn Asn Val Arg Ala Leu Ala Gly Tyr Trp
                450                455                460

Leu Gly Asp Lys Pro Met Ala Val Val Val Ile Ile Asn Ser Gly Arg
465                470                475                480

```

Ala Val Ser Leu Leu Pro Asp Leu Asp Asn Phe Val Ala Asn Asn Ile
485 490 495

Ile Ser Gly Gly Asp Gly Trp Leu Asp Ala Lys Leu Met Cys Lys Glu
500 505 510

Arg Arg Ala
515

<210> 87

<211> 840

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(840)

<400> 87

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atg gat aaa gaa cga att tta acc ccc gca gtc gtg ttt tcc gtc gca 48
Met Asp Lys Glu Arg Ile Leu Thr Pro Ala Val Val Phe Ser Val Ala
  1           5           10          15

ctg ctg cat ttg gca atg gtg gca ttg ctc tgg cag gcg cac aag ctg 96
Leu Leu His Leu Ala Met Val Ala Leu Leu Trp Gln Ala His Lys Leu
      20           25           30

ccc gtg ata gag tca ggc aat gtt att gaa ttt gtc gat ttg ggc gat 144
Pro Val Ile Glu Ser Gly Asn Val Ile Glu Phe Val Asp Leu Gly Asp
      35           40           45

ttt ggc gga ggg gac ggc gca ccc gaa ggt gca ggc gcg cct gcc gcg 192
Phe Gly Gly Gly Asp Gly Ala Pro Glu Gly Ala Gly Ala Pro Ala Ala
      50           55           60

ccc gaa ccg caa ccc gtg ccc gag ccg ccc aaa cct gtc gag ccg ccc 240
Pro Glu Pro Gln Pro Val Pro Glu Pro Pro Lys Pro Val Glu Pro Pro
      65           70           75           80

aag ccg gtt ttg aag ccg gtg gtt acg aaa aag gcg gat gcg gat att 288
Lys Pro Val Leu Lys Pro Val Val Thr Lys Lys Ala Asp Ala Asp Ile
      85           90           95

cag cag cct aag gaa gag ccg aaa cct gaa gaa aag ccg aaa ccc gaa 336
Gln Gln Pro Lys Glu Glu Pro Lys Pro Glu Glu Lys Pro Lys Pro Glu

```

100	105	110	
gaa aaa ccg aaa cca gag cct aag ccg gaa gcg aag cct gtc ccg aaa			384
Glu Lys Pro Lys Pro Glu Pro Lys Pro Glu Ala Lys Pro Val Pro Lys			
115	120	125	
ccg gcg gaa aaa ccg gtc gag aag ccg tct gaa aaa cct gcc gaa cat			432
Pro Ala Glu Lys Pro Val Glu Lys Pro Ser Glu Lys Pro Ala Glu His			
130	135	140	
ccc ggc aat gct tct gcc aaa gca gac agc gag cag ggc aat ggg gaa			480
Pro Gly Asn Ala Ser Ala Lys Ala Asp Ser Glu Gln Gly Asn Gly Glu			
145	150	155	160
gat aag gga acc ggt atc aaa gga gac gga acg ggg cgc gga gaa ggc			528
Asp Lys Gly Thr Gly Ile Lys Gly Asp Gly Thr Gly Arg Gly Glu Gly			
165	170	175	
agc ggt aaa ggt agc ggc ggt gtc aaa ggc gaa cac ggg gaa gga gcc			576
Ser Gly Lys Gly Ser Gly Gly Val Lys Gly Glu His Gly Glu Gly Ala			
180	185	190	
ggc agc agc aaa ggc aat cct tta cgc gcc aac ggc agc att ccg cgc			624
Gly Ser Ser Lys Gly Asn Pro Leu Arg Ala Asn Gly Ser Ile Pro Arg			
195	200	205	
ccg gct tat ccc acg ctt tct atg gag aat gat gag cag ggt acg gtt			672
Pro Ala Tyr Pro Thr Leu Ser Met Glu Asn Asp Glu Gln Gly Thr Val			
210	215	220	
gtt ttg agc gtt ttg gtt tct ccg ggc ggt cat gtt gag tcc gtt aaa			720
Val Leu Ser Val Leu Val Ser Pro Gly Gly His Val Glu Ser Val Lys			
225	230	235	240
atc gtg aaa agc agt ggt ttt tcc cgg ttg gac aat gcg gca cgc aag			768
Ile Val Lys Ser Ser Gly Phe Ser Arg Leu Asp Asn Ala Ala Arg Lys			
245	250	255	
gcg gcg caa aac ggg cat ttt caa gcc aat gcc tgg acg gag ttt aaa			816
Ala Ala Gln Asn Gly His Phe Gln Ala Asn Ala Trp Thr Glu Phe Lys			
260	265	270	
gtc ccc gtc aag ttt gaa ttg aat			840
Val Pro Val Lys Phe Glu Leu Asn			
275	280		

<210> 88

<211> 280

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 88

Met Asp Lys Glu Arg Ile Leu Thr Pro Ala Val Val Phe Ser Val Ala
 1 5 10 15

Leu Leu His Leu Ala Met Val Ala Leu Leu Trp Gln Ala His Lys Leu
 20 25 30

Pro Val Ile Glu Ser Gly Asn Val Ile Glu Phe Val Asp Leu Gly Asp
 35 40 45

Phe Gly Gly Gly Asp Gly Ala Pro Glu Gly Ala Gly Ala Pro Ala Ala
 50 55 60

Pro Glu Pro Gln Pro Val Pro Glu Pro Pro Lys Pro Val Glu Pro Pro
 65 70 75 80

Lys Pro Val Leu Lys Pro Val Val Thr Lys Lys Ala Asp Ala Asp Ile
 85 90 95

Gln Gln Pro Lys Glu Glu Pro Lys Pro Glu Glu Lys Pro Lys Pro Glu
 100 105 110

Glu Lys Pro Lys Pro Glu Pro Lys Pro Glu Ala Lys Pro Val Pro Lys
 115 120 125

Pro Ala Glu Lys Pro Val Glu Lys Pro Ser Glu Lys Pro Ala Glu His
 130 135 140

Pro Gly Asn Ala Ser Ala Lys Ala Asp Ser Glu Gln Gly Asn Gly Glu
 145 150 155 160

Asp Lys Gly Thr Gly Ile Lys Gly Asp Gly Thr Gly Arg Gly Glu Gly
 165 170 175

Ser Gly Lys Gly Ser Gly Gly Val Lys Gly Glu His Gly Glu Gly Ala
 180 185 190

Gly Ser Ser Lys Gly Asn Pro Leu Arg Ala Asn Gly Ser Ile Pro Arg
 195 200 205

Pro Ala Tyr Pro Thr Leu Ser Met Glu Asn Asp Glu Gln Gly Thr Val
 210 215 220

Val Leu Ser Val Leu Val Ser Pro Gly Gly His Val Glu Ser Val Lys

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225                230                235                240
Ile Val Lys Ser Ser Gly Phe Ser Arg Leu Asp Asn Ala Ala Arg Lys
                245                250                255
Ala Ala Gln Asn Gly His Phe Gln Ala Asn Ala Trp Thr Glu Phe Lys
                260                265                270
Val Pro Val Lys Phe Glu Leu Asn
                275                280

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<210> 89

<211> 1584

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1584)

<400> 89

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atg gca ctt ttc ctc agc ata ttc ccc atc gtc ctg ctg att tgg ctg 48
Met Ala Leu Phe Leu Ser Ile Phe Pro Ile Val Leu Leu Ile Trp Leu
  1             5             10            15

atg gtg aaa aaa aac agt atg ccc tcc tac gtc gcg ctg ccg att acc 96
Met Val Lys Lys Asn Ser Met Pro Ser Tyr Val Ala Leu Pro Ile Thr
          20             25             30

gca gtg ctg att tac gcc atc aaa ctt ttc tac ttc gac gat gcg ggc 144
Ala Val Leu Ile Tyr Ala Ile Lys Leu Phe Tyr Phe Asp Asp Ala Gly
      35             40             45

atg ctg ctc aac gcc acc gcc gct tcc ggc ctc gtc aaa acg ctc acg 192
Met Leu Leu Asn Ala Thr Ala Ala Ser Gly Leu Val Lys Thr Leu Thr
      50             55             60

ccg att acc gtg att ttc ggc gcg att atg ttc aac cgt atg atg gaa 240
Pro Ile Thr Val Ile Phe Gly Ala Ile Met Phe Asn Arg Met Met Glu
      65             70             75             80

acc acg ggc tgc atc gat gtc atc cgc aaa tgg ctg gcg acc atc agc 288
Thr Thr Gly Cys Ile Asp Val Ile Arg Lys Trp Leu Ala Thr Ile Ser
          85             90             95

ccc aac ccc gta gcg caa ctg atg att atc ggc tgg gct ttt gcc ttt 336

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Pro Asn Pro Val Ala Gln Leu Met Ile Ile Gly Trp Ala Phe Ala Phe	
100 105 110	
atg att gaa ggc gca tcc ggc ttc ggc acg cct gcc gcg att gcc gcg	384
Met Ile Glu Gly Ala Ser Gly Phe Gly Thr Pro Ala Ala Ile Ala Ala	
115 120 125	
ccg att ctg atg agc ttg ggc ttc aac ccg ttg aaa gtg gcg att ttc	432
Pro Ile Leu Met Ser Leu Gly Phe Asn Pro Leu Lys Val Ala Ile Phe	
130 135 140	
act ttg gtg atg aac tcc gtc ccc gtc tct ttc gcc gcg gtc ggt acg	480
Thr Leu Val Met Asn Ser Val Pro Val Ser Phe Gly Ala Val Gly Thr	
145 150 155 160	
ccg acc tgg ttc ggt ttc gca ccg ctg aac ctg agt gcc gaa gac atc	528
Pro Thr Trp Phe Gly Phe Ala Pro Leu Asn Leu Ser Ala Glu Asp Ile	
165 170 175	
ctc gcc atc ggc agg cag acc ggc gta atg cac ttc ttc gca ggt ttc	576
Leu Ala Ile Gly Arg Gln Thr Gly Val Met His Phe Phe Ala Gly Phe	
180 185 190	
gtc atc ccc gtc atc ggc ttg ggc ttc atc gta cct tgg tct gaa atc	624
Val Ile Pro Val Ile Gly Leu Gly Phe Ile Val Pro Trp Ser Glu Ile	
195 200 205	
cgc aaa aac ttg ggc ttc gtc gcc att gcc gtc ttc tcc tgc acc att	672
Arg Lys Asn Leu Gly Phe Val Ala Ile Ala Val Phe Ser Cys Thr Ile	
210 215 220	
cct tat gtc gca ttg gcg atg gtc aac gaa gaa ttc ccg tcg ctc gtc	720
Pro Tyr Val Ala Leu Ala Met Val Asn Glu Glu Phe Pro Ser Leu Val	
225 230 235 240	
gcc gcc gcg atc ggc ctg atg gtg tcc gta ttc gcc gcc aac caa ggc	768
Ala Gly Ala Ile Gly Leu Met Val Ser Val Phe Ala Ala Asn Gln Gly	
245 250 255	
tgg gcc ttg agc aaa gac cac gcc aaa gac ccg aat gcc gaa aaa gtg	816
Trp Gly Leu Ser Lys Asp His Ala Lys Asp Pro Asn Ala Glu Lys Val	
260 265 270	
ccg ttc gcc caa gtc gcc aaa gca ctc gcc cct ttg ggt atg ctg atc	864
Pro Phe Ala Gln Val Ala Lys Ala Leu Ala Pro Leu Gly Met Leu Ile	
275 280 285	
ggc atg ctg gtg gtt acg cgc atc aaa cag ctc gcc atc aaa ggc att	912

Gly Met Leu Val Val Thr Arg Ile Lys Gln Leu Gly Ile Lys Gly Ile	
290 295 300	
ttg acc agc aaa gaa gaa tgg ttc agc ttc caa ctg ccg ttt gat ttg	960
Leu Thr Ser Lys Glu Glu Trp Phe Ser Phe Gln Leu Pro Phe Asp Leu	
305 310 315 320	
tcc aaa atc acc gtc agc gac tcc ctg acg att act ttc ggc aat att	1008
Ser Lys Ile Thr Val Ser Asp Ser Leu Thr Ile Thr Phe Gly Asn Ile	
325 330 335	
ttc gga caa gat gtc agc gcg tct tac caa acg ctg tac gtc ccg gct	1056
Phe Gly Gln Asp Val Ser Ala Ser Tyr Gln Thr Leu Tyr Val Pro Ala	
340 345 350	
tgg att ccg ttt gtg ctg acc gtt tgg att tgc atc ctg ctg tat aaa	1104
Trp Ile Pro Phe Val Leu Thr Val Trp Ile Cys Ile Leu Leu Tyr Lys	
355 360 365	
acc aaa ttc aaa gat gcc tgg acg att tat tcc gta act ttc aat caa	1152
Thr Lys Phe Lys Asp Ala Trp Thr Ile Tyr Ser Val Thr Phe Asn Gln	
370 375 380	
acc aaa aaa ccg ctg ctt gcc ctg atg ggc gcg ctg att atg gtt cag	1200
Thr Lys Lys Pro Leu Leu Ala Leu Met Gly Ala Leu Ile Met Val Gln	
385 390 395 400	
ctg atg ctg gtc ggc ggc gac aat tcg atg gtg aaa atc atc ggt aag	1248
Leu Met Leu Val Gly Gly Asp Asn Ser Met Val Lys Ile Ile Gly Lys	
405 410 415	
gaa ttt gcc gca atg gcg ggc gaa cac tgg gtt tat ttc tcg ccg tat	1296
Glu Phe Ala Ala Met Ala Gly Glu His Trp Val Tyr Phe Ser Pro Tyr	
420 425 430	
ctg ggc gcg atc ggt gcg ttc ttc tcc ggt tcc aac acc gtg tcc aac	1344
Leu Gly Ala Ile Gly Ala Phe Phe Ser Gly Ser Asn Thr Val Ser Asn	
435 440 445	
ctg acc ttc ggc ccg att cag cag caa atc gcc ttg gat acc ggc ctg	1392
Leu Thr Phe Gly Pro Ile Gln Gln Gln Ile Ala Leu Asp Thr Gly Leu	
450 455 460	
tcc gtt acc ctg att ctg gcg ttg cag tcc gtc ggc ggc gcg atg ggc	1440
Ser Val Thr Leu Ile Leu Ala Leu Gln Ser Val Gly Gly Ala Met Gly	
465 470 475 480	
aat atg gtg tgc ctc aac aac atc atc gcc gta tgt acc gta ttg gat	1488

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Asn Met Val Cys Leu Asn Asn Ile Ile Ala Val Cys Thr Val Leu Asp
      485                      490                      495

gtg aaa aat tcc gaa ggt gcg att atc aag aaa acc gtt atc ccg atg 1536
Val Lys Asn Ser Glu Gly Ala Ile Ile Lys Lys Thr Val Ile Pro Met
      500                      505                      510

gcg att tac ggc gtg att gcc gtc gtc gcg gca atg att ttc ttc ctc 1584
Ala Ile Tyr Gly Val Ile Ala Val Val Ala Ala Met Ile Phe Phe Leu
      515                      520                      525

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<210> 90

<211> 528

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 90

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Met Ala Leu Phe Leu Ser Ile Phe Pro Ile Val Leu Leu Ile Trp Leu
  1                      5                      10                      15

Met Val Lys Lys Asn Ser Met Pro Ser Tyr Val Ala Leu Pro Ile Thr
      20                      25                      30

Ala Val Leu Ile Tyr Ala Ile Lys Leu Phe Tyr Phe Asp Asp Ala Gly
      35                      40                      45

Met Leu Leu Asn Ala Thr Ala Ala Ser Gly Leu Val Lys Thr Leu Thr
      50                      55                      60

Pro Ile Thr Val Ile Phe Gly Ala Ile Met Phe Asn Arg Met Met Glu
      65                      70                      75                      80

Thr Thr Gly Cys Ile Asp Val Ile Arg Lys Trp Leu Ala Thr Ile Ser
      85                      90                      95

Pro Asn Pro Val Ala Gln Leu Met Ile Ile Gly Trp Ala Phe Ala Phe
      100                      105                      110

Met Ile Glu Gly Ala Ser Gly Phe Gly Thr Pro Ala Ala Ile Ala Ala
      115                      120                      125

Pro Ile Leu Met Ser Leu Gly Phe Asn Pro Leu Lys Val Ala Ile Phe
      130                      135                      140

Thr Leu Val Met Asn Ser Val Pro Val Ser Phe Gly Ala Val Gly Thr
      145                      150                      155                      160

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Pro Thr Trp Phe Gly Phe Ala Pro Leu Asn Leu Ser Ala Glu Asp Ile
 165 170 175

Leu Ala Ile Gly Arg Gln Thr Gly Val Met His Phe Phe Ala Gly Phe
 180 185 190

Val Ile Pro Val Ile Gly Leu Gly Phe Ile Val Pro Trp Ser Glu Ile
 195 200 205

Arg Lys Asn Leu Gly Phe Val Ala Ile Ala Val Phe Ser Cys Thr Ile
 210 215 220

Pro Tyr Val Ala Leu Ala Met Val Asn Glu Glu Phe Pro Ser Leu Val
 225 230 235 240

Ala Gly Ala Ile Gly Leu Met Val Ser Val Phe Ala Ala Asn Gln Gly
 245 250 255

Trp Gly Leu Ser Lys Asp His Ala Lys Asp Pro Asn Ala Glu Lys Val
 260 265 270

Pro Phe Ala Gln Val Ala Lys Ala Leu Ala Pro Leu Gly Met Leu Ile
 275 280 285

Gly Met Leu Val Val Thr Arg Ile Lys Gln Leu Gly Ile Lys Gly Ile
 290 295 300

Leu Thr Ser Lys Glu Glu Trp Phe Ser Phe Gln Leu Pro Phe Asp Leu
 305 310 315 320

Ser Lys Ile Thr Val Ser Asp Ser Leu Thr Ile Thr Phe Gly Asn Ile
 325 330 335

Phe Gly Gln Asp Val Ser Ala Ser Tyr Gln Thr Leu Tyr Val Pro Ala
 340 345 350

Trp Ile Pro Phe Val Leu Thr Val Trp Ile Cys Ile Leu Leu Tyr Lys
 355 360 365

Thr Lys Phe Lys Asp Ala Trp Thr Ile Tyr Ser Val Thr Phe Asn Gln
 370 375 380

Thr Lys Lys Pro Leu Leu Ala Leu Met Gly Ala Leu Ile Met Val Gln
 385 390 395 400

Leu Met Leu Val Gly Gly Asp Asn Ser Met Val Lys Ile Ile Gly Lys
 405 410 415

Glu Phe Ala Ala Met Ala Gly Glu His Trp Val Tyr Phe Ser Pro Tyr
420 425 430

Leu Gly Ala Ile Gly Ala Phe Phe Ser Gly Ser Asn Thr Val Ser Asn
435 440 445

Leu Thr Phe Gly Pro Ile Gln Gln Gln Ile Ala Leu Asp Thr Gly Leu
450 455 460

Ser Val Thr Leu Ile Leu Ala Leu Gln Ser Val Gly Gly Ala Met Gly
465 470 475 480

Asn Met Val Cys Leu Asn Asn Ile Ile Ala Val Cys Thr Val Leu Asp
485 490 495

Val Lys Asn Ser Glu Gly Ala Ile Ile Lys Lys Thr Val Ile Pro Met
500 505 510

Ala Ile Tyr Gly Val Ile Ala Val Val Ala Ala Met Ile Phe Phe Leu
515 520 525

<210> 91

<211> 1686

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1686)

<400> 91

atg tta caa tcc gaa aat tcg aaa aat tta atc tct tgt tca ata aag 48
Met Leu Gln Ser Glu Asn Ser Lys Asn Leu Ile Ser Cys Ser Ile Lys
1 5 10 15

gct tta cca atc atg att tct acc aac ggc atc acc atg cag ttc ggc 96
Ala Leu Pro Ile Met Ile Ser Thr Asn Gly Ile Thr Met Gln Phe Gly
20 25 30

gcg aag ccg ctg ttt gaa aac gta tcc gtt aaa ttc ggc gaa ggc aac 144
Ala Lys Pro Leu Phe Glu Asn Val Ser Val Lys Phe Gly Glu Gly Asn
35 40 45

cgc tac ggt ttg atc ggc gcg aac ggc tca ggc aaa tcc acc ttc atg 192
Arg Tyr Gly Leu Ile Gly Ala Asn Gly Ser Gly Lys Ser Thr Phe Met
50 55 60

aaa atc ctc ggc ggc gat ttg gaa cag aca gcc ggc gaa gtg gcg att	240
Lys Ile Leu Gly Gly Asp Leu Glu Gln Thr Ala Gly Glu Val Ala Ile	
65 70 75 80	
gaa aac ggc gtg cgt ttg ggt aaa ttg cgc caa gac cag ttt gcc tac	288
Glu Asn Gly Val Arg Leu Gly Lys Leu Arg Gln Asp Gln Phe Ala Tyr	
85 90 95	
gaa gat atg cgc gtg ctg gac gtg gta atg atg ggt cac acc gaa atg	336
Glu Asp Met Arg Val Leu Asp Val Val Met Met Gly His Thr Glu Met	
100 105 110	
tgg gcg gcg atg acc gaa cgt gat gcg att tac gcc aat ccc gaa gcc	384
Trp Ala Ala Met Thr Glu Arg Asp Ala Ile Tyr Ala Asn Pro Glu Ala	
115 120 125	
acc gaa gac gac tac atg aaa gcc gca gaa ctg gaa gcc aag ttc gcc	432
Thr Glu Asp Asp Tyr Met Lys Ala Ala Glu Leu Glu Ala Lys Phe Ala	
130 135 140	
gaa tac gac ggc tac acc gcc gaa gcg cgt gcc gcc gag ttg ttg agc	480
Glu Tyr Asp Gly Tyr Thr Ala Glu Ala Arg Ala Ala Glu Leu Leu Ser	
145 150 155 160	
ggc gtg ggc att tcc gaa gat ttg cac aat gca acc atg gca gaa gtt	528
Gly Val Gly Ile Ser Glu Asp Leu His Asn Ala Thr Met Ala Glu Val	
165 170 175	
gcc ccg ggc ttc aaa ctg cgc gta ttg ctg gcg caa gcc ctg ttc tcc	576
Ala Pro Gly Phe Lys Leu Arg Val Leu Leu Ala Gln Ala Leu Phe Ser	
180 185 190	
aag ccg gat gta ttg ctc ttg gac gaa ccg acc aat aac ttg gac att	624
Lys Pro Asp Val Leu Leu Leu Asp Glu Pro Thr Asn Asn Leu Asp Ile	
195 200 205	
aat acc atc cgt tgg ttg gaa ggc gtg ttg aac cag tac gac tcc acg	672
Asn Thr Ile Arg Trp Leu Glu Gly Val Leu Asn Gln Tyr Asp Ser Thr	
210 215 220	
atg att atc atc tcg cac gac cgc cac ttc ttg aac gaa gtc tgc acg	720
Met Ile Ile Ile Ser His Asp Arg His Phe Leu Asn Glu Val Cys Thr	
225 230 235 240	
cat atg gca gat ttg gat tac aac acc atc acc atc tat ccg ggc aac	768
His Met Ala Asp Leu Asp Tyr Asn Thr Ile Thr Ile Tyr Pro Gly Asn	
245 250 255	

tac gac gac tat atg ctc gcc tcc gcc caa tcg cgc gaa cgc gcc ctg	816
Tyr Asp Asp Tyr Met Leu Ala Ser Ala Gln Ser Arg Glu Arg Ala Leu	
260 265 270	
aaa gac aat gcc aag gcg aag gaa aaa ttg cag gaa ttg caa gaa ttt	864
Lys Asp Asn Ala Lys Ala Lys Glu Lys Leu Gln Glu Leu Gln Glu Phe	
275 280 285	
gtg gcg cgg ttc agt gcc aac aaa tcc aaa gcc cgt cag gca acc agc	912
Val Ala Arg Phe Ser Ala Asn Lys Ser Lys Ala Arg Gln Ala Thr Ser	
290 295 300	
cgt ctg aaa cag gca gac aaa atc aaa tcg gag atg gtc gag gtc aaa	960
Arg Leu Lys Gln Ala Asp Lys Ile Lys Ser Glu Met Val Glu Val Lys	
305 310 315 320	
ccc tct acc cgt caa aac ccg tat atc cgt ttt gaa gcc gat gaa aaa	1008
Pro Ser Thr Arg Gln Asn Pro Tyr Ile Arg Phe Glu Ala Asp Glu Lys	
325 330 335	
gcc aag ctg cac cgt cag gct gtg gaa gtt gaa aaa ctg gcg aaa cgc	1056
Ala Lys Leu His Arg Gln Ala Val Glu Val Glu Lys Leu Ala Lys Arg	
340 345 350	
ttt gaa acc cag ttg ttt aaa aac ctg aac ttt atc ctt gaa gcg gga	1104
Phe Glu Thr Gln Leu Phe Lys Asn Leu Asn Phe Ile Leu Glu Ala Gly	
355 360 365	
caa cgc ctc gcc atc atc ggc ccg aac ggc gcg ggc aaa tcc acc ctg	1152
Gln Arg Leu Ala Ile Ile Gly Pro Asn Gly Ala Gly Lys Ser Thr Leu	
370 375 380	
ctg aaa ctc ttg gcc ggc gcg tac aac ccc gaa tat tca gac ggt ctg	1200
Leu Lys Leu Leu Ala Gly Ala Tyr Asn Pro Glu Tyr Ser Asp Gly Leu	
385 390 395 400	
ctg ccg gac gaa ggc agc atc aaa tgg gcg gaa aaa gcc agc gtc ggc	1248
Leu Pro Asp Glu Gly Ser Ile Lys Trp Ala Glu Lys Ala Ser Val Gly	
405 410 415	
tac tat ccg caa gat cac gaa aac gac ttc gat gtc gat atg gat ttg	1296
Tyr Tyr Pro Gln Asp His Glu Asn Asp Phe Asp Val Asp Met Asp Leu	
420 425 430	
agc gaa tgg atg cgc caa tgg ggg cag gac ggc gac gac gaa caa gtc	1344
Ser Glu Trp Met Arg Gln Trp Gly Gln Asp Gly Asp Asp Glu Gln Val	
435 440 445	

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atc cgc ggc act ttg ggg cgt ttg ctc ttc ggc agt aac gat gtc gtg 1392
Ile Arg Gly Thr Leu Gly Arg Leu Leu Phe Gly Ser Asn Asp Val Val
450 455 460

aaa aaa gtg aag gtt ctc tcc ggt ggt gaa aaa ggc cgt atg ctt tac 1440
Lys Lys Val Lys Val Leu Ser Gly Gly Glu Lys Gly Arg Met Leu Tyr
465 470 475 480

ggc aaa ctg ttg ctg ttg aaa ccc aat gtc tta gtc atg gat gaa ccg 1488
Gly Lys Leu Leu Leu Leu Lys Pro Asn Val Leu Val Met Asp Glu Pro
485 490 495

acc aac cac atg gac atg gaa agc atc gaa tcc ttg aac atg gcg ctg 1536
Thr Asn His Met Asp Met Glu Ser Ile Glu Ser Leu Asn Met Ala Leu
500 505 510

gaa aaa tac aac ggc acg ctg att ttc gtc tcc cac gac cgt cag ttc 1584
Glu Lys Tyr Asn Gly Thr Leu Ile Phe Val Ser His Asp Arg Gln Phe
515 520 525

gtt tct tcc ctg gct acc caa atc att gaa ttg gac ggc aaa ggc gga 1632
Val Ser Ser Leu Ala Thr Gln Ile Ile Glu Leu Asp Gly Lys Gly Gly
530 535 540

tat gaa cac tac ttg ggc gat tac gaa agc tat ctc gag aaa aaa ggc 1680
Tyr Glu His Tyr Leu Gly Asp Tyr Glu Ser Tyr Leu Glu Lys Lys Gly
545 550 555 560

gta gca 1686
Val Ala

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<210> 92

<211> 562

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 92

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Met Leu Gln Ser Glu Asn Ser Lys Asn Leu Ile Ser Cys Ser Ile Lys
1 5 10 15

Ala Leu Pro Ile Met Ile Ser Thr Asn Gly Ile Thr Met Gln Phe Gly
20 25 30

Ala Lys Pro Leu Phe Glu Asn Val Ser Val Lys Phe Gly Glu Gly Asn
35 40 45

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Arg Tyr Gly Leu Ile Gly Ala Asn Gly Ser Gly Lys Ser Thr Phe Met
   50                      55                      60

Lys Ile Leu Gly Gly Asp Leu Glu Gln Thr Ala Gly Glu Val Ala Ile
   65                      70                      75                      80

Glu Asn Gly Val Arg Leu Gly Lys Leu Arg Gln Asp Gln Phe Ala Tyr
                      85                      90                      95

Glu Asp Met Arg Val Leu Asp Val Val Met Met Gly His Thr Glu Met
          100                      105                      110

Trp Ala Ala Met Thr Glu Arg Asp Ala Ile Tyr Ala Asn Pro Glu Ala
          115                      120                      125

Thr Glu Asp Asp Tyr Met Lys Ala Ala Glu Leu Glu Ala Lys Phe Ala
          130                      135                      140

Glu Tyr Asp Gly Tyr Thr Ala Glu Ala Arg Ala Ala Glu Leu Leu Ser
          145                      150                      155                      160

Gly Val Gly Ile Ser Glu Asp Leu His Asn Ala Thr Met Ala Glu Val
          165                      170                      175

Ala Pro Gly Phe Lys Leu Arg Val Leu Leu Ala Gln Ala Leu Phe Ser
          180                      185                      190

Lys Pro Asp Val Leu Leu Leu Asp Glu Pro Thr Asn Asn Leu Asp Ile
          195                      200                      205

Asn Thr Ile Arg Trp Leu Glu Gly Val Leu Asn Gln Tyr Asp Ser Thr
          210                      215                      220

Met Ile Ile Ile Ser His Asp Arg His Phe Leu Asn Glu Val Cys Thr
          225                      230                      235                      240

His Met Ala Asp Leu Asp Tyr Asn Thr Ile Thr Ile Tyr Pro Gly Asn
          245                      250                      255

Tyr Asp Asp Tyr Met Leu Ala Ser Ala Gln Ser Arg Glu Arg Ala Leu
          260                      265                      270

Lys Asp Asn Ala Lys Ala Lys Glu Lys Leu Gln Glu Leu Gln Glu Phe
          275                      280                      285

Val Ala Arg Phe Ser Ala Asn Lys Ser Lys Ala Arg Gln Ala Thr Ser
          290                      295                      300

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Arg Leu Lys Gln Ala Asp Lys Ile Lys Ser Glu Met Val Glu Val Lys
305                      310                      315                      320

Pro Ser Thr Arg Gln Asn Pro Tyr Ile Arg Phe Glu Ala Asp Glu Lys
                      325                      330                      335

Ala Lys Leu His Arg Gln Ala Val Glu Val Glu Lys Leu Ala Lys Arg
                      340                      345                      350

Phe Glu Thr Gln Leu Phe Lys Asn Leu Asn Phe Ile Leu Glu Ala Gly
                      355                      360                      365

Gln Arg Leu Ala Ile Ile Gly Pro Asn Gly Ala Gly Lys Ser Thr Leu
                      370                      375                      380

Leu Lys Leu Leu Ala Gly Ala Tyr Asn Pro Glu Tyr Ser Asp Gly Leu
385                      390                      395                      400

Leu Pro Asp Glu Gly Ser Ile Lys Trp Ala Glu Lys Ala Ser Val Gly
                      405                      410                      415

Tyr Tyr Pro Gln Asp His Glu Asn Asp Phe Asp Val Asp Met Asp Leu
                      420                      425                      430

Ser Glu Trp Met Arg Gln Trp Gly Gln Asp Gly Asp Asp Glu Gln Val
                      435                      440                      445

Ile Arg Gly Thr Leu Gly Arg Leu Leu Phe Gly Ser Asn Asp Val Val
                      450                      455                      460

Lys Lys Val Lys Val Leu Ser Gly Gly Glu Lys Gly Arg Met Leu Tyr
465                      470                      475                      480

Gly Lys Leu Leu Leu Leu Lys Pro Asn Val Leu Val Met Asp Glu Pro
                      485                      490                      495

Thr Asn His Met Asp Met Glu Ser Ile Glu Ser Leu Asn Met Ala Leu
                      500                      505                      510

Glu Lys Tyr Asn Gly Thr Leu Ile Phe Val Ser His Asp Arg Gln Phe
                      515                      520                      525

Val Ser Ser Leu Ala Thr Gln Ile Ile Glu Leu Asp Gly Lys Gly Gly
                      530                      535                      540

Tyr Glu His Tyr Leu Gly Asp Tyr Glu Ser Tyr Leu Glu Lys Lys Gly
545                      550                      555                      560

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Val Ala

<210> 93

<211> 1126

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<220>

<221> CDS

<222> (1)..(1125)

<400> 93

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atg aac acc tcg caa cgc aac cgc ctc gtc agc cgc tgg ctc aac tcc   48
Met Asn Thr Ser Gln Arg Asn Arg Leu Val Ser Arg Trp Leu Asn Ser
   1             5             10             15

tac gaa cgc tac cgc tac cgc cgc ctc atc cac gcc gtc cgg ctc ggc   96
Tyr Glu Arg Tyr Arg Tyr Arg Arg Leu Ile His Ala Val Arg Leu Gly
      20             25             30

ggg gcc gtc ctg ttc gcc acc gcc tcc gcc cgg ctg ctc cac ctc caa   144
Gly Ala Val Leu Phe Ala Thr Ala Ser Ala Arg Leu Leu His Leu Gln
      35             40             45

cac gcc gag tgg ata ggg atg acc gtc ttc gtc gtc ctc ggc atg ctc   192
His Gly Glu Trp Ile Gly Met Thr Val Phe Val Val Leu Gly Met Leu
      50             55             60

cag ttt caa ggg gcg att tac tcc aag gcg gtg gaa cgt atg ctc ggc   240
Gln Phe Gln Gly Ala Ile Tyr Ser Lys Ala Val Glu Arg Met Leu Gly
      65             70             75             80

acg gtc atc ggg ctg ggc gcg ggt ttg ggc gtt tta tgg ctg aac cag   288
Thr Val Ile Gly Leu Gly Ala Gly Leu Gly Val Leu Trp Leu Asn Gln
      85             90             95

cat tat ttc cac ggc aac ctc ctc ttc tac ctc acc gtc ggc acg gca   336
His Tyr Phe His Gly Asn Leu Leu Phe Tyr Leu Thr Val Gly Thr Ala
      100            105            110

agc gca ctg gcc ggc tgg gcg gcg gtc ggc aaa aac ggc tac gtc cct   384
Ser Ala Leu Ala Gly Trp Ala Ala Val Gly Lys Asn Gly Tyr Val Pro
      115            120            125

atg ctg gcg ggg ctg acg atg tgc atg ctc atc ggc gac aac ggc agc   432

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Met Leu Ala Gly Leu Thr Met Cys Met Leu Ile Gly Asp Asn Gly Ser
130 135 140

gaa tgg ttc gac agc ggc ctg atg cgc gcg atg aac gtc ctc atc ggc 480
Glu Trp Phe Asp Ser Gly Leu Met Arg Ala Met Asn Val Leu Ile Gly
145 150 155 160

gcg gcc atc gcc atc gcc gcc gcc aaa ctg ctg ccg ctg aaa tcc aca 528
Ala Ala Ile Ala Ile Ala Ala Ala Lys Leu Leu Pro Leu Lys Ser Thr
165 170 175

ctg atg tgg cgt ttc atg ctt gcc gac aac ctg acc gac tgc agc aaa 576
Leu Met Trp Arg Phe Met Leu Ala Asp Asn Leu Thr Asp Cys Ser Lys
180 185 190

atg att gcc gaa atc agc aac ggc agg cgc atg acc cgc gaa cgc ctc 624
Met Ile Ala Glu Ile Ser Asn Gly Arg Arg Met Thr Arg Glu Arg Leu
195 200 205

gaa gag aac atg gcg aaa atg cgc caa atc aac gca cgc atg gtc aaa 672
Glu Glu Asn Met Ala Lys Met Arg Gln Ile Asn Ala Arg Met Val Lys
210 215 220

agc cgc agc cac ctc gcc gcc aca tcg ggc gaa agc cgc atc agc ccc 720
Ser Arg Ser His Leu Ala Ala Thr Ser Gly Glu Ser Arg Ile Ser Pro
225 230 235 240

gcc atg atg gaa gcc atg cag cac gcc cac cgt aaa att gtc aac acc 768
Ala Met Met Glu Ala Met Gln His Ala His Arg Lys Ile Val Asn Thr
245 250 255

acc gag ctg ctc ctg acc acc gcc gcc aag ctg caa tct ccc aaa ctc 816
Thr Glu Leu Leu Leu Thr Thr Ala Ala Lys Leu Gln Ser Pro Lys Leu
260 265 270

aac ggc agc gaa atc cgg ctg ctt gac cgc cac ttc aca ctg ctc caa 864
Asn Gly Ser Glu Ile Arg Leu Leu Asp Arg His Phe Thr Leu Leu Gln
275 280 285

acc gac ctg caa caa acc gtc gcc ctt atc aac ggc aga cac gcc cgc 912
Thr Asp Leu Gln Gln Thr Val Ala Leu Ile Asn Gly Arg His Ala Arg
290 295 300

cgc atc cgc atc gac acc gcc atc aac ccc gaa ctg gaa gcc ctc gcc 960
Arg Ile Arg Ile Asp Thr Ala Ile Asn Pro Glu Leu Glu Ala Leu Ala
305 310 315 320

gaa cac ctc cac tac caa tgg cag ggc ttc ctc tgg ctc agc acc aat 1008

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Glu His Leu His Tyr Gln Trp Gln Gly Phe Leu Trp Leu Ser Thr Asn
 325 330 335
 atg cgt cag gaa att tcc gcc ctc gtc atc ctg ctg caa cgc acc cgc 1056
 Met Arg Gln Glu Ile Ser Ala Leu Val Ile Leu Leu Gln Arg Thr Arg
 340 345 350
 cgc aaa tgg ctg gat gcc cac gaa cgc caa cac ctg cgc caa agc ctg 1104
 Arg Lys Trp Leu Asp Ala His Glu Arg Gln His Leu Arg Gln Ser Leu
 355 360 365
 ctt gaa aca cgg gaa cac agt t 1126
 Leu Glu Thr Arg Glu His Ser
 370 375
 <210> 94
 <211> 375
 <212> PRT
 <213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)
 <400> 94
 Met Asn Thr Ser Gln Arg Asn Arg Leu Val Ser Arg Trp Leu Asn Ser
 1 5 10 15
 Tyr Glu Arg Tyr Arg Tyr Arg Arg Leu Ile His Ala Val Arg Leu Gly
 20 25 30
 Gly Ala Val Leu Phe Ala Thr Ala Ser Ala Arg Leu Leu His Leu Gln
 35 40 45
 His Gly Glu Trp Ile Gly Met Thr Val Phe Val Val Leu Gly Met Leu
 50 55 60
 Gln Phe Gln Gly Ala Ile Tyr Ser Lys Ala Val Glu Arg Met Leu Gly
 65 70 75 80
 Thr Val Ile Gly Leu Gly Ala Gly Leu Gly Val Leu Trp Leu Asn Gln
 85 90 95
 His Tyr Phe His Gly Asn Leu Leu Phe Tyr Leu Thr Val Gly Thr Ala
 100 105 110
 Ser Ala Leu Ala Gly Trp Ala Ala Val Gly Lys Asn Gly Tyr Val Pro
 115 120 125
 Met Leu Ala Gly Leu Thr Met Cys Met Leu Ile Gly Asp Asn Gly Ser
 130 135 140

Glu Trp Phe Asp Ser Gly Leu Met Arg Ala Met Asn Val Leu Ile Gly
 145 150 155 160
 Ala Ala Ile Ala Ile Ala Ala Ala Lys Leu Leu Pro Leu Lys Ser Thr
 165 170 175
 Leu Met Trp Arg Phe Met Leu Ala Asp Asn Leu Thr Asp Cys Ser Lys
 180 185 190
 Met Ile Ala Glu Ile Ser Asn Gly Arg Arg Met Thr Arg Glu Arg Leu
 195 200 205
 Glu Glu Asn Met Ala Lys Met Arg Gln Ile Asn Ala Arg Met Val Lys
 210 215 220
 Ser Arg Ser His Leu Ala Ala Thr Ser Gly Glu Ser Arg Ile Ser Pro
 225 230 235 240
 Ala Met Met Glu Ala Met Gln His Ala His Arg Lys Ile Val Asn Thr
 245 250 255
 Thr Glu Leu Leu Leu Thr Thr Ala Ala Lys Leu Gln Ser Pro Lys Leu
 260 265 270
 Asn Gly Ser Glu Ile Arg Leu Leu Asp Arg His Phe Thr Leu Leu Gln
 275 280 285
 Thr Asp Leu Gln Gln Thr Val Ala Leu Ile Asn Gly Arg His Ala Arg
 290 295 300
 Arg Ile Arg Ile Asp Thr Ala Ile Asn Pro Glu Leu Glu Ala Leu Ala
 305 310 315 320
 Glu His Leu His Tyr Gln Trp Gln Gly Phe Leu Trp Leu Ser Thr Asn
 325 330 335
 Met Arg Gln Glu Ile Ser Ala Leu Val Ile Leu Leu Gln Arg Thr Arg
 340 345 350
 Arg Lys Trp Leu Asp Ala His Glu Arg Gln His Leu Arg Gln Ser Leu
 355 360 365
 Leu Glu Thr Arg Glu His Ser
 370 375

<210> 95

<211> 1725

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1725)

<400> 95

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atg cag cta tca ggc gcg caa atc ata gtg cag agt ctc aaa gcc gaa 48
Met Gln Leu Ser Gly Ala Gln Ile Ile Val Gln Ser Leu Lys Ala Glu
  1             5             10             15

ggg gtc gag tac gtt ttc ggt tat ccc ggc ggt gcg gtt atc gaa atc 96
Gly Val Glu Tyr Val Phe Gly Tyr Pro Gly Gly Ala Val Ile Glu Ile
      20             25             30

tac gat gcc ctt ttc caa ctc aat aaa ttc aag cac att ctg acc cgt 144
Tyr Asp Ala Leu Phe Gln Leu Asn Lys Phe Lys His Ile Leu Thr Arg
      35             40             45

cac gag cag gcg gca gta cac gcg gca gat gcg tat gcg cgc gtc agc 192
His Glu Gln Ala Ala Val His Ala Ala Asp Ala Tyr Ala Arg Val Ser
      50             55             60

ggg aag gtg ggc gtg gca ttg gtt aca tcc ggc ccg ggc gtt acc aat 240
Gly Lys Val Gly Val Ala Leu Val Thr Ser Gly Pro Gly Val Thr Asn
      65             70             75             80

gca ctg acc ggt att gct act gcc tat acg gat tcg att ccg atg gtg 288
Ala Leu Thr Gly Ile Ala Thr Ala Tyr Thr Asp Ser Ile Pro Met Val
      85             90             95

gtc atc agc ggg cag gta ggc aat tcc ctg att ggt acg gat gcg ttc 336
Val Ile Ser Gly Gln Val Gly Asn Ser Leu Ile Gly Thr Asp Ala Phe
      100            105            110

caa gaa gtt gat acg gtg ggt att acc cgt ccg tgc gtc aaa cac aat 384
Gln Glu Val Asp Thr Val Gly Ile Thr Arg Pro Cys Val Lys His Asn
      115            120            125

ttc ctg gtt acg gac atc aat gag ttg gcg gaa acc att aaa aag gcg 432
Phe Leu Val Thr Asp Ile Asn Glu Leu Ala Glu Thr Ile Lys Lys Ala
      130            135            140

ttc caa att gcc gca agc ggc cga ccg ggg ccc gtg gtg gtt gat gtc 480
Phe Gln Ile Ala Ala Ser Gly Arg Pro Gly Pro Val Val Val Asp Val

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145	150	155	160	
ccg aaa gat gtt acg cag gcg atg gcg aaa ttc agc tat cct cag gaa	528			
Pro Lys Asp Val Thr Gln Ala Met Ala Lys Phe Ser Tyr Pro Gln Glu				
165	170	175		
gac att ttt atc cgt tgc tat caa ccg gtt gtt caa ggg cat atc ggt	576			
Asp Ile Phe Ile Arg Ser Tyr Gln Pro Val Val Gln Gly His Ile Gly				
180	185	190		
cag att aaa aag gcc gtg cag atg ttg gca tct gcc aaa cgt ccg gtc	624			
Gln Ile Lys Lys Ala Val Gln Met Leu Ala Ser Ala Lys Arg Pro Val				
195	200	205		
gtc tat ttt ggc ggc ggc gtg gtg ttg ggt aat gct tct gaa gag ctg	672			
Val Tyr Phe Gly Gly Gly Val Val Leu Gly Asn Ala Ser Glu Glu Leu				
210	215	220		
acc cga ttt gtc cga atg acg ggt gct ccg tgc acg ggt acg ctg atg	720			
Thr Arg Phe Val Arg Met Thr Gly Ala Pro Cys Thr Gly Thr Leu Met				
225	230	235	240	
ggc ttg ggc gct tat cct tcc ggc gac cgc caa ttc ctc ggt atg ctc	768			
Gly Leu Gly Ala Tyr Pro Ser Gly Asp Arg Gln Phe Leu Gly Met Leu				
245	250	255		
ggt atg cac ggt act tac gag gca aac ctt gcc atg cag aat gcg gat	816			
Gly Met His Gly Thr Tyr Glu Ala Asn Leu Ala Met Gln Asn Ala Asp				
260	265	270		
gtc gtt ctt gcc gta ggt gcg cgt ttt gac gac cgt gtg gtt tcc gta	864			
Val Val Leu Ala Val Gly Ala Arg Phe Asp Asp Arg Val Val Ser Val				
275	280	285		
ccg tcc aaa ttt ttc gag aag gcg aag aag gtt atc cat atc gat gtc	912			
Pro Ser Lys Phe Phe Glu Lys Ala Lys Lys Val Ile His Ile Asp Val				
290	295	300		
gat cct tcc agc atc gcc aaa cgc gtg aag gcg gac att ccg att gtc	960			
Asp Pro Ser Ser Ile Ala Lys Arg Val Lys Ala Asp Ile Pro Ile Val				
305	310	315	320	
ggc gac gtg aaa aac gtt ttg tcc gag atg gtt gcg ctg tgg caa aaa	1008			
Gly Asp Val Lys Asn Val Leu Ser Glu Met Val Ala Leu Trp Gln Lys				
325	330	335		
caa gag tcc gtg ccg tct gaa gat gct ttg ggc aaa tgg tgg aaa acc	1056			
Gln Glu Ser Val Pro Ser Glu Asp Ala Leu Gly Lys Trp Trp Lys Thr				

340	345	350	
ata gag gaa tgg cgt tcc cgc gat tgc ttg tgg ttt gac aac ggc agc			1104
Ile Glu Glu Trp Arg Ser Arg Asp Cys Leu Trp Phe Asp Asn Gly Ser			
355	360	365	
gaa att atc aag cca caa tat gtg att cag aag ctt gcc gag att acc			1152
Glu Ile Ile Lys Pro Gln Tyr Val Ile Gln Lys Leu Ala Glu Ile Thr			
370	375	380	
ggc aat tcg gca atc atc aca tcg gat gta ggg cag cat caa atg ttt			1200
Gly Asn Ser Ala Ile Ile Thr Ser Asp Val Gly Gln His Gln Met Phe			
385	390	395	400
gcg gct caa tat tat ccc ttc gaa cgt ccg cgc caa tgg ctc aac tcc			1248
Ala Ala Gln Tyr Tyr Pro Phe Glu Arg Pro Arg Gln Trp Leu Asn Ser			
405	410	415	
ggc ggt ttg ggt acg atg ggc gtt ggt ctg cct tat gcg att ggt gca			1296
Gly Gly Leu Gly Thr Met Gly Val Gly Leu Pro Tyr Ala Ile Gly Ala			
420	425	430	
aaa ctt gcc gcc ccg gat caa gac gta ttc tgt att acc ggc gac ggc			1344
Lys Leu Ala Ala Pro Asp Gln Asp Val Phe Cys Ile Thr Gly Asp Gly			
435	440	445	
tcg atc cag atg aac atc caa gag ctg tcc acc tgt ttc caa tat cgg			1392
Ser Ile Gln Met Asn Ile Gln Glu Leu Ser Thr Cys Phe Gln Tyr Arg			
450	455	460	
att ccg gtt aac gtc att acg ctg aac aac ggt tat ctc ggt atg gta			1440
Ile Pro Val Asn Val Ile Thr Leu Asn Asn Gly Tyr Leu Gly Met Val			
465	470	475	480
cgc cag tgg cag gaa ata tat tac ggc gga cga gag tcg gaa acc tat			1488
Arg Gln Trp Gln Glu Ile Tyr Tyr Gly Gly Arg Glu Ser Glu Thr Tyr			
485	490	495	
ttc gat tct ttg ccc gat ttc gtc aaa ctt gcc gag gca tac ggc cat			1536
Phe Asp Ser Leu Pro Asp Phe Val Lys Leu Ala Glu Ala Tyr Gly His			
500	505	510	
atc ggt atc cgc gtg gac aag aag tct gat gtg gaa ggt gcg ttg ttg			1584
Ile Gly Ile Arg Val Asp Lys Lys Ser Asp Val Glu Gly Ala Leu Leu			
515	520	525	
gaa gca ttg aac caa aaa gac agg ctg gtg ttt atc gac ttc ctg acc			1632
Glu Ala Leu Asn Gln Lys Asp Arg Leu Val Phe Ile Asp Phe Leu Thr			


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530          535          540
gac cag aaa cag aat gtg atg ccc atg gtc ggc aac ggc aaa ggt ttg 1680
Asp Gln Lys Gln Asn Val Met Pro Met Val Gly Asn Gly Lys Gly Leu
545          550          555          560

gac gaa atg gta ctt ccg ccg cat atg cgt gcg gac gga aag gcg 1725
Asp Glu Met Val Leu Pro Pro His Met Arg Ala Asp Gly Lys Ala
          565          570          575

<210> 96
<211> 575
<212> PRT
<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 96
Met Gln Leu Ser Gly Ala Gln Ile Ile Val Gln Ser Leu Lys Ala Glu
  1          5          10          15

Gly Val Glu Tyr Val Phe Gly Tyr Pro Gly Gly Ala Val Ile Glu Ile
          20          25          30

Tyr Asp Ala Leu Phe Gln Leu Asn Lys Phe Lys His Ile Leu Thr Arg
          35          40          45

His Glu Gln Ala Ala Val His Ala Ala Asp Ala Tyr Ala Arg Val Ser
          50          55          60

Gly Lys Val Gly Val Ala Leu Val Thr Ser Gly Pro Gly Val Thr Asn
          65          70          75          80

Ala Leu Thr Gly Ile Ala Thr Ala Tyr Thr Asp Ser Ile Pro Met Val
          85          90          95

Val Ile Ser Gly Gln Val Gly Asn Ser Leu Ile Gly Thr Asp Ala Phe
          100          105          110

Gln Glu Val Asp Thr Val Gly Ile Thr Arg Pro Cys Val Lys His Asn
          115          120          125

Phe Leu Val Thr Asp Ile Asn Glu Leu Ala Glu Thr Ile Lys Lys Ala
          130          135          140

Phe Gln Ile Ala Ala Ser Gly Arg Pro Gly Pro Val Val Val Asp Val
          145          150          155          160

Pro Lys Asp Val Thr Gln Ala Met Ala Lys Phe Ser Tyr Pro Gln Glu

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	165		170		175
Asp Ile Phe Ile Arg Ser Tyr Gln Pro Val Val Gln Gly His Ile Gly					
	180		185		190
Gln Ile Lys Lys Ala Val Gln Met Leu Ala Ser Ala Lys Arg Pro Val					
	195		200		205
Val Tyr Phe Gly Gly Gly Val Val Leu Gly Asn Ala Ser Glu Glu Leu					
	210		215		220
Thr Arg Phe Val Arg Met Thr Gly Ala Pro Cys Thr Gly Thr Leu Met					
	225		230		235
					240
Gly Leu Gly Ala Tyr Pro Ser Gly Asp Arg Gln Phe Leu Gly Met Leu					
			245		250
					255
Gly Met His Gly Thr Tyr Glu Ala Asn Leu Ala Met Gln Asn Ala Asp					
			260		265
					270
Val Val Leu Ala Val Gly Ala Arg Phe Asp Asp Arg Val Val Ser Val					
			275		280
					285
Pro Ser Lys Phe Phe Glu Lys Ala Lys Lys Val Ile His Ile Asp Val					
			290		295
					300
Asp Pro Ser Ser Ile Ala Lys Arg Val Lys Ala Asp Ile Pro Ile Val					
			305		310
					315
					320
Gly Asp Val Lys Asn Val Leu Ser Glu Met Val Ala Leu Trp Gln Lys					
			325		330
					335
Gln Glu Ser Val Pro Ser Glu Asp Ala Leu Gly Lys Trp Trp Lys Thr					
			340		345
					350
Ile Glu Glu Trp Arg Ser Arg Asp Cys Leu Trp Phe Asp Asn Gly Ser					
			355		360
					365
Glu Ile Ile Lys Pro Gln Tyr Val Ile Gln Lys Leu Ala Glu Ile Thr					
			370		375
					380
Gly Asn Ser Ala Ile Ile Thr Ser Asp Val Gly Gln His Gln Met Phe					
			385		390
					395
					400
Ala Ala Gln Tyr Tyr Pro Phe Glu Arg Pro Arg Gln Trp Leu Asn Ser					
			405		410
					415
Gly Gly Leu Gly Thr Met Gly Val Gly Leu Pro Tyr Ala Ile Gly Ala					

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          420          425          430
Lys Leu Ala Ala Pro Asp Gln Asp Val Phe Cys Ile Thr Gly Asp Gly
    435          440          445

Ser Ile Gln Met Asn Ile Gln Glu Leu Ser Thr Cys Phe Gln Tyr Arg
    450          455          460

Ile Pro Val Asn Val Ile Thr Leu Asn Asn Gly Tyr Leu Gly Met Val
    465          470          475          480

Arg Gln Trp Gln Glu Ile Tyr Tyr Gly Gly Arg Glu Ser Glu Thr Tyr
    485          490          495

Phe Asp Ser Leu Pro Asp Phe Val Lys Leu Ala Glu Ala Tyr Gly His
    500          505          510

Ile Gly Ile Arg Val Asp Lys Lys Ser Asp Val Glu Gly Ala Leu Leu
    515          520          525

Glu Ala Leu Asn Gln Lys Asp Arg Leu Val Phe Ile Asp Phe Leu Thr
    530          535          540

Asp Gln Lys Gln Asn Val Met Pro Met Val Gly Asn Gly Lys Gly Leu
    545          550          555          560

Asp Glu Met Val Leu Pro Pro His Met Arg Ala Asp Gly Lys Ala
    565          570          575

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<210> 97

<211> 570

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(570)

<400> 97

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atg gac aat cac gcc gaa gca cac tgg caa aac ggc tgg ctt caa agc   48
Met Asp Asn His Ala Glu Ala His Trp Gln Asn Gly Trp Leu Gln Ser
   1             5             10            15

ata cgc cat acc ccg tcg ccc aat ttc agc ccg agg gaa acg ggg gaa   96
Ile Arg His Thr Pro Ser Pro Asn Phe Ser Pro Arg Glu Thr Gly Glu
   20            25            30

```

acg gtt tcc ctg atc gtg ttg cac aac att tca ctg ccg ccg ttc gaa 144
 Thr Val Ser Leu Ile Val Leu His Asn Ile Ser Leu Pro Pro Phe Glu
 35 40 45

tac ggc acg gat gct gtg gaa aag ctg ttt gcc aac cgg ctc gac ccc 192
 Tyr Gly Thr Asp Ala Val Glu Lys Leu Phe Ala Asn Arg Leu Asp Pro
 50 55 60

aac gga cat ccg ttc ttc agc ctg ata cac act ttg cgc gta tcc agc 240
 Asn Gly His Pro Phe Phe Ser Leu Ile His Thr Leu Arg Val Ser Ser
 65 70 75 80

cat ttc tta atc aaa cgc gac ggc aaa acg gtg cag ttc gta tca tgc 288
 His Phe Leu Ile Lys Arg Asp Gly Lys Thr Val Gln Phe Val Ser Cys
 85 90 95

ggc gat atg gcg tac cac gcg ggc gta tcc tcg ttt cgc gga cgg gaa 336
 Gly Asp Met Ala Tyr His Ala Gly Val Ser Ser Phe Arg Gly Arg Glu
 100 105 110

aaa tgc aac gca ttt tcc atc ggc atc gaa ttg gaa ggc tgc gat ttc 384
 Lys Cys Asn Ala Phe Ser Ile Gly Ile Glu Leu Glu Gly Cys Asp Phe
 115 120 125

gaa ccc ttt acc gaa gcg caa tac cgt tcg ctc gaa aca ttg ttg gaa 432
 Glu Pro Phe Thr Glu Ala Gln Tyr Arg Ser Leu Glu Thr Leu Leu Glu
 130 135 140

gca ctc tgc cgc cgc tac ccc gtt acc gca gta acc gga cat cag gac 480
 Ala Leu Cys Arg Arg Tyr Pro Val Thr Ala Val Thr Gly His Gln Asp
 145 150 155 160

atc gcg ccc ggc cgc aaa acc gac ccc ggc cac ttt ttc gac tgg cgg 528
 Ile Ala Pro Gly Arg Lys Thr Asp Pro Gly His Phe Phe Asp Trp Arg
 165 170 175

cgg ata cgg gag aaa ggg ttt ccc gta gac aga aat gcc gtc 570
 Arg Ile Arg Glu Lys Gly Phe Pro Val Asp Arg Asn Ala Val
 180 185 190

<210> 98

<211> 190

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 98

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Met Asp Asn His Ala Glu Ala His Trp Gln Asn Gly Trp Leu Gln Ser
  1              5              10              15

Ile Arg His Thr Pro Ser Pro Asn Phe Ser Pro Arg Glu Thr Gly Glu
          20              25              30

Thr Val Ser Leu Ile Val Leu His Asn Ile Ser Leu Pro Pro Phe Glu
          35              40              45

Tyr Gly Thr Asp Ala Val Glu Lys Leu Phe Ala Asn Arg Leu Asp Pro
          50              55              60

Asn Gly His Pro Phe Phe Ser Leu Ile His Thr Leu Arg Val Ser Ser
          65              70              75              80

His Phe Leu Ile Lys Arg Asp Gly Lys Thr Val Gln Phe Val Ser Cys
          85              90              95

Gly Asp Met Ala Tyr His Ala Gly Val Ser Ser Phe Arg Gly Arg Glu
          100             105             110

Lys Cys Asn Ala Phe Ser Ile Gly Ile Glu Leu Glu Gly Cys Asp Phe
          115             120             125

Glu Pro Phe Thr Glu Ala Gln Tyr Arg Ser Leu Glu Thr Leu Leu Glu
          130             135             140

Ala Leu Cys Arg Arg Tyr Pro Val Thr Ala Val Thr Gly His Gln Asp
          145             150             155             160

Ile Ala Pro Gly Arg Lys Thr Asp Pro Gly His Phe Phe Asp Trp Arg
          165             170             175

Arg Ile Arg Glu Lys Gly Phe Pro Val Asp Arg Asn Ala Val
          180             185             190

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<210> 99

<211> 1515

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1515)

<400> 99

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atg ttg tat ttc aga tac ggt ttt ttg gtt gtt tgg tgt gcg gca ggt 48
Met Leu Tyr Phe Arg Tyr Gly Phe Leu Val Val Trp Cys Ala Ala Gly
  1             5             10             15

gtt tct gcc gcc tat ggg gcg gat gcg ccc gcg att ttg gat gac aag 96
Val Ser Ala Ala Tyr Gly Ala Asp Ala Pro Ala Ile Leu Asp Asp Lys
          20             25             30

gca ttg ttg cag gtg cag cgg tcg gtg tcg gat aag tgg gcg gaa tcg 144
Ala Leu Leu Gln Val Gln Arg Ser Val Ser Asp Lys Trp Ala Glu Ser
          35             40             45

gat tgg aaa gtt gac aat gat gcc ccg cgc gtg gtt gac ggg gat ttt 192
Asp Trp Lys Val Asp Asn Asp Ala Pro Arg Val Val Asp Gly Asp Phe
          50             55             60

ttg ttg gcg cat ccg aaa atg ttg gaa cat agt ttg cgc gac gtg ctc 240
Leu Leu Ala His Pro Lys Met Leu Glu His Ser Leu Arg Asp Val Leu
          65             70             75             80

aac ggc aat cag gcg gat ttg atc gct tcg ttg gcg gat ttg tat gcc 288
Asn Gly Asn Gln Ala Asp Leu Ile Ala Ser Leu Ala Asp Leu Tyr Ala
          85             90             95

aag ctg ccg gat tat gac gcg gtt ttg tac ggc agg gcg cgg gct ttg 336
Lys Leu Pro Asp Tyr Asp Ala Val Leu Tyr Gly Arg Ala Arg Ala Leu
          100             105             110

ctg gcg aaa ttg gcg gga agg ccg gcg gag gcg gtg gcg cgg tat cgg 384
Leu Ala Lys Leu Ala Gly Arg Pro Ala Glu Ala Val Ala Arg Tyr Arg
          115             120             125

gaa ctg cac ggg gaa aat gcg gca gac gag cgg att ttg ctg gat ttg 432
Glu Leu His Gly Glu Asn Ala Ala Asp Glu Arg Ile Leu Leu Asp Leu
          130             135             140

gcg gcg gcg gag ttt gac gat ttc ccg ctg aag tcg gca gaa agg cat 480
Ala Ala Ala Glu Phe Asp Asp Phe Arg Leu Lys Ser Ala Glu Arg His
          145             150             155             160

ttt gcc gag gcg gaa aaa ttg gat ttg ccg gcg ccg gtt ttg gaa aat 528
Phe Ala Glu Ala Glu Lys Leu Asp Leu Pro Ala Pro Val Leu Glu Asn
          165             170             175

gtg ggg cgt ttt cgg aaa aaa gcg gag ggg ctg acg ggc tgg cgt ttt 576
Val Gly Arg Phe Arg Lys Lys Ala Glu Gly Leu Thr Gly Trp Arg Phe
          180             185             190

```

tcg ggc ggc atc agt ccg gcg gtc aat aga aat gcc aat aat gcc gcg	624
Ser Gly Gly Ile Ser Pro Ala Val Asn Arg Asn Ala Asn Asn Ala Ala	
195 200 205	
ccg cag tat tgc cgg caa aac gga ggc cgg cag ata tgc agt gtc agc	672
Pro Gln Tyr Cys Arg Gln Asn Gly Gly Arg Gln Ile Cys Ser Val Ser	
210 215 220	
cgg gcg gag cgg gcg gca ggc ttg aat tat gaa atc gag gcg gaa aaa	720
Arg Ala Glu Arg Ala Ala Gly Leu Asn Tyr Glu Ile Glu Ala Glu Lys	
225 230 235 240	
ctg acg gcg ttg gca gat aat cat tat ttg ttg ttc cgt tcc aat atc	768
Leu Thr Ala Leu Ala Asp Asn His Tyr Leu Leu Phe Arg Ser Asn Ile	
245 250 255	
ggc ggc acg agc tat tat ttc agt aaa aaa tca gct tat gac gac ggg	816
Gly Gly Thr Ser Tyr Tyr Phe Ser Lys Lys Ser Ala Tyr Asp Asp Gly	
260 265 270	
ttc ggc aga gcg tat ttg ggt tgg cag tat aaa aat gca cgg cag acg	864
Phe Gly Arg Ala Tyr Leu Gly Trp Gln Tyr Lys Asn Ala Arg Gln Thr	
275 280 285	
gcg ggc att ttg ccg ttt tat cag gtg cag ttg tcg ggc agc gac ggc	912
Ala Gly Ile Leu Pro Phe Tyr Gln Val Gln Leu Ser Gly Ser Asp Gly	
290 295 300	
ttt gat gcg aaa aca aaa cgg gta aac aac cgc cgc ctg ccg ccg tat	960
Phe Asp Ala Lys Thr Lys Arg Val Asn Asn Arg Arg Leu Pro Pro Tyr	
305 310 315 320	
atg ctg gcg cac gga gtc ggc gtg cag ttg tcc cat act tac cgc cca	1008
Met Leu Ala His Gly Val Gly Val Gln Leu Ser His Thr Tyr Arg Pro	
325 330 335	
aac ccg gga tgg caa ttt tcg gtc gcg ctg gaa cat tac cgc caa cgc	1056
Asn Pro Gly Trp Gln Phe Ser Val Ala Leu Glu His Tyr Arg Gln Arg	
340 345 350	
tac cgc gaa cag gat agg gcg gaa tac aat aac ggt cgg cag gac ggg	1104
Tyr Arg Glu Gln Asp Arg Ala Glu Tyr Asn Asn Gly Arg Gln Asp Gly	
355 360 365	
ttt tat gtt tcg tcg gca aaa cgt ttg ggc gaa tcg gca act gtg ttc	1152
Phe Tyr Val Ser Ser Ala Lys Arg Leu Gly Glu Ser Ala Thr Val Phe	
370 375 380	

```

ggc ggc tgg cag ttt gtg cgg ttt gtg ccg aaa cgc gaa acg gtg ggc 1200
Gly Gly Trp Gln Phe Val Arg Phe Val Pro Lys Arg Glu Thr Val Gly
385                390                395                400

ggc gcg gtc aat aat gcc gcc tac cgg cgc aac ggt gtt tat gcc ggc 1248
Gly Ala Val Asn Asn Ala Ala Tyr Arg Arg Asn Gly Val Tyr Ala Gly
                405                410                415

tgg gcg cag gag tgg cgg cag ttg ggc ggt ttg aac agt cgg gtt tcc 1296
Trp Ala Gln Glu Trp Arg Gln Leu Gly Gly Leu Asn Ser Arg Val Ser
                420                425                430

gcg tct tat gcc cgc cgc aac tat aag ggc gtt gcg gct ttc tcg aca 1344
Ala Ser Tyr Ala Arg Arg Asn Tyr Lys Gly Val Ala Ala Phe Ser Thr
                435                440                445

gag gcg caa cgc aac cgc gaa tgg aat gtc tcg ctg gct ttg agc cac 1392
Glu Ala Gln Arg Asn Arg Glu Trp Asn Val Ser Leu Ala Leu Ser His
                450                455                460

gac aag ttg tcg tac aaa ggt atc gtg ccc gcg ttg aat tat cgt ttc 1440
Asp Lys Leu Ser Tyr Lys Gly Ile Val Pro Ala Leu Asn Tyr Arg Phe
465                470                475                480

ggc agg acg gaa agt aat gtg ccg tat gcg aaa cgc cgc aac agc gag 1488
Gly Arg Thr Glu Ser Asn Val Pro Tyr Ala Lys Arg Arg Asn Ser Glu
                485                490                495

gtg ttt gtg tcg gcg gat tgg cgg ttt 1515
Val Phe Val Ser Ala Asp Trp Arg Phe
                500                505

```

<210> 100

<211> 505

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 100

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Met Leu Tyr Phe Arg Tyr Gly Phe Leu Val Val Trp Cys Ala Ala Gly
  1              5              10              15

Val Ser Ala Ala Tyr Gly Ala Asp Ala Pro Ala Ile Leu Asp Asp Lys
                20              25              30

Ala Leu Leu Gln Val Gln Arg Ser Val Ser Asp Lys Trp Ala Glu Ser
                35              40              45

```

Asp Trp Lys Val Asp Asn Asp Ala Pro Arg Val Val Asp Gly Asp Phe
 50 55 60

Leu Leu Ala His Pro Lys Met Leu Glu His Ser Leu Arg Asp Val Leu
 65 70 75 80

Asn Gly Asn Gln Ala Asp Leu Ile Ala Ser Leu Ala Asp Leu Tyr Ala
 85 90 95

Lys Leu Pro Asp Tyr Asp Ala Val Leu Tyr Gly Arg Ala Arg Ala Leu
 100 105 110

Leu Ala Lys Leu Ala Gly Arg Pro Ala Glu Ala Val Ala Arg Tyr Arg
 115 120 125

Glu Leu His Gly Glu Asn Ala Ala Asp Glu Arg Ile Leu Leu Asp Leu
 130 135 140

Ala Ala Ala Glu Phe Asp Asp Phe Arg Leu Lys Ser Ala Glu Arg His
 145 150 155 160

Phe Ala Glu Ala Glu Lys Leu Asp Leu Pro Ala Pro Val Leu Glu Asn
 165 170 175

Val Gly Arg Phe Arg Lys Lys Ala Glu Gly Leu Thr Gly Trp Arg Phe
 180 185 190

Ser Gly Gly Ile Ser Pro Ala Val Asn Arg Asn Ala Asn Asn Ala Ala
 195 200 205

Pro Gln Tyr Cys Arg Gln Asn Gly Gly Arg Gln Ile Cys Ser Val Ser
 210 215 220

Arg Ala Glu Arg Ala Ala Gly Leu Asn Tyr Glu Ile Glu Ala Glu Lys
 225 230 235 240

Leu Thr Ala Leu Ala Asp Asn His Tyr Leu Leu Phe Arg Ser Asn Ile
 245 250 255

Gly Gly Thr Ser Tyr Tyr Phe Ser Lys Lys Ser Ala Tyr Asp Asp Gly
 260 265 270

Phe Gly Arg Ala Tyr Leu Gly Trp Gln Tyr Lys Asn Ala Arg Gln Thr
 275 280 285

Ala Gly Ile Leu Pro Phe Tyr Gln Val Gln Leu Ser Gly Ser Asp Gly
 290 295 300

Phe Asp Ala Lys Thr Lys Arg Val Asn Asn Arg Arg Leu Pro Pro Tyr
305 310 315 320

Met Leu Ala His Gly Val Gly Val Gln Leu Ser His Thr Tyr Arg Pro
325 330 335

Asn Pro Gly Trp Gln Phe Ser Val Ala Leu Glu His Tyr Arg Gln Arg
340 345 350

Tyr Arg Glu Gln Asp Arg Ala Glu Tyr Asn Asn Gly Arg Gln Asp Gly
355 360 365

Phe Tyr Val Ser Ser Ala Lys Arg Leu Gly Glu Ser Ala Thr Val Phe
370 375 380

Gly Gly Trp Gln Phe Val Arg Phe Val Pro Lys Arg Glu Thr Val Gly
385 390 395 400

Gly Ala Val Asn Asn Ala Ala Tyr Arg Arg Asn Gly Val Tyr Ala Gly
405 410 415

Trp Ala Gln Glu Trp Arg Gln Leu Gly Gly Leu Asn Ser Arg Val Ser
420 425 430

Ala Ser Tyr Ala Arg Arg Asn Tyr Lys Gly Val Ala Ala Phe Ser Thr
435 440 445

Glu Ala Gln Arg Asn Arg Glu Trp Asn Val Ser Leu Ala Leu Ser His
450 455 460

Asp Lys Leu Ser Tyr Lys Gly Ile Val Pro Ala Leu Asn Tyr Arg Phe
465 470 475 480

Gly Arg Thr Glu Ser Asn Val Pro Tyr Ala Lys Arg Arg Asn Ser Glu
485 490 495

Val Phe Val Ser Ala Asp Trp Arg Phe
500 505

<210> 101

<211> 1476

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1476)

<400> 101

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atg aaa tac aaa gac ctg cgc gac ttc atc gcc atg ctc gag cag cag      48
Met Lys Tyr Lys Asp Leu Arg Asp Phe Ile Ala Met Leu Glu Gln Gln
   1             5             10             15

ggc aaa ctc aaa cgc atc gcg cac ccc gtt tcc ccg cat ttg gaa atg      96
Gly Lys Leu Lys Arg Ile Ala His Pro Val Ser Pro His Leu Glu Met
           20             25             30

acc gaa atc gcc gac cgc gtg ctg cgc gcc gaa ggg ccg gcg ttg ttg      144
Thr Glu Ile Ala Asp Arg Val Leu Arg Ala Glu Gly Pro Ala Leu Leu
       35             40             45

ttt gaa cac cca gtt aag ccc gac ggt acg cgc tat gat tat ccc gtg      192
Phe Glu His Pro Val Lys Pro Asp Gly Thr Arg Tyr Asp Tyr Pro Val
       50             55             60

ttg gca aac ctg ttc ggc acg ccc gaa cgt gtg gcg atg ggc atg ggc      240
Leu Ala Asn Leu Phe Gly Thr Pro Glu Arg Val Ala Met Gly Met Gly
       65             70             75             80

gcg gac agc gtg tcc aag ctg cgc gaa atc ggg cag acg ctg gcg tat      288
Ala Asp Ser Val Ser Lys Leu Arg Glu Ile Gly Gln Thr Leu Ala Tyr
           85             90             95

ttg aaa gaa ccc gaa ccg ccc aaa ggc att aaa gac gcg ttt tcc aaa      336
Leu Lys Glu Pro Glu Pro Pro Lys Gly Ile Lys Asp Ala Phe Ser Lys
       100            105            110

ctg ccg ctc ttg aaa gac att tgg agc atg gcg ccg aac gtg gtg aaa      384
Leu Pro Leu Leu Lys Asp Ile Trp Ser Met Ala Pro Asn Val Val Lys
       115            120            125

aat gcg ccg tgt cag gaa atc gta tgg gaa ggc gaa gac gtt gat ttg      432
Asn Ala Pro Cys Gln Glu Ile Val Trp Glu Gly Glu Asp Val Asp Leu
       130            135            140

tat caa ctt ccg att cag cat tgc tgg ccg gaa gac gtt gcg ccg ctg      480
Tyr Gln Leu Pro Ile Gln His Cys Trp Pro Glu Asp Val Ala Pro Leu
       145            150            155            160

gta acg tgg ggc ttg acc gtc acg cgc ggg ccg cac aaa aaa cgc caa      528
Val Thr Trp Gly Leu Thr Val Thr Arg Gly Pro His Lys Lys Arg Gln
           165            170            175

aat ctc ggc att tac cgc caa caa tta atc ggc ata aac aag ctg att      576

```

Asn Leu Gly Ile Tyr Arg Gln Gln Leu Ile Gly Ile Asn Lys Leu Ile	
180 185 190	
atg cgc tgg ctg tcg cat cgc ggc ggc gcg ctg gat tat cag gaa ttc	624
Met Arg Trp Leu Ser His Arg Gly Gly Ala Leu Asp Tyr Gln Glu Phe	
195 200 205	
cgc aaa ctc aat ccc gat acg ccg tat ccc gtc gcc gtc gtg ctc ggc	672
Arg Lys Leu Asn Pro Asp Thr Pro Tyr Pro Val Ala Val Val Leu Gly	
210 215 220	
tgc gac cct gcc acc att ttg ggc gcg gta acg ccc gtt ccc gat acc	720
Cys Asp Pro Ala Thr Ile Leu Gly Ala Val Thr Pro Val Pro Asp Thr	
225 230 235 240	
ttg agc gaa tac cag ttt gcc gga ctg ctg cgc ggt tcg cgg acg gaa	768
Leu Ser Glu Tyr Gln Phe Ala Gly Leu Leu Arg Gly Ser Arg Thr Glu	
245 250 255	
ctg gtg aaa tgt atc ggc aac gat ttg caa gtg cct gcc cgc gca gaa	816
Leu Val Lys Cys Ile Gly Asn Asp Leu Gln Val Pro Ala Arg Ala Glu	
260 265 270	
atc gtg ttg gaa ggc gtc atc cat cca aac gaa acc gcg ttg gaa ggt	864
Ile Val Leu Glu Gly Val Ile His Pro Asn Glu Thr Ala Leu Glu Gly	
275 280 285	
cca tac ggc gac cac acg ggc tat tac aac gag cag gac cat ttc ccc	912
Pro Tyr Gly Asp His Thr Gly Tyr Tyr Asn Glu Gln Asp His Phe Pro	
290 295 300	
gtg ttt acg gtc gaa cgc atc acc atg cgc gaa aac ccg att tac cac	960
Val Phe Thr Val Glu Arg Ile Thr Met Arg Glu Asn Pro Ile Tyr His	
305 310 315 320	
tct acc tac aca ggc aaa ccg ccc gat gaa ccc gcc gtt ttg ggc gtg	1008
Ser Thr Tyr Thr Gly Lys Pro Pro Asp Glu Pro Ala Val Leu Gly Val	
325 330 335	
gcg ttg aac gaa gtg ttc gta ccg ctt ttg caa aag cag ttc ccc gaa	1056
Ala Leu Asn Glu Val Phe Val Pro Leu Leu Gln Lys Gln Phe Pro Glu	
340 345 350	
atc acc gat ttt tac ctg ccg ccc gaa ggc tgc tcc tac cgc atg gcg	1104
Ile Thr Asp Phe Tyr Leu Pro Pro Glu Gly Cys Ser Tyr Arg Met Ala	
355 360 365	
gtg gtg agc atg aaa aaa cag tac gcc gga cac gcc aag cgc gtg atg	1152

```

Val Val Ser Met Lys Lys Gln Tyr Ala Gly His Ala Lys Arg Val Met
  370                      375                      380

atg ggc tgc tgg tcg ttc ctg cgc cag ttt atg tac acc aaa ttc atc 1200
Met Gly Cys Trp Ser Phe Leu Arg Gln Phe Met Tyr Thr Lys Phe Ile
385                      390                      395                      400

att gtg gtg gat gac gat gtg gat gtg cgc gac tgg aaa gaa gtc atc 1248
Ile Val Val Asp Asp Asp Val Asp Val Arg Asp Trp Lys Glu Val Ile
                      405                      410                      415

tgg gcg gta acc acg cgc atg gac ccc gtg cgc gat acc gtt ttg atg 1296
Trp Ala Val Thr Thr Arg Met Asp Pro Val Arg Asp Thr Val Leu Met
                      420                      425                      430

gaa aac acg ccc atc gac tac ctc gac ttc gcc agc ccc gtc agc gga 1344
Glu Asn Thr Pro Ile Asp Tyr Leu Asp Phe Ala Ser Pro Val Ser Gly
                      435                      440                      445

ctt ggc ggc aaa atg ggt ttg gat gcg acc aac aag tgg ccg ggc gaa 1392
Leu Gly Gly Lys Met Gly Leu Asp Ala Thr Asn Lys Trp Pro Gly Glu
                      450                      455                      460

acc gac cgc gaa tgg gga cgg gtg att aaa aaa gac cct gcg gtt acg 1440
Thr Asp Arg Glu Trp Gly Arg Val Ile Lys Lys Asp Pro Ala Val Thr
465                      470                      475                      480

gct aag att gat gag att tgg gag gaa ttg ggg ttg 1476
Ala Lys Ile Asp Glu Ile Trp Glu Glu Leu Gly Leu
                      485                      490

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<210> 102

<211> 492

<212> PRT

<213> 脑膜炎奈瑟氏球菌(*Neisseria meningitidis*)

<400> 102

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Met Lys Tyr Lys Asp Leu Arg Asp Phe Ile Ala Met Leu Glu Gln Gln
  1                      5                      10                      15

Gly Lys Leu Lys Arg Ile Ala His Pro Val Ser Pro His Leu Glu Met
                      20                      25                      30

Thr Glu Ile Ala Asp Arg Val Leu Arg Ala Glu Gly Pro Ala Leu Leu
                      35                      40                      45

Phe Glu His Pro Val Lys Pro Asp Gly Thr Arg Tyr Asp Tyr Pro Val

```

50	55	60
Leu Ala Asn Leu Phe Gly Thr Pro Glu Arg Val Ala Met Gly Met Gly		
65	70	75 80
Ala Asp Ser Val Ser Lys Leu Arg Glu Ile Gly Gln Thr Leu Ala Tyr		
	85	90 95
Leu Lys Glu Pro Glu Pro Pro Lys Gly Ile Lys Asp Ala Phe Ser Lys		
	100	105 110
Leu Pro Leu Leu Lys Asp Ile Trp Ser Met Ala Pro Asn Val Val Lys		
	115	120 125
Asn Ala Pro Cys Gln Glu Ile Val Trp Glu Gly Glu Asp Val Asp Leu		
	130	135 140
Tyr Gln Leu Pro Ile Gln His Cys Trp Pro Glu Asp Val Ala Pro Leu		
	145	150 155 160
Val Thr Trp Gly Leu Thr Val Thr Arg Gly Pro His Lys Lys Arg Gln		
	165	170 175
Asn Leu Gly Ile Tyr Arg Gln Gln Leu Ile Gly Ile Asn Lys Leu Ile		
	180	185 190
Met Arg Trp Leu Ser His Arg Gly Gly Ala Leu Asp Tyr Gln Glu Phe		
	195	200 205
Arg Lys Leu Asn Pro Asp Thr Pro Tyr Pro Val Ala Val Val Leu Gly		
	210	215 220
Cys Asp Pro Ala Thr Ile Leu Gly Ala Val Thr Pro Val Pro Asp Thr		
	225	230 235 240
Leu Ser Glu Tyr Gln Phe Ala Gly Leu Leu Arg Gly Ser Arg Thr Glu		
	245	250 255
Leu Val Lys Cys Ile Gly Asn Asp Leu Gln Val Pro Ala Arg Ala Glu		
	260	265 270
Ile Val Leu Glu Gly Val Ile His Pro Asn Glu Thr Ala Leu Glu Gly		
	275	280 285
Pro Tyr Gly Asp His Thr Gly Tyr Tyr Asn Glu Gln Asp His Phe Pro		
	290	295 300
Val Phe Thr Val Glu Arg Ile Thr Met Arg Glu Asn Pro Ile Tyr His		

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305              310              315              320
Ser Thr Tyr Thr Gly Lys Pro Pro Asp Glu Pro Ala Val Leu Gly Val
              325              330              335

Ala Leu Asn Glu Val Phe Val Pro Leu Leu Gln Lys Gln Phe Pro Glu
              340              345              350

Ile Thr Asp Phe Tyr Leu Pro Pro Glu Gly Cys Ser Tyr Arg Met Ala
              355              360              365

Val Val Ser Met Lys Lys Gln Tyr Ala Gly His Ala Lys Arg Val Met
              370              375              380

Met Gly Cys Trp Ser Phe Leu Arg Gln Phe Met Tyr Thr Lys Phe Ile
385              390              395              400

Ile Val Val Asp Asp Asp Val Asp Val Arg Asp Trp Lys Glu Val Ile
              405              410              415

Trp Ala Val Thr Thr Arg Met Asp Pro Val Arg Asp Thr Val Leu Met
              420              425              430

Glu Asn Thr Pro Ile Asp Tyr Leu Asp Phe Ala Ser Pro Val Ser Gly
              435              440              445

Leu Gly Gly Lys Met Gly Leu Asp Ala Thr Asn Lys Trp Pro Gly Glu
              450              455              460

Thr Asp Arg Glu Trp Gly Arg Val Ile Lys Lys Asp Pro Ala Val Thr
465              470              475              480

Ala Lys Ile Asp Glu Ile Trp Glu Glu Leu Gly Leu
              485              490

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<210> 103

<211> 1089

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1089)

<400> 103

atg agt ttg aaa tgc ggc atc gtc ggt ttg ccc aac gtc ggc aaa tcc 48

Met	Ser	Leu	Lys	Cys	Gly	Ile	Val	Gly	Leu	Pro	Asn	Val	Gly	Lys	Ser	
1				5					10					15		
acc ctt ttt aac gcg ctg acc caa tcg ggt atc gaa gcg gca aac tat 96																
Thr	Leu	Phe	Asn	Ala	Leu	Thr	Gln	Ser	Gly	Ile	Glu	Ala	Ala	Asn	Tyr	
			20				25					30				
cct ttc tgt acc atc gaa ccc aac gtc ggc atc gtc gaa gtc ccc gat 144																
Pro	Phe	Cys	Thr	Ile	Glu	Pro	Asn	Val	Gly	Ile	Val	Glu	Val	Pro	Asp	
		35					40					45				
ccg cgt atg gcc gaa ttg gca aaa atc gtc aat ccg caa aaa atg cag 192																
Pro	Arg	Met	Ala	Glu	Leu	Ala	Lys	Ile	Val	Asn	Pro	Gln	Lys	Met	Gln	
	50						55				60					
cct gcc atc gtc gaa ttt gtc gat att gcc ggt ttg gtt gca ggc gcg 240																
Pro	Ala	Ile	Val	Glu	Phe	Val	Asp	Ile	Ala	Gly	Leu	Val	Ala	Gly	Ala	
	65				70				75				80			
agc aaa ggc gag ggc ttg ggc aac cag ttc ctt gcc aac atc cgc gaa 288																
Ser	Lys	Gly	Glu	Gly	Leu	Gly	Asn	Gln	Phe	Leu	Ala	Asn	Ile	Arg	Glu	
			85				90						95			
acc gat gcg att gtg aat gtc gtg cgc tgc ttt gac gac gac aac atc 336																
Thr	Asp	Ala	Ile	Val	Asn	Val	Val	Arg	Cys	Phe	Asp	Asp	Asp	Asn	Ile	
		100					105					110				
gtc cac gtt gca ggc cgc gtc gat ccg att gcc gac att gaa acc atc 384																
Val	His	Val	Ala	Gly	Arg	Val	Asp	Pro	Ile	Ala	Asp	Ile	Glu	Thr	Ile	
		115					120					125				
ggc aca gag ttg gca ctt gcc gac ctg gca agt gtc gaa aaa gcc atc 432																
Gly	Thr	Glu	Leu	Ala	Leu	Ala	Asp	Leu	Ala	Ser	Val	Glu	Lys	Ala	Ile	
	130						135				140					
gtc cgc gaa gaa aaa cgc gcc cgc tca ggc gac aaa gac gcg caa aag 480																
Val	Arg	Glu	Glu	Lys	Arg	Ala	Arg	Ser	Gly	Asp	Lys	Asp	Ala	Gln	Lys	
	145				150				155				160			
ctg gtc gat ttg tgc aaa aaa ctg ctg ccg cat ctg gac gaa ggc aaa 528																
Leu	Val	Asp	Leu	Cys	Lys	Lys	Leu	Leu	Pro	His	Leu	Asp	Glu	Gly	Lys	
			165						170				175			
ccc gtg cgt tcc ttc ggt ttg gac gcg gaa gaa cgc gcg atg ctc aaa 576																
Pro	Val	Arg	Ser	Phe	Gly	Leu	Asp	Ala	Glu	Glu	Arg	Ala	Met	Leu	Lys	
		180						185					190			
ccg ctg ttc ctg ctg acc gcc aaa ccg gcg atg tat gtg ggc aac gtc 624																


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Pro Leu Phe Leu Leu Thr Ala Lys Pro Ala Met Tyr Val Gly Asn Val
    195                      200                      205

gcc gaa gac ggt ttt gaa aac aat ccg cac ctc gac cgc ctg aaa gaa   672
Ala Glu Asp Gly Phe Glu Asn Asn Pro His Leu Asp Arg Leu Lys Glu
    210                      215                      220

ttg gcg gca aaa gaa aac gcc ccc gtc gtc gcc gtt tgc gcc gcg atg   720
Leu Ala Ala Lys Glu Asn Ala Pro Val Val Ala Val Cys Ala Ala Met
    225                      230                      235                      240

gag agc gaa att gcc gaa ttg gaa gac gac gaa aaa gcc gag ttc ctc   768
Glu Ser Glu Ile Ala Glu Leu Glu Asp Asp Glu Lys Ala Glu Phe Leu
    245                      250                      255

gcc gaa atg ggc ttg gaa gaa ccg ggc ctg aac cgc ctg att cgt gcc   816
Ala Glu Met Gly Leu Glu Glu Pro Gly Leu Asn Arg Leu Ile Arg Ala
    260                      265                      270

ggg tac gac ctc ttg ggg ctg caa acc tat ttc acc gcc ggt gtg aaa   864
Gly Tyr Asp Leu Leu Gly Leu Gln Thr Tyr Phe Thr Ala Gly Val Lys
    275                      280                      285

gaa gtc cgc gcg tgg acg ata cac aaa ggc gat acc gcc ccg caa gcc   912
Glu Val Arg Ala Trp Thr Ile His Lys Gly Asp Thr Ala Pro Gln Ala
    290                      295                      300

gcc ggc gtg att cac acc gac ttt gag cgc ggc ttc atc cgc gcc caa   960
Ala Gly Val Ile His Thr Asp Phe Glu Arg Gly Phe Ile Arg Ala Gln
    305                      310                      315                      320

gtc att tct tac gac gac ttt gtc tcg ctc ggc ggc gaa gcc aaa gcc  1008
Val Ile Ser Tyr Asp Asp Phe Val Ser Leu Gly Gly Glu Ala Lys Ala
    325                      330                      335

aaa gaa gcc ggc aaa atg cgt gtg gaa ggt aag gaa tac gtc gtg cag  1056
Lys Glu Ala Gly Lys Met Arg Val Glu Gly Lys Glu Tyr Val Val Gln
    340                      345                      350

gac ggc gat gta atg cac ttt ttg ttt aac gtg                        1089
Asp Gly Asp Val Met His Phe Leu Phe Asn Val
    355                      360

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<210> 104

<211> 363

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 104

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Met Ser Leu Lys Cys Gly Ile Val Gly Leu Pro Asn Val Gly Lys Ser
 1              5              10              15

Thr Leu Phe Asn Ala Leu Thr Gln Ser Gly Ile Glu Ala Ala Asn Tyr
      20              25              30

Pro Phe Cys Thr Ile Glu Pro Asn Val Gly Ile Val Glu Val Pro Asp
      35              40              45

Pro Arg Met Ala Glu Leu Ala Lys Ile Val Asn Pro Gln Lys Met Gln
      50              55              60

Pro Ala Ile Val Glu Phe Val Asp Ile Ala Gly Leu Val Ala Gly Ala
      65              70              75              80

Ser Lys Gly Glu Gly Leu Gly Asn Gln Phe Leu Ala Asn Ile Arg Glu
      85              90              95

Thr Asp Ala Ile Val Asn Val Val Arg Cys Phe Asp Asp Asp Asn Ile
      100              105              110

Val His Val Ala Gly Arg Val Asp Pro Ile Ala Asp Ile Glu Thr Ile
      115              120              125

Gly Thr Glu Leu Ala Leu Ala Asp Leu Ala Ser Val Glu Lys Ala Ile
      130              135              140

Val Arg Glu Glu Lys Arg Ala Arg Ser Gly Asp Lys Asp Ala Gln Lys
      145              150              155              160

Leu Val Asp Leu Cys Lys Lys Leu Leu Pro His Leu Asp Glu Gly Lys
      165              170              175

Pro Val Arg Ser Phe Gly Leu Asp Ala Glu Glu Arg Ala Met Leu Lys
      180              185              190

Pro Leu Phe Leu Leu Thr Ala Lys Pro Ala Met Tyr Val Gly Asn Val
      195              200              205

Ala Glu Asp Gly Phe Glu Asn Asn Pro His Leu Asp Arg Leu Lys Glu
      210              215              220

Leu Ala Ala Lys Glu Asn Ala Pro Val Val Ala Val Cys Ala Ala Met
      225              230              235              240

Glu Ser Glu Ile Ala Glu Leu Glu Asp Asp Glu Lys Ala Glu Phe Leu

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                245                250                255
Ala Glu Met Gly Leu Glu Glu Pro Gly Leu Asn Arg Leu Ile Arg Ala
                260                265                270
Gly Tyr Asp Leu Leu Gly Leu Gln Thr Tyr Phe Thr Ala Gly Val Lys
                275                280                285
Glu Val Arg Ala Trp Thr Ile His Lys Gly Asp Thr Ala Pro Gln Ala
                290                295                300
Ala Gly Val Ile His Thr Asp Phe Glu Arg Gly Phe Ile Arg Ala Gln
305                310                315                320
Val Ile Ser Tyr Asp Asp Phe Val Ser Leu Gly Gly Glu Ala Lys Ala
                325                330                335
Lys Glu Ala Gly Lys Met Arg Val Glu Gly Lys Glu Tyr Val Val Gln
                340                345                350
Asp Gly Asp Val Met His Phe Leu Phe Asn Val
                355                360

```

<210> 105

<211> 1177

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1176)

<400> 105

atg gca aaa atg atg aaa tgg gcg gct gtt gcg gcg gtc gcg gcg gca 48

Met Ala Lys Met Met Lys Trp Ala Ala Val Ala Ala Val Ala Ala Ala

1

5

10

15

gcg gtt tgg ggc gga tgg tct tat ctg aag ccc gag ccg cag gct gct 96

Ala Val Trp Gly Gly Trp Ser Tyr Leu Lys Pro Glu Pro Gln Ala Ala

20

25

30

tat att acg gaa acg gtc agg cgc ggc gac atc agc cgg acg gtt tct 144

Tyr Ile Thr Glu Thr Val Arg Arg Gly Asp Ile Ser Arg Thr Val Ser

35

40

45

gca aca ggg gag att tcg ccg tcc aac ctg gta tcg gtc ggc gcg cag 192

Ala Thr Gly Glu Ile Ser Pro Ser Asn Leu Val Ser Val Gly Ala Gln	
50 55 60	
gca tcg ggg cag att aag aaa ctt tat gtc aaa ctc ggg caa cag gtt	240
Ala Ser Gly Gln Ile Lys Lys Leu Tyr Val Lys Leu Gly Gln Gln Val	
65 70 75 80	
aaa aag ggc gat ttg att gcg gaa atc aat tcg acc tcg cag acc aat	288
Lys Lys Gly Asp Leu Ile Ala Glu Ile Asn Ser Thr Ser Gln Thr Asn	
85 90 95	
acg ctc aat acg gaa aaa tcc aaa ttg gaa acg tat cag gcg aag ctg	336
Thr Leu Asn Thr Glu Lys Ser Lys Leu Glu Thr Tyr Gln Ala Lys Leu	
100 105 110	
gtg tcg gca cag att gca ttg ggc agc gcg gag aag aaa tat aag cgt	384
Val Ser Ala Gln Ile Ala Leu Gly Ser Ala Glu Lys Lys Tyr Lys Arg	
115 120 125	
cag gcg gcg ttg tgg aag gat gat gcg acc gct aaa gaa gat ttg gaa	432
Gln Ala Ala Leu Trp Lys Asp Asp Ala Thr Ala Lys Glu Asp Leu Glu	
130 135 140	
agc gca cag gat gcg ctt gcc gcc gcc aaa gcc aat gtt gcc gag ctg	480
Ser Ala Gln Asp Ala Leu Ala Ala Ala Lys Ala Asn Val Ala Glu Leu	
145 150 155 160	
aag gct cta atc aga cag agc aaa att tcc atc aat acc gcc gag tcg	528
Lys Ala Leu Ile Arg Gln Ser Lys Ile Ser Ile Asn Thr Ala Glu Ser	
165 170 175	
gaa ttg ggc tac acg cgc att acc gca acg atg gac ggc acg gtg gtg	576
Glu Leu Gly Tyr Thr Arg Ile Thr Ala Thr Met Asp Gly Thr Val Val	
180 185 190	
gcg att ctc gtg gaa gag ggg cag act gtg aac gcg gcg cag tct acg	624
Ala Ile Leu Val Glu Glu Gly Gln Thr Val Asn Ala Ala Gln Ser Thr	
195 200 205	
ccg acg att gtc caa ttg gcg aat ctg gat atg atg ttg aac aaa atg	672
Pro Thr Ile Val Gln Leu Ala Asn Leu Asp Met Met Leu Asn Lys Met	
210 215 220	
cag att gcc gag ggc gat att acc aag gtg aag gcg ggg cag gat att	720
Gln Ile Ala Glu Gly Asp Ile Thr Lys Val Lys Ala Gly Gln Asp Ile	
225 230 235 240	
tcg ttt acg att ttg tcc gaa ccg gat acg ccg att aag gcg aag ctc	768

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Ser Phe Thr Ile Leu Ser Glu Pro Asp Thr Pro Ile Lys Ala Lys Leu
      245              250              255

gac agc gtc gac ccc ggg ctg acc acg atg tcg tcg ggc ggc tac aac 816
Asp Ser Val Asp Pro Gly Leu Thr Thr Met Ser Ser Gly Gly Tyr Asn
      260              265              270

agc agt acg gat acg gct tcc aat gcg gtc tac tat tat gcc cgt tcg 864
Ser Ser Thr Asp Thr Ala Ser Asn Ala Val Tyr Tyr Tyr Ala Arg Ser
      275              280              285

ttt gtg ccg aat ccg gac ggc aaa ctc gcc acg ggg atg acg acg cag 912
Phe Val Pro Asn Pro Asp Gly Lys Leu Ala Thr Gly Met Thr Thr Gln
      290              295              300

aat acg gtt gaa atc gac ggt gtg aaa aat gtg ctg att att ccg tcg 960
Asn Thr Val Glu Ile Asp Gly Val Lys Asn Val Leu Ile Ile Pro Ser
      305              310              315              320

ctg acc gtg aaa aat cgc ggc ggc agg gcg ttt gtg cgc gtg ttg ggt 1008
Leu Thr Val Lys Asn Arg Gly Gly Arg Ala Phe Val Arg Val Leu Gly
      325              330              335

gca gac ggc aag gcg gcg gaa cgc gaa atc cgg acc ggt atg aga gac 1056
Ala Asp Gly Lys Ala Ala Glu Arg Glu Ile Arg Thr Gly Met Arg Asp
      340              345              350

agt atg aat acc gaa gta aaa agc ggg ttg aaa gag ggg gac aaa gtg 1104
Ser Met Asn Thr Glu Val Lys Ser Gly Leu Lys Glu Gly Asp Lys Val
      355              360              365

gtc atc tcc gaa ata acc gcc gcc gag cag cag gaa agc ggc gaa cgc 1152
Val Ile Ser Glu Ile Thr Ala Ala Glu Gln Gln Glu Ser Gly Glu Arg
      370              375              380

gcc cta ggc ggc ccg ccg cgc cga t 1177
Ala Leu Gly Gly Pro Pro Arg Arg
      385              390

<210> 106
<211> 392
<212> PRT
<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 106
Met Ala Lys Met Met Lys Trp Ala Ala Val Ala Ala Val Ala Ala Ala
      1              5              10              15

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Ala Val Trp Gly Gly Trp Ser Tyr Leu Lys Pro Glu Pro Gln Ala Ala
      20              25              30

Tyr Ile Thr Glu Thr Val Arg Arg Gly Asp Ile Ser Arg Thr Val Ser
      35              40              45

Ala Thr Gly Glu Ile Ser Pro Ser Asn Leu Val Ser Val Gly Ala Gln
      50              55              60

Ala Ser Gly Gln Ile Lys Lys Leu Tyr Val Lys Leu Gly Gln Gln Val
      65              70              75              80

Lys Lys Gly Asp Leu Ile Ala Glu Ile Asn Ser Thr Ser Gln Thr Asn
      85              90              95

Thr Leu Asn Thr Glu Lys Ser Lys Leu Glu Thr Tyr Gln Ala Lys Leu
      100             105             110

Val Ser Ala Gln Ile Ala Leu Gly Ser Ala Glu Lys Lys Tyr Lys Arg
      115             120             125

Gln Ala Ala Leu Trp Lys Asp Asp Ala Thr Ala Lys Glu Asp Leu Glu
      130             135             140

Ser Ala Gln Asp Ala Leu Ala Ala Ala Lys Ala Asn Val Ala Glu Leu
      145             150             155             160

Lys Ala Leu Ile Arg Gln Ser Lys Ile Ser Ile Asn Thr Ala Glu Ser
      165             170             175

Glu Leu Gly Tyr Thr Arg Ile Thr Ala Thr Met Asp Gly Thr Val Val
      180             185             190

Ala Ile Leu Val Glu Glu Gly Gln Thr Val Asn Ala Ala Gln Ser Thr
      195             200             205

Pro Thr Ile Val Gln Leu Ala Asn Leu Asp Met Met Leu Asn Lys Met
      210             215             220

Gln Ile Ala Glu Gly Asp Ile Thr Lys Val Lys Ala Gly Gln Asp Ile
      225             230             235             240

Ser Phe Thr Ile Leu Ser Glu Pro Asp Thr Pro Ile Lys Ala Lys Leu
      245             250             255

Asp Ser Val Asp Pro Gly Leu Thr Thr Met Ser Ser Gly Gly Tyr Asn
      260             265             270

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Ser Ser Thr Asp Thr Ala Ser Asn Ala Val Tyr Tyr Tyr Ala Arg Ser
275 280 285

Phe Val Pro Asn Pro Asp Gly Lys Leu Ala Thr Gly Met Thr Thr Gln
290 295 300

Asn Thr Val Glu Ile Asp Gly Val Lys Asn Val Leu Ile Ile Pro Ser
305 310 315 320

Leu Thr Val Lys Asn Arg Gly Gly Arg Ala Phe Val Arg Val Leu Gly
325 330 335

Ala Asp Gly Lys Ala Ala Glu Arg Glu Ile Arg Thr Gly Met Arg Asp
340 345 350

Ser Met Asn Thr Glu Val Lys Ser Gly Leu Lys Glu Gly Asp Lys Val
355 360 365

Val Ile Ser Glu Ile Thr Ala Ala Glu Gln Gln Glu Ser Gly Glu Arg
370 375 380

Ala Leu Gly Gly Pro Pro Arg Arg
385 390

<210> 107

<211> 1185

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1185)

<400> 107

atg aca gag gac gaa cgt ttc gcg tgg ctg caa ttg gcg ttt acg ccc 48
Met Thr Glu Asp Glu Arg Phe Ala Trp Leu Gln Leu Ala Phe Thr Pro
1 5 10 15

tat atc ggc gcg gaa agt ttc ctg ctg ctg atg cgc cgt ttc ggc agc 96
Tyr Ile Gly Ala Glu Ser Phe Leu Leu Leu Met Arg Arg Phe Gly Ser
20 25 30

gcg caa aat gcc ctg tcc gca ccg gcg gaa cag gtg gcg gca ctg ata 144
Ala Gln Asn Ala Leu Ser Ala Pro Ala Glu Gln Val Ala Ala Leu Ile
35 40 45

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cgg cac aaa cag gcg ctt gag gct tgg cgc aat gcg gaa aaa cgc gct 192
Arg His Lys Gln Ala Leu Glu Ala Trp Arg Asn Ala Glu Lys Arg Ala
    50              55              60

ctg gcg cgg cag gcg gca gaa gcg gcg ttg gaa tgg gaa atg cgg gac 240
Leu Ala Arg Gln Ala Ala Glu Ala Ala Leu Glu Trp Glu Met Arg Asp
    65              70              75              80

gga tgc cgc ctg atg ctg ctt cag gat gaa gat ttc ccc gaa atg ctg 288
Gly Cys Arg Leu Met Leu Leu Gln Asp Glu Asp Phe Pro Glu Met Leu
    85              90              95

acg cag ggg ctg acc gcg ccg ccg gtt ttg ttt ttg cgc ggc aac gtg 336
Thr Gln Gly Leu Thr Ala Pro Pro Val Leu Phe Leu Arg Gly Asn Val
    100             105             110

cgg ctg ctg cac aag cct tcc gcc gcc atc gtc ggc agc cgc cat gcc 384
Arg Leu Leu His Lys Pro Ser Ala Ala Ile Val Gly Ser Arg His Ala
    115             120             125

acg ccg cag gcg atg cgg att gcc aaa gat ttc ggc aag tcg ttg ggc 432
Thr Pro Gln Ala Met Arg Ile Ala Lys Asp Phe Gly Lys Ser Leu Gly
    130             135             140

ggg caa aat atc ccc gtt gtg tcg ggt atg gct tcc ggt atc gat act 480
Gly Gln Asn Ile Pro Val Val Ser Gly Met Ala Ser Gly Ile Asp Thr
    145             150             155             160

gcc gcc cat cag ggc gca ctg gag gca gaa ggc ggc acc atc gcc gtg 528
Ala Ala His Gln Gly Ala Leu Glu Ala Glu Gly Gly Thr Ile Ala Val
    165             170             175

tgg ggg acg ggt ata gac cgc att tac ccg ccg tcc aat aaa aac ctt 576
Trp Gly Thr Gly Ile Asp Arg Ile Tyr Pro Pro Ser Asn Lys Asn Leu
    180             185             190

gcc tat gaa atc gcc gaa aaa gga ttg att gtc agc gag ttt ccc atc 624
Ala Tyr Glu Ile Ala Glu Lys Gly Leu Ile Val Ser Glu Phe Pro Ile
    195             200             205

ggt acg cgc ccg tat gcc ggc aat ttt ccg cgc cgc aac cgc ctg att 672
Gly Thr Arg Pro Tyr Ala Gly Asn Phe Pro Arg Arg Asn Arg Leu Ile
    210             215             220

gcc gcc ctg tcg caa gta acg ctg gtg gtt gaa gcc gcc ttg gaa tcc 720
Ala Ala Leu Ser Gln Val Thr Leu Val Val Glu Ala Ala Leu Glu Ser
    225             230             235             240

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ggt tcg ctg att acc gcc ggc ctg gcg gca gaa atg ggg cgc gaa gtg 768
Gly Ser Leu Ile Thr Ala Gly Leu Ala Ala Glu Met Gly Arg Glu Val
                245                250                255

atg gcg gta ccc ggt tcg ata gac aat ccg cac agc aaa ggc tgc cac 816
Met Ala Val Pro Gly Ser Ile Asp Asn Pro His Ser Lys Gly Cys His
                260                265                270

aaa ctg att aaa gac ggc gca aaa ttg gtg gaa tgc ctg gac gac atc 864
Lys Leu Ile Lys Asp Gly Ala Lys Leu Val Glu Cys Leu Asp Asp Ile
                275                280                285

ctg aac gaa tgc ccg ggg cta ttg caa aat acg ggt gct tca tca tat 912
Leu Asn Glu Cys Pro Gly Leu Leu Gln Asn Thr Gly Ala Ser Ser Tyr
                290                295                300

tct ata aat aag gat acg ccc gac acg gga cgc cgc gcc gtt cag acg 960
Ser Ile Asn Lys Asp Thr Pro Asp Thr Gly Arg Arg Ala Val Gln Thr
305                310                315                320

gca tac gcc ccg ccg cct gcc gca aaa atg ccg tct gaa gcg gcg gca 1008
Ala Tyr Ala Pro Pro Pro Ala Ala Lys Met Pro Ser Glu Ala Ala Ala
                325                330                335

ggc ggc aca gcc gtc ggc ggc ata ctg gat aaa atg ggt ttc gac ccc 1056
Gly Gly Thr Ala Val Gly Gly Ile Leu Asp Lys Met Gly Phe Asp Pro
                340                345                350

atc cat ccc gac gtg ctt gcc gga cag ttg gct atg cct gcc gca gat 1104
Ile His Pro Asp Val Leu Ala Gly Gln Leu Ala Met Pro Ala Ala Asp
                355                360                365

ttg tat gcc gca ctg ttg gaa ttg gaa ttg gac ggc agc gtt gcc gca 1152
Leu Tyr Ala Ala Leu Leu Glu Leu Glu Leu Asp Gly Ser Val Ala Ala
                370                375                380

atg ccc agc ggc aga tac cag cgt atc cga act 1185
Met Pro Ser Gly Arg Tyr Gln Arg Ile Arg Thr
385                390                395

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<210> 108

<211> 395

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 108

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Met Thr Glu Asp Glu Arg Phe Ala Trp Leu Gln Leu Ala Phe Thr Pro
  1              5              10              15

Tyr Ile Gly Ala Glu Ser Phe Leu Leu Leu Met Arg Arg Phe Gly Ser
      20              25              30

Ala Gln Asn Ala Leu Ser Ala Pro Ala Glu Gln Val Ala Ala Leu Ile
      35              40              45

Arg His Lys Gln Ala Leu Glu Ala Trp Arg Asn Ala Glu Lys Arg Ala
      50              55              60

Leu Ala Arg Gln Ala Ala Glu Ala Ala Leu Glu Trp Glu Met Arg Asp
      65              70              75              80

Gly Cys Arg Leu Met Leu Leu Gln Asp Glu Asp Phe Pro Glu Met Leu
      85              90              95

Thr Gln Gly Leu Thr Ala Pro Pro Val Leu Phe Leu Arg Gly Asn Val
      100              105              110

Arg Leu Leu His Lys Pro Ser Ala Ala Ile Val Gly Ser Arg His Ala
      115              120              125

Thr Pro Gln Ala Met Arg Ile Ala Lys Asp Phe Gly Lys Ser Leu Gly
      130              135              140

Gly Gln Asn Ile Pro Val Val Ser Gly Met Ala Ser Gly Ile Asp Thr
      145              150              155              160

Ala Ala His Gln Gly Ala Leu Glu Ala Glu Gly Gly Thr Ile Ala Val
      165              170              175

Trp Gly Thr Gly Ile Asp Arg Ile Tyr Pro Pro Ser Asn Lys Asn Leu
      180              185              190

Ala Tyr Glu Ile Ala Glu Lys Gly Leu Ile Val Ser Glu Phe Pro Ile
      195              200              205

Gly Thr Arg Pro Tyr Ala Gly Asn Phe Pro Arg Arg Asn Arg Leu Ile
      210              215              220

Ala Ala Leu Ser Gln Val Thr Leu Val Val Glu Ala Ala Leu Glu Ser
      225              230              235              240

Gly Ser Leu Ile Thr Ala Gly Leu Ala Ala Glu Met Gly Arg Glu Val
      245              250              255

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Met Ala Val Pro Gly Ser Ile Asp Asn Pro His Ser Lys Gly Cys His
260 265 270

Lys Leu Ile Lys Asp Gly Ala Lys Leu Val Glu Cys Leu Asp Asp Ile
275 280 285

Leu Asn Glu Cys Pro Gly Leu Leu Gln Asn Thr Gly Ala Ser Ser Tyr
290 295 300

Ser Ile Asn Lys Asp Thr Pro Asp Thr Gly Arg Arg Ala Val Gln Thr
305 310 315 320

Ala Tyr Ala Pro Pro Pro Ala Ala Lys Met Pro Ser Glu Ala Ala Ala
325 330 335

Gly Gly Thr Ala Val Gly Gly Ile Leu Asp Lys Met Gly Phe Asp Pro
340 345 350

Ile His Pro Asp Val Leu Ala Gly Gln Leu Ala Met Pro Ala Ala Asp
355 360 365

Leu Tyr Ala Ala Leu Leu Glu Leu Glu Leu Asp Gly Ser Val Ala Ala
370 375 380

Met Pro Ser Gly Arg Tyr Gln Arg Ile Arg Thr
385 390 395

<210> 109

<211> 1257

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1257)

<400> 109

atg aaa cag acc gtc ctc aaa aat aac ctg caa aac ctg ctt gaa agc 48
Met Lys Gln Thr Val Leu Lys Asn Asn Leu Gln Asn Leu Leu Glu Ser
1 5 10 15

gca gaa aat atc ctg ctg ctt caa ggc cct gtc ggc gat ttt ttt ctg 96
Ala Glu Asn Ile Leu Leu Gln Gly Pro Val Gly Asp Phe Phe Leu
20 25 30

cgc ctt gcc gac tgg ctg act gca aac ggc aaa acc gta cat aaa ttc 144

Arg Leu Ala Asp Trp Leu Thr Ala Asn Gly Lys Thr Val His Lys Phe	
35 40 45	
aac ttt aat gca ggc gac gac tat ttt tat ccg ccc act caa gcg cat	192
Asn Phe Asn Ala Gly Asp Asp Tyr Phe Tyr Pro Pro Thr Gln Ala His	
50 55 60	
acc gtt gtt ttt aac gac aac tac gat gcc ttt cct gag ttt ttg caa	240
Thr Val Val Phe Asn Asp Asn Tyr Asp Ala Phe Pro Glu Phe Leu Gln	
65 70 75 80	
gaa tac atc act caa cat cac atc cag gcc gtt gtc tgc ttt ggc gac	288
Glu Tyr Ile Thr Gln His His Ile Gln Ala Val Val Cys Phe Gly Asp	
85 90 95	
aca cgc cct tat cac gtc att gca aaa cgc att gca aac gaa aac caa	336
Thr Arg Pro Tyr His Val Ile Ala Lys Arg Ile Ala Asn Glu Asn Gln	
100 105 110	
gcc agt ttc tgg gcg ttt gaa gaa ggc tat ttc cgc ccc tac tac atc	384
Ala Ser Phe Trp Ala Phe Glu Glu Gly Tyr Phe Arg Pro Tyr Tyr Ile	
115 120 125	
acc tta gaa aaa gac ggc gtc aac gca ttt tcc ccg ttg ccg cgc cgt	432
Thr Leu Glu Lys Asp Gly Val Asn Ala Phe Ser Pro Leu Pro Arg Arg	
130 135 140	
gcc gac ttt ttt ctt gaa caa ttc cct aag ctt gcc cag caa gaa tat	480
Ala Asp Phe Phe Leu Glu Gln Phe Pro Lys Leu Ala Gln Gln Glu Tyr	
145 150 155 160	
aaa gcg cca acg ccg gta cac ggc ggt ttt acg ccc atg gca aaa aac	528
Lys Ala Pro Thr Pro Val His Gly Gly Phe Thr Pro Met Ala Lys Asn	
165 170 175	
gct atc cgt tac tat atc gag ttg ttc cgc aat cta cgc aaa tac ccc	576
Ala Ile Arg Tyr Tyr Ile Glu Leu Phe Arg Asn Leu Arg Lys Tyr Pro	
180 185 190	
gac tac atc cac cac cgc gca ccc aat gcc ggc cat tac ctc aaa ccg	624
Asp Tyr Ile His His Arg Ala Pro Asn Ala Gly His Tyr Leu Lys Pro	
195 200 205	
tgg tcg ctc tcc atc ctc aag cgt ttg aac tac tat att gaa gac atc	672
Trp Ser Leu Ser Ile Leu Lys Arg Leu Asn Tyr Tyr Ile Glu Asp Ile	
210 215 220	
caa atc gcc aaa cgt gtg gaa gca ggc aaa tac ggc aag ttt ttt att	720

Gln Ile Ala Lys Arg Val Glu Ala Gly Lys Tyr Gly Lys Phe Phe Ile	
225	230 235 240
gtt ccc ttg cag gta ttc aac gac agc caa gtc cgt atc cat tgc gac	768
Val Pro Leu Gln Val Phe Asn Asp Ser Gln Val Arg Ile His Cys Asp	
245 250 255	
ttt ccc agc gtc cgc agc ttc ctg ctc cat gtt ttg agt tca ttt gcc	816
Phe Pro Ser Val Arg Ser Phe Leu Leu His Val Leu Ser Ser Phe Ala	
260 265 270	
gaa cac gcg cct gcc gat acc aac atc atc atc aag cat cat cct atg	864
Glu His Ala Pro Ala Asp Thr Asn Ile Ile Ile Lys His His Pro Met	
275 280 285	
gac cgc ggc ttt atc gac tac tgg cgc gac att aaa cgc ttt atc aaa	912
Asp Arg Gly Phe Ile Asp Tyr Trp Arg Asp Ile Lys Arg Phe Ile Lys	
290 295 300	
gaa cac ccc gaa ctc aaa ggc cgt gtg att tat gtc cat gat gtc ccc	960
Glu His Pro Glu Leu Lys Gly Arg Val Ile Tyr Val His Asp Val Pro	
305 310 315 320	
ctg ccc gtt ttc ctg cgc cac ggt ctc ggc atg gtt acc atc aac agc	1008
Leu Pro Val Phe Leu Arg His Gly Leu Gly Met Val Thr Ile Asn Ser	
325 330 335	
acc agc ggc ctg tcc gga ctg att cac aat atg cca gtt aag gtt ctc	1056
Thr Ser Gly Leu Ser Gly Leu Ile His Asn Met Pro Val Lys Val Leu	
340 345 350	
ggc cgt gcc tat tat gat att ccc ggc att act gac caa aat acc ttg	1104
Gly Arg Ala Tyr Tyr Asp Ile Pro Gly Ile Thr Asp Gln Asn Thr Leu	
355 360 365	
gca gaa ttt tgg aat cat ccg aca ccg cct gac aaa gag ctg ttc cat	1152
Ala Glu Phe Trp Asn His Pro Thr Pro Pro Asp Lys Glu Leu Phe His	
370 375 380	
gcc tac cga atg tac cac ctc aac gtg acc caa att aac ggc aac ttc	1200
Ala Tyr Arg Met Tyr His Leu Asn Val Thr Gln Ile Asn Gly Asn Phe	
385 390 395 400	
tac agt cag gtc ttt ttt cct aac aaa aac aca tcc gac tct tcc aca	1248
Tyr Ser Gln Val Phe Phe Pro Asn Lys Asn Thr Ser Asp Ser Ser Thr	
405 410 415	
cca aca acc	1257

Pro Thr Thr

<210> 110

<211> 419

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 110

Met Lys Gln Thr Val Leu Lys Asn Asn Leu Gln Asn Leu Leu Glu Ser
1 5 10 15

Ala Glu Asn Ile Leu Leu Leu Gln Gly Pro Val Gly Asp Phe Phe Leu
20 25 30

Arg Leu Ala Asp Trp Leu Thr Ala Asn Gly Lys Thr Val His Lys Phe
35 40 45

Asn Phe Asn Ala Gly Asp Asp Tyr Phe Tyr Pro Pro Thr Gln Ala His
50 55 60

Thr Val Val Phe Asn Asp Asn Tyr Asp Ala Phe Pro Glu Phe Leu Gln
65 70 75 80

Glu Tyr Ile Thr Gln His His Ile Gln Ala Val Val Cys Phe Gly Asp
85 90 95

Thr Arg Pro Tyr His Val Ile Ala Lys Arg Ile Ala Asn Glu Asn Gln
100 105 110

Ala Ser Phe Trp Ala Phe Glu Glu Gly Tyr Phe Arg Pro Tyr Tyr Ile
115 120 125

Thr Leu Glu Lys Asp Gly Val Asn Ala Phe Ser Pro Leu Pro Arg Arg
130 135 140

Ala Asp Phe Phe Leu Glu Gln Phe Pro Lys Leu Ala Gln Gln Glu Tyr
145 150 155 160

Lys Ala Pro Thr Pro Val His Gly Gly Phe Thr Pro Met Ala Lys Asn
165 170 175

Ala Ile Arg Tyr Tyr Ile Glu Leu Phe Arg Asn Leu Arg Lys Tyr Pro
180 185 190

Asp Tyr Ile His His Arg Ala Pro Asn Ala Gly His Tyr Leu Lys Pro
195 200 205

Trp Ser Leu Ser Ile Leu Lys Arg Leu Asn Tyr Tyr Ile Glu Asp Ile
 210 215 220
 Gln Ile Ala Lys Arg Val Glu Ala Gly Lys Tyr Gly Lys Phe Phe Ile
 225 230 235 240
 Val Pro Leu Gln Val Phe Asn Asp Ser Gln Val Arg Ile His Cys Asp
 245 250 255
 Phe Pro Ser Val Arg Ser Phe Leu Leu His Val Leu Ser Ser Phe Ala
 260 265 270
 Glu His Ala Pro Ala Asp Thr Asn Ile Ile Ile Lys His His Pro Met
 275 280 285
 Asp Arg Gly Phe Ile Asp Tyr Trp Arg Asp Ile Lys Arg Phe Ile Lys
 290 295 300
 Glu His Pro Glu Leu Lys Gly Arg Val Ile Tyr Val His Asp Val Pro
 305 310 315 320
 Leu Pro Val Phe Leu Arg His Gly Leu Gly Met Val Thr Ile Asn Ser
 325 330 335
 Thr Ser Gly Leu Ser Gly Leu Ile His Asn Met Pro Val Lys Val Leu
 340 345 350
 Gly Arg Ala Tyr Tyr Asp Ile Pro Gly Ile Thr Asp Gln Asn Thr Leu
 355 360 365
 Ala Glu Phe Trp Asn His Pro Thr Pro Pro Asp Lys Glu Leu Phe His
 370 375 380
 Ala Tyr Arg Met Tyr His Leu Asn Val Thr Gln Ile Asn Gly Asn Phe
 385 390 395 400
 Tyr Ser Gln Val Phe Phe Pro Asn Lys Asn Thr Ser Asp Ser Ser Thr
 405 410 415
 Pro Thr Thr

<210> 111

<211> 1674

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1674)

<400> 111

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atg agt ttc aaa acc gat gcc gaa atc gcc caa tcc tcc acc atg cgc 48
Met Ser Phe Lys Thr Asp Ala Glu Ile Ala Gln Ser Ser Thr Met Arg
  1             5             10             15

ccg att ggc gaa att gcc gcc aag ctg ggt ttg aac gtt gac aac att 96
Pro Ile Gly Glu Ile Ala Ala Lys Leu Gly Leu Asn Val Asp Asn Ile
      20             25             30

gag cct tac ggt cat tac aaa gcc aaa atc aat cct gcc gaa gcg ttc 144
Glu Pro Tyr Gly His Tyr Lys Ala Lys Ile Asn Pro Ala Glu Ala Phe
      35             40             45

aaa ctg ccg caa aaa cag ggc agg ctg att ttg gtt acc gcc atc aac 192
Lys Leu Pro Gln Lys Gln Gly Arg Leu Ile Leu Val Thr Ala Ile Asn
      50             55             60

ccg act ccg gcg ggc gaa ggt aaa acc acc gta acc atc ggt ttg gcg 240
Pro Thr Pro Ala Gly Glu Gly Lys Thr Thr Val Thr Ile Gly Leu Ala
      65             70             75             80

gac gca ttg cgc cat atc ggc aaa gac tct gtg att gct ttg cgc gag 288
Asp Ala Leu Arg His Ile Gly Lys Asp Ser Val Ile Ala Leu Arg Glu
      85             90             95

cct tct ttg ggt ccg gtg ttc ggc gtg aaa ggc ggc gcg gca ggc ggc 336
Pro Ser Leu Gly Pro Val Phe Gly Val Lys Gly Gly Ala Ala Gly Gly
      100             105             110

ggc tat gcc caa gtt ttg ccg atg gaa gac atc aac ctg cac ttc acc 384
Gly Tyr Ala Gln Val Leu Pro Met Glu Asp Ile Asn Leu His Phe Thr
      115             120             125

gga gat ttt cac gcc atc ggt gcg gca aat aat ctg ctt gcc gcg atg 432
Gly Asp Phe His Ala Ile Gly Ala Ala Asn Asn Leu Leu Ala Ala Met
      130             135             140

ctc gac aac cat atc tac caa ggc aac gag ttg aac atc gac ccc aaa 480
Leu Asp Asn His Ile Tyr Gln Gly Asn Glu Leu Asn Ile Asp Pro Lys
      145             150             155             160

cgc gtg ctg tgg cgg cgc gtg gtc gat atg aac gac cgc cag ttg cgc 528
Arg Val Leu Trp Arg Arg Val Val Asp Met Asn Asp Arg Gln Leu Arg

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165	170	175	
aac atc atc gac ggc atg ggc aag cct gtt gac ggc gtg atg cgt cct			576
Asn Ile Ile Asp Gly Met Gly Lys Pro Val Asp Gly Val Met Arg Pro			
180	185	190	
gac ggt ttc gat att acc gtt gct tcc gaa gtg atg gcg gta ttc tgt			624
Asp Gly Phe Asp Ile Thr Val Ala Ser Glu Val Met Ala Val Phe Cys			
195	200	205	
ctt gcc aaa gac atc agc gat ttg aaa gag cgt ttg ggc aac atc ctt			672
Leu Ala Lys Asp Ile Ser Asp Leu Lys Glu Arg Leu Gly Asn Ile Leu			
210	215	220	
gtc gcc tac gcc aaa gac ggc agc ccc gtt tac gcc aaa gat ttg aaa			720
Val Ala Tyr Ala Lys Asp Gly Ser Pro Val Tyr Ala Lys Asp Leu Lys			
225	230	235	240
gcg aat ggc gcg atg gcg gca ttg ctt aaa gat gcg att aag ccc aac			768
Ala Asn Gly Ala Met Ala Ala Leu Leu Lys Asp Ala Ile Lys Pro Asn			
245	250	255	
ttg gtg caa acc atc gaa ggc acg ccc gcc ttc gta cac ggc ggc ccg			816
Leu Val Gln Thr Ile Glu Gly Thr Pro Ala Phe Val His Gly Gly Pro			
260	265	270	
ttc gcc aac atc gcc cac ggc tgc aac tcc gta acc gca acc cgt ctg			864
Phe Ala Asn Ile Ala His Gly Cys Asn Ser Val Thr Ala Thr Arg Leu			
275	280	285	
gcg aaa cac ctt gcc gat tac gcc gta acc gaa gca ggc ttc ggc gcg			912
Ala Lys His Leu Ala Asp Tyr Ala Val Thr Glu Ala Gly Phe Gly Ala			
290	295	300	
gac ttg ggc gcg gaa aaa ttc tgc gac atc aaa tgc cgc ctt gcc ggt			960
Asp Leu Gly Ala Glu Lys Phe Cys Asp Ile Lys Cys Arg Leu Ala Gly			
305	310	315	320
ttg aaa cct gat gcg gct gtt gtc gtg gcg act gtc cgc gcg ttg aaa			1008
Leu Lys Pro Asp Ala Ala Val Val Val Ala Thr Val Arg Ala Leu Lys			
325	330	335	
tat aac ggc ggc gtg gaa cgc gcc aac ctc ggc gaa gaa aat tta gac			1056
Tyr Asn Gly Gly Val Glu Arg Ala Asn Leu Gly Glu Glu Asn Leu Asp			
340	345	350	
gct ttg gaa aaa ggt ttg ccc aac ctg ctg aaa cac att tcc aac ctg			1104
Ala Leu Glu Lys Gly Leu Pro Asn Leu Leu Lys His Ile Ser Asn Leu			

355	360	365	
aaa aac gta ttc gga ctg ccc gtc gtc gtt gcg ctc aac cgc ttc gtg			1152
Lys Asn Val Phe Gly Leu Pro Val Val Val Ala Leu Asn Arg Phe Val			
370	375	380	
tcc gac tcc gat gcc gag ttg gcg atg att gaa aaa gcc tgt gcc gaa			1200
Ser Asp Ser Asp Ala Glu Leu Ala Met Ile Glu Lys Ala Cys Ala Glu			
385	390	395	400
cac ggc gtt gaa gtt tcc ctg acc gaa gtg tgg ggc aaa ggt ggt gcg			1248
His Gly Val Glu Val Ser Leu Thr Glu Val Trp Gly Lys Gly Gly Ala			
405	410	415	
ggc ggc gcg gat ttg gcg cgc aaa gtc gtc aac gcc att gaa agt caa			1296
Gly Gly Ala Asp Leu Ala Arg Lys Val Val Asn Ala Ile Glu Ser Gln			
420	425	430	
acc aat aac ttc ggt ttc gcc tac gat gtc gag ttg ggc atc aaa gac			1344
Thr Asn Asn Phe Gly Phe Ala Tyr Asp Val Glu Leu Gly Ile Lys Asp			
435	440	445	
aaa atc cgt gcg att gcc caa aaa gtg tac ggc gcg gaa gat gtt gat			1392
Lys Ile Arg Ala Ile Ala Gln Lys Val Tyr Gly Ala Glu Asp Val Asp			
450	455	460	
ttc agc gcg gaa gcg tct gcc gaa atc gct tca ctg gaa aaa ctg ggc			1440
Phe Ser Ala Glu Ala Ser Ala Glu Ile Ala Ser Leu Glu Lys Leu Gly			
465	470	475	480
ttg gac aaa atg ccg atc tgc atg gcg aaa acc caa tac tct ttg agc			1488
Leu Asp Lys Met Pro Ile Cys Met Ala Lys Thr Gln Tyr Ser Leu Ser			
485	490	495	
gac aac gcc aaa ctg ttg ggc tgc ccc gaa gac ttc cgc atc gcc gtg			1536
Asp Asn Ala Lys Leu Leu Gly Cys Pro Glu Asp Phe Arg Ile Ala Val			
500	505	510	
cgc ggc atc acc gtt tcc gca ggc gca ggt ttc atc gtc gcc ctg tgc			1584
Arg Gly Ile Thr Val Ser Ala Gly Ala Gly Phe Ile Val Ala Leu Cys			
515	520	525	
ggc aac atg atg aaa atg ccc ggc ctg ccc aaa gtt ccg gct gcc gag			1632
Gly Asn Met Met Lys Met Pro Gly Leu Pro Lys Val Pro Ala Ala Glu			
530	535	540	
aaa atc gat gtg gac gca gaa ggc gtg att cac ggc ttg ttc			1674
Lys Ile Asp Val Asp Ala Glu Gly Val Ile His Gly Leu Phe			

545

550

555

<210> 112

<211> 558

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<400> 112

Met Ser Phe Lys Thr Asp Ala Glu Ile Ala Gln Ser Ser Thr Met Arg
1 5 10 15

Pro Ile Gly Glu Ile Ala Ala Lys Leu Gly Leu Asn Val Asp Asn Ile
20 25 30

Glu Pro Tyr Gly His Tyr Lys Ala Lys Ile Asn Pro Ala Glu Ala Phe
35 40 45

Lys Leu Pro Gln Lys Gln Gly Arg Leu Ile Leu Val Thr Ala Ile Asn
50 55 60

Pro Thr Pro Ala Gly Glu Gly Lys Thr Thr Val Thr Ile Gly Leu Ala
65 70 75 80

Asp Ala Leu Arg His Ile Gly Lys Asp Ser Val Ile Ala Leu Arg Glu
85 90 95

Pro Ser Leu Gly Pro Val Phe Gly Val Lys Gly Gly Ala Ala Gly Gly
100 105 110

Gly Tyr Ala Gln Val Leu Pro Met Glu Asp Ile Asn Leu His Phe Thr
115 120 125

Gly Asp Phe His Ala Ile Gly Ala Ala Asn Asn Leu Leu Ala Ala Met
130 135 140

Leu Asp Asn His Ile Tyr Gln Gly Asn Glu Leu Asn Ile Asp Pro Lys
145 150 155 160

Arg Val Leu Trp Arg Arg Val Val Asp Met Asn Asp Arg Gln Leu Arg
165 170 175

Asn Ile Ile Asp Gly Met Gly Lys Pro Val Asp Gly Val Met Arg Pro
180 185 190

Asp Gly Phe Asp Ile Thr Val Ala Ser Glu Val Met Ala Val Phe Cys
195 200 205

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Leu Ala Lys Asp Ile Ser Asp Leu Lys Glu Arg Leu Gly Asn Ile Leu
  210                      215                      220

Val Ala Tyr Ala Lys Asp Gly Ser Pro Val Tyr Ala Lys Asp Leu Lys
  225                      230                      235                      240

Ala Asn Gly Ala Met Ala Ala Leu Leu Lys Asp Ala Ile Lys Pro Asn
                      245                      250                      255

Leu Val Gln Thr Ile Glu Gly Thr Pro Ala Phe Val His Gly Gly Pro
                      260                      265                      270

Phe Ala Asn Ile Ala His Gly Cys Asn Ser Val Thr Ala Thr Arg Leu
                      275                      280                      285

Ala Lys His Leu Ala Asp Tyr Ala Val Thr Glu Ala Gly Phe Gly Ala
                      290                      295                      300

Asp Leu Gly Ala Glu Lys Phe Cys Asp Ile Lys Cys Arg Leu Ala Gly
  305                      310                      315                      320

Leu Lys Pro Asp Ala Ala Val Val Val Ala Thr Val Arg Ala Leu Lys
                      325                      330                      335

Tyr Asn Gly Gly Val Glu Arg Ala Asn Leu Gly Glu Glu Asn Leu Asp
                      340                      345                      350

Ala Leu Glu Lys Gly Leu Pro Asn Leu Leu Lys His Ile Ser Asn Leu
                      355                      360                      365

Lys Asn Val Phe Gly Leu Pro Val Val Val Ala Leu Asn Arg Phe Val
                      370                      375                      380

Ser Asp Ser Asp Ala Glu Leu Ala Met Ile Glu Lys Ala Cys Ala Glu
  385                      390                      395                      400

His Gly Val Glu Val Ser Leu Thr Glu Val Trp Gly Lys Gly Gly Ala
                      405                      410                      415

Gly Gly Ala Asp Leu Ala Arg Lys Val Val Asn Ala Ile Glu Ser Gln
                      420                      425                      430

Thr Asn Asn Phe Gly Phe Ala Tyr Asp Val Glu Leu Gly Ile Lys Asp
                      435                      440                      445

Lys Ile Arg Ala Ile Ala Gln Lys Val Tyr Gly Ala Glu Asp Val Asp
                      450                      455                      460

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Phe Ser Ala Glu Ala Ser Ala Glu Ile Ala Ser Leu Glu Lys Leu Gly
465 470 475 480

Leu Asp Lys Met Pro Ile Cys Met Ala Lys Thr Gln Tyr Ser Leu Ser
485 490 495

Asp Asn Ala Lys Leu Leu Gly Cys Pro Glu Asp Phe Arg Ile Ala Val
500 505 510

Arg Gly Ile Thr Val Ser Ala Gly Ala Gly Phe Ile Val Ala Leu Cys
515 520 525

Gly Asn Met Met Lys Met Pro Gly Leu Pro Lys Val Pro Ala Ala Glu
530 535 540

Lys Ile Asp Val Asp Ala Glu Gly Val Ile His Gly Leu Phe
545 550 555

<210> 113

<211> 475

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(474)

<400> 113

atg gaa cac cta ttt gag gaa tgg ttg ccc gac ctg ccc gcc gac gtt 48
Met Glu His Leu Phe Glu Glu Trp Leu Pro Asp Leu Pro Ala Asp Val
1 5 10 15

tca gac ggc atc ggc ctg ccg atg agc cgg tta ttg aaa gcc cgg tcg 96
Ser Asp Gly Ile Gly Leu Pro Met Ser Arg Leu Leu Lys Ala Arg Ser
20 25 30

ctg act gcc gca ttg cgc gcc ttg ccg cat ctg ttt tcg gta gaa ctg 144
Leu Thr Ala Ala Leu Arg Ala Leu Pro His Leu Phe Ser Val Glu Leu
35 40 45

ctg aaa ctg ggc gaa ttg gaa acg gaa tgc gga ggg cgg ctg gtg cgc 192
Leu Lys Leu Gly Glu Leu Glu Thr Glu Cys Gly Gly Arg Leu Val Arg
50 55 60

gaa gtt ttg ttg aag ctg gac ggt atc cct gtt gtc gcg gca agg agc 240
Glu Val Leu Leu Lys Leu Asp Gly Ile Pro Val Val Ala Ala Arg Ser

65	70	75	80	
gaa tgc cgt atc ggt tcg gcg ttt tgg caa aac att ttg gac tgc ggc				288
Glu Cys Arg Ile Gly Ser Ala Phe Trp Gln Asn Ile Leu Asp Cys Gly				
	85	90	95	
acg cgt cct ttg ggc gaa cgt ctg ttt caa gcc gat ttg gaa ggg gcg				336
Thr Arg Pro Leu Gly Glu Arg Leu Phe Gln Ala Asp Leu Glu Gly Ala				
	100	105	110	
cgt tcg gcg ttt gag ttt gcc gtt ttc ggc gaa gga tgc gga cgg tac				384
Arg Ser Ala Phe Glu Phe Ala Val Phe Gly Glu Gly Cys Gly Arg Tyr				
	115	120	125	
ttt gcc gct cgg cgt tcg cgg ttt tcc cat cac ggc gag gaa atg ctg				432
Phe Ala Ala Arg Arg Ser Arg Phe Ser His His Gly Glu Glu Met Leu				
	130	135	140	
ctg acc gag tat ttt ctg ccc gaa ctg aaa cgc ttt atc gga t				475
Leu Thr Glu Tyr Phe Leu Pro Glu Leu Lys Arg Phe Ile Gly				
145	150	155		

<210> 114

<211> 158

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 114

Met	Glu	His	Leu	Phe	Glu	Glu	Trp	Leu	Pro	Asp	Leu	Pro	Ala	Asp	Val
1				5					10					15	
Ser Asp Gly Ile Gly Leu Pro Met Ser Arg Leu Leu Lys Ala Arg Ser															
20				25				30							
Leu Thr Ala Ala Leu Arg Ala Leu Pro His Leu Phe Ser Val Glu Leu															
35				40				45							
Leu Lys Leu Gly Glu Leu Glu Thr Glu Cys Gly Gly Arg Leu Val Arg															
50				55				60							
Glu Val Leu Leu Lys Leu Asp Gly Ile Pro Val Val Ala Ala Arg Ser															
65				70				75				80			
Glu Cys Arg Ile Gly Ser Ala Phe Trp Gln Asn Ile Leu Asp Cys Gly															
85				90				95							
Thr Arg Pro Leu Gly Glu Arg Leu Phe Gln Ala Asp Leu Glu Gly Ala															

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                100                105                110
Arg Ser Ala Phe Glu Phe Ala Val Phe Gly Glu Gly Cys Gly Arg Tyr
      115                120                125

Phe Ala Ala Arg Arg Ser Arg Phe Ser His His Gly Glu Glu Met Leu
      130                135                140

Leu Thr Glu Tyr Phe Leu Pro Glu Leu Lys Arg Phe Ile Gly
      145                150                155

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<210> 115

<211> 1476

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1476)

<400> 115

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atg aaa tac aaa gac ctg cgc gac ttc atc gcc atg ctc gag cag cag      48
Met Lys Tyr Lys Asp Leu Arg Asp Phe Ile Ala Met Leu Glu Gln Gln
   1                5                10                15

ggc aaa ctc aaa cgc atc gcg cac ccc gtt tcc ccg cat ttg gaa atg      96
Gly Lys Leu Lys Arg Ile Ala His Pro Val Ser Pro His Leu Glu Met
          20                25                30

acc gaa atc gcc gac cgc gtg ctg cgc gcc gaa ggg ccg gcg ttg ttg      144
Thr Glu Ile Ala Asp Arg Val Leu Arg Ala Glu Gly Pro Ala Leu Leu
          35                40                45

ttt gaa cac cca gtt aag ccc gac ggt acg cgc tat gat tat ccc gtg      192
Phe Glu His Pro Val Lys Pro Asp Gly Thr Arg Tyr Asp Tyr Pro Val
          50                55                60

ttg gca aac ctg ttc ggc acg ccc gaa cgt gtg gcg atg ggc atg ggc      240
Leu Ala Asn Leu Phe Gly Thr Pro Glu Arg Val Ala Met Gly Met Gly
          65                70                75                80

gcg gac agc gtg tcc aag ctg cgc gaa atc ggg cag acg ctg gcg tat      288
Ala Asp Ser Val Ser Lys Leu Arg Glu Ile Gly Gln Thr Leu Ala Tyr
          85                90                95

ttg aaa gaa ccc gaa ccg ccc aaa ggc att aaa gac gcg ttt tcc aaa      336

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Leu Lys Glu Pro Glu Pro Pro Lys Gly Ile Lys Asp Ala Phe Ser Lys	
100 105 110	
ctg ccg ctc ttg aaa gac att tgg agc atg gcg ccg aac gtg gtg aaa	384
Leu Pro Leu Leu Lys Asp Ile Trp Ser Met Ala Pro Asn Val Val Lys	
115 120 125	
aat gcg ccg tgt cag gaa atc gta tgg gaa ggc gaa gac gtt gat ttg	432
Asn Ala Pro Cys Gln Glu Ile Val Trp Glu Gly Glu Asp Val Asp Leu	
130 135 140	
tat caa ctt ccg att cag cat tgc tgg ccg gaa gac gtt gcg ccg ctg	480
Tyr Gln Leu Pro Ile Gln His Cys Trp Pro Glu Asp Val Ala Pro Leu	
145 150 155 160	
gta acg tgg ggc ttg acc gtc acg cgc ggg ccg cac aaa aaa cgc caa	528
Val Thr Trp Gly Leu Thr Val Thr Arg Gly Pro His Lys Lys Arg Gln	
165 170 175	
aat ctc ggc att tac cgc caa caa tta atc ggc ata aac aag ctg att	576
Asn Leu Gly Ile Tyr Arg Gln Gln Leu Ile Gly Ile Asn Lys Leu Ile	
180 185 190	
atg cgc tgg ctg tcg cat cgc ggc ggc gcg ctg gat tat cag gaa ttc	624
Met Arg Trp Leu Ser His Arg Gly Gly Ala Leu Asp Tyr Gln Glu Phe	
195 200 205	
cgc aaa ctc aat ccc gat acg ccg tat ccc gtc gcc gtc gtg ctc ggc	672
Arg Lys Leu Asn Pro Asp Thr Pro Tyr Pro Val Ala Val Val Leu Gly	
210 215 220	
tgc gac cct gcc acc att ttg ggc gcg gta acg ccc gtt ccc gat acc	720
Cys Asp Pro Ala Thr Ile Leu Gly Ala Val Thr Pro Val Pro Asp Thr	
225 230 235 240	
ttg agc gaa tac cag ttt gcc gga ctg ctg cgc ggt tcg cgg acg gaa	768
Leu Ser Glu Tyr Gln Phe Ala Gly Leu Leu Arg Gly Ser Arg Thr Glu	
245 250 255	
ctg gtg aaa tgt atc ggc aac gat ttg caa gtg cct gcc cgc gca gaa	816
Leu Val Lys Cys Ile Gly Asn Asp Leu Gln Val Pro Ala Arg Ala Glu	
260 265 270	
atc gtg ttg gaa ggc gtc atc cat cca aac gaa acc gcg ttg gaa ggt	864
Ile Val Leu Glu Gly Val Ile His Pro Asn Glu Thr Ala Leu Glu Gly	
275 280 285	
cca tac ggc gac cac acg ggc tat tac aac gag cag gac cat ttc ccc	912

Pro Tyr Gly Asp His Thr Gly Tyr Tyr Asn Glu Gln Asp His Phe Pro	
290 295 300	
gtg ttt acg gtc gaa cgc atc acc atg cgc gaa aac ccg att tac cac	960
Val Phe Thr Val Glu Arg Ile Thr Met Arg Glu Asn Pro Ile Tyr His	
305 310 315 320	
tct acc tac aca ggc aaa ccg ccc gat gaa ccc gcc gtt ttg ggc gtg	1008
Ser Thr Tyr Thr Gly Lys Pro Pro Asp Glu Pro Ala Val Leu Gly Val	
325 330 335	
gcg ttg aac gaa gtg ttc gta ccg ctt ttg caa aag cag ttc ccc gaa	1056
Ala Leu Asn Glu Val Phe Val Pro Leu Leu Gln Lys Gln Phe Pro Glu	
340 345 350	
atc acc gat ttt tac ctg ccg ccc gaa ggc tgc tcc tac cgc atg gcg	1104
Ile Thr Asp Phe Tyr Leu Pro Pro Glu Gly Cys Ser Tyr Arg Met Ala	
355 360 365	
gtg gtg agc atg aaa aaa cag tac gcc gga cac gcc aag cgc gtg atg	1152
Val Val Ser Met Lys Lys Gln Tyr Ala Gly His Ala Lys Arg Val Met	
370 375 380	
atg ggc tgc tgg tgg ttc ctg cgc cag ttt atg tac acc aaa ttc atc	1200
Met Gly Cys Trp Ser Phe Leu Arg Gln Phe Met Tyr Thr Lys Phe Ile	
385 390 395 400	
att gtg gtg gat gac gat gtg gat gtg cgc gac tgg aaa gaa gtc atc	1248
Ile Val Val Asp Asp Asp Val Asp Val Arg Asp Trp Lys Glu Val Ile	
405 410 415	
tgg gcg gta acc acg cgc atg gac ccc gtg cgc gat acc gtt ttg atg	1296
Trp Ala Val Thr Thr Arg Met Asp Pro Val Arg Asp Thr Val Leu Met	
420 425 430	
gaa aac acg ccc atc gac tac ctc gac ttc gcc agc ccc gtc agc gga	1344
Glu Asn Thr Pro Ile Asp Tyr Leu Asp Phe Ala Ser Pro Val Ser Gly	
435 440 445	
ctt ggc ggc aaa atg ggt ttg gat gcg acc aac aag tgg ccg ggc gaa	1392
Leu Gly Gly Lys Met Gly Leu Asp Ala Thr Asn Lys Trp Pro Gly Glu	
450 455 460	
acc gac cgc gaa tgg gga cgg gtg att aaa aaa gac cct gcg gtt acg	1440
Thr Asp Arg Glu Trp Gly Arg Val Ile Lys Lys Asp Pro Ala Val Thr	
465 470 475 480	
gct aag att gat gag att tgg gag gaa ttg ggg ttg	1476

Ala Lys Ile Asp Glu Ile Trp Glu Glu Leu Gly Leu
485 490

<210> 116

<211> 492

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 116

Met Lys Tyr Lys Asp Leu Arg Asp Phe Ile Ala Met Leu Glu Gln Gln
1 5 10 15

Gly Lys Leu Lys Arg Ile Ala His Pro Val Ser Pro His Leu Glu Met
20 25 30

Thr Glu Ile Ala Asp Arg Val Leu Arg Ala Glu Gly Pro Ala Leu Leu
35 40 45

Phe Glu His Pro Val Lys Pro Asp Gly Thr Arg Tyr Asp Tyr Pro Val
50 55 60

Leu Ala Asn Leu Phe Gly Thr Pro Glu Arg Val Ala Met Gly Met Gly
65 70 75 80

Ala Asp Ser Val Ser Lys Leu Arg Glu Ile Gly Gln Thr Leu Ala Tyr
85 90 95

Leu Lys Glu Pro Glu Pro Pro Lys Gly Ile Lys Asp Ala Phe Ser Lys
100 105 110

Leu Pro Leu Leu Lys Asp Ile Trp Ser Met Ala Pro Asn Val Val Lys
115 120 125

Asn Ala Pro Cys Gln Glu Ile Val Trp Glu Gly Glu Asp Val Asp Leu
130 135 140

Tyr Gln Leu Pro Ile Gln His Cys Trp Pro Glu Asp Val Ala Pro Leu
145 150 155 160

Val Thr Trp Gly Leu Thr Val Thr Arg Gly Pro His Lys Lys Arg Gln
165 170 175

Asn Leu Gly Ile Tyr Arg Gln Gln Leu Ile Gly Ile Asn Lys Leu Ile
180 185 190

Met Arg Trp Leu Ser His Arg Gly Gly Ala Leu Asp Tyr Gln Glu Phe
195 200 205

Arg Lys Leu Asn Pro Asp Thr Pro Tyr Pro Val Ala Val Val Leu Gly
 210 215 220
 Cys Asp Pro Ala Thr Ile Leu Gly Ala Val Thr Pro Val Pro Asp Thr
 225 230 235 240
 Leu Ser Glu Tyr Gln Phe Ala Gly Leu Leu Arg Gly Ser Arg Thr Glu
 245 250 255
 Leu Val Lys Cys Ile Gly Asn Asp Leu Gln Val Pro Ala Arg Ala Glu
 260 265 270
 Ile Val Leu Glu Gly Val Ile His Pro Asn Glu Thr Ala Leu Glu Gly
 275 280 285
 Pro Tyr Gly Asp His Thr Gly Tyr Tyr Asn Glu Gln Asp His Phe Pro
 290 295 300
 Val Phe Thr Val Glu Arg Ile Thr Met Arg Glu Asn Pro Ile Tyr His
 305 310 315 320
 Ser Thr Tyr Thr Gly Lys Pro Pro Asp Glu Pro Ala Val Leu Gly Val
 325 330 335
 Ala Leu Asn Glu Val Phe Val Pro Leu Leu Gln Lys Gln Phe Pro Glu
 340 345 350
 Ile Thr Asp Phe Tyr Leu Pro Pro Glu Gly Cys Ser Tyr Arg Met Ala
 355 360 365
 Val Val Ser Met Lys Lys Gln Tyr Ala Gly His Ala Lys Arg Val Met
 370 375 380
 Met Gly Cys Trp Ser Phe Leu Arg Gln Phe Met Tyr Thr Lys Phe Ile
 385 390 395 400
 Ile Val Val Asp Asp Asp Val Asp Val Arg Asp Trp Lys Glu Val Ile
 405 410 415
 Trp Ala Val Thr Thr Arg Met Asp Pro Val Arg Asp Thr Val Leu Met
 420 425 430
 Glu Asn Thr Pro Ile Asp Tyr Leu Asp Phe Ala Ser Pro Val Ser Gly
 435 440 445
 Leu Gly Gly Lys Met Gly Leu Asp Ala Thr Asn Lys Trp Pro Gly Glu
 450 455 460

Thr Asp Arg Glu Trp Gly Arg Val Ile Lys Lys Asp Pro Ala Val Thr
465 470 475 480

Ala Lys Ile Asp Glu Ile Trp Glu Glu Leu Gly Leu
485 490

<210> 117

<211> 1515

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1515)

<400> 117

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atg ttg tat ttc aga tac ggt ttt ttg gtt gtt tgg tgt gcg gca ggt 48
Met Leu Tyr Phe Arg Tyr Gly Phe Leu Val Val Trp Cys Ala Ala Gly
  1      5      10      15

gtt tct gcc gcc tat ggg gcg gat gcg ccc gcg att ttg gat gac aag 96
Val Ser Ala Ala Tyr Gly Ala Asp Ala Pro Ala Ile Leu Asp Asp Lys
      20      25      30

gca ttg ttg cag gtg cag cgg tcg gtg tcg gat aag tgg gcg gaa tcg 144
Ala Leu Leu Gln Val Gln Arg Ser Val Ser Asp Lys Trp Ala Glu Ser
      35      40      45

gat tgg aaa gtt gac aat gat gcc ccg cgc gtg gtt gac ggg gat ttt 192
Asp Trp Lys Val Asp Asn Asp Ala Pro Arg Val Val Asp Gly Asp Phe
      50      55      60

ttg ttg gcg cat ccg aaa atg ttg gaa cat agt ttg cgc gac gtg ctc 240
Leu Leu Ala His Pro Lys Met Leu Glu His Ser Leu Arg Asp Val Leu
      65      70      75      80

aac ggc aat cag gcg gat ttg atc gct tcg ttg gcg gat ttg tat gcc 288
Asn Gly Asn Gln Ala Asp Leu Ile Ala Ser Leu Ala Asp Leu Tyr Ala
      85      90      95

aag ctg ccg gat tat gac gcg gtt ttg tac ggc agg gcg cgg gct ttg 336
Lys Leu Pro Asp Tyr Asp Ala Val Leu Tyr Gly Arg Ala Arg Ala Leu
      100      105      110

ctg gcg aaa ttg gcg gga agg ccg gcg gag gcg gtg gcg cgg tat cgg 384

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Leu Ala Lys Leu Ala Gly Arg Pro Ala Glu Ala Val Ala Arg Tyr Arg	
115 120 125	
gaa ctg cac ggg gaa aat gcg gca gac gag cgg att ttg ctg gat ttg	432
Glu Leu His Gly Glu Asn Ala Ala Asp Glu Arg Ile Leu Leu Asp Leu	
130 135 140	
gcg gcg gcg gag ttt gac gat ttc cgg ctg aag tcg gca gaa agg cat	480
Ala Ala Ala Glu Phe Asp Asp Phe Arg Leu Lys Ser Ala Glu Arg His	
145 150 155 160	
ttt gcc gag gcg gaa aaa ttg gat ttg ccg gcg ccg gtt ttg gaa aat	528
Phe Ala Glu Ala Glu Lys Leu Asp Leu Pro Ala Pro Val Leu Glu Asn	
165 170 175	
gtg ggg 'cgt ttt cgg aaa aaa gcg gag ggg ctg acg ggc tgg cgt ttt	576
Val Gly Arg Phe Arg Lys Lys Ala Glu Gly Leu Thr Gly Trp Arg Phe	
180 185 190	
tcg ggc ggc atc agt ccg gcg gtc aat aga aat gcc aat aat gcc gcg	624
Ser Gly Gly Ile Ser Pro Ala Val Asn Arg Asn Ala Asn Asn Ala Ala	
195 200 205	
ccg cag tat tgc cgg caa aac gga ggc cgg cag ata tgc agt gtc agc	672
Pro Gln Tyr Cys Arg Gln Asn Gly Gly Arg Gln Ile Cys Ser Val Ser	
210 215 220	
cgg gcg gag cgg gcg gca ggc ttg aat tat gaa atc gag gcg gaa aaa	720
Arg Ala Glu Arg Ala Ala Gly Leu Asn Tyr Glu Ile Glu Ala Glu Lys	
225 230 235 240	
ctg acg gcg ttg gca gat aat cat tat ttg ttg ttc cgt tcc aat atc	768
Leu Thr Ala Leu Ala Asp Asn His Tyr Leu Leu Phe Arg Ser Asn Ile	
245 250 255	
ggc ggc acg agc tat tat ttc agt aaa aaa tca gct tat gac gac ggg	816
Gly Gly Thr Ser Tyr Tyr Phe Ser Lys Lys Ser Ala Tyr Asp Asp Gly	
260 265 270	
ttc ggc aga gcg tat ttg ggt tgg cag tat aaa aat gca cgg cag acg	864
Phe Gly Arg Ala Tyr Leu Gly Trp Gln Tyr Lys Asn Ala Arg Gln Thr	
275 280 285	
gcg ggg att ttg ccg ttt tat cag gtg cag ttg tcg ggc agc gac ggc	912
Ala Gly Ile Leu Pro Phe Tyr Gln Val Gln Leu Ser Gly Ser Asp Gly	
290 295 300	
ttt gat gcg aaa aca aaa cgg gta aac aac cgc cgc ctg ccg ccg tat	960

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Phe Asp Ala Lys Thr Lys Arg Val Asn Asn Arg Arg Leu Pro Pro Tyr
305                      310                      315                      320

atg ctg gcg cac gga gtc ggc gtg cag ttg tcc cat act tac cgc cca 1008
Met Leu Ala His Gly Val Gly Val Gln Leu Ser His Thr Tyr Arg Pro
                      325                      330                      335

aac ccg gga tgg caa ttt tcg gtc gcg ctg gaa cat tac cgc caa cgc 1056
Asn Pro Gly Trp Gln Phe Ser Val Ala Leu Glu His Tyr Arg Gln Arg
                      340                      345                      350

tac cgc gaa cag gat agg gcg gaa tac aat aac ggt cgg cag gac ggg 1104
Tyr Arg Glu Gln Asp Arg Ala Glu Tyr Asn Asn Gly Arg Gln Asp Gly
                      355                      360                      365

ttt tat gtt tcg tcg gca aaa cgt ttg ggc gaa tcg gca act gtg ttc 1152
Phe Tyr Val Ser Ser Ala Lys Arg Leu Gly Glu Ser Ala Thr Val Phe
                      370                      375                      380

ggc ggc tgg cag ttt gtg cgg ttt gtg ccg aaa cgc gaa acg gtg ggc 1200
Gly Gly Trp Gln Phe Val Arg Phe Val Pro Lys Arg Glu Thr Val Gly
385                      390                      395                      400

ggc gcg gtc aat aat gcc gcc tac cgg cgc aac ggt gtt tat gcc ggc 1248
Gly Ala Val Asn Asn Ala Ala Tyr Arg Arg Asn Gly Val Tyr Ala Gly
                      405                      410                      415

tgg gcg cag gag tgg cgg cag ttg ggc ggt ttg aac agt cgg gtt tcc 1296
Trp Ala Gln Glu Trp Arg Gln Leu Gly Gly Leu Asn Ser Arg Val Ser
                      420                      425                      430

gcg tct tat gcc cgc cgc aac tat aag ggc gtt gcg gct ttc tcg aca 1344
Ala Ser Tyr Ala Arg Arg Asn Tyr Lys Gly Val Ala Ala Phe Ser Thr
                      435                      440                      445

gag gcg caa cgc aac cgc gaa tgg aat gtc tcg ctg gct ttg agc cac 1392
Glu Ala Gln Arg Asn Arg Glu Trp Asn Val Ser Leu Ala Leu Ser His
                      450                      455                      460

gac aag ttg tcg tac aaa ggt atc gtg ccc gcg ttg aat tat cgt ttc 1440
Asp Lys Leu Ser Tyr Lys Gly Ile Val Pro Ala Leu Asn Tyr Arg Phe
465                      470                      475                      480

ggc agg acg gaa agt aat gtg ccg tat gcg aaa cgc cgc aac agc gag 1488
Gly Arg Thr Glu Ser Asn Val Pro Tyr Ala Lys Arg Arg Asn Ser Glu
                      485                      490                      495

gtg ttt gtg tcg gcg gat tgg cgg ttt 1515

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Val Phe Val Ser Ala Asp Trp Arg Phe
500 505

<210> 118

<211> 505

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 118

Met Leu Tyr Phe Arg Tyr Gly Phe Leu Val Val Trp Cys Ala Ala Gly
1 5 10 15

Val Ser Ala Ala Tyr Gly Ala Asp Ala Pro Ala Ile Leu Asp Asp Lys
20 25 30

Ala Leu Leu Gln Val Gln Arg Ser Val Ser Asp Lys Trp Ala Glu Ser
35 40 45

Asp Trp Lys Val Asp Asn Asp Ala Pro Arg Val Val Asp Gly Asp Phe
50 55 60

Leu Leu Ala His Pro Lys Met Leu Glu His Ser Leu Arg Asp Val Leu
65 70 75 80

Asn Gly Asn Gln Ala Asp Leu Ile Ala Ser Leu Ala Asp Leu Tyr Ala
85 90 95

Lys Leu Pro Asp Tyr Asp Ala Val Leu Tyr Gly Arg Ala Arg Ala Leu
100 105 110

Leu Ala Lys Leu Ala Gly Arg Pro Ala Glu Ala Val Ala Arg Tyr Arg
115 120 125

Glu Leu His Gly Glu Asn Ala Ala Asp Glu Arg Ile Leu Leu Asp Leu
130 135 140

Ala Ala Ala Glu Phe Asp Asp Phe Arg Leu Lys Ser Ala Glu Arg His
145 150 155 160

Phe Ala Glu Ala Glu Lys Leu Asp Leu Pro Ala Pro Val Leu Glu Asn
165 170 175

Val Gly Arg Phe Arg Lys Lys Ala Glu Gly Leu Thr Gly Trp Arg Phe
180 185 190

Ser Gly Gly Ile Ser Pro Ala Val Asn Arg Asn Ala Asn Asn Ala Ala
195 200 205

Pro Gln Tyr Cys Arg Gln Asn Gly Gly Arg Gln Ile Cys Ser Val Ser
 210 215 220

Arg Ala Glu Arg Ala Ala Gly Leu Asn Tyr Glu Ile Glu Ala Glu Lys
 225 230 235 240

Leu Thr Ala Leu Ala Asp Asn His Tyr Leu Leu Phe Arg Ser Asn Ile
 245 250 255

Gly Gly Thr Ser Tyr Tyr Phe Ser Lys Lys Ser Ala Tyr Asp Asp Gly
 260 265 270

Phe Gly Arg Ala Tyr Leu Gly Trp Gln Tyr Lys Asn Ala Arg Gln Thr
 275 280 285

Ala Gly Ile Leu Pro Phe Tyr Gln Val Gln Leu Ser Gly Ser Asp Gly
 290 295 300

Phe Asp Ala Lys Thr Lys Arg Val Asn Asn Arg Arg Leu Pro Pro Tyr
 305 310 315 320

Met Leu Ala His Gly Val Gly Val Gln Leu Ser His Thr Tyr Arg Pro
 325 330 335

Asn Pro Gly Trp Gln Phe Ser Val Ala Leu Glu His Tyr Arg Gln Arg
 340 345 350

Tyr Arg Glu Gln Asp Arg Ala Glu Tyr Asn Asn Gly Arg Gln Asp Gly
 355 360 365

Phe Tyr Val Ser Ser Ala Lys Arg Leu Gly Glu Ser Ala Thr Val Phe
 370 375 380

Gly Gly Trp Gln Phe Val Arg Phe Val Pro Lys Arg Glu Thr Val Gly
 385 390 395 400

Gly Ala Val Asn Asn Ala Ala Tyr Arg Arg Asn Gly Val Tyr Ala Gly
 405 410 415

Trp Ala Gln Glu Trp Arg Gln Leu Gly Gly Leu Asn Ser Arg Val Ser
 420 425 430

Ala Ser Tyr Ala Arg Arg Asn Tyr Lys Gly Val Ala Ala Phe Ser Thr
 435 440 445

Glu Ala Gln Arg Asn Arg Glu Trp Asn Val Ser Leu Ala Leu Ser His
 450 455 460

Asp Lys Leu Ser Tyr Lys Gly Ile Val Pro Ala Leu Asn Tyr Arg Phe
465 470 475 480

Gly Arg Thr Glu Ser Asn Val Pro Tyr Ala Lys Arg Arg Asn Ser Glu
485 490 495

Val Phe Val Ser Ala Asp Trp Arg Phe
500 505

<210> 119

<211> 756

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(756)

<400> 119

atg gaa acg cat tcg ggc tgt ttt ttg cgg aag acg gta atg aaa gac 48
Met Glu Thr His Ser Gly Cys Phe Leu Arg Lys Thr Val Met Lys Asp
1 5 10 15

gat gtt ttg aaa cag cag gca cac gcg gcg ata cag aag aaa ctg ggc 96
Asp Val Leu Lys Gln Gln Ala His Ala Ala Ile Gln Lys Lys Leu Gly
20 25 30

tac gcg ttc cgc gat att tcg ctt ttg cgg cag gct ttg acg cac agg 144
Tyr Ala Phe Arg Asp Ile Ser Leu Leu Arg Gln Ala Leu Thr His Arg
35 40 45

agc cat cat gcg aag cac aac gag cgg ttc gag ttt gtc ggc gat tcg 192
Ser His His Ala Lys His Asn Glu Arg Phe Glu Phe Val Gly Asp Ser
50 55 60

att ttg aat tat acg gtg gcg cgg atg ctg ttt gac gcg ttt ccg aag 240
Ile Leu Asn Tyr Thr Val Ala Arg Met Leu Phe Asp Ala Phe Pro Lys
65 70 75 80

ttg acc gag ggc gag ttg tcg cgg ttg cgg gca agt ctg gtc aat gag 288
Leu Thr Glu Gly Glu Leu Ser Arg Leu Arg Ala Ser Leu Val Asn Glu
85 90 95

ggc gtg ctg gcg gaa atg gcg gcg gaa atg aat gtc ggc gac ggc ctg 336
Gly Val Leu Ala Glu Met Ala Ala Glu Met Asn Val Gly Asp Gly Leu

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      100              105              110
tac ttg ggg gcg ggc gag ttg aag agc ggc ggc ttc aga cgg cct tcg 384
Tyr Leu Gly Ala Gly Glu Leu Lys Ser Gly Gly Phe Arg Arg Pro Ser
      115              120              125

ata ctg gcg gac gcg atg gag gcg atg ttt gcg gcg gtc agc ttc gat 432
Ile Leu Ala Asp Ala Met Glu Ala Met Phe Ala Ala Val Ser Phe Asp
      130              135              140

gcg gat ttc aac acg gcg gaa aag gtg gtg cgc cat ttg ttt gca gaa 480
Ala Asp Phe Asn Thr Ala Glu Lys Val Val Arg His Leu Phe Ala Glu
      145              150              155              160

cgc gtc cgg cga gtc gat ttc caa aat cag gca aaa gac ggc aaa act 528
Arg Val Arg Arg Val Asp Phe Gln Asn Gln Ala Lys Asp Gly Lys Thr
      165              170              175

gct ttg cag gag gcg ttg cag gcg cgc cgt ttc gcc ttg ccg aaa tac 576
Ala Leu Gln Glu Ala Leu Gln Ala Arg Arg Phe Ala Leu Pro Lys Tyr
      180              185              190

cgt atc gaa gag caa atc ggc cat gcc aac gac agt atg ttt gtc att 624
Arg Ile Glu Glu Gln Ile Gly His Ala Asn Asp Ser Met Phe Val Ile
      195              200              205

tcc tgc gat ttg ggc gaa ctg ggt ttc gtg tgc cgt gcc aaa ggg acg 672
Ser Cys Asp Leu Gly Glu Leu Gly Phe Val Cys Arg Ala Lys Gly Thr
      210              215              220

agc cgc aag gcg gcg gag cag gaa gcg gcg aaa gag gct ttg aaa tgg 720
Ser Arg Lys Ala Ala Glu Gln Glu Ala Ala Lys Glu Ala Leu Lys Trp
      225              230              235              240

ctg gaa gag aag ctg ccg ctg aag aag aaa aag aaa 756
Leu Glu Glu Lys Leu Pro Leu Lys Lys Lys Lys Lys
      245              250

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<210> 120

<211> 252

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 120

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Met Glu Thr His Ser Gly Cys Phe Leu Arg Lys Thr Val Met Lys Asp
  1              5              10              15

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Asp Val Leu Lys Gln Gln Ala His Ala Ala Ile Gln Lys Lys Leu Gly
      20              25              30

Tyr Ala Phe Arg Asp Ile Ser Leu Leu Arg Gln Ala Leu Thr His Arg
      35              40              45

Ser His His Ala Lys His Asn Glu Arg Phe Glu Phe Val Gly Asp Ser
      50              55              60

Ile Leu Asn Tyr Thr Val Ala Arg Met Leu Phe Asp Ala Phe Pro Lys
      65              70              75              80

Leu Thr Glu Gly Glu Leu Ser Arg Leu Arg Ala Ser Leu Val Asn Glu
      85              90              95

Gly Val Leu Ala Glu Met Ala Ala Glu Met Asn Val Gly Asp Gly Leu
      100             105             110

Tyr Leu Gly Ala Gly Glu Leu Lys Ser Gly Gly Phe Arg Arg Pro Ser
      115             120             125

Ile Leu Ala Asp Ala Met Glu Ala Met Phe Ala Ala Val Ser Phe Asp
      130             135             140

Ala Asp Phe Asn Thr Ala Glu Lys Val Val Arg His Leu Phe Ala Glu
      145             150             155             160

Arg Val Arg Arg Val Asp Phe Gln Asn Gln Ala Lys Asp Gly Lys Thr
      165             170             175

Ala Leu Gln Glu Ala Leu Gln Ala Arg Arg Phe Ala Leu Pro Lys Tyr
      180             185             190

Arg Ile Glu Glu Gln Ile Gly His Ala Asn Asp Ser Met Phe Val Ile
      195             200             205

Ser Cys Asp Leu Gly Glu Leu Gly Phe Val Cys Arg Ala Lys Gly Thr
      210             215             220

Ser Arg Lys Ala Ala Glu Gln Glu Ala Ala Lys Glu Ala Leu Lys Trp
      225             230             235             240

Leu Glu Glu Lys Leu Pro Leu Lys Lys Lys Lys Lys
      245             250

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<210> 121

<211> 570

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(570)

<400> 121

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atg gac aat cac gcc gaa gca cac tgg caa aac ggc tgg ctt caa agc   48
Met Asp Asn His Ala Glu Ala His Trp Gln Asn Gly Trp Leu Gln Ser
   1             5             10             15

ata cgc cat acc ccg tcg ccc aat ttc agc ccg agg gaa acg ggg gaa   96
Ile Arg His Thr Pro Ser Pro Asn Phe Ser Pro Arg Glu Thr Gly Glu
          20             25             30

acg gtt tcc ctg atc gtg ttg cac aac att tca ctg ccg ccg ttc gaa  144
Thr Val Ser Leu Ile Val Leu His Asn Ile Ser Leu Pro Pro Phe Glu
          35             40             45

tac ggc acg gat gct gtg gaa aag ctg ttt gcc aac cgg ctc gac ccc  192
Tyr Gly Thr Asp Ala Val Glu Lys Leu Phe Ala Asn Arg Leu Asp Pro
          50             55             60

aac gga cat ccg ttc ttc agc ctg ata cac act ttg cgc gta tcc agc  240
Asn Gly His Pro Phe Phe Ser Leu Ile His Thr Leu Arg Val Ser Ser
          65             70             75             80

cat ttc tta atc aaa cgc gac ggc aaa acg gtg cag ttc gta tca tgc  288
His Phe Leu Ile Lys Arg Asp Gly Lys Thr Val Gln Phe Val Ser Cys
          85             90             95

ggc gat atg gcg tac cac gcg ggc gta tcc tcg ttt cgc gga cgg gaa  336
Gly Asp Met Ala Tyr His Ala Gly Val Ser Ser Phe Arg Gly Arg Glu
          100            105            110

aaa tgc aac gca ttt tcc atc ggc atc gaa ttg gaa ggc tgc gat ttc  384
Lys Cys Asn Ala Phe Ser Ile Gly Ile Glu Leu Glu Gly Cys Asp Phe
          115            120            125

gaa ccc ttt acc gaa gcg caa tac cgt tcg ctc gaa aca ttg ttg gaa  432
Glu Pro Phe Thr Glu Ala Gln Tyr Arg Ser Leu Glu Thr Leu Leu Glu
          130            135            140

gca ctc tgc cgc cgc tac ccc gtt acc gca gta acc gga cat cag gac  480
Ala Leu Cys Arg Arg Tyr Pro Val Thr Ala Val Thr Gly His Gln Asp
          145            150            155            160

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atc gcg ccc ggc cgc aaa acc gac ccc ggc cac ttt ttc gac tgg cgg 528
 Ile Ala Pro Gly Arg Lys Thr Asp Pro Gly His Phe Phe Asp Trp Arg
 165 170 175

cgg ata cgg gag aaa ggg ttt ccc gta gac aga aat gcc gtc 570
 Arg Ile Arg Glu Lys Gly Phe Pro Val Asp Arg Asn Ala Val
 180 185 190

<210> 122

<211> 190

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 122

Met Asp Asn His Ala Glu Ala His Trp Gln Asn Gly Trp Leu Gln Ser
 1 5 10 15

Ile Arg His Thr Pro Ser Pro Asn Phe Ser Pro Arg Glu Thr Gly Glu
 20 25 30

Thr Val Ser Leu Ile Val Leu His Asn Ile Ser Leu Pro Pro Phe Glu
 35 40 45

Tyr Gly Thr Asp Ala Val Glu Lys Leu Phe Ala Asn Arg Leu Asp Pro
 50 55 60

Asn Gly His Pro Phe Phe Ser Leu Ile His Thr Leu Arg Val Ser Ser
 65 70 75 80

His Phe Leu Ile Lys Arg Asp Gly Lys Thr Val Gln Phe Val Ser Cys
 85 90 95

Gly Asp Met Ala Tyr His Ala Gly Val Ser Ser Phe Arg Gly Arg Glu
 100 105 110

Lys Cys Asn Ala Phe Ser Ile Gly Ile Glu Leu Glu Gly Cys Asp Phe
 115 120 125

Glu Pro Phe Thr Glu Ala Gln Tyr Arg Ser Leu Glu Thr Leu Leu Glu
 130 135 140

Ala Leu Cys Arg Arg Tyr Pro Val Thr Ala Val Thr Gly His Gln Asp
 145 150 155 160

Ile Ala Pro Gly Arg Lys Thr Asp Pro Gly His Phe Phe Asp Trp Arg
 165 170 175

Arg Ile Arg Glu Lys Gly Phe Pro Val Asp Arg Asn Ala Val
 180 185 190

<210> 123

<211> 2274

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(2274)

<400> 123

atg aca aca tta cat ttc tca ggc ttc ccg cgt gtc ggt gcc ttc cgc 48
 Met Thr Thr Leu His Phe Ser Gly Phe Pro Arg Val Gly Ala Phe Arg
 1 5 10 15

gaa ttg aaa ttc gca caa gaa aaa tac tgg cgc aaa gaa atc agc gag 96
 Glu Leu Lys Phe Ala Gln Glu Lys Tyr Trp Arg Lys Glu Ile Ser Glu
 20 25 30

caa gaa ttg ctg gct gtt gct aaa gac ttg cgc gag aaa aac tgg aaa 144
 Gln Glu Leu Leu Ala Val Ala Lys Asp Leu Arg Glu Lys Asn Trp Lys
 35 40 45

cac cag gcc gct gcc aac gcc gat tac gtt gcc gta ggc gat ttc act 192
 His Gln Ala Ala Ala Asn Ala Asp Tyr Val Ala Val Gly Asp Phe Thr
 50 55 60

ttc tac gac cac atc ctc gac ctg caa gtc gcc acc ggc gcg att ccc 240
 Phe Tyr Asp His Ile Leu Asp Leu Gln Val Ala Thr Gly Ala Ile Pro
 65 70 75 80

gcc cgc ttc ggc ttc gac agc caa aac cta tct ttg gaa caa ttc ttc 288
 Ala Arg Phe Gly Phe Asp Ser Gln Asn Leu Ser Leu Glu Gln Phe Phe
 85 90 95

caa ctg gcg cgc ggt aac aaa gac caa ttc gct atc gaa atg acc aaa 336
 Gln Leu Ala Arg Gly Asn Lys Asp Gln Phe Ala Ile Glu Met Thr Lys
 100 105 110

tgg ttc gac acc aac tac cac tac ttg gtg cct gaa ttc cac gcc gat 384
 Trp Phe Asp Thr Asn Tyr His Tyr Leu Val Pro Glu Phe His Ala Asp
 115 120 125

acc gaa ttt aaa gcc aat gcc aaa cac tac gtt caa cag ctg caa gaa	432
Thr Glu Phe Lys Ala Asn Ala Lys His Tyr Val Gln Gln Leu Gln Glu	
130 135 140	
gcc caa gct ttg ggc ctg aaa gcc aaa ccg acc gtt gtg ggt ccg ttg	480
Ala Gln Ala Leu Gly Leu Lys Ala Lys Pro Thr Val Val Gly Pro Leu	
145 150 155 160	
act ttc ctg tgg gtc ggt aaa gaa aaa ggc gcc gtt gaa ttc gac cgt	528
Thr Phe Leu Trp Val Gly Lys Glu Lys Gly Ala Val Glu Phe Asp Arg	
165 170 175	
ctg agc ctg ttg cct aaa ctg ttg cct gtt tac gtt gaa atc ctg act	576
Leu Ser Leu Leu Pro Lys Leu Leu Pro Val Tyr Val Glu Ile Leu Thr	
180 185 190	
gct ttg gtt gaa gcc ggt gcc gag tgg att caa atc gac gag cct gct	624
Ala Leu Val Glu Ala Gly Ala Glu Trp Ile Gln Ile Asp Glu Pro Ala	
195 200 205	
ttg act gtt gac ctg cct aaa gaa tgg gta gaa gca tac aaa gac gtt	672
Leu Thr Val Asp Leu Pro Lys Glu Trp Val Glu Ala Tyr Lys Asp Val	
210 215 220	
tac gcc act ttg agc aaa gta agt gcc aaa atc ctg ctg agc act tac	720
Tyr Ala Thr Leu Ser Lys Val Ser Ala Lys Ile Leu Leu Ser Thr Tyr	
225 230 235 240	
ttc ggt tct gtt gcc gaa cac gcc gca ttg ttg aaa tcc ctg cct gtt	768
Phe Gly Ser Val Ala Glu His Ala Ala Leu Leu Lys Ser Leu Pro Val	
245 250 255	
gac ggc ctg cac atc gac ttg gta cgc gct cct gaa caa ctg gat gcg	816
Asp Gly Leu His Ile Asp Leu Val Arg Ala Pro Glu Gln Leu Asp Ala	
260 265 270	
ttc gcc gac tac gac aaa gtt ctg tct gcc ggc gtc att gac ggc cgc	864
Phe Ala Asp Tyr Asp Lys Val Leu Ser Ala Gly Val Ile Asp Gly Arg	
275 280 285	
aat att tgg cgc gcc aac ctg aac aaa gtt ttg gaa act gtt gag ctt	912
Asn Ile Trp Arg Ala Asn Leu Asn Lys Val Leu Glu Thr Val Glu Leu	
290 295 300	
ctg caa gcc aaa ctg ggc gac cgt ttg tgg att tcc agc tct tgc tcg	960
Leu Gln Ala Lys Leu Gly Asp Arg Leu Trp Ile Ser Ser Ser Cys Ser	
305 310 315 320	

ctg ctg cac act ccg ttt gac ttg tca gtt gaa gaa aaa ctg aaa gcc	1008
Leu Leu His Thr Pro Phe Asp Leu Ser Val Glu Glu Lys Leu Lys Ala	
325 330 335	
aac aaa ccc gac ctg tac tct tgg ttg gca ttc acc ctg caa aaa acc	1056
Asn Lys Pro Asp Leu Tyr Ser Trp Leu Ala Phe Thr Leu Gln Lys Thr	
340 345 350	
caa gaa ttg cgc gtc ctg aaa gcc gca ttg aac gaa ggc cgt gat tct	1104
Gln Glu Leu Arg Val Leu Lys Ala Ala Leu Asn Glu Gly Arg Asp Ser	
355 360 365	
gtt gcc gaa gaa ctg gct gcc agc caa gct gct gcc gac tcc cgt gcc	1152
Val Ala Glu Glu Leu Ala Ala Ser Gln Ala Ala Ala Asp Ser Arg Ala	
370 375 380	
aac agc agc gaa atc cac cgt gca gac gtt gcc aaa cgc ctg gcc gat	1200
Asn Ser Ser Glu Ile His Arg Ala Asp Val Ala Lys Arg Leu Ala Asp	
385 390 395 400	
ttg cct gcc aac gca gac caa cgc aaa tcc cca ttt gcc gac cgt atc	1248
Leu Pro Ala Asn Ala Asp Gln Arg Lys Ser Pro Phe Ala Asp Arg Ile	
405 410 415	
aaa gcg caa caa gca tgg ttg aac ctg cct ctg ctg ccg acg acc aac	1296
Lys Ala Gln Gln Ala Trp Leu Asn Leu Pro Leu Leu Pro Thr Thr Asn	
420 425 430	
atc ggt tct ttc ccg caa act acc gaa atc cgc caa gca cgc gca gcc	1344
Ile Gly Ser Phe Pro Gln Thr Thr Glu Ile Arg Gln Ala Arg Ala Ala	
435 440 445	
ttc aaa aaa ggc gaa ctg tct gcc gcc gat tac gaa gcc gcg atg aaa	1392
Phe Lys Lys Gly Glu Leu Ser Ala Ala Asp Tyr Glu Ala Ala Met Lys	
450 455 460	
aaa gaa atc gcc ttg gtg gtt gaa gag caa gaa aaa ctg gac ttg gac	1440
Lys Glu Ile Ala Leu Val Val Glu Glu Gln Glu Lys Leu Asp Leu Asp	
465 470 475 480	
gta ctg gta cac ggc gaa gcc gag cgt aac gac atg gtt gaa tac ttc	1488
Val Leu Val His Gly Glu Ala Glu Arg Asn Asp Met Val Glu Tyr Phe	
485 490 495	
ggc gaa ttg ttg agc ggt ttt gca ttc acc caa tat ggc tgg gta caa	1536
Gly Glu Leu Leu Ser Gly Phe Ala Phe Thr Gln Tyr Gly Trp Val Gln	
500 505 510	


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agc tac ggt tct cgc tgc gtt aaa cca ccg att atc ttc ggt gac gta 1584
Ser Tyr Gly Ser Arg Cys Val Lys Pro Pro Ile Ile Phe Gly Asp Val
      515              520              525

agc cgt cct gaa gcc atg acc gta gct tgg tct act tac gca caa agc 1632
Ser Arg Pro Glu Ala Met Thr Val Ala Trp Ser Thr Tyr Ala Gln Ser
      530              535              540

ctg acc aaa cgc ccg atg aaa ggt atg ttg acc ggc cct gta acc att 1680
Leu Thr Lys Arg Pro Met Lys Gly Met Leu Thr Gly Pro Val Thr Ile
545              550              555              560

ctg caa tgg tct ttc gtc cgc aac gat att cct cgc tct acc gtg tgt 1728
Leu Gln Trp Ser Phe Val Arg Asn Asp Ile Pro Arg Ser Thr Val Cys
      565              570              575

aaa caa atc gca ctg gct ctg aac gac gaa gta ttg gat ctg gaa aaa 1776
Lys Gln Ile Ala Leu Ala Leu Asn Asp Glu Val Leu Asp Leu Glu Lys
      580              585              590

gca ggc atc aaa gtc atc caa atc gac gaa cct gcc atc cgc gaa ggc 1824
Ala Gly Ile Lys Val Ile Gln Ile Asp Glu Pro Ala Ile Arg Glu Gly
      595              600              605

ctg cct ttg aaa cgt gcc gat tgg gat gcc tac ctg aac tgg gcc ggc 1872
Leu Pro Leu Lys Arg Ala Asp Trp Asp Ala Tyr Leu Asn Trp Ala Gly
      610              615              620

gaa tct ttc cgc ctg tcc tct acc ggt tgc gaa gac agc act caa atc 1920
Glu Ser Phe Arg Leu Ser Ser Thr Gly Cys Glu Asp Ser Thr Gln Ile
625              630              635              640

cac acc cat atg tgc tac tct gag ttc aac gac atc ctg cct gcg att 1968
His Thr His Met Cys Tyr Ser Glu Phe Asn Asp Ile Leu Pro Ala Ile
      645              650              655

gct gca atg gat gcg gac gtg atc acc atc gag act tca cgt tcc gac 2016
Ala Ala Met Asp Ala Asp Val Ile Thr Ile Glu Thr Ser Arg Ser Asp
      660              665              670

atg gaa ctc ttg acc gcg ttc ggc gaa ttc aaa tac ccg aac gac atc 2064
Met Glu Leu Leu Thr Ala Phe Gly Glu Phe Lys Tyr Pro Asn Asp Ile
      675              680              685

ggc ccg ggg gtt tac gac atc cac agc ccg cgc gta ccg aca gaa gcc 2112
Gly Pro Gly Val Tyr Asp Ile His Ser Pro Arg Val Pro Thr Glu Ala
      690              695              700

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gaa gtg gag cac ctg ttg cgc aaa gcc atc gag gtt gta ccg gtt gaa 2160
 Glu Val Glu His Leu Leu Arg Lys Ala Ile Glu Val Val Pro Val Glu
 705 710 715 720

cgt ctg tgg gtt aac ccg gac tgc ggc ctg aaa aca cgc ggc tgg aaa 2208
 Arg Leu Trp Val Asn Pro Asp Cys Gly Leu Lys Thr Arg Gly Trp Lys
 725 730 735

gaa act ctg gaa caa ctc caa gtg atg atg aac gta acc cac aaa ttg 2256
 Glu Thr Leu Glu Gln Leu Gln Val Met Met Asn Val Thr His Lys Leu
 740 745 750

cgt gcc gaa ttg gcg aaa 2274
 Arg Ala Glu Leu Ala Lys
 755

<210> 124

<211> 758

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 124

Met Thr Thr Leu His Phe Ser Gly Phe Pro Arg Val Gly Ala Phe Arg
 1 5 10 15

Glu Leu Lys Phe Ala Gln Glu Lys Tyr Trp Arg Lys Glu Ile Ser Glu
 20 25 30

Gln Glu Leu Leu Ala Val Ala Lys Asp Leu Arg Glu Lys Asn Trp Lys
 35 40 45

His Gln Ala Ala Ala Asn Ala Asp Tyr Val Ala Val Gly Asp Phe Thr
 50 55 60

Phe Tyr Asp His Ile Leu Asp Leu Gln Val Ala Thr Gly Ala Ile Pro
 65 70 75 80

Ala Arg Phe Gly Phe Asp Ser Gln Asn Leu Ser Leu Glu Gln Phe Phe
 85 90 95

Gln Leu Ala Arg Gly Asn Lys Asp Gln Phe Ala Ile Glu Met Thr Lys
 100 105 110

Trp Phe Asp Thr Asn Tyr His Tyr Leu Val Pro Glu Phe His Ala Asp
 115 120 125

Thr Glu Phe Lys Ala Asn Ala Lys His Tyr Val Gln Gln Leu Gln Glu

130	135	140
Ala Gln Ala Leu Gly Leu Lys Ala Lys Pro Thr Val Val Gly Pro Leu		
145	150	155 160
Thr Phe Leu Trp Val Gly Lys Glu Lys Gly Ala Val Glu Phe Asp Arg		
	165	170 175
Leu Ser Leu Leu Pro Lys Leu Leu Pro Val Tyr Val Glu Ile Leu Thr		
	180	185 190
Ala Leu Val Glu Ala Gly Ala Glu Trp Ile Gln Ile Asp Glu Pro Ala		
	195	200 205
Leu Thr Val Asp Leu Pro Lys Glu Trp Val Glu Ala Tyr Lys Asp Val		
	210	215 220
Tyr Ala Thr Leu Ser Lys Val Ser Ala Lys Ile Leu Leu Ser Thr Tyr		
	225	230 235 240
Phe Gly Ser Val Ala Glu His Ala Ala Leu Leu Lys Ser Leu Pro Val		
	245	250 255
Asp Gly Leu His Ile Asp Leu Val Arg Ala Pro Glu Gln Leu Asp Ala		
	260	265 270
Phe Ala Asp Tyr Asp Lys Val Leu Ser Ala Gly Val Ile Asp Gly Arg		
	275	280 285
Asn Ile Trp Arg Ala Asn Leu Asn Lys Val Leu Glu Thr Val Glu Leu		
	290	295 300
Leu Gln Ala Lys Leu Gly Asp Arg Leu Trp Ile Ser Ser Ser Cys Ser		
	305	310 315 320
Leu Leu His Thr Pro Phe Asp Leu Ser Val Glu Glu Lys Leu Lys Ala		
	325	330 335
Asn Lys Pro Asp Leu Tyr Ser Trp Leu Ala Phe Thr Leu Gln Lys Thr		
	340	345 350
Gln Glu Leu Arg Val Leu Lys Ala Ala Leu Asn Glu Gly Arg Asp Ser		
	355	360 365
Val Ala Glu Glu Leu Ala Ala Ser Gln Ala Ala Ala Asp Ser Arg Ala		
	370	375 380
Asn Ser Ser Glu Ile His Arg Ala Asp Val Ala Lys Arg Leu Ala Asp		

385	390	395	400
Leu Pro Ala Asn Ala Asp Gln Arg Lys Ser Pro Phe Ala Asp Arg Ile	405	410	415
Lys Ala Gln Gln Ala Trp Leu Asn Leu Pro Leu Leu Pro Thr Thr Asn	420	425	430
Ile Gly Ser Phe Pro Gln Thr Thr Glu Ile Arg Gln Ala Arg Ala Ala	435	440	445
Phe Lys Lys Gly Glu Leu Ser Ala Ala Asp Tyr Glu Ala Ala Met Lys	450	455	460
Lys Glu Ile Ala Leu Val Val Glu Glu Gln Glu Lys Leu Asp Leu Asp	465	470	475
Val Leu Val His Gly Glu Ala Glu Arg Asn Asp Met Val Glu Tyr Phe	485	490	495
Gly Glu Leu Leu Ser Gly Phe Ala Phe Thr Gln Tyr Gly Trp Val Gln	500	505	510
Ser Tyr Gly Ser Arg Cys Val Lys Pro Pro Ile Ile Phe Gly Asp Val	515	520	525
Ser Arg Pro Glu Ala Met Thr Val Ala Trp Ser Thr Tyr Ala Gln Ser	530	535	540
Leu Thr Lys Arg Pro Met Lys Gly Met Leu Thr Gly Pro Val Thr Ile	545	550	555
Leu Gln Trp Ser Phe Val Arg Asn Asp Ile Pro Arg Ser Thr Val Cys	565	570	575
Lys Gln Ile Ala Leu Ala Leu Asn Asp Glu Val Leu Asp Leu Glu Lys	580	585	590
Ala Gly Ile Lys Val Ile Gln Ile Asp Glu Pro Ala Ile Arg Glu Gly	595	600	605
Leu Pro Leu Lys Arg Ala Asp Trp Asp Ala Tyr Leu Asn Trp Ala Gly	610	615	620
Glu Ser Phe Arg Leu Ser Ser Thr Gly Cys Glu Asp Ser Thr Gln Ile	625	630	635
His Thr His Met Cys Tyr Ser Glu Phe Asn Asp Ile Leu Pro Ala Ile			

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        645                650                655
Ala Ala Met Asp Ala Asp Val Ile Thr Ile Glu Thr Ser Arg Ser Asp
        660                665                670

Met Glu Leu Leu Thr Ala Phe Gly Glu Phe Lys Tyr Pro Asn Asp Ile
        675                680                685

Gly Pro Gly Val Tyr Asp Ile His Ser Pro Arg Val Pro Thr Glu Ala
        690                695                700

Glu Val Glu His Leu Leu Arg Lys Ala Ile Glu Val Val Pro Val Glu
        705                710                715                720

Arg Leu Trp Val Asn Pro Asp Cys Gly Leu Lys Thr Arg Gly Trp Lys
        725                730                735

Glu Thr Leu Glu Gln Leu Gln Val Met Met Asn Val Thr His Lys Leu
        740                745                750

Arg Ala Glu Leu Ala Lys
        755

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<210> 125

<211> 1137

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1137)

<400> 125

atg agc cgt tta tgg ttt ttt gcc gca aaa aac att ata atc cgc ctt 48

Met Ser Arg Leu Trp Phe Phe Ala Ala Lys Asn Ile Ile Ile Arg Leu

1

5

10

15

att tac cta ttg ccc aag gag aca caa atg gca ctc gta tcc atg cgc 96

Ile Tyr Leu Leu Pro Lys Glu Thr Gln Met Ala Leu Val Ser Met Arg

20

25

30

caa ctg ctt gat cat gct gcc gaa aac agc tac ggc ctg ccc gcg ttc 144

Gln Leu Leu Asp His Ala Ala Glu Asn Ser Tyr Gly Leu Pro Ala Phe

35

40

45

aac gtc aac aac ctc gaa caa atg cgc gcc att atg gaa gcc gcc gac 192

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Asn Val Asn Asn Leu Glu Gln Met Arg Ala Ile Met Glu Ala Ala Asp
  50                      55                      60

caa gtc aac gcg ccc gtc atc gta cag gcg agc gca ggt gcg cgc aaa 240
Gln Val Asn Ala Pro Val Ile Val Gln Ala Ser Ala Gly Ala Arg Lys
  65                      70                      75                      80

tac gcg ggc gcg ccg ttt ttg cgc cac ctg att ttg gcg gct gtc gaa 288
Tyr Ala Gly Ala Pro Phe Leu Arg His Leu Ile Leu Ala Ala Val Glu
                      85                      90                      95

gaa ttt ccg cac atc ccc gtc gtg atg cac caa gac cac ggc gca tcg 336
Glu Phe Pro His Ile Pro Val Val Met His Gln Asp His Gly Ala Ser
                      100                      105                      110

ccc gac gtg tgc caa cgc tcc atc caa ctg ggc ttt tcc tcc gtg atg 384
Pro Asp Val Cys Gln Arg Ser Ile Gln Leu Gly Phe Ser Ser Val Met
                      115                      120                      125

atg gac ggc tcg ctg atg gaa gac ggc aaa acc cct tct tct tat gaa 432
Met Asp Gly Ser Leu Met Glu Asp Gly Lys Thr Pro Ser Ser Tyr Glu
                      130                      135                      140

tac aac gtc aac gcc acc cgt acc gtg gtt aat ttc tcc cac gcc tgc 480
Tyr Asn Val Asn Ala Thr Arg Thr Val Val Asn Phe Ser His Ala Cys
                      145                      150                      155                      160

ggc gta tcc gtt gaa ggc gaa atc ggc gta ttg ggc aac ctc gaa act 528
Gly Val Ser Val Glu Gly Glu Ile Gly Val Leu Gly Asn Leu Glu Thr
                      165                      170                      175

ggc gaa gcc ggc gaa gaa gac ggt gta ggc gca gtg ggc aaa ctt tcc 576
Gly Glu Ala Gly Glu Glu Asp Gly Val Gly Ala Val Gly Lys Leu Ser
                      180                      185                      190

cac gac caa atg ctc acc agc gtc gaa gat gcc gtg cgt ttc gtt aaa 624
His Asp Gln Met Leu Thr Ser Val Glu Asp Ala Val Arg Phe Val Lys
                      195                      200                      205

gat acc ggc gtt gac gca ttg gcg att gcc gtc ggc acc agc cac ggc 672
Asp Thr Gly Val Asp Ala Leu Ala Ile Ala Val Gly Thr Ser His Gly
                      210                      215                      220

gcg tac aaa ttc acc cgt ccg ccc aca ggc gac gtg ttg cgt atc gac 720
Ala Tyr Lys Phe Thr Arg Pro Pro Thr Gly Asp Val Leu Arg Ile Asp
                      225                      230                      235                      240

cgc atc aaa gaa atc cac caa gcc ctg ccc aat aca cac atc gtg atg 768

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Arg Ile Lys Glu Ile His Gln Ala Leu Pro Asn Thr His Ile Val Met
      245                      250                      255

cac ggc tcc agc tcc gtt ccg caa gaa tgg ctg aaa gtc atc aac gaa   816
His Gly Ser Ser Ser Val Pro Gln Glu Trp Leu Lys Val Ile Asn Glu
      260                      265                      270

tac ggc ggc aat atc ggc gaa acc tac ggc gtg ccg gtt gaa gaa atc   864
Tyr Gly Gly Asn Ile Gly Glu Thr Tyr Gly Val Pro Val Glu Glu Ile
      275                      280                      285

gtc gaa ggc atc aaa cac ggc gtg cgt aaa gtc aac atc gat acc gac   912
Val Glu Gly Ile Lys His Gly Val Arg Lys Val Asn Ile Asp Thr Asp
      290                      295                      300

ttg cgc ctt gct tcc acc ggc gcg gta cgc cgc tac ctt gcc gaa aac   960
Leu Arg Leu Ala Ser Thr Gly Ala Val Arg Arg Tyr Leu Ala Glu Asn
      305                      310                      315                      320

ccg tcc gac ttc gat ccg cgc aaa tat ttg agc aaa acc att gaa gcg   1008
Pro Ser Asp Phe Asp Pro Arg Lys Tyr Leu Ser Lys Thr Ile Glu Ala
      325                      330                      335

atg aag caa atc tgc ctc gac cgc tac ctc gcg ttc ggt tgc gaa ggt   1056
Met Lys Gln Ile Cys Leu Asp Arg Tyr Leu Ala Phe Gly Cys Glu Gly
      340                      345                      350

cag gca ggc aaa atc aaa ccg gtt tcc ttg gaa aaa atg gca aac cgt   1104
Gln Ala Gly Lys Ile Lys Pro Val Ser Leu Glu Lys Met Ala Asn Arg
      355                      360                      365

tat gcc aag ggc gaa ttg aac caa atc gtc aaa   1137
Tyr Ala Lys Gly Glu Leu Asn Gln Ile Val Lys
      370                      375

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<210> 126

<211> 379

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 126

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Met Ser Arg Leu Trp Phe Phe Ala Ala Lys Asn Ile Ile Ile Arg Leu
  1              5              10              15

Ile Tyr Leu Leu Pro Lys Glu Thr Gln Met Ala Leu Val Ser Met Arg
      20              25              30

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Gln Leu Leu Asp His Ala Ala Glu Asn Ser Tyr Gly Leu Pro Ala Phe
 35 40 45
 Asn Val Asn Asn Leu Glu Gln Met Arg Ala Ile Met Glu Ala Ala Asp
 50 55 60
 Gln Val Asn Ala Pro Val Ile Val Gln Ala Ser Ala Gly Ala Arg Lys
 65 70 75 80
 Tyr Ala Gly Ala Pro Phe Leu Arg His Leu Ile Leu Ala Ala Val Glu
 85 90 95
 Glu Phe Pro His Ile Pro Val Val Met His Gln Asp His Gly Ala Ser
 100 105 110
 Pro Asp Val Cys Gln Arg Ser Ile Gln Leu Gly Phe Ser Ser Val Met
 115 120 125
 Met Asp Gly Ser Leu Met Glu Asp Gly Lys Thr Pro Ser Ser Tyr Glu
 130 135 140
 Tyr Asn Val Asn Ala Thr Arg Thr Val Val Asn Phe Ser His Ala Cys
 145 150 155 160
 Gly Val Ser Val Glu Gly Glu Ile Gly Val Leu Gly Asn Leu Glu Thr
 165 170 175
 Gly Glu Ala Gly Glu Glu Asp Gly Val Gly Ala Val Gly Lys Leu Ser
 180 185 190
 His Asp Gln Met Leu Thr Ser Val Glu Asp Ala Val Arg Phe Val Lys
 195 200 205
 Asp Thr Gly Val Asp Ala Leu Ala Ile Ala Val Gly Thr Ser His Gly
 210 215 220
 Ala Tyr Lys Phe Thr Arg Pro Pro Thr Gly Asp Val Leu Arg Ile Asp
 225 230 235 240
 Arg Ile Lys Glu Ile His Gln Ala Leu Pro Asn Thr His Ile Val Met
 245 250 255
 His Gly Ser Ser Ser Val Pro Gln Glu Trp Leu Lys Val Ile Asn Glu
 260 265 270
 Tyr Gly Gly Asn Ile Gly Glu Thr Tyr Gly Val Pro Val Glu Glu Ile
 275 280 285

Val Glu Gly Ile Lys His Gly Val Arg Lys Val Asn Ile Asp Thr Asp
290 295 300

Leu Arg Leu Ala Ser Thr Gly Ala Val Arg Arg Tyr Leu Ala Glu Asn
305 310 315 320

Pro Ser Asp Phe Asp Pro Arg Lys Tyr Leu Ser Lys Thr Ile Glu Ala
325 330 335

Met Lys Gln Ile Cys Leu Asp Arg Tyr Leu Ala Phe Gly Cys Glu Gly
340 345 350

Gln Ala Gly Lys Ile Lys Pro Val Ser Leu Glu Lys Met Ala Asn Arg
355 360 365

Tyr Ala Lys Gly Glu Leu Asn Gln Ile Val Lys
370 375

<210> 127

<211> 444

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(444)

<400> 127

gtg gat gct gca gca acg ctc ctg aca tac aaa tgc ccg gcg gaa aac 48
Val Asp Ala Ala Ala Thr Leu Leu Thr Tyr Lys Cys Pro Ala Glu Asn
1 5 10 15

cgc cca aac aca aaa aaa att ggt aat ttt tcc tat tca agg cta caa 96
Arg Pro Asn Thr Lys Lys Ile Gly Asn Phe Ser Tyr Ser Arg Leu Gln
20 25 30

ttc gac acg cac agg gca tct gcc cga ttt cac aat cat aat agc gga 144
Phe Asp Thr His Arg Ala Ser Ala Arg Phe His Asn His Asn Ser Gly
35 40 45

gtt aaa aat atg aca gct aaa gga caa atg ttg caa gat ccc ttc ctg 192
Val Lys Asn Met Thr Ala Lys Gly Gln Met Leu Gln Asp Pro Phe Leu
50 55 60

aac gcc ctg cgt aaa gag cat gtt ccg gtt tcg att tac tta gtt aac 240
Asn Ala Leu Arg Lys Glu His Val Pro Val Ser Ile Tyr Leu Val Asn

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      65              70              75              80

ggt atc aaa ttg caa ggt cag gtt gag tct ttc gat caa tac gtt gtt 288
Gly Ile Lys Leu Gln Gly Gln Val Glu Ser Phe Asp Gln Tyr Val Val
      85              90              95

ctc ctg aga aac act tcc gtc acc caa atg gtt tac aaa cac gcc att 336
Leu Leu Arg Asn Thr Ser Val Thr Gln Met Val Tyr Lys His Ala Ile
      100             105             110

tcc acc atc gta ccg gca cgc tcc gtc aac cta caa cat gaa aac aga 384
Ser Thr Ile Val Pro Ala Arg Ser Val Asn Leu Gln His Glu Asn Arg
      115             120             125

ccc caa gcc gca ccg act tcg acc ctc gtc caa gtg gaa acc gtc cag 432
Pro Gln Ala Ala Pro Thr Ser Thr Leu Val Gln Val Glu Thr Val Gln
      130             135             140

cag cct gcc gaa
Gln Pro Ala Glu
145

<210> 128
<211> 148
<212> PRT
<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 128
Val Asp Ala Ala Ala Thr Leu Leu Thr Tyr Lys Cys Pro Ala Glu Asn
  1              5              10             15

Arg Pro Asn Thr Lys Lys Ile Gly Asn Phe Ser Tyr Ser Arg Leu Gln
      20             25             30

Phe Asp Thr His Arg Ala Ser Ala Arg Phe His Asn His Asn Ser Gly
      35             40             45

Val Lys Asn Met Thr Ala Lys Gly Gln Met Leu Gln Asp Pro Phe Leu
      50             55             60

Asn Ala Leu Arg Lys Glu His Val Pro Val Ser Ile Tyr Leu Val Asn
      65             70             75             80

Gly Ile Lys Leu Gln Gly Gln Val Glu Ser Phe Asp Gln Tyr Val Val
      85             90             95

Leu Leu Arg Asn Thr Ser Val Thr Gln Met Val Tyr Lys His Ala Ile

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                100                105                110
Ser Thr Ile Val Pro Ala Arg Ser Val Asn Leu Gln His Glu Asn Arg
      115                120                125

Pro Gln Ala Ala Pro Thr Ser Thr Leu Val Gln Val Glu Thr Val Gln
      130                135                140

Gln Pro Ala Glu
145

<210> 129
<211> 1308
<212> DNA
<213> 脑膜炎奈瑟氏球菌(Neisseria meningitidis)

<220>
<221> CDS
<222> (1)..(1308)

<400> 129
atg tac gct aaa aaa ggc ggt ttg gga ctg gtt aaa agc cgc cgt ttc   48
Met Tyr Ala Lys Lys Gly Gly Leu Gly Leu Val Lys Ser Arg Arg Phe
      1                5                10                15

gca cct ctt ttc gct acg cag ttt ctc ggc gcg ttc aac gac aat gtg   96
Ala Pro Leu Phe Ala Thr Gln Phe Leu Gly Ala Phe Asn Asp Asn Val
      20                25                30

ttc aaa acc gcg ctg ttt gtg atg att ggg ttt tac ggt ttg ggg caa   144
Phe Lys Thr Ala Leu Phe Val Met Ile Gly Phe Tyr Gly Leu Gly Gln
      35                40                45

aac ggc ttc ctg cct gcc gga cag atg ttg aac ttg ggc gcg ttg ctg   192
Asn Gly Phe Leu Pro Ala Gly Gln Met Leu Asn Leu Gly Ala Leu Leu
      50                55                60

ttt att ttg cag tat ttc ctg ttt tcc tcg ctg tcg ggg cag ttg ggt   240
Phe Ile Leu Pro Tyr Phe Leu Phe Ser Ser Leu Ser Gly Gln Leu Gly
      65                70                75                80

aac aaa ttc gac aag gcc gtt ttg gcg cgt tgg gcc aag gtg ctg gaa   288
Asn Lys Phe Asp Lys Ala Val Leu Ala Arg Trp Ala Lys Val Leu Glu
      85                90                95

atg atc att atg gcg gtg gcg gca tac ggg ttt tat atc cgg tct gcc   336

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Met Ile Ile Met Ala Val Ala Ala Tyr Gly Phe Tyr Ile Arg Ser Ala	
100 105 110	
ccg ctg ctt ttg gcg tgt ctg ttt tgc atg ggc gcg caa tcg acg ctg	384
Pro Leu Leu Leu Ala Cys Leu Phe Cys Met Gly Ala Gln Ser Thr Leu	
115 120 125	
ttc ggg ccg ctg aaa tac gcc atc ctg ccc gat tat ctc gac gac aaa	432
Phe Gly Pro Leu Lys Tyr Ala Ile Leu Pro Asp Tyr Leu Asp Asp Lys	
130 135 140	
gag ttg atg atg ggc aac agc ctg att gaa tcg ggt acg ttt gtc gcc	480
Glu Leu Met Met Gly Asn Ser Leu Ile Glu Ser Gly Thr Phe Val Ala	
145 150 155 160	
atc ctg ttc ggt cag ata ctg ggg act gcg gtg gca ggt gta ccg cct	528
Ile Leu Phe Gly Gln Ile Leu Gly Thr Ala Val Ala Gly Val Pro Pro	
165 170 175	
tat att gtc ggg ata ctg gtt ttg ctg gtc gcc gta gga ggc acg gtc	576
Tyr Ile Val Gly Ile Leu Val Leu Leu Val Ala Val Gly Gly Thr Val	
180 185 190	
ggc agc ctg ttt atg ccg tcc gta ccc gcc aag gct gcc gat aca caa	624
Gly Ser Leu Phe Met Pro Ser Val Pro Ala Lys Ala Ala Asp Thr Gln	
195 200 205	
att gag tgg aat att gtc cgg ggt aca aaa tcc ctg ctg cgt gaa acg	672
Ile Glu Trp Asn Ile Val Arg Gly Thr Lys Ser Leu Leu Arg Glu Thr	
210 215 220	
gtg cgg cac aag ccc gtt ttt acc gcc att atc ggt att tcg tgg ttt	720
Val Arg His Lys Pro Val Phe Thr Ala Ile Ile Gly Ile Ser Trp Phe	
225 230 235 240	
tgg ttt gtc ggc gcg gtt tat acc acg caa ctg ccg acc ttt acc caa	768
Trp Phe Val Gly Ala Val Tyr Thr Thr Gln Leu Pro Thr Phe Thr Gln	
245 250 255	
atc cat cta ggc ggc aac gac aat gtt ttc aac ctg atg ctt gcc ctg	816
Ile His Leu Gly Gly Asn Asp Asn Val Phe Asn Leu Met Leu Ala Leu	
260 265 270	
ttt tcc atc ggt att gcc gcc ggt tcg gta ctg tgt gcc aag ttc agc	864
Phe Ser Ile Gly Ile Ala Ala Gly Ser Val Leu Cys Ala Lys Phe Ser	
275 280 285	
agg gaa cgg ctg agg ttg gct tgg gta acg gtt ggt gcg ttg ggt ttg	912

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Arg Glu Arg Leu Arg Leu Ala Trp Val Thr Val Gly Ala Leu Gly Leu
 290                      295                      300

acg gtt tgc ggc ttg gtt ttg gtg tgg ctg acg cac gga cac cgt ttt 960
Thr Val Cys Gly Leu Val Leu Val Trp Leu Thr His Gly His Arg Phe
305                      310                      315                      320

gaa ggg ctg aac ggc att ttt tgg ttt tta tcg caa gga tgg gca tat 1008
Glu Gly Leu Asn Gly Ile Phe Trp Phe Leu Ser Gln Gly Trp Ala Tyr
                      325                      330                      335

ccc gtg atg gcg gtg atg acg ctg atc ggc ttt ttc ggc gga ttt ttc 1056
Pro Val Met Ala Val Met Thr Leu Ile Gly Phe Phe Gly Gly Phe Phe
                      340                      345                      350

tcc gtt ccg ctc tat acc tgg ctg caa acc gcc agt agc gag act ttc 1104
Ser Val Pro Leu Tyr Thr Trp Leu Gln Thr Ala Ser Ser Glu Thr Phe
                      355                      360                      365

cgc gcc cgc gcc gtt gcc gcc aac aat atc gtt aac ggt att ttt atg 1152
Arg Ala Arg Ala Val Ala Ala Asn Asn Ile Val Asn Gly Ile Phe Met
                      370                      375                      380

gtt tcc gct gcc gtt ttg agc gcg gtg ttg ctg ttt ttg ttt gac agc 1200
Val Ser Ala Ala Val Leu Ser Ala Val Leu Leu Phe Leu Phe Asp Ser
385                      390                      395                      400

att tcc ttg ttg tat ctg att gtc gct ttg ggc aat att ccg ttg tcg 1248
Ile Ser Leu Leu Tyr Leu Ile Val Ala Leu Gly Asn Ile Pro Leu Ser
                      405                      410                      415

gta ttt ttg att aag cgc gaa agg cgg ttt tta ggc gcg gcg gca atc 1296
Val Phe Leu Ile Lys Arg Glu Arg Arg Phe Leu Gly Ala Ala Ala Ile
                      420                      425                      430

agg aaa aaa cct 1308
Arg Lys Lys Pro
                      435

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<210> 130

<211> 436

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 130

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Met Tyr Ala Lys Lys Gly Gly Leu Gly Leu Val Lys Ser Arg Arg Phe
 1                      5                      10                      15

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Ala Pro Leu Phe Ala Thr Gln Phe Leu Gly Ala Phe Asn Asp Asn Val
 20 25 30
 Phe Lys Thr Ala Leu Phe Val Met Ile Gly Phe Tyr Gly Leu Gly Gln
 35 40 45
 Asn Gly Phe Leu Pro Ala Gly Gln Met Leu Asn Leu Gly Ala Leu Leu
 50 55 60
 Phe Ile Leu Pro Tyr Phe Leu Phe Ser Ser Leu Ser Gly Gln Leu Gly
 65 70 75 80
 Asn Lys Phe Asp Lys Ala Val Leu Ala Arg Trp Ala Lys Val Leu Glu
 85 90 95
 Met Ile Ile Met Ala Val Ala Ala Tyr Gly Phe Tyr Ile Arg Ser Ala
 100 105 110
 Pro Leu Leu Leu Ala Cys Leu Phe Cys Met Gly Ala Gln Ser Thr Leu
 115 120 125
 Phe Gly Pro Leu Lys Tyr Ala Ile Leu Pro Asp Tyr Leu Asp Asp Lys
 130 135 140
 Glu Leu Met Met Gly Asn Ser Leu Ile Glu Ser Gly Thr Phe Val Ala
 145 150 155 160
 Ile Leu Phe Gly Gln Ile Leu Gly Thr Ala Val Ala Gly Val Pro Pro
 165 170 175
 Tyr Ile Val Gly Ile Leu Val Leu Leu Val Ala Val Gly Gly Thr Val
 180 185 190
 Gly Ser Leu Phe Met Pro Ser Val Pro Ala Lys Ala Ala Asp Thr Gln
 195 200 205
 Ile Glu Trp Asn Ile Val Arg Gly Thr Lys Ser Leu Leu Arg Glu Thr
 210 215 220
 Val Arg His Lys Pro Val Phe Thr Ala Ile Ile Gly Ile Ser Trp Phe
 225 230 235 240
 Trp Phe Val Gly Ala Val Tyr Thr Thr Gln Leu Pro Thr Phe Thr Gln
 245 250 255
 Ile His Leu Gly Gly Asn Asp Asn Val Phe Asn Leu Met Leu Ala Leu
 260 265 270

Phe Ser Ile Gly Ile Ala Ala Gly Ser Val Leu Cys Ala Lys Phe Ser
275 280 285

Arg Glu Arg Leu Arg Leu Ala Trp Val Thr Val Gly Ala Leu Gly Leu
290 295 300

Thr Val Cys Gly Leu Val Leu Val Trp Leu Thr His Gly His Arg Phe
305 310 315 320

Glu Gly Leu Asn Gly Ile Phe Trp Phe Leu Ser Gln Gly Trp Ala Tyr
325 330 335

Pro Val Met Ala Val Met Thr Leu Ile Gly Phe Phe Gly Gly Phe Phe
340 345 350

Ser Val Pro Leu Tyr Thr Trp Leu Gln Thr Ala Ser Ser Glu Thr Phe
355 360 365

Arg Ala Arg Ala Val Ala Ala Asn Asn Ile Val Asn Gly Ile Phe Met
370 375 380

Val Ser Ala Ala Val Leu Ser Ala Val Leu Leu Phe Leu Phe Asp Ser
385 390 395 400

Ile Ser Leu Leu Tyr Leu Ile Val Ala Leu Gly Asn Ile Pro Leu Ser
405 410 415

Val Phe Leu Ile Lys Arg Glu Arg Arg Phe Leu Gly Ala Ala Ala Ile
420 425 430

Arg Lys Lys Pro
435

<210> 131

<211> 876

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1) .. (876)

<400> 131

atg aat tac gca aaa gaa atc aat gcg tta aat aac agc ctt tcc gat 48
Met Asn Tyr Ala Lys Glu Ile Asn Ala Leu Asn Asn Ser Leu Ser Asp

1	5	10	15	
ttg aaa ggc gac atc aac gtt tcg ttt gaa ttt ttt cca ccg aaa aac				96
Leu Lys Gly Asp Ile Asn Val Ser Phe Glu Phe Phe Pro Pro Lys Asn				
	20	25	30	
gag caa atg gaa acg atg ctg tgg gat tcc atc cac cgt ctg caa acc				144
Glu Gln Met Glu Thr Met Leu Trp Asp Ser Ile His Arg Leu Gln Thr				
	35	40	45	
ctg cat ccc aag ttc gta tcc gta acc tac ggc gca aac tcc ggc gaa				192
Leu His Pro Lys Phe Val Ser Val Thr Tyr Gly Ala Asn Ser Gly Glu				
	50	55	60	
cgc gac cgc acg cac ggc atc gtc aaa cgc atc aaa cag gaa acc ggc				240
Arg Asp Arg Thr His Gly Ile Val Lys Arg Ile Lys Gln Glu Thr Gly				
	65	70	75	80
ttg gaa gca gca ccg cac ctg acc ggc atc gac gca tcc ccc gac gaa				288
Leu Glu Ala Ala Pro His Leu Thr Gly Ile Asp Ala Ser Pro Asp Glu				
	85	90	95	
ttg cgc caa atc gcc aaa gac tat tgg gac agc ggc atc cgc cgc att				336
Leu Arg Gln Ile Ala Lys Asp Tyr Trp Asp Ser Gly Ile Arg Arg Ile				
	100	105	110	
gtc gcc ctg cgt ggc gac gag ccg ccc ggt tat gag aaa aaa ccg ttt				384
Val Ala Leu Arg Gly Asp Glu Pro Pro Gly Tyr Glu Lys Lys Pro Phe				
	115	120	125	
tac gcc gaa gac ttg gtt aag cta tta cgc tcc gtc gcc gac ttc gac				432
Tyr Ala Glu Asp Leu Val Lys Leu Leu Arg Ser Val Ala Asp Phe Asp				
	130	135	140	
atc tct gtg gcg gca tat ccc gaa gtg cat ccc gaa gcc aaa tcc gca				480
Ile Ser Val Ala Ala Tyr Pro Glu Val His Pro Glu Ala Lys Ser Ala				
	145	150	155	160
caa gcc gat ctg att aat ctg aag cgc aaa atc gat gcg ggt gca aac				528
Gln Ala Asp Leu Ile Asn Leu Lys Arg Lys Ile Asp Ala Gly Ala Asn				
	165	170	175	
cac gtc atc acc caa ttt ttc ttt gac gta gaa cgc tac ctg cgc ttc				576
His Val Ile Thr Gln Phe Phe Phe Asp Val Glu Arg Tyr Leu Arg Phe				
	180	185	190	
cgc gac cgc tgc gtg atg ttg ggt atc gat gtg gaa atc gtc cct ggt				624
Arg Asp Arg Cys Val Met Leu Gly Ile Asp Val Glu Ile Val Pro Gly				


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      195              200              205
att ttg cct gtt acc aac ttc aag cag ctc ggc aaa atg gcg caa gta 672
Ile Leu Pro Val Thr Asn Phe Lys Gln Leu Gly Lys Met Ala Gln Val
      210              215              220

acc aac gtc aaa atc cca agc tgg ctg tcg caa atg tat gaa ggt ttg 720
Thr Asn Val Lys Ile Pro Ser Trp Leu Ser Gln Met Tyr Glu Gly Leu
      225              230              235              240

gac gac gac caa ggc acg cgc aac ctc gtc gcc gcc agt atc gcc atc 768
Asp Asp Asp Gln Gly Thr Arg Asn Leu Val Ala Ala Ser Ile Ala Ile
      245              250              255

gat atg gtc aaa gtc ctg tcc cgc gaa ggc gtg aaa gat ttc cac ttc 816
Asp Met Val Lys Val Leu Ser Arg Glu Gly Val Lys Asp Phe His Phe
      260              265              270

tac acg ctc aac cgc agc gag ctg act tac gcc atc tgc cat att tta 864
Tyr Thr Leu Asn Arg Ser Glu Leu Thr Tyr Ala Ile Cys His Ile Leu
      275              280              285

ggc gtg cgc cct 876
Gly Val Arg Pro
      290

```

<210> 132

<211> 292

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 132

```

Met Asn Tyr Ala Lys Glu Ile Asn Ala Leu Asn Asn Ser Leu Ser Asp
  1              5              10              15

Leu Lys Gly Asp Ile Asn Val Ser Phe Glu Phe Phe Pro Pro Lys Asn
      20              25              30

Glu Gln Met Glu Thr Met Leu Trp Asp Ser Ile His Arg Leu Gln Thr
      35              40              45

Leu His Pro Lys Phe Val Ser Val Thr Tyr Gly Ala Asn Ser Gly Glu
      50              55              60

Arg Asp Arg Thr His Gly Ile Val Lys Arg Ile Lys Gln Glu Thr Gly
      65              70              75              80

```

Leu Glu Ala Ala Pro His Leu Thr Gly Ile Asp Ala Ser Pro Asp Glu
 85 90 95

Leu Arg Gln Ile Ala Lys Asp Tyr Trp Asp Ser Gly Ile Arg Arg Ile
 100 105 110

Val Ala Leu Arg Gly Asp Glu Pro Pro Gly Tyr Glu Lys Lys Pro Phe
 115 120 125

Tyr Ala Glu Asp Leu Val Lys Leu Leu Arg Ser Val Ala Asp Phe Asp
 130 135 140

Ile Ser Val Ala Ala Tyr Pro Glu Val His Pro Glu Ala Lys Ser Ala
 145 150 155 160

Gln Ala Asp Leu Ile Asn Leu Lys Arg Lys Ile Asp Ala Gly Ala Asn
 165 170 175

His Val Ile Thr Gln Phe Phe Phe Asp Val Glu Arg Tyr Leu Arg Phe
 180 185 190

Arg Asp Arg Cys Val Met Leu Gly Ile Asp Val Glu Ile Val Pro Gly
 195 200 205

Ile Leu Pro Val Thr Asn Phe Lys Gln Leu Gly Lys Met Ala Gln Val
 210 215 220

Thr Asn Val Lys Ile Pro Ser Trp Leu Ser Gln Met Tyr Glu Gly Leu
 225 230 235 240

Asp Asp Asp Gln Gly Thr Arg Asn Leu Val Ala Ala Ser Ile Ala Ile
 245 250 255

Asp Met Val Lys Val Leu Ser Arg Glu Gly Val Lys Asp Phe His Phe
 260 265 270

Tyr Thr Leu Asn Arg Ser Glu Leu Thr Tyr Ala Ile Cys His Ile Leu
 275 280 285

Gly Val Arg Pro
 290

<210> 133

<211> 1371

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1371)

<400> 133

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atg agt aat cca ttt tcc tct tta ggt ttg ggt acg gaa ctc gtt tcc 48
Met Ser Asn Pro Phe Ser Ser Leu Gly Leu Gly Thr Glu Leu Val Ser
1 5 10 15

gca ctg acc gcg caa ggt tac gaa aac ccg aca ccc atc caa gcc gcc 96
Ala Leu Thr Ala Gln Gly Tyr Glu Asn Pro Thr Pro Ile Gln Ala Ala
20 25 30

gcc att ccc aaa gca ctc gcc ggt cat gat ttg cta gcc gcc gcg caa 144
Ala Ile Pro Lys Ala Leu Ala Gly His Asp Leu Leu Ala Ala Ala Gln
35 40 45

acc ggc aca ggc aaa acc gcc gcc ttt atg ctg ccc agt ctg gaa cgc 192
Thr Gly Thr Gly Lys Thr Ala Ala Phe Met Leu Pro Ser Leu Glu Arg
50 55 60

ctc aaa cgt tac gcc acc gcc agc acc tcg ccc gcg atg cac ccc gtg 240
Leu Lys Arg Tyr Ala Thr Ala Ser Thr Ser Pro Ala Met His Pro Val
65 70 75 80

cgt atg ctc gtc ctc acc ccc acg cgc gaa ctt gcc gac caa atc gac 288
Arg Met Leu Val Leu Thr Pro Thr Arg Glu Leu Ala Asp Gln Ile Asp
85 90 95

caa aac gtg cag ggc tac atc aaa aac ctg ccg ctg cgc cac acc gtc 336
Gln Asn Val Gln Gly Tyr Ile Lys Asn Leu Pro Leu Arg His Thr Val
100 105 110

ttg ttc ggc ggt atg aat atg gac aaa cag acc gcc gac ctg cgt gcc 384
Leu Phe Gly Gly Met Asn Met Asp Lys Gln Thr Ala Asp Leu Arg Ala
115 120 125

ggc tgc gaa atc gtc gtc gcc acc gtc gga cgg ctg ctc gac cac gtg 432
Gly Cys Glu Ile Val Val Ala Thr Val Gly Arg Leu Leu Asp His Val
130 135 140

aaa cag aaa aac atc cat ttg aac aaa gtc gaa atc gtc gtt ttg gac 480
Lys Gln Lys Asn Ile His Leu Asn Lys Val Glu Ile Val Val Leu Asp
145 150 155 160

gaa gcc gac cgt atg ctg gat atg ggt ttt atc gac gac atc cgc aaa 528
Glu Ala Asp Arg Met Leu Asp Met Gly Phe Ile Asp Asp Ile Arg Lys

```

165	170	175	
atc atg cag atg ctg ccc cgc caa cgc caa acc ctg ctc ttt tcc gcc			576
Ile Met Gln Met Leu Pro Arg Gln Arg Gln Thr Leu Leu Phe Ser Ala			
180	185	190	
acc ttc tcc gcc ccg ata cgc aaa ctg gcg caa gac ttc atg aac gcg			624
Thr Phe Ser Ala Pro Ile Arg Lys Leu Ala Gln Asp Phe Met Asn Ala			
195	200	205	
ccc gaa acc gtc gaa gtc gcc gcg caa gac acc acc aac gcc aac gtc			672
Pro Glu Thr Val Glu Val Ala Ala Gln Asp Thr Thr Asn Ala Asn Val			
210	215	220	
gag cag cac atc atc gcc gtc gat acc att cag aag cgc aac ctg ctc			720
Glu Gln His Ile Ile Ala Val Asp Thr Ile Gln Lys Arg Asn Leu Leu			
225	230	235	240
gaa cgg ctg att gtc gat ttg cat atg aac cag gtc atc gtg ttc tgc			768
Glu Arg Leu Ile Val Asp Leu His Met Asn Gln Val Ile Val Phe Cys			
245	250	255	
aaa acc aaa caa agc gtc gac cgc gta acg cgc gaa ctg gtg cgc cgc			816
Lys Thr Lys Gln Ser Val Asp Arg Val Thr Arg Glu Leu Val Arg Arg			
260	265	270	
aac ctg tcc gca cag gcg ata cac ggc gac cgt tcc caa caa agc cgg			864
Asn Leu Ser Ala Gln Ala Ile His Gly Asp Arg Ser Gln Gln Ser Arg			
275	280	285	
ctc gaa aca ctc aac gcc ttc aaa gac ggc aac ctg cgc gtc ctc gtc			912
Leu Glu Thr Leu Asn Ala Phe Lys Asp Gly Asn Leu Arg Val Leu Val			
290	295	300	
gcc acc gat atc gcc gcg cgg ggg ctg gat att gcc gaa ctg ccc ttc			960
Ala Thr Asp Ile Ala Ala Arg Gly Leu Asp Ile Ala Glu Leu Pro Phe			
305	310	315	320
gtc atc aat tac gaa atg ccc gcc cag ccc gaa gac tac gtc cac cgc			1008
Val Ile Asn Tyr Glu Met Pro Ala Gln Pro Glu Asp Tyr Val His Arg			
325	330	335	
atc ggg cgc acg ggg cgc gcg ggc gcg gac ggc gtg gcg att tcc ctg			1056
Ile Gly Arg Thr Gly Arg Ala Gly Ala Asp Gly Val Ala Ile Ser Leu			
340	345	350	
atg gac gaa tcc gaa cag aaa atg ttt gaa tcc att aaa gag ctg acc			1104
Met Asp Glu Ser Glu Gln Lys Met Phe Glu Ser Ile Lys Glu Leu Thr			

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          355              360              365
ggc aac aag ctg ctc atc gag cgc atc gag ggc ttc gag ccg caa tgg 1152
Gly Asn Lys Leu Leu Ile Glu Arg Ile Glu Gly Phe Glu Pro Gln Trp
    370              375              380

tgg gaa cag ggc ggc gca aaa ccg gaa aaa ccc gaa atg cgc gaa cca 1200
Trp Glu Gln Gly Gly Ala Lys Pro Glu Lys Pro Glu Met Arg Glu Pro
385              390              395              400

aga caa cgc aac cgc tac gaa tcc gcc aaa gcg caa cgc gaa aaa aac 1248
Arg Gln Arg Asn Arg Tyr Glu Ser Ala Lys Ala Gln Arg Glu Lys Asn
          405              410              415

acc cgg ccg gaa aat gcg gca aac gat gcg ggc gcg gct tgc gga aaa 1296
Thr Arg Pro Glu Asn Ala Ala Asn Asp Ala Gly Ala Ala Cys Gly Lys
          420              425              430

att gcc gga cgc agc cgc cga agc cgc cgg gaa cac cgg acg tgc gcc 1344
Ile Ala Gly Arg Ser Arg Arg Ser Arg Arg Glu His Arg Thr Cys Ala
          435              440              445

ctg ctc caa ccg cgt tac ggc gta aaa 1371
Leu Leu Gln Pro Arg Tyr Gly Val Lys
    450              455

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<210> 134

<211> 457

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 134

```

Met Ser Asn Pro Phe Ser Ser Leu Gly Leu Gly Thr Glu Leu Val Ser
  1              5              10              15

Ala Leu Thr Ala Gln Gly Tyr Glu Asn Pro Thr Pro Ile Gln Ala Ala
    20              25              30

Ala Ile Pro Lys Ala Leu Ala Gly His Asp Leu Leu Ala Ala Ala Gln
    35              40              45

Thr Gly Thr Gly Lys Thr Ala Ala Phe Met Leu Pro Ser Leu Glu Arg
    50              55              60

Leu Lys Arg Tyr Ala Thr Ala Ser Thr Ser Pro Ala Met His Pro Val
    65              70              75              80

```

Arg Met Leu Val Leu Thr Pro Thr Arg Glu Leu Ala Asp Gln Ile Asp
85 90 95

Gln Asn Val Gln Gly Tyr Ile Lys Asn Leu Pro Leu Arg His Thr Val
100 105 110

Leu Phe Gly Gly Met Asn Met Asp Lys Gln Thr Ala Asp Leu Arg Ala
115 120 125

Gly Cys Glu Ile Val Val Ala Thr Val Gly Arg Leu Leu Asp His Val
130 135 140

Lys Gln Lys Asn Ile His Leu Asn Lys Val Glu Ile Val Val Leu Asp
145 150 155 160

Glu Ala Asp Arg Met Leu Asp Met Gly Phe Ile Asp Asp Ile Arg Lys
165 170 175

Ile Met Gln Met Leu Pro Arg Gln Arg Gln Thr Leu Leu Phe Ser Ala
180 185 190

Thr Phe Ser Ala Pro Ile Arg Lys Leu Ala Gln Asp Phe Met Asn Ala
195 200 205

Pro Glu Thr Val Glu Val Ala Ala Gln Asp Thr Thr Asn Ala Asn Val
210 215 220

Glu Gln His Ile Ile Ala Val Asp Thr Ile Gln Lys Arg Asn Leu Leu
225 230 235 240

Glu Arg Leu Ile Val Asp Leu His Met Asn Gln Val Ile Val Phe Cys
245 250 255

Lys Thr Lys Gln Ser Val Asp Arg Val Thr Arg Glu Leu Val Arg Arg
260 265 270

Asn Leu Ser Ala Gln Ala Ile His Gly Asp Arg Ser Gln Gln Ser Arg
275 280 285

Leu Glu Thr Leu Asn Ala Phe Lys Asp Gly Asn Leu Arg Val Leu Val
290 295 300

Ala Thr Asp Ile Ala Ala Arg Gly Leu Asp Ile Ala Glu Leu Pro Phe
305 310 315 320

Val Ile Asn Tyr Glu Met Pro Ala Gln Pro Glu Asp Tyr Val His Arg
325 330 335

```

Ile Gly Arg Thr Gly Arg Ala Gly Ala Asp Gly Val Ala Ile Ser Leu
      340              345              350

Met Asp Glu Ser Glu Gln Lys Met Phe Glu Ser Ile Lys Glu Leu Thr
      355              360              365

Gly Asn Lys Leu Leu Ile Glu Arg Ile Glu Gly Phe Glu Pro Gln Trp
      370              375              380

Trp Glu Gln Gly Gly Ala Lys Pro Glu Lys Pro Glu Met Arg Glu Pro
      385              390              395              400

Arg Gln Arg Asn Arg Tyr Glu Ser Ala Lys Ala Gln Arg Glu Lys Asn
      405              410              415

Thr Arg Pro Glu Asn Ala Ala Asn Asp Ala Gly Ala Ala Cys Gly Lys
      420              425              430

Ile Ala Gly Arg Ser Arg Arg Ser Arg Arg Glu His Arg Thr Cys Ala
      435              440              445

Leu Leu Gln Pro Arg Tyr Gly Val Lys
      450              455

```

<210> 135

<211> 1374

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1374)

<400> 135

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atg aaa cac atc cac att atc ggt atc ggc ggc acg ttt atg ggt ggg   48
Met Lys His Ile His Ile Ile Gly Ile Gly Gly Thr Phe Met Gly Gly
  1              5              10              15

att gcc gcc att gcc aaa gaa gca ggg ttt gaa gtc agc ggt tgc gat   96
Ile Ala Ala Ile Ala Lys Glu Ala Gly Phe Glu Val Ser Gly Cys Asp
      20              25              30

gcg aag atg tat ccg ccg atg agc acc cag ctc gaa gcc ttg ggc ata   144
Ala Lys Met Tyr Pro Pro Met Ser Thr Gln Leu Glu Ala Leu Gly Ile
      35              40              45

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ggc gtg tat gaa ggc ttc gac acc gcg cag ttg gac gaa ttt aaa gcc 192
Gly Val Tyr Glu Gly Phe Asp Thr Ala Gln Leu Asp Glu Phe Lys Ala
  50                      55                      60

gac gtt tac gtt atc ggc aat gtc gcc aag cgc ggg atg gat gtg gtt 240
Asp Val Tyr Val Ile Gly Asn Val Ala Lys Arg Gly Met Asp Val Val
  65                      70                      75                      80

gaa gcg att ttg aac cgt ggg ctg cct tat att tcc ggc ccg caa tgg 288
Glu Ala Ile Leu Asn Arg Gly Leu Pro Tyr Ile Ser Gly Pro Gln Trp
                      85                      90                      95

ctg gct gaa aac gtg ctg cac cat cat tgg gta ctc ggc gtg gcg ggg 336
Leu Ala Glu Asn Val Leu His His His Trp Val Leu Gly Val Ala Gly
                      100                      105                      110

acg cac ggc aaa acg acc acc gcg tct atg ctc gcg tgg gtt ttg gaa 384
Thr His Gly Lys Thr Thr Thr Ala Ser Met Leu Ala Trp Val Leu Glu
                      115                      120                      125

tat gcc gga ctc gca ccg ggc ttc ctt atc ggc ggc gta ccg gaa aac 432
Tyr Ala Gly Leu Ala Pro Gly Phe Leu Ile Gly Gly Val Pro Glu Asn
                      130                      135                      140

ttc agc gtt tcc gcc cgc ctg ccg caa acg ccg cgc caa gac ccg aac 480
Phe Ser Val Ser Ala Arg Leu Pro Gln Thr Pro Arg Gln Asp Pro Asn
                      145                      150                      155                      160

agc caa tcg ccg ttt ttc gtc att gaa gcc gac gaa tac gac acc gcg 528
Ser Gln Ser Pro Phe Phe Val Ile Glu Ala Asp Glu Tyr Asp Thr Ala
                      165                      170                      175

ttt ttc gac aaa cgc tcc aaa ttc gtg cat tac cgt ccg cgt acc gcc 576
Phe Phe Asp Lys Arg Ser Lys Phe Val His Tyr Arg Pro Arg Thr Ala
                      180                      185                      190

gtg ttg aac aat ctg gaa ttc gac cac gcc gac atc ttc gcc gat ttg 624
Val Leu Asn Asn Leu Glu Phe Asp His Ala Asp Ile Phe Ala Asp Leu
                      195                      200                      205

ggc gcg ata cag acc cag ttc cac cac ctc gtg cgt acc gtg ccg tct 672
Gly Ala Ile Gln Thr Gln Phe His His Leu Val Arg Thr Val Pro Ser
                      210                      215                      220

gaa ggc ctc atc gtc tgc aac gga cgg cag caa agc ctg caa gac act 720
Glu Gly Leu Ile Val Cys Asn Gly Arg Gln Gln Ser Leu Gln Asp Thr
                      225                      230                      235                      240

```


ttg gac aaa ggc tgc tgg acg ccg gtg gaa aaa ttc ggc acg gaa cac	768
Leu Asp Lys Gly Cys Trp Thr Pro Val Glu Lys Phe Gly Thr Glu His	
245 250 255	
ggc tgg cag gcc ggc gaa gcc aat gcc gat ggc tcg ttc gac gtg ttg	816
Gly Trp Gln Ala Gly Glu Ala Asn Ala Asp Gly Ser Phe Asp Val Leu	
260 265 270	
ctt gac ggc aaa aaa gcc gga cac gtc gct tgg agt ttg atg ggc gga	864
Leu Asp Gly Lys Lys Ala Gly His Val Ala Trp Ser Leu Met Gly Gly	
275 280 285	
cac aac cgc atg aac gcg ctc gcc gtc atc gcc gcc gcg cgt cat gcc	912
His Asn Arg Met Asn Ala Leu Ala Val Ile Ala Ala Ala Arg His Ala	
290 295 300	
gga gtc gac att cag acg gcc tgc gaa gcc ttg agc acg ttt aaa aac	960
Gly Val Asp Ile Gln Thr Ala Cys Glu Ala Leu Ser Thr Phe Lys Asn	
305 310 315 320	
gtc aaa cgc cgc atg gaa atc aaa ggc acg gca aac ggt atc acc gtt	1008
Val Lys Arg Arg Met Glu Ile Lys Gly Thr Ala Asn Gly Ile Thr Val	
325 330 335	
tac gac gac ttc gcc cac cat ccg acc gct atc gaa acc acg att caa	1056
Tyr Asp Asp Phe Ala His His Pro Thr Ala Ile Glu Thr Thr Ile Gln	
340 345 350	
ggt ttg cgc cag cgc gtc ggc ggc gcg cgc atc ctc gcc gtc ctc gaa	1104
Gly Leu Arg Gln Arg Val Gly Gly Ala Arg Ile Leu Ala Val Leu Glu	
355 360 365	
ccg cgt tcc aat acg atg aag ctg ggt acg atg aaa gcc gcc ctg ccc	1152
Pro Arg Ser Asn Thr Met Lys Leu Gly Thr Met Lys Ala Ala Leu Pro	
370 375 380	
gca agc ctc aaa gaa gcc gac caa gtg ttc tgc tac gcc ggc ggc gcg	1200
Ala Ser Leu Lys Glu Ala Asp Gln Val Phe Cys Tyr Ala Gly Gly Ala	
385 390 395 400	
gac tgg gac gtt gcc gaa gcc ctc gcg cct ttg ggc ggc agg ctg cac	1248
Asp Trp Asp Val Ala Glu Ala Leu Ala Pro Leu Gly Gly Arg Leu His	
405 410 415	
gtc ggc aaa gac ttc gat gcc ttc gtt gcc gaa atc gtg aaa aac gcc	1296
Val Gly Lys Asp Phe Asp Ala Phe Val Ala Glu Ile Val Lys Asn Ala	
420 425 430	

gaa gca ggc gac cat att ttg gtg atg agc aac ggc ggt ttc ggc gga 1344
 Glu Ala Gly Asp His Ile Leu Val Met Ser Asn Gly Gly Phe Gly Gly
 435 440 445

ata cac acc aaa ctg ctg gac gct ttg aga 1374
 Ile His Thr Lys Leu Leu Asp Ala Leu Arg
 450 455

<210> 136

<211> 458

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 136

Met Lys His Ile His Ile Ile Gly Ile Gly Gly Thr Phe Met Gly Gly
 1 5 10 15

Ile Ala Ala Ile Ala Lys Glu Ala Gly Phe Glu Val Ser Gly Cys Asp
 20 25 30

Ala Lys Met Tyr Pro Pro Met Ser Thr Gln Leu Glu Ala Leu Gly Ile
 35 40 45

Gly Val Tyr Glu Gly Phe Asp Thr Ala Gln Leu Asp Glu Phe Lys Ala
 50 55 60

Asp Val Tyr Val Ile Gly Asn Val Ala Lys Arg Gly Met Asp Val Val
 65 70 75 80

Glu Ala Ile Leu Asn Arg Gly Leu Pro Tyr Ile Ser Gly Pro Gln Trp
 85 90 95

Leu Ala Glu Asn Val Leu His His His Trp Val Leu Gly Val Ala Gly
 100 105 110

Thr His Gly Lys Thr Thr Thr Ala Ser Met Leu Ala Trp Val Leu Glu
 115 120 125

Tyr Ala Gly Leu Ala Pro Gly Phe Leu Ile Gly Gly Val Pro Glu Asn
 130 135 140

Phe Ser Val Ser Ala Arg Leu Pro Gln Thr Pro Arg Gln Asp Pro Asn
 145 150 155 160

Ser Gln Ser Pro Phe Phe Val Ile Glu Ala Asp Glu Tyr Asp Thr Ala
 165 170 175

Phe Phe Asp Lys Arg Ser Lys Phe Val His Tyr Arg Pro Arg Thr Ala
 180 185 190

Val Leu Asn Asn Leu Glu Phe Asp His Ala Asp Ile Phe Ala Asp Leu
 195 200 205

Gly Ala Ile Gln Thr Gln Phe His His Leu Val Arg Thr Val Pro Ser
 210 215 220

Glu Gly Leu Ile Val Cys Asn Gly Arg Gln Gln Ser Leu Gln Asp Thr
 225 230 235 240

Leu Asp Lys Gly Cys Trp Thr Pro Val Glu Lys Phe Gly Thr Glu His
 245 250 255

Gly Trp Gln Ala Gly Glu Ala Asn Ala Asp Gly Ser Phe Asp Val Leu
 260 265 270

Leu Asp Gly Lys Lys Ala Gly His Val Ala Trp Ser Leu Met Gly Gly
 275 280 285

His Asn Arg Met Asn Ala Leu Ala Val Ile Ala Ala Ala Arg His Ala
 290 295 300

Gly Val Asp Ile Gln Thr Ala Cys Glu Ala Leu Ser Thr Phe Lys Asn
 305 310 315 320

Val Lys Arg Arg Met Glu Ile Lys Gly Thr Ala Asn Gly Ile Thr Val
 325 330 335

Tyr Asp Asp Phe Ala His His Pro Thr Ala Ile Glu Thr Thr Ile Gln
 340 345 350

Gly Leu Arg Gln Arg Val Gly Gly Ala Arg Ile Leu Ala Val Leu Glu
 355 360 365

Pro Arg Ser Asn Thr Met Lys Leu Gly Thr Met Lys Ala Ala Leu Pro
 370 375 380

Ala Ser Leu Lys Glu Ala Asp Gln Val Phe Cys Tyr Ala Gly Gly Ala
 385 390 395 400

Asp Trp Asp Val Ala Glu Ala Leu Ala Pro Leu Gly Gly Arg Leu His
 405 410 415

Val Gly Lys Asp Phe Asp Ala Phe Val Ala Glu Ile Val Lys Asn Ala
 420 425 430

Glu Ala Gly Asp His Ile Leu Val Met Ser Asn Gly Gly Phe Gly Gly
 435 440 445

Ile His Thr Lys Leu Leu Asp Ala Leu Arg
 450 455

<210> 137

<211> 876

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(876)

<400> 137

ttg acc gtc cga acg aaa aag acg gcg cat tat acc cta ttc cat tcc 48
 Leu Thr Val Arg Thr Lys Lys Thr Ala His Tyr Thr Leu Phe His Ser
 1 5 10 15

gac cga aaa ccg aac atg act act ctc aaa ccc gcc ctg ccc gct tat 96
 Asp Arg Lys Pro Asn Met Thr Thr Leu Lys Pro Ala Leu Pro Ala Tyr
 20 25 30

ctg gac aac atc cgc atc atc ctc acg cgc acc agc cat ccc gcc aac 144
 Leu Asp Asn Ile Arg Ile Ile Leu Thr Arg Thr Ser His Pro Ala Asn
 35 40 45

atc ggc tct gcc gcg cgc gcg atg aaa aca atg ggt ctg cac aaa ctg 192
 Ile Gly Ser Ala Ala Arg Ala Met Lys Thr Met Gly Leu His Lys Leu
 50 55 60

acc atc gtc gcc cca aat ctg atg gca acg ccg atg acg gaa aac ccg 240
 Thr Ile Val Ala Pro Asn Leu Met Ala Thr Pro Met Thr Glu Asn Pro
 65 70 75 80

ccc gtg ttt gac ccg gag cat cct caa tcg ttt aaa tta ccg gaa gaa 288
 Pro Val Phe Asp Pro Glu His Pro Gln Ser Phe Lys Leu Pro Glu Glu
 85 90 95

agc ttc atc ctc gct tcc ggc gcg gca gac gtt ttg gaa aat gcc acc 336
 Ser Phe Ile Leu Ala Ser Gly Ala Ala Asp Val Leu Glu Asn Ala Thr
 100 105 110

att gcc gct tct ttg gac gaa gcc ctt gcc gac acc acc atc gcc tgc 384
 Ile Ala Ala Ser Leu Asp Glu Ala Leu Ala Asp Thr Thr Ile Ala Cys

115	120	125	
gcc ctg acc agc cgc cgc cgc gaa att act gcg ccg ctg caa acc ccg			432
Ala Leu Thr Ser Arg Arg Arg Glu Ile Thr Ala Pro Leu Gln Thr Pro			
130	135	140	
cgc gat ttg gta tcc gaa tta ctg cag acc gca aac cga ggc gag aaa			480
Arg Asp Leu Val Ser Glu Leu Leu Gln Thr Ala Asn Arg Gly Glu Lys			
145	150	155	160
gtg gca ctg gtt ttc ggc aac gag act ttc ggc ttg agc atc gaa gaa			528
Val Ala Leu Val Phe Gly Asn Glu Thr Phe Gly Leu Ser Ile Glu Glu			
	165	170	175
gtc caa gcc tgc aac cga ctg atg acc atc aac ggc aat ccc gac tat			576
Val Gln Ala Cys Asn Arg Leu Met Thr Ile Asn Gly Asn Pro Asp Tyr			
	180	185	190
ttc tcg ctc aac ctc gcc caa gcc gtg cag gtc gtg tgc tac gaa atc			624
Phe Ser Leu Asn Leu Ala Gln Ala Val Gln Val Val Cys Tyr Glu Ile			
	195	200	205
ttc agc caa acc ggt tcg ccc atg acc cat ctt caa caa gaa gac cac			672
Phe Ser Gln Thr Gly Ser Pro Met Thr His Leu Gln Gln Glu Asp His			
	210	215	220
gct gcg acc cac gag caa atc aaa ggc atg gtc gcc cac atg gaa agc			720
Ala Ala Thr His Glu Gln Ile Lys Gly Met Val Ala His Met Glu Ser			
	225	230	235
gtg atg aac gac atc ggc ttt ttc aac cgc cgc aac ggc gag cgt ctg			768
Val Met Asn Asp Ile Gly Phe Phe Asn Arg Arg Asn Gly Glu Arg Leu			
	245	250	255
atg cgc cgt atg cag agc ctg ttc gga cgc gcc aac acg caa acc gaa			816
Met Arg Arg Met Gln Ser Leu Phe Gly Arg Ala Asn Thr Gln Thr Glu			
	260	265	270
gac atc gat atc ctg cgc ggt ttt ttc aat acc gtc agc cat cgt atc			864
Asp Ile Asp Ile Leu Arg Gly Phe Phe Asn Thr Val Ser His Arg Ile			
	275	280	285
cat aaa aaa gac			876
His Lys Lys Asp			
290			

<210> 138

<211> 292

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<400> 138

```

Leu Thr Val Arg Thr Lys Lys Thr Ala His Tyr Thr Leu Phe His Ser
 1             5             10             15

Asp Arg Lys Pro Asn Met Thr Thr Leu Lys Pro Ala Leu Pro Ala Tyr
      20             25             30

Leu Asp Asn Ile Arg Ile Ile Leu Thr Arg Thr Ser His Pro Ala Asn
      35             40             45

Ile Gly Ser Ala Ala Arg Ala Met Lys Thr Met Gly Leu His Lys Leu
      50             55             60

Thr Ile Val Ala Pro Asn Leu Met Ala Thr Pro Met Thr Glu Asn Pro
      65             70             75             80

Pro Val Phe Asp Pro Glu His Pro Gln Ser Phe Lys Leu Pro Glu Glu
      85             90             95

Ser Phe Ile Leu Ala Ser Gly Ala Ala Asp Val Leu Glu Asn Ala Thr
      100            105            110

Ile Ala Ala Ser Leu Asp Glu Ala Leu Ala Asp Thr Thr Ile Ala Cys
      115            120            125

Ala Leu Thr Ser Arg Arg Arg Glu Ile Thr Ala Pro Leu Gln Thr Pro
      130            135            140

Arg Asp Leu Val Ser Glu Leu Leu Gln Thr Ala Asn Arg Gly Glu Lys
      145            150            155            160

Val Ala Leu Val Phe Gly Asn Glu Thr Phe Gly Leu Ser Ile Glu Glu
      165            170            175

Val Gln Ala Cys Asn Arg Leu Met Thr Ile Asn Gly Asn Pro Asp Tyr
      180            185            190

Phe Ser Leu Asn Leu Ala Gln Ala Val Gln Val Val Cys Tyr Glu Ile
      195            200            205

Phe Ser Gln Thr Gly Ser Pro Met Thr His Leu Gln Gln Glu Asp His
      210            215            220

Ala Ala Thr His Glu Gln Ile Lys Gly Met Val Ala His Met Glu Ser

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225                230                235                240
Val Met Asn Asp Ile Gly Phe Phe Asn Arg Arg Asn Gly Glu Arg Leu
                245                250                255
Met Arg Arg Met Gln Ser Leu Phe Gly Arg Ala Asn Thr Gln Thr Glu
                260                265                270
Asp Ile Asp Ile Leu Arg Gly Phe Phe Asn Thr Val Ser His Arg Ile
                275                280                285
His Lys Lys Asp
                290

```

<210> 139

<211> 708

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(708)

<400> 139

```

ttg cgg cag ctt gga tgt ttg att ggt ttt ttc agt gtt gga atc att 48
Leu Arg Gln Leu Gly Cys Leu Ile Gly Phe Phe Ser Val Gly Ile Ile
  1             5             10            15

atg aat ttg aaa tta gtg ttt gaa tcg ggc gat ccc gtc ctg atc ggt 96
Met Asn Leu Lys Leu Val Phe Glu Ser Gly Asp Pro Val Leu Ile Gly
      20             25             30

gtg ttt gtg ttg atg ctg ttg atg agt atc gta acg tgg tgt ttg gtt 144
Val Phe Val Leu Met Leu Leu Met Ser Ile Val Thr Trp Cys Leu Val
      35             40             45

gtc ttg cgc tgc atc aag ctg tat cgg gcg cgc aaa ggg aat gcc gcc 192
Val Leu Arg Cys Ile Lys Leu Tyr Arg Ala Arg Lys Gly Asn Ala Ala
      50             55             60

gtc aaa cgg cat atg cgc gat act ttg tcg ctg aac gac gcg gtc gaa 240
Val Lys Arg His Met Arg Asp Thr Leu Ser Leu Asn Asp Ala Val Glu
      65             70             75             80

aaa gtg cgc gcc gtc gat gcg cct ttg tcc aaa ctg gcg caa gag gca 288
Lys Val Arg Ala Val Asp Ala Pro Leu Ser Lys Leu Ala Gln Glu Ala

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85	90	95	
ttg cag tct tac cgc aac tac cgc cga aac gaa gcg tcc gaa ctg gcg			336
Leu Gln Ser Tyr Arg Asn Tyr Arg Arg Asn Glu Ala Ser Glu Leu Ala			
100	105	110	
cag gct ttg ccg ttg aac gag tat ttg gtc att caa atc cgc aac agt			384
Gln Ala Leu Pro Leu Asn Glu Tyr Leu Val Ile Gln Ile Arg Asn Ser			
115	120	125	
atg gcg cag att atg cgc cgg ttt gat tac ggg atg acc gcg ctt gcc			432
Met Ala Gln Ile Met Arg Arg Phe Asp Tyr Gly Met Thr Ala Leu Ala			
130	135	140	
tcc atc ggc gcg acc gcg ccg ttt atc ggg ttg ttc ggc acg gtt tgg			480
Ser Ile Gly Ala Thr Ala Pro Phe Ile Gly Leu Phe Gly Thr Val Trp			
145	150	155	160
ggg att tac cac gcc ctg atc aat atc ggg caa agc ggg cag atg agt			528
Gly Ile Tyr His Ala Leu Ile Asn Ile Gly Gln Ser Gly Gln Met Ser			
165	170	175	
att gcg gcg gtt gcc ggc ccg att ggc gag gca ctg gtg gcg acg gcg			576
Ile Ala Ala Val Ala Gly Pro Ile Gly Glu Ala Leu Val Ala Thr Ala			
180	185	190	
gcg ggt ttg ttc gtg gcg att ccg gcg gtg ttg gca tac aac ttc ctc			624
Ala Gly Leu Phe Val Ala Ile Pro Ala Val Leu Ala Tyr Asn Phe Leu			
195	200	205	
aat cgc ggc aca aaa ata ctg acc cag gat ttg gat gcg atg gcg cac			672
Asn Arg Gly Thr Lys Ile Leu Thr Gln Asp Leu Asp Ala Met Ala His			
210	215	220	
gat ttg cac gtc cgc ctg ctt aat caa aag gat agc			708
Asp Leu His Val Arg Leu Leu Asn Gln Lys Asp Ser			
225	230	235	

<210> 140

<211> 236

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 140

Leu Arg Gln Leu Gly Cys Leu Ile Gly Phe Phe Ser Val Gly Ile Ile
 1 5 10 15


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Met Asn Leu Lys Leu Val Phe Glu Ser Gly Asp Pro Val Leu Ile Gly
      20              25              30

Val Phe Val Leu Met Leu Leu Met Ser Ile Val Thr Trp Cys Leu Val
      35              40              45

Val Leu Arg Cys Ile Lys Leu Tyr Arg Ala Arg Lys Gly Asn Ala Ala
      50              55              60

Val Lys Arg His Met Arg Asp Thr Leu Ser Leu Asn Asp Ala Val Glu
      65              70              75              80

Lys Val Arg Ala Val Asp Ala Pro Leu Ser Lys Leu Ala Gln Glu Ala
      85              90              95

Leu Gln Ser Tyr Arg Asn Tyr Arg Arg Asn Glu Ala Ser Glu Leu Ala
      100             105             110

Gln Ala Leu Pro Leu Asn Glu Tyr Leu Val Ile Gln Ile Arg Asn Ser
      115             120             125

Met Ala Gln Ile Met Arg Arg Phe Asp Tyr Gly Met Thr Ala Leu Ala
      130             135             140

Ser Ile Gly Ala Thr Ala Pro Phe Ile Gly Leu Phe Gly Thr Val Trp
      145             150             155             160

Gly Ile Tyr His Ala Leu Ile Asn Ile Gly Gln Ser Gly Gln Met Ser
      165             170             175

Ile Ala Ala Val Ala Gly Pro Ile Gly Glu Ala Leu Val Ala Thr Ala
      180             185             190

Ala Gly Leu Phe Val Ala Ile Pro Ala Val Leu Ala Tyr Asn Phe Leu
      195             200             205

Asn Arg Gly Thr Lys Ile Leu Thr Gln Asp Leu Asp Ala Met Ala His
      210             215             220

Asp Leu His Val Arg Leu Leu Asn Gln Lys Asp Ser
      225             230             235

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<210> 141

<211> 812

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(810)

<400> 141

```

atg act atg cac gcc ctc ccc cgc tac gcc gtt ttt ggc aac ccc gtc   48
Met Thr Met His Ala Leu Pro Arg Tyr Ala Val Phe Gly Asn Pro Val
   1             5             10             15

gcc cac agc aaa tcg ccg caa att cat caa caa ttt gcc ctt cag gaa   96
Ala His Ser Lys Ser Pro Gln Ile His Gln Gln Phe Ala Leu Gln Glu
          20             25             30

ggc gtt gac att gaa tac gaa cgc att tgc gcc gac atc ggc ggt ttc  144
Gly Val Asp Ile Glu Tyr Glu Arg Ile Cys Ala Asp Ile Gly Gly Phe
      35             40             45

gcg cag gcg gtt tcg aca ttt ttt gaa aca ggc ggt tgc ggg gca aac  192
Ala Gln Ala Val Ser Thr Phe Phe Glu Thr Gly Gly Cys Gly Ala Asn
      50             55             60

gtt acc gta ccg ttc aag cag gaa gcg ttt cat ctg gcg gac gag cat  240
Val Thr Val Pro Phe Lys Gln Glu Ala Phe His Leu Ala Asp Glu His
      65             70             75             80

tct gaa cgc gca ttg gct gcc ggc gcg gtc aac acg ctg att ttt ctg  288
Ser Glu Arg Ala Leu Ala Ala Gly Ala Val Asn Thr Leu Ile Phe Leu
          85             90             95

aaa aac gga aaa ctg cgc ggc gac aat acc gac ggt atc ggt ttg gcc  336
Lys Asn Gly Lys Leu Arg Gly Asp Asn Thr Asp Gly Ile Gly Leu Ala
          100             105             110

aac gac atc acg cag gtc aaa aac att gcc atc gaa ggc aaa acc atc  384
Asn Asp Ile Thr Gln Val Lys Asn Ile Ala Ile Glu Gly Lys Thr Ile
          115             120             125

ttg ctt ttg ggc gcg ggc ggc gcg gtg cgc ggc gtg att cct gtt ttg  432
Leu Leu Leu Gly Ala Gly Gly Ala Val Arg Gly Val Ile Pro Val Leu
          130             135             140

aaa gaa cac cgt cct gcc cgt atc gtc att gcc aac cgt acc cgc gcc  480
Lys Glu His Arg Pro Ala Arg Ile Val Ile Ala Asn Arg Thr Arg Ala
          145             150             155             160

aaa gcc gag gaa ttg gcg cag ctt ttc ggc att gaa gcc gtc ccg atg  528
Lys Ala Glu Glu Leu Ala Gln Leu Phe Gly Ile Glu Ala Val Pro Met

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                165                170                175
gcg gat gtg aac ggc ggt ttt gat atc atc atc aac ggc acg tcg ggc 576
Ala Asp Val Asn Gly Gly Phe Asp Ile Ile Ile Asn Gly Thr Ser Gly
                180                185                190

ggt cta aac ggt cag att ccc gat att ccg ccc gat att ttt caa aac 624
Gly Leu Asn Gly Gln Ile Pro Asp Ile Pro Pro Asp Ile Phe Gln Asn
                195                200                205

tgc gcg ctt gcc tac gat atg gtg tac ggc tgc gcg gca aaa ccg ttt 672
Cys Ala Leu Ala Tyr Asp Met Val Tyr Gly Cys Ala Ala Lys Pro Phe
                210                215                220

tta gat ttt gca cga caa tcg ggt gcg aaa aaa act gcc gac gga ctg 720
Leu Asp Phe Ala Arg Gln Ser Gly Ala Lys Lys Thr Ala Asp Gly Leu
                225                230                235                240

ggt atg cta gtc ggt caa gcg gcg gct tcc tac gcc ctc tgg cgc gga 768
Gly Met Leu Val Gly Gln Ala Ala Ala Ser Tyr Ala Leu Trp Arg Gly
                245                250                255

ttt acg ccc gat atc cgc ccc gtt atc gaa tac atg aaa gcc ct      812
Phe Thr Pro Asp Ile Arg Pro Val Ile Glu Tyr Met Lys Ala
                260                265                270

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<210> 142

<211> 270

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 142

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Met Thr Met His Ala Leu Pro Arg Tyr Ala Val Phe Gly Asn Pro Val
  1              5              10              15

Ala His Ser Lys Ser Pro Gln Ile His Gln Gln Phe Ala Leu Gln Glu
      20              25              30

Gly Val Asp Ile Glu Tyr Glu Arg Ile Cys Ala Asp Ile Gly Gly Phe
      35              40              45

Ala Gln Ala Val Ser Thr Phe Phe Glu Thr Gly Gly Cys Gly Ala Asn
      50              55              60

Val Thr Val Pro Phe Lys Gln Glu Ala Phe His Leu Ala Asp Glu His
      65              70              75              80

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Ser Glu Arg Ala Leu Ala Ala Gly Ala Val Asn Thr Leu Ile Phe Leu
      85                      90                      95

Lys Asn Gly Lys Leu Arg Gly Asp Asn Thr Asp Gly Ile Gly Leu Ala
      100                    105                    110

Asn Asp Ile Thr Gln Val Lys Asn Ile Ala Ile Glu Gly Lys Thr Ile
      115                    120                    125

Leu Leu Leu Gly Ala Gly Gly Ala Val Arg Gly Val Ile Pro Val Leu
      130                    135                    140

Lys Glu His Arg Pro Ala Arg Ile Val Ile Ala Asn Arg Thr Arg Ala
      145                    150                    155                    160

Lys Ala Glu Glu Leu Ala Gln Leu Phe Gly Ile Glu Ala Val Pro Met
      165                    170                    175

Ala Asp Val Asn Gly Gly Phe Asp Ile Ile Ile Asn Gly Thr Ser Gly
      180                    185                    190

Gly Leu Asn Gly Gln Ile Pro Asp Ile Pro Pro Asp Ile Phe Gln Asn
      195                    200                    205

Cys Ala Leu Ala Tyr Asp Met Val Tyr Gly Cys Ala Ala Lys Pro Phe
      210                    215                    220

Leu Asp Phe Ala Arg Gln Ser Gly Ala Lys Lys Thr Ala Asp Gly Leu
      225                    230                    235                    240

Gly Met Leu Val Gly Gln Ala Ala Ala Ser Tyr Ala Leu Trp Arg Gly
      245                    250                    255

Phe Thr Pro Asp Ile Arg Pro Val Ile Glu Tyr Met Lys Ala
      260                    265                    270

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<210> 143

<211> 1515

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1515)

<400> 143

atg ttg tat ttc aga tac ggt ttt ttg gtt gtt tgg tgt gcg gca ggt	48
Met Leu Tyr Phe Arg Tyr Gly Phe Leu Val Val Trp Cys Ala Ala Gly	
1 5 10 15	
gtt tct gcc gcc tat ggg gcg gat gcg ccc gcg att ttg gat gaa aag	96
Val Ser Ala Ala Tyr Gly Ala Asp Ala Pro Ala Ile Leu Asp Asp Lys	
20 25 30	
gca ttg ttg cag gtg cag cgg tcg gtg tcg gat aag tgg gcg gaa tcg	144
Ala Leu Leu Gln Val Gln Arg Ser Val Ser Asp Lys Trp Ala Glu Ser	
35 40 45	
gat tgg aaa gtt gac aat gat gcc ccg cgc gtg gtt gac ggg gat ttt	192
Asp Trp Lys Val Asp Asn Asp Ala Pro Arg Val Val Asp Gly Asp Phe	
50 55 60	
ttg ttg gcg cat ccg aaa atg ttg gaa cat agt ttg cgc gac gtg ctc	240
Leu Leu Ala His Pro Lys Met Leu Glu His Ser Leu Arg Asp Val Leu	
65 70 75 80	
aac ggc aat cag gcg gat ttg atc gct tcg ttg gcg gat ttg tat gcc	288
Asn Gly Asn Gln Ala Asp Leu Ile Ala Ser Leu Ala Asp Leu Tyr Ala	
85 90 95	
aag ctg ccg gat tat gac gcg gtt ttg tac ggc agg gcg cgg gct ttg	336
Lys Leu Pro Asp Tyr Asp Ala Val Leu Tyr Gly Arg Ala Arg Ala Leu	
100 105 110	
ctg gcg aaa ttg gcg gga agg ccg gcg gag gcg gtg gcg cgg tat ccg	384
Leu Ala Lys Leu Ala Gly Arg Pro Ala Glu Ala Val Ala Arg Tyr Arg	
115 120 125	
gaa ctg cac ggg gaa aat gcg gca gac gag cgg att ttg ctg gat ttg	432
Glu Leu His Gly Glu Asn Ala Ala Asp Glu Arg Ile Leu Leu Asp Leu	
130 135 140	
gcg gcg gcg gag ttt gac gat ttc ccg ctg aag tcg gca gaa agg cat	480
Ala Ala Ala Glu Phe Asp Asp Phe Arg Leu Lys Ser Ala Glu Arg His	
145 150 155 160	
ttt gcc gag gcg gaa aaa ttg gat ttg ccg gcg ccg gtt ttg gaa aat	528
Phe Ala Glu Ala Glu Lys Leu Asp Leu Pro Ala Pro Val Leu Glu Asn	
165 170 175	
gtg ggg cgt ttt ccg aaa aaa gcg gag ggg ctg acg ggc tgg cgt ttt	576
Val Gly Arg Phe Arg Lys Lys Ala Glu Gly Leu Thr Gly Trp Arg Phe	
180 185 190	

tcg ggc ggc atc agt ccg gcg gtc aat aga aat gcc aat aat gcc gcg	624
Ser Gly Gly Ile Ser Pro Ala Val Asn Arg Asn Ala Asn Asn Ala Ala	
195 200 205	
ccg cag tat tgc cgg caa aac gga ggc cgg cag ata tgc agt gtc agc	672
Pro Gln Tyr Cys Arg Gln Asn Gly Gly Arg Gln Ile Cys Ser Val Ser	
210 215 220	
cgg gcg gag cgg gcg gca ggc ttg aat tat gaa atc gag gcg gaa aaa	720
Arg Ala Glu Arg Ala Ala Gly Leu Asn Tyr Glu Ile Glu Ala Glu Lys	
225 230 235 240	
ctg acg gcg ttg gca gat aat cat tat ttg ttg ttc cgt tcc aat atc	768
Leu Thr Ala Leu Ala Asp Asn His Tyr Leu Leu Phe Arg Ser Asn Ile	
245 250 255	
ggc ggc acg agc tat tat ttc agt aaa aaa tca gct tat gac gac ggg	816
Gly Gly Thr Ser Tyr Tyr Phe Ser Lys Lys Ser Ala Tyr Asp Asp Gly	
260 265 270	
ttc ggc aga gcg tat ttg ggt tgg cag tat aaa aat gca cgg cag acg	864
Phe Gly Arg Ala Tyr Leu Gly Trp Gln Tyr Lys Asn Ala Arg Gln Thr	
275 280 285	
gcg ggg att ttg ccg ttt tat cag gtg cag ttg tcg ggc agc gac ggc	912
Ala Gly Ile Leu Pro Phe Tyr Gln Val Gln Leu Ser Gly Ser Asp Gly	
290 295 300	
ttt gat gcg aaa aca aaa ccg gta aac aac cgc cgc ctg ccg ccg tat	960
Phe Asp Ala Lys Thr Lys Arg Val Asn Asn Arg Arg Leu Pro Pro Tyr	
305 310 315 320	
atg ctg gcg cac gga gtc ggc gtg cag ttg tcc cat act tac cgc cca	1008
Met Leu Ala His Gly Val Gly Val Gln Leu Ser His Thr Tyr Arg Pro	
325 330 335	
aac ccg gga tgg caa ttt tcg gtc gcg ctg gaa cat tac cgc caa cgc	1056
Asn Pro Gly Trp Gln Phe Ser Val Ala Leu Glu His Tyr Arg Gln Arg	
340 345 350	
tac cgc gaa cag gat agg gcg gaa tac aat aac ggt cgg cag gac ggg	1104
Tyr Arg Glu Gln Asp Arg Ala Glu Tyr Asn Asn Gly Arg Gln Asp Gly	
355 360 365	
ttt tat gtt tcg tcg gca aaa cgt ttg ggc gaa tcg gca act gtg ttc	1152
Phe Tyr Val Ser Ser Ala Lys Arg Leu Gly Glu Ser Ala Thr Val Phe	
370 375 380	

ggc ggc tgg cag ttt gtg cgg ttt gtg ccg aaa cgc gaa acg gtg ggc 1200
 Gly Gly Trp Gln Phe Val Arg Phe Val Pro Lys Arg Glu Thr Val Gly
 385 390 395 400

ggc gcg gtc aat aat gcc gcc tac cgg cgc aac ggt gtt tat gcc ggc 1248
 Gly Ala Val Asn Asn Ala Ala Tyr Arg Arg Asn Gly Val Tyr Ala Gly
 405 410 415

tgg gcg cag gag tgg cgg cag ttg ggc ggt ttg aac agt cgg gtt tcc 1296
 Trp Ala Gln Glu Trp Arg Gln Leu Gly Gly Leu Asn Ser Arg Val Ser
 420 425 430

gcg tct tat gcc cgc cgc aac tat aag ggc gtt gcg gct ttc tcg aca 1344
 Ala Ser Tyr Ala Arg Arg Asn Tyr Lys Gly Val Ala Ala Phe Ser Thr
 435 440 445

gag gcg caa cgc aac cgc gaa tgg aat gtc tcg ctg gct ttg agc cac 1392
 Glu Ala Gln Arg Asn Arg Glu Trp Asn Val Ser Leu Ala Leu Ser His
 450 455 460

gac aag ttg tcg tac aaa ggt atc gtg ccc gcg ttg aat tat cgt ttc 1440
 Asp Lys Leu Ser Tyr Lys Gly Ile Val Pro Ala Leu Asn Tyr Arg Phe
 465 470 475 480

ggc agg acg gaa agt aat gtg ccg tat gcg aaa cgc cgc aac agc gag 1488
 Gly Arg Thr Glu Ser Asn Val Pro Tyr Ala Lys Arg Arg Asn Ser Glu
 485 490 495

gtg ttt gtg tcg gcg gat tgg cgg ttt 1515
 Val Phe Val Ser Ala Asp Trp Arg Phe
 500 505

<210> 144

<211> 505

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 144

Met Leu Tyr Phe Arg Tyr Gly Phe Leu Val Val Trp Cys Ala Ala Gly
 1 5 10 15

Val Ser Ala Ala Tyr Gly Ala Asp Ala Pro Ala Ile Leu Asp Asp Lys
 20 25 30

Ala Leu Leu Gln Val Gln Arg Ser Val Ser Asp Lys Trp Ala Glu Ser
 35 40 45

Asp Trp Lys Val Asp Asn Asp Ala Pro Arg Val Val Asp Gly Asp Phe
50 55 60

Leu Leu Ala His Pro Lys Met Leu Glu His Ser Leu Arg Asp Val Leu
65 70 75 80

Asn Gly Asn Gln Ala Asp Leu Ile Ala Ser Leu Ala Asp Leu Tyr Ala
85 90 95

Lys Leu Pro Asp Tyr Asp Ala Val Leu Tyr Gly Arg Ala Arg Ala Leu
100 105 110

Leu Ala Lys Leu Ala Gly Arg Pro Ala Glu Ala Val Ala Arg Tyr Arg
115 120 125

Glu Leu His Gly Glu Asn Ala Ala Asp Glu Arg Ile Leu Leu Asp Leu
130 135 140

Ala Ala Ala Glu Phe Asp Asp Phe Arg Leu Lys Ser Ala Glu Arg His
145 150 155 160

Phe Ala Glu Ala Glu Lys Leu Asp Leu Pro Ala Pro Val Leu Glu Asn
165 170 175

Val Gly Arg Phe Arg Lys Lys Ala Glu Gly Leu Thr Gly Trp Arg Phe
180 185 190

Ser Gly Gly Ile Ser Pro Ala Val Asn Arg Asn Ala Asn Asn Ala Ala
195 200 205

Pro Gln Tyr Cys Arg Gln Asn Gly Gly Arg Gln Ile Cys Ser Val Ser
210 215 220

Arg Ala Glu Arg Ala Ala Gly Leu Asn Tyr Glu Ile Glu Ala Glu Lys
225 230 235 240

Leu Thr Ala Leu Ala Asp Asn His Tyr Leu Leu Phe Arg Ser Asn Ile
245 250 255

Gly Gly Thr Ser Tyr Tyr Phe Ser Lys Lys Ser Ala Tyr Asp Asp Gly
260 265 270

Phe Gly Arg Ala Tyr Leu Gly Trp Gln Tyr Lys Asn Ala Arg Gln Thr
275 280 285

Ala Gly Ile Leu Pro Phe Tyr Gln Val Gln Leu Ser Gly Ser Asp Gly
290 295 300


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Phe Asp Ala Lys Thr Lys Arg Val Asn Asn Arg Arg Leu Pro Pro Tyr
305              310              315              320

Met Leu Ala His Gly Val Gly Val Gln Leu Ser His Thr Tyr Arg Pro
              325              330              335

Asn Pro Gly Trp Gln Phe Ser Val Ala Leu Glu His Tyr Arg Gln Arg
              340              345              350

Tyr Arg Glu Gln Asp Arg Ala Glu Tyr Asn Asn Gly Arg Gln Asp Gly
              355              360              365

Phe Tyr Val Ser Ser Ala Lys Arg Leu Gly Glu Ser Ala Thr Val Phe
370              375              380

Gly Gly Trp Gln Phe Val Arg Phe Val Pro Lys Arg Glu Thr Val Gly
385              390              395              400

Gly Ala Val Asn Asn Ala Ala Tyr Arg Arg Asn Gly Val Tyr Ala Gly
              405              410              415

Trp Ala Gln Glu Trp Arg Gln Leu Gly Gly Leu Asn Ser Arg Val Ser
              420              425              430

Ala Ser Tyr Ala Arg Arg Asn Tyr Lys Gly Val Ala Ala Phe Ser Thr
              435              440              445

Glu Ala Gln Arg Asn Arg Glu Trp Asn Val Ser Leu Ala Leu Ser His
450              455              460

Asp Lys Leu Ser Tyr Lys Gly Ile Val Pro Ala Leu Asn Tyr Arg Phe
465              470              475              480

Gly Arg Thr Glu Ser Asn Val Pro Tyr Ala Lys Arg Arg Asn Ser Glu
              485              490              495

Val Phe Val Ser Ala Asp Trp Arg Phe
              500              505

```

<210> 145

<211> 840

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(840)

<400> 145

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atg gat aaa gaa cga att tta acc ccc gca gtc gtg ttt tcc gtc gca 48
Met Asp Lys Glu Arg Ile Leu Thr Pro Ala Val Val Phe Ser Val Ala
  1             5             10            15

ctg ctg cat ttg gca atg gtg gca ttg ctc tgg cag gcg cac aag ctg 96
Leu Leu His Leu Ala Met Val Ala Leu Leu Trp Gln Ala His Lys Leu
      20             25             30

ccc gtg ata gag tca ggc aat gtt att gaa ttt gtc gat ttg ggc gat 144
Pro Val Ile Glu Ser Gly Asn Val Ile Glu Phe Val Asp Leu Gly Asp
      35             40             45

ttt ggc gga ggg gac ggc gca ccc gaa ggt gca ggc gcg cct gcc gcg 192
Phe Gly Gly Gly Asp Gly Ala Pro Glu Gly Ala Gly Ala Pro Ala Ala
      50             55             60

ccc gaa ccg caa ccc gtg ccc gag ccg ccc aaa cct gtc gag ccg ccc 240
Pro Glu Pro Gln Pro Val Pro Glu Pro Pro Lys Pro Val Glu Pro Pro
      65             70             75             80

aag ccg gtt ttg aag ccg gtg gtt acg aaa aag gcg gat gcg gat att 288
Lys Pro Val Leu Lys Pro Val Val Thr Lys Lys Ala Asp Ala Asp Ile
      85             90             95

cag cag cct aag gaa gag ccg aaa cct gaa gaa aag ccg aaa ccc gaa 336
Gln Gln Pro Lys Glu Glu Pro Lys Pro Glu Glu Lys Pro Lys Pro Glu
      100            105            110

gaa aaa ccg aaa cca gag cct aag ccg gaa gcg aag cct gtc ccg aaa 384
Glu Lys Pro Lys Pro Glu Pro Lys Pro Glu Ala Lys Pro Val Pro Lys
      115            120            125

ccg gcg gaa aaa ccg gtc gag aag ccg tct gaa aaa cct gcc gaa cat 432
Pro Ala Glu Lys Pro Val Glu Lys Pro Ser Glu Lys Pro Ala Glu His
      130            135            140

ccc ggc aat gct tct gcc aaa gca gac agc gag cag ggc aat ggg gaa 480
Pro Gly Asn Ala Ser Ala Lys Ala Asp Ser Glu Gln Gly Asn Gly Glu
      145            150            155            160

gat aag gga acc ggt atc aaa gga gac gga acg ggg cgc gga gaa ggc 528
Asp Lys Gly Thr Gly Ile Lys Gly Asp Gly Thr Gly Arg Gly Glu Gly
      165            170            175

agc ggt aaa ggt agc ggc ggt gtc aaa ggc gaa cac ggg gaa gga gcc 576

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Ser Gly Lys Gly Ser Gly Gly Val Lys Gly Glu His Gly Glu Gly Ala
      180                      185                      190

ggc agc agc aaa ggc aat cct tta cgc gcc aac ggc agc att ccg cgc   624
Gly Ser Ser Lys Gly Asn Pro Leu Arg Ala Asn Gly Ser Ile Pro Arg
      195                      200                      205

ccg gct tat ccc acg ctt tct atg gag aat gat gag cag ggt acg gtt   672
Pro Ala Tyr Pro Thr Leu Ser Met Glu Asn Asp Glu Gln Gly Thr Val
      210                      215                      220

gtt ttg agc gtt ttg gtt tct ccg ggc ggt cat gtt gag tcc gtt aaa   720
Val Leu Ser Val Leu Val Ser Pro Gly Gly His Val Glu Ser Val Lys
      225                      230                      235                      240

atc gtg aaa agc agt ggt ttt tcc cgc ttg gac aat gcg gca cgc aag   768
Ile Val Lys Ser Ser Gly Phe Ser Arg Leu Asp Asn Ala Ala Arg Lys
      245                      250                      255

gcg gcg caa aac ggg cat ttt caa gcc aat gcc tgg acg gag ttt aaa   816
Ala Ala Gln Asn Gly His Phe Gln Ala Asn Ala Trp Thr Glu Phe Lys
      260                      265                      270

gtc ccc gtc aag ttt gaa ttg aat                                     840
Val Pro Val Lys Phe Glu Leu Asn
      275                      280

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<210> 146

<211> 280

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 146

```

Met Asp Lys Glu Arg Ile Leu Thr Pro Ala Val Val Phe Ser Val Ala
  1              5              10              15

Leu Leu His Leu Ala Met Val Ala Leu Leu Trp Gln Ala His Lys Leu
      20              25              30

Pro Val Ile Glu Ser Gly Asn Val Ile Glu Phe Val Asp Leu Gly Asp
      35              40              45

Phe Gly Gly Gly Asp Gly Ala Pro Glu Gly Ala Gly Ala Pro Ala Ala
      50              55              60

Pro Glu Pro Gln Pro Val Pro Glu Pro Pro Lys Pro Val Glu Pro Pro
      65              70              75              80

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Lys Pro Val Leu Lys Pro Val Val Thr Lys Lys Ala Asp Ala Asp Ile
 85 90 95
 Gln Gln Pro Lys Glu Glu Pro Lys Pro Glu Glu Lys Pro Lys Pro Glu
 100 105 110
 Glu Lys Pro Lys Pro Glu Pro Lys Pro Glu Ala Lys Pro Val Pro Lys
 115 120 125
 Pro Ala Glu Lys Pro Val Glu Lys Pro Ser Glu Lys Pro Ala Glu His
 130 135 140
 Pro Gly Asn Ala Ser Ala Lys Ala Asp Ser Glu Gln Gly Asn Gly Glu
 145 150 155 160
 Asp Lys Gly Thr Gly Ile Lys Gly Asp Gly Thr Gly Arg Gly Glu Gly
 165 170 175
 Ser Gly Lys Gly Ser Gly Gly Val Lys Gly Glu His Gly Glu Gly Ala
 180 185 190
 Gly Ser Ser Lys Gly Asn Pro Leu Arg Ala Asn Gly Ser Ile Pro Arg
 195 200 205
 Pro Ala Tyr Pro Thr Leu Ser Met Glu Asn Asp Glu Gln Gly Thr Val
 210 215 220
 Val Leu Ser Val Leu Val Ser Pro Gly Gly His Val Glu Ser Val Lys
 225 230 235 240
 Ile Val Lys Ser Ser Gly Phe Ser Arg Leu Asp Asn Ala Ala Arg Lys
 245 250 255
 Ala Ala Gln Asn Gly His Phe Gln Ala Asn Ala Trp Thr Glu Phe Lys
 260 265 270
 Val Pro Val Lys Phe Glu Leu Asn
 275 280

<210> 147

<211> 1572

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<220>

<221> CDS

<222> (1)..(1572)

<400> 147

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atg ttc aga cgg tat ctt ccg aac aga cag atg aat atg gtt tcc aaa 48
Met Phe Arg Arg Tyr Leu Pro Asn Arg Gln Met Asn Met Val Ser Lys
  1           5           10          15

ctg gac aaa tac tgg cag cac ccc gcc ctc tac tgg cct ttg ctc atc 96
Leu Asp Lys Tyr Trp Gln His Pro Ala Leu Tyr Trp Pro Leu Leu Ile
      20           25           30

ctt ttt gcc gcc gcc acc ccc ttt acc ttc gca ccc tac tac cac ttt 144
Leu Phe Ala Ala Ala Thr Pro Phe Thr Phe Ala Pro Tyr Tyr His Phe
      35           40           45

tgg ctg atg ccc ttg att ttc ggt gcc ttc gtc cgc ctc atc gaa ctg 192
Trp Leu Met Pro Leu Ile Phe Gly Ala Phe Val Arg Leu Ile Glu Leu
      50           55           60

cgt ccg cgt ttt gct gtc tct tcc gcc tac ctg ttc ggc ctg acc gca 240
Arg Pro Arg Phe Ala Val Ser Ser Ala Tyr Leu Phe Gly Leu Thr Ala
      65           70           75           80

tac acg aca cag ttc tac tgg ata cac acc gcc ctg cac gac gtt tcc 288
Tyr Thr Thr Gln Phe Tyr Trp Ile His Thr Ala Leu His Asp Val Ser
      85           90           95

ggc ctg ccc gac ctc tat gcc gta ccg ctg acc ttc cta ctc ccc gcc 336
Gly Leu Pro Asp Leu Tyr Ala Val Pro Leu Thr Phe Leu Leu Pro Ala
      100          105          110

tac ctt gcc ctt tat ccg gca ctg tgt ttc tgg ctg tgg aaa aaa ttt 384
Tyr Leu Ala Leu Tyr Pro Ala Leu Cys Phe Trp Leu Trp Lys Lys Phe
      115          120          125

acc ctg cct cgg ggc ata aaa atc ggt ttg gta ctg ccc atc ctg tgg 432
Thr Leu Pro Arg Gly Ile Lys Ile Gly Leu Val Leu Pro Ile Leu Trp
      130          135          140

aca ctg acc gag ttt gcc cgc gaa cgt ttc ctg acc gga ttc ggc tgg 480
Thr Leu Thr Glu Phe Ala Arg Glu Arg Phe Leu Thr Gly Phe Gly Trp
      145          150          155          160

ggc gca atc ggc tac tcc caa atc acc ccg gac agc ccg ctc gcc ggc 528
Gly Ala Ile Gly Tyr Ser Gln Ile Thr Pro Asp Ser Pro Leu Ala Gly
      165          170          175

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ttt gcc cca ttt ggc ggc atc cac atg gtt aca ctg gca acc gcc ttt 576
Phe Ala Pro Phe Gly Gly Ile His Met Val Thr Leu Ala Thr Ala Phe
      180              185              190

ctc ggt gtc tgg ctg gtt ttg gcg agt gat aac acc gca cgt tcg ggc 624
Leu Gly Val Trp Leu Val Leu Ala Ser Asp Asn Thr Ala Arg Ser Gly
      195              200              205

aaa cgc ctg ctt cca att atc ctg att gcc gcc ctg ctt gcc gca ggc 672
Lys Arg Leu Leu Pro Ile Ile Leu Ile Ala Ala Leu Leu Ala Ala Gly
      210              215              220

tac acc gcc cga caa acc gac ttc acc cgc ccc gac ggc agc cgc agc 720
Tyr Thr Ala Arg Gln Thr Asp Phe Thr Arg Pro Asp Gly Ser Arg Ser
      225              230              235              240

acc gtc gcc ctg ctt caa ggc aac atc gac caa acc ctc aaa tgg cgt 768
Thr Val Ala Leu Leu Gln Gly Asn Ile Asp Gln Thr Leu Lys Trp Arg
      245              250              255

gaa gac caa gtc atc ccg acc ata cag aaa tat tac gaa cag gtc ggc 816
Glu Asp Gln Val Ile Pro Thr Ile Gln Lys Tyr Tyr Glu Gln Val Gly
      260              265              270

aaa acc act gcc gac atc gtc atc ctg ccc gaa acc gcc atc ccc gtc 864
Lys Thr Thr Ala Asp Ile Val Ile Leu Pro Glu Thr Ala Ile Pro Val
      275              280              285

atg cgc caa aac ctg ccg gaa aac ata ctg gca aaa ttt gcc gaa cag 912
Met Arg Gln Asn Leu Pro Glu Asn Ile Leu Ala Lys Phe Ala Glu Gln
      290              295              300

gcg caa aac aac ggc agc gcg ctc gcc gtc ggc atc agc caa tac act 960
Ala Gln Asn Asn Gly Ser Ala Leu Ala Val Gly Ile Ser Gln Tyr Thr
      305              310              315              320

tcg gac ggc aac ggt tac gaa aac gcc gtc atc aac ctg acc ggt tat 1008
Ser Asp Gly Asn Gly Tyr Glu Asn Ala Val Ile Asn Leu Thr Gly Tyr
      325              330              335

cag gaa aac aat cag gac ggc atc ccc tac tac gcc aaa aac cac ctc 1056
Gln Glu Asn Asn Gln Asp Gly Ile Pro Tyr Tyr Ala Lys Asn His Leu
      340              345              350

gtc ccc ttc ggc gaa tac aaa ccg ctg ccc ttc ctg acc acg ccg ctt 1104
Val Pro Phe Gly Glu Tyr Lys Pro Leu Pro Phe Leu Thr Thr Pro Leu
      355              360              365

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tac aaa atg atg aat atg ccc ctt tcc gac ttc cgc aaa ggc ggc ggt 1152
Tyr Lys Met Met Asn Met Pro Leu Ser Asp Phe Arg Lys Gly Gly Gly
370 375 380

aag caa tcc gcc ctg ctg atg aaa aac caa aaa atc gcc ttc aac atc 1200
Lys Gln Ser Ala Leu Leu Met Lys Asn Gln Lys Ile Ala Phe Asn Ile
385 390 395 400

tgt tac gaa gac gga ttc ggc gac gaa ctg att gcc gcc gcc aaa gat 1248
Cys Tyr Glu Asp Gly Phe Gly Asp Glu Leu Ile Ala Ala Ala Lys Asp
405 410 415

gcc aca ctg ctt gcc aat gcc agc aat atg gcg tgg tac gga aaa tcc 1296
Ala Thr Leu Leu Ala Asn Ala Ser Asn Met Ala Trp Tyr Gly Lys Ser
420 425 430

aac gcc atg tac cag cac ctc caa caa tcg cag gcg cgg gct atg gaa 1344
Asn Ala Met Tyr Gln His Leu Gln Gln Ser Gln Ala Arg Ala Met Glu
435 440 445

ctc gga cgc tat atg gtc cgt gcc acc aac acc ggc gca acc gcc atc 1392
Leu Gly Arg Tyr Met Val Arg Ala Thr Asn Thr Gly Ala Thr Ala Ile
450 455 460

atc tcc ccc aaa ggc aac atc atc gcc caa gcc caa ccc gat acg gaa 1440
Ile Ser Pro Lys Gly Asn Ile Ile Ala Gln Ala Gln Pro Asp Thr Glu
465 470 475 480

acc gta ttg gaa gga cac atc aaa ggc tat gtc ggc gaa acg ccc tat 1488
Thr Val Leu Glu Gly His Ile Lys Gly Tyr Val Gly Glu Thr Pro Tyr
485 490 495

atg aaa acc ggc agt tca tgg tgg ttg atg ggc ata ttg acc cta gcc 1536
Met Lys Thr Gly Ser Ser Trp Trp Leu Met Gly Ile Leu Thr Leu Ala
500 505 510

gca ctg att ctt ttc atc ttc cga aac aaa gaa cac 1572
Ala Leu Ile Leu Phe Ile Phe Arg Asn Lys Glu His
515 520

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<210> 148

<211> 524

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 148

Met Phe Arg Arg Tyr Leu Pro Asn Arg Gln Met Asn Met Val Ser Lys

1	5	10	15
Leu Asp Lys Tyr Trp Gln His Pro Ala Leu Tyr Trp Pro Leu Leu Ile			
20	25	30	
Leu Phe Ala Ala Ala Thr Pro Phe Thr Phe Ala Pro Tyr Tyr His Phe			
35	40	45	
Trp Leu Met Pro Leu Ile Phe Gly Ala Phe Val Arg Leu Ile Glu Leu			
50	55	60	
Arg Pro Arg Phe Ala Val Ser Ser Ala Tyr Leu Phe Gly Leu Thr Ala			
65	70	75	80
Tyr Thr Thr Gln Phe Tyr Trp Ile His Thr Ala Leu His Asp Val Ser			
85	90	95	
Gly Leu Pro Asp Leu Tyr Ala Val Pro Leu Thr Phe Leu Leu Pro Ala			
100	105	110	
Tyr Leu Ala Leu Tyr Pro Ala Leu Cys Phe Trp Leu Trp Lys Lys Phe			
115	120	125	
Thr Leu Pro Arg Gly Ile Lys Ile Gly Leu Val Leu Pro Ile Leu Trp			
130	135	140	
Thr Leu Thr Glu Phe Ala Arg Glu Arg Phe Leu Thr Gly Phe Gly Trp			
145	150	155	160
Gly Ala Ile Gly Tyr Ser Gln Ile Thr Pro Asp Ser Pro Leu Ala Gly			
165	170	175	
Phe Ala Pro Phe Gly Gly Ile His Met Val Thr Leu Ala Thr Ala Phe			
180	185	190	
Leu Gly Val Trp Leu Val Leu Ala Ser Asp Asn Thr Ala Arg Ser Gly			
195	200	205	
Lys Arg Leu Leu Pro Ile Ile Leu Ile Ala Ala Leu Leu Ala Ala Gly			
210	215	220	
Tyr Thr Ala Arg Gln Thr Asp Phe Thr Arg Pro Asp Gly Ser Arg Ser			
225	230	235	240
Thr Val Ala Leu Leu Gln Gly Asn Ile Asp Gln Thr Leu Lys Trp Arg			
245	250	255	
Glu Asp Gln Val Ile Pro Thr Ile Gln Lys Tyr Tyr Glu Gln Val Gly			

260	265	270
Lys Thr Thr Ala Asp Ile Val	Ile Leu Pro Glu Thr Ala Ile Pro Val	
275	280	285
Met Arg Gln Asn Leu Pro Glu Asn Ile Leu Ala Lys Phe Ala Glu Gln		
290	295	300
Ala Gln Asn Asn Gly Ser Ala Leu Ala Val Gly Ile Ser Gln Tyr Thr		
305	310	315
Ser Asp Gly Asn Gly Tyr Glu Asn Ala Val Ile Asn Leu Thr Gly Tyr		
325	330	335
Gln Glu Asn Asn Gln Asp Gly Ile Pro Tyr Tyr Ala Lys Asn His Leu		
340	345	350
Val Pro Phe Gly Glu Tyr Lys Pro Leu Pro Phe Leu Thr Thr Pro Leu		
355	360	365
Tyr Lys Met Met Asn Met Pro Leu Ser Asp Phe Arg Lys Gly Gly Gly		
370	375	380
Lys Gln Ser Ala Leu Leu Met Lys Asn Gln Lys Ile Ala Phe Asn Ile		
385	390	395
Cys Tyr Glu Asp Gly Phe Gly Asp Glu Leu Ile Ala Ala Ala Lys Asp		
405	410	415
Ala Thr Leu Leu Ala Asn Ala Ser Asn Met Ala Trp Tyr Gly Lys Ser		
420	425	430
Asn Ala Met Tyr Gln His Leu Gln Gln Ser Gln Ala Arg Ala Met Glu		
435	440	445
Leu Gly Arg Tyr Met Val Arg Ala Thr Asn Thr Gly Ala Thr Ala Ile		
450	455	460
Ile Ser Pro Lys Gly Asn Ile Ile Ala Gln Ala Gln Pro Asp Thr Glu		
465	470	475
Thr Val Leu Glu Gly His Ile Lys Gly Tyr Val Gly Glu Thr Pro Tyr		
485	490	495
Met Lys Thr Gly Ser Ser Trp Trp Leu Met Gly Ile Leu Thr Leu Ala		
500	505	510
Ala Leu Ile Leu Phe Ile Phe Arg Asn Lys Glu His		

515

520

<210> 149

<211> 558

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<220>

<221> CDS

<222> (1)..(558)

<400> 149

```

ttg gat ctc tac aaa ctc ggt tac aaa caa cat acc cgt acc gat gcg      48
Leu Asp Leu Tyr Lys Leu Gly Tyr Lys Gln His Thr Arg Thr Asp Ala
  1             5             10             15

gaa ggc tat atc gag aaa ctg cac att acc ccc gcc aat gcc cat gag      96
Glu Gly Tyr Ile Glu Lys Leu His Ile Thr Pro Ala Asn Ala His Glu
             20             25             30

tgc aaa cac ctg ccg ccg ttg ttg gaa gga ctg ccc aaa ggt acg acc     144
Cys Lys His Leu Pro Pro Leu Leu Glu Gly Leu Pro Lys Gly Thr Thr
             35             40             45

gtc tat gcc gac aaa ggc tac gac agt gcg gaa aac cgg caa cat ctg     192
Val Tyr Ala Asp Lys Gly Tyr Asp Ser Ala Glu Asn Arg Gln His Leu
             50             55             60

gaa gaa cat cag ttg ttg gac ggc att atg cgc aaa gcc tgc cgc aac     240
Glu Glu His Gln Leu Leu Asp Gly Ile Met Arg Lys Ala Cys Arg Asn
             65             70             75             80

cgt ccg ctg tcg gaa acg caa acc aaa cgc aac cgg tat ttg tcg aag     288
Arg Pro Leu Ser Glu Thr Gln Thr Lys Arg Asn Arg Tyr Leu Ser Lys
             85             90             95

acc cgt tat agt gga tta aat tta aat cag gac aag gcg acg aag ccg     336
Thr Arg Tyr Ser Gly Leu Asn Leu Asn Gln Asp Lys Ala Thr Lys Pro
             100            105            110

cag aca gta caa ata gta cgg caa ggc gag gca acg ccg tac tgg ttt     384
Gln Thr Val Gln Ile Val Arg Gln Gly Glu Ala Thr Pro Tyr Trp Phe
             115            120            125

aaa ttt aat cca cta tat gtg gtc gaa cag agc ttc ggt acg ctg cac     432
Lys Phe Asn Pro Leu Tyr Val Val Glu Gln Ser Phe Gly Thr Leu His

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      130              135              140
cgt aaa ttc cgc tat gcg cgg gca gcc tat ttc gga ctg att aaa gtg 480
Arg Lys Phe Arg Tyr Ala Arg Ala Ala Tyr Phe Gly Leu Ile Lys Val
145              150              155              160

agt gcg caa agc cat ctg aag gcg atg tgt ttg aac ctg ttg aaa gcc 528
Ser Ala Gln Ser His Leu Lys Ala Met Cys Leu Asn Leu Leu Lys Ala
      165              170              175

gcc aac aag cta agt gcg ccc gct gcc gcc 558
Ala Asn Lys Leu Ser Ala Pro Ala Ala Ala
      180              185

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<210> 150

<211> 186

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 150

```

Leu Asp Leu Tyr Lys Leu Gly Tyr Lys Gln His Thr Arg Thr Asp Ala
 1              5              10              15

Glu Gly Tyr Ile Glu Lys Leu His Ile Thr Pro Ala Asn Ala His Glu
      20              25              30

Cys Lys His Leu Pro Pro Leu Leu Glu Gly Leu Pro Lys Gly Thr Thr
      35              40              45

Val Tyr Ala Asp Lys Gly Tyr Asp Ser Ala Glu Asn Arg Gln His Leu
      50              55              60

Glu Glu His Gln Leu Leu Asp Gly Ile Met Arg Lys Ala Cys Arg Asn
      65              70              75              80

Arg Pro Leu Ser Glu Thr Gln Thr Lys Arg Asn Arg Tyr Leu Ser Lys
      85              90              95

Thr Arg Tyr Ser Gly Leu Asn Leu Asn Gln Asp Lys Ala Thr Lys Pro
      100             105             110

Gln Thr Val Gln Ile Val Arg Gln Gly Glu Ala Thr Pro Tyr Trp Phe
      115             120             125

Lys Phe Asn Pro Leu Tyr Val Val Glu Gln Ser Phe Gly Thr Leu His
      130             135             140

```

Arg Lys Phe Arg Tyr Ala Arg Ala Ala Tyr Phe Gly Leu Ile Lys Val
145 150 155 160

Ser Ala Gln Ser His Leu Lys Ala Met Cys Leu Asn Leu Leu Lys Ala
165 170 175

Ala Asn Lys Leu Ser Ala Pro Ala Ala Ala
180 185

<210> 151

<211> 1332

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1332)

<400> 151

atg act gac ctg aac acc ctg ttt gcc aac ctc aaa caa cgc aat ccc 48
Met Thr Asp Leu Asn Thr Leu Phe Ala Asn Leu Lys Gln Arg Asn Pro
1 5 10 15

aat cag gag ccg ttc cat cag gcg gtt gaa gaa gtc ttc atg agt ctc 96
Asn Gln Glu Pro Phe His Gln Ala Val Glu Glu Val Phe Met Ser Leu
20 25 30

gat ccg ttt ttg gca aaa aat ccg aaa tac acc cag caa agc ctg ctg 144
Asp Pro Phe Leu Ala Lys Asn Pro Lys Tyr Thr Gln Gln Ser Leu Leu
35 40 45

gaa cgc atc gtc gaa ccc gaa cgc gtc gtg atg ttc cgc gta acc tgg 192
Glu Arg Ile Val Glu Pro Glu Arg Val Val Met Phe Arg Val Thr Trp
50 55 60

cag gac gat aaa ggg caa gtc caa gtc aac cgg ggc tac cgc gtg caa 240
Gln Asp Asp Lys Gly Gln Val Gln Val Asn Arg Gly Tyr Arg Val Gln
65 70 75 80

atg agt tcc gcc atc ggt cct tac aaa ggc ggc ctg cgc ttc cat ccg 288
Met Ser Ser Ala Ile Gly Pro Tyr Lys Gly Gly Leu Arg Phe His Pro
85 90 95

acc gtc gat ttg ggc gta ttg aaa ttc ctc gct ttt gaa caa gtg ttc 336
Thr Val Asp Leu Gly Val Leu Lys Phe Leu Ala Phe Glu Gln Val Phe
100 105 110

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aaa aac gcc ttg acc acc ctg cct atg ggc ggc ggc aaa ggc ggt tcc 384
Lys Asn Ala Leu Thr Thr Leu Pro Met Gly Gly Gly Lys Gly Gly Ser
      115              120              125

gac ttc gac ccc aaa ggc aaa tcc gat gcc gaa gta atg cgc ttc tgc 432
Asp Phe Asp Pro Lys Gly Lys Ser Asp Ala Glu Val Met Arg Phe Cys
      130              135              140

caa gcc ttt atg acc gaa ctc tac cgc cac atc ggc gcg gac acc gat 480
Gln Ala Phe Met Thr Glu Leu Tyr Arg His Ile Gly Ala Asp Thr Asp
      145              150              155              160

gtt ccg gcc ggc gac atc ggc gta ggc ggg cgc gaa atc ggc tac ctg 528
Val Pro Ala Gly Asp Ile Gly Val Gly Gly Arg Glu Ile Gly Tyr Leu
      165              170              175

ttc gga caa tac aaa aaa atc cgc aac gag ttt tct tcc gtc ctg acc 576
Phe Gly Gln Tyr Lys Lys Ile Arg Asn Glu Phe Ser Ser Val Leu Thr
      180              185              190

ggc aaa ggt ttg gaa tgg ggc ggc agc ctc atc cgt ccc gaa gcg acc 624
Gly Lys Gly Leu Glu Trp Gly Gly Ser Leu Ile Arg Pro Glu Ala Thr
      195              200              205

ggc tac ggc tgc gtc tat ttc gcc caa gcg atg ctg caa acc cgc aac 672
Gly Tyr Gly Cys Val Tyr Phe Ala Gln Ala Met Leu Gln Thr Arg Asn
      210              215              220

gat agt ttt gaa ggc aaa cgc gtc ctg att tcc ggt tcc ggc aac gtg 720
Asp Ser Phe Glu Gly Lys Arg Val Leu Ile Ser Gly Ser Gly Asn Val
      225              230              235              240

gcg caa tac gcc gcc gaa aaa gcc atc caa ctg ggc gcg aaa gtg ctg 768
Ala Gln Tyr Ala Ala Glu Lys Ala Ile Gln Leu Gly Ala Lys Val Leu
      245              250              255

acc gtt tcc gac tcc aac ggc ttc gtc ctc ttc ccc gac agc ggt atg 816
Thr Val Ser Asp Ser Asn Gly Phe Val Leu Phe Pro Asp Ser Gly Met
      260              265              270

agc gaa gcg caa ctc gcc gcc ttg atc gaa ttg aaa gaa gtc cgc cgc 864
Ser Glu Ala Gln Leu Ala Ala Leu Ile Glu Leu Lys Glu Val Arg Arg
      275              280              285

gaa cgg gtt gcc acc tac gcc aaa gag caa ggt ctg caa tac ttt gaa 912
Glu Arg Val Ala Thr Tyr Ala Lys Glu Gln Gly Leu Gln Tyr Phe Glu
      290              295              300

```

```

aac caa aaa ccg tgg ggc gtc gcc gcc gaa atc gcc ctg ccc tgc gcg 960
Asn Gln Lys Pro Trp Gly Val Ala Ala Glu Ile Ala Leu Pro Cys Ala
305          310          315          320

acc cag aac gaa ttg gac gaa gaa gcc gcc aaa acc ctg ttg gca aac 1008
Thr Gln Asn Glu Leu Asp Glu Glu Ala Ala Lys Thr Leu Leu Ala Asn
          325          330          335

ggc tgc tac gtc gtt gcc gaa ggt gcg aat atg ccg tcg act ttg ggc 1056
Gly Cys Tyr Val Val Ala Glu Gly Ala Asn Met Pro Ser Thr Leu Gly
          340          345          350

gcg gtc gag caa ttt atc aaa gcc ggc atc ctc tac gcc ccg ggc aaa 1104
Ala Val Glu Gln Phe Ile Lys Ala Gly Ile Leu Tyr Ala Pro Gly Lys
          355          360          365

gcc tcc aac gcc ggc ggc gta gca act tca ggt ttg gaa atg agc caa 1152
Ala Ser Asn Ala Gly Gly Val Ala Thr Ser Gly Leu Glu Met Ser Gln
          370          375          380

aac gcc atc cgc ctg tct tgg act cgt gaa gaa gtc gac caa cgc ctg 1200
Asn Ala Ile Arg Leu Ser Trp Thr Arg Glu Glu Val Asp Gln Arg Leu
          385          390          395          400

ttc ggc atc atg caa agc atc cac gaa tcc tgt ctg aaa tac ggc aaa 1248
Phe Gly Ile Met Gln Ser Ile His Glu Ser Cys Leu Lys Tyr Gly Lys
          405          410          415

gtc ggc gac aca gta aac tac gtc aat ggt gcg aac att gcc ggt ttc 1296
Val Gly Asp Thr Val Asn Tyr Val Asn Gly Ala Asn Ile Ala Gly Phe
          420          425          430

gtc aaa gtt gcc gat gcg atg ctg gcg caa ggc ttc 1332
Val Lys Val Ala Asp Ala Met Leu Ala Gln Gly Phe
          435          440

```

<210> 152

<211> 444

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 152

```

Met Thr Asp Leu Asn Thr Leu Phe Ala Asn Leu Lys Gln Arg Asn Pro
1          5          10          15

```

```

Asn Gln Glu Pro Phe His Gln Ala Val Glu Glu Val Phe Met Ser Leu

```

20	25	30
Asp Pro Phe Leu Ala Lys Asn Pro Lys Tyr Thr Gln Gln Ser Leu Leu		
35	40	45
Glu Arg Ile Val Glu Pro Glu Arg Val Val Met Phe Arg Val Thr Trp		
50	55	60
Gln Asp Asp Lys Gly Gln Val Gln Val Asn Arg Gly Tyr Arg Val Gln		
65	70	75
Met Ser Ser Ala Ile Gly Pro Tyr Lys Gly Gly Leu Arg Phe His Pro		
85	90	95
Thr Val Asp Leu Gly Val Leu Lys Phe Leu Ala Phe Glu Gln Val Phe		
100	105	110
Lys Asn Ala Leu Thr Thr Leu Pro Met Gly Gly Gly Lys Gly Gly Ser		
115	120	125
Asp Phe Asp Pro Lys Gly Lys Ser Asp Ala Glu Val Met Arg Phe Cys		
130	135	140
Gln Ala Phe Met Thr Glu Leu Tyr Arg His Ile Gly Ala Asp Thr Asp		
145	150	155
Val Pro Ala Gly Asp Ile Gly Val Gly Gly Arg Glu Ile Gly Tyr Leu		
165	170	175
Phe Gly Gln Tyr Lys Lys Ile Arg Asn Glu Phe Ser Ser Val Leu Thr		
180	185	190
Gly Lys Gly Leu Glu Trp Gly Gly Ser Leu Ile Arg Pro Glu Ala Thr		
195	200	205
Gly Tyr Gly Cys Val Tyr Phe Ala Gln Ala Met Leu Gln Thr Arg Asn		
210	215	220
Asp Ser Phe Glu Gly Lys Arg Val Leu Ile Ser Gly Ser Gly Asn Val		
225	230	235
Ala Gln Tyr Ala Ala Glu Lys Ala Ile Gln Leu Gly Ala Lys Val Leu		
245	250	255
Thr Val Ser Asp Ser Asn Gly Phe Val Leu Phe Pro Asp Ser Gly Met		
260	265	270
Ser Glu Ala Gln Leu Ala Ala Leu Ile Glu Leu Lys Glu Val Arg Arg		

```

                275                280                285
Glu Arg Val Ala Thr Tyr Ala Lys Glu Gln Gly Leu Gln Tyr Phe Glu
 290                295                300
Asn Gln Lys Pro Trp Gly Val Ala Ala Glu Ile Ala Leu Pro Cys Ala
 305                310                315                320
Thr Gln Asn Glu Leu Asp Glu Glu Ala Ala Lys Thr Leu Leu Ala Asn
                325                330                335
Gly Cys Tyr Val Val Ala Glu Gly Ala Asn Met Pro Ser Thr Leu Gly
                340                345                350
Ala Val Glu Gln Phe Ile Lys Ala Gly Ile Leu Tyr Ala Pro Gly Lys
                355                360                365
Ala Ser Asn Ala Gly Gly Val Ala Thr Ser Gly Leu Glu Met Ser Gln
                370                375                380
Asn Ala Ile Arg Leu Ser Trp Thr Arg Glu Glu Val Asp Gln Arg Leu
 385                390                395                400
Phe Gly Ile Met Gln Ser Ile His Glu Ser Cys Leu Lys Tyr Gly Lys
                405                410                415
Val Gly Asp Thr Val Asn Tyr Val Asn Gly Ala Asn Ile Ala Gly Phe
                420                425                430
Val Lys Val Ala Asp Ala Met Leu Ala Gln Gly Phe
                435                440

```

<210> 153

<211> 867

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(867)

<400> 153

```

atg aaa ccc ata cgg aaa gcc gtc ttc ccc gtc gca ggg atg gga aca 48
Met Lys Pro Ile Arg Lys Ala Val Phe Pro Val Ala Gly Met Gly Thr
  1                5                10                15

```



```

cgc ttc ctg ccc gcc acc aag gca agc ccg aaa gaa atg ctg ccc atc 96
Arg Phe Leu Pro Ala Thr Lys Ala Ser Pro Lys Glu Met Leu Pro Ile
      20              25              30

gtc gac aag ccg ctg atc caa tac gcc gta gaa gaa gcc gtg gaa gcc 144
Val Asp Lys Pro Leu Ile Gln Tyr Ala Val Glu Glu Ala Val Glu Ala
      35              40              45

ggc tgc acg gaa atg gtg ttt gtt acc gga cgc aac aaa cgc agc atc 192
Gly Cys Thr Glu Met Val Phe Val Thr Gly Arg Asn Lys Arg Ser Ile
      50              55              60

gaa gac cat ttc gac aag gca tac gaa ctc gaa acc gag ttg gaa atg 240
Glu Asp His Phe Asp Lys Ala Tyr Glu Leu Glu Thr Glu Leu Glu Met
      65              70              75              80

cgc cat aaa gac aaa ttg ttg gaa cac gtc cgc aac atc ctg ccg ccg 288
Arg His Lys Asp Lys Leu Leu Glu His Val Arg Asn Ile Leu Pro Pro
      85              90              95

aac att acc tgc ctc tac atc cgt cag gcg gaa gca ctg ggc ttg gga 336
Asn Ile Thr Cys Leu Tyr Ile Arg Gln Ala Glu Ala Leu Gly Leu Gly
      100             105             110

cac gcc gtc ttg tgc gcc cgc gcc gcc atc gcc gac gaa ccc ttt gcc 384
His Ala Val Leu Cys Ala Arg Ala Ala Ile Gly Asp Glu Pro Phe Ala
      115             120             125

gtg att ttg gct gac gat tta atc gat gcc caa aaa ggc gcg ctc aaa 432
Val Ile Leu Ala Asp Asp Leu Ile Asp Ala Gln Lys Gly Ala Leu Lys
      130             135             140

caa atg gtc gaa gtg tac gaa cgc agc ggc aac agc att ttg ggc gta 480
Gln Met Val Glu Val Tyr Glu Arg Ser Gly Asn Ser Ile Leu Gly Val
      145             150             155             160

gaa act gtc gaa ccg tcg caa acc ggc tca tac ggc atc gtc gaa acc 528
Glu Thr Val Glu Pro Ser Gln Thr Gly Ser Tyr Gly Ile Val Glu Thr
      165             170             175

gaa cag ctc aaa cag ttc caa cgc att acc ggc att gtc gaa aaa ccc 576
Glu Gln Leu Lys Gln Phe Gln Arg Ile Thr Gly Ile Val Glu Lys Pro
      180             185             190

aag ccc gaa gac gcg ccc tcc aac ctt gcc gtc gtc gga cgc tac atc 624
Lys Pro Glu Asp Ala Pro Ser Asn Leu Ala Val Val Gly Arg Tyr Ile
      195             200             205

```

```

ctt acc ccg cgc att ttc gac tta ctg acc gga ctg ccg cgc ggc gcg 672
Leu Thr Pro Arg Ile Phe Asp Leu Leu Thr Gly Leu Pro Arg Gly Ala
210 215 220

ggc aac gaa atc cag ctt aca gac ggc atc gcc aag ctg ctc gat cac 720
Gly Asn Glu Ile Gln Leu Thr Asp Gly Ile Ala Lys Leu Leu Asp His
225 230 235 240

gaa ttt gtc cta gcg cac ccc ttt gaa ggc acg cgc tac gac tgc ggc 768
Glu Phe Val Leu Ala His Pro Phe Glu Gly Thr Arg Tyr Asp Cys Gly
245 250 255

agc aaa ctg ggc tat ctg gaa gcc acc gtc gcc tac ggc ctg aaa cac 816
Ser Lys Leu Gly Tyr Leu Glu Ala Thr Val Ala Tyr Gly Leu Lys His
260 265 270

ccc gaa acc ggc gaa ccc ttc cgc cgc ctt ttg gaa aaa tac cgt acc 864
Pro Glu Thr Gly Glu Pro Phe Arg Arg Leu Leu Glu Lys Tyr Arg Thr
275 280 285

gaa 867
Glu

```

<210> 154

<211> 289

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 154

```

Met Lys Pro Ile Arg Lys Ala Val Phe Pro Val Ala Gly Met Gly Thr
1 5 10 15

Arg Phe Leu Pro Ala Thr Lys Ala Ser Pro Lys Glu Met Leu Pro Ile
20 25 30

Val Asp Lys Pro Leu Ile Gln Tyr Ala Val Glu Glu Ala Val Glu Ala
35 40 45

Gly Cys Thr Glu Met Val Phe Val Thr Gly Arg Asn Lys Arg Ser Ile
50 55 60

Glu Asp His Phe Asp Lys Ala Tyr Glu Leu Glu Thr Glu Leu Glu Met
65 70 75 80

Arg His Lys Asp Lys Leu Leu Glu His Val Arg Asn Ile Leu Pro Pro
85 90 95

```

```

Asn Ile Thr Cys Leu Tyr Ile Arg Gln Ala Glu Ala Leu Gly Leu Gly
      100                      105                      110

His Ala Val Leu Cys Ala Arg Ala Ala Ile Gly Asp Glu Pro Phe Ala
      115                      120                      125

Val Ile Leu Ala Asp Asp Leu Ile Asp Ala Gln Lys Gly Ala Leu Lys
      130                      135                      140

Gln Met Val Glu Val Tyr Glu Arg Ser Gly Asn Ser Ile Leu Gly Val
      145                      150                      155                      160

Glu Thr Val Glu Pro Ser Gln Thr Gly Ser Tyr Gly Ile Val Glu Thr
      165                      170                      175

Glu Gln Leu Lys Gln Phe Gln Arg Ile Thr Gly Ile Val Glu Lys Pro
      180                      185                      190

Lys Pro Glu Asp Ala Pro Ser Asn Leu Ala Val Val Gly Arg Tyr Ile
      195                      200                      205

Leu Thr Pro Arg Ile Phe Asp Leu Leu Thr Gly Leu Pro Arg Gly Ala
      210                      215                      220

Gly Asn Glu Ile Gln Leu Thr Asp Gly Ile Ala Lys Leu Leu Asp His
      225                      230                      235                      240

Glu Phe Val Leu Ala His Pro Phe Glu Gly Thr Arg Tyr Asp Cys Gly
      245                      250                      255

Ser Lys Leu Gly Tyr Leu Glu Ala Thr Val Ala Tyr Gly Leu Lys His
      260                      265                      270

Pro Glu Thr Gly Glu Pro Phe Arg Arg Leu Leu Glu Lys Tyr Arg Thr
      275                      280                      285

Glu

```

<210> 155

<211> 876

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(876)

<400> 155

ttg acc gtc cga acg aaa aag acg gcg cat tat acc cta ttc cat tcc	48
Leu Thr Val Arg Thr Lys Lys Thr Ala His Tyr Thr Leu Phe His Ser	
1 5 10 15	
gac cga aaa ccg aac atg act act ctc aaa ccc gcc ctg ccc gct tat	96
Asp Arg Lys Pro Asn Met Thr Thr Leu Lys Pro Ala Leu Pro Ala Tyr	
20 25 30	
ctg gac aac atc cgc atc atc ctc acg cgc acc agc cat ccc gcc aac	144
Leu Asp Asn Ile Arg Ile Ile Leu Thr Arg Thr Ser His Pro Ala Asn	
35 40 45	
atc ggc tct gcc gcg cgc gcg atg aaa aca atg ggt ctg cac aaa ctg	192
Ile Gly Ser Ala Ala Arg Ala Met Lys Thr Met Gly Leu His Lys Leu	
50 55 60	
acc atc gtc gcc cca aat ctg atg gca acg ccg atg acg gaa aac ccg	240
Thr Ile Val Ala Pro Asn Leu Met Ala Thr Pro Met Thr Glu Asn Pro	
65 70 75 80	
ccc gtg ttt gac ccg gag cat cct caa tcg ttt aaa tta ccg gaa gaa	288
Pro Val Phe Asp Pro Glu His Pro Gln Ser Phe Lys Leu Pro Glu Glu	
85 90 95	
agc ttc atc ctc gct tcc ggc gcg gca gac gtt ttg gaa aat gcc acc	336
Ser Phe Ile Leu Ala Ser Gly Ala Ala Asp Val Leu Glu Asn Ala Thr	
100 105 110	
att gcc gct tct ttg gac gaa gcc ctt gcc gac acc acc atc gcc tgc	384
Ile Ala Ala Ser Leu Asp Glu Ala Leu Ala Asp Thr Thr Ile Ala Cys	
115 120 125	
gcc ctg acc agc cgc cgc cgc gaa att act gcg ccg ctg caa acc ccg	432
Ala Leu Thr Ser Arg Arg Arg Glu Ile Thr Ala Pro Leu Gln Thr Pro	
130 135 140	
cgc gat ttg gta tcc gaa tta ctg cag acc gca aac cga ggc gag aaa	480
Arg Asp Leu Val Ser Glu Leu Leu Gln Thr Ala Asn Arg Gly Glu Lys	
145 150 155 160	
gtg gca ctg gtt ttc ggc aac gag act ttc ggc ttg agc atc gaa gaa	528
Val Ala Leu Val Phe Gly Asn Glu Thr Phe Gly Leu Ser Ile Glu Glu	
165 170 175	
gtc caa gcc tgc aac cga ctg atg acc atc aac ggc aat ccc gac tat	576

```

Val Gln Ala Cys Asn Arg Leu Met Thr Ile Asn Gly Asn Pro Asp Tyr
      180              185              190

ttc tcg ctc aac ctc gcc caa gcc gtg cag gtc gtg tgc tac gaa atc 624
Phe Ser Leu Asn Leu Ala Gln Ala Val Gln Val Val Cys Tyr Glu Ile
      195              200              205

ttc agc caa acc ggt tcg ccc atg acc cat ctt caa caa gaa gac cac 672
Phe Ser Gln Thr Gly Ser Pro Met Thr His Leu Gln Gln Glu Asp His
      210              215              220

gct gcg acc cac gag caa atc aaa ggc atg gtc gcc cac atg gaa agc 720
Ala Ala Thr His Glu Gln Ile Lys Gly Met Val Ala His Met Glu Ser
      225              230              235              240

gtg atg aac gac atc ggc ttt ttc aac cgc cgc aac ggc gag cgt ctg 768
Val Met Asn Asp Ile Gly Phe Phe Asn Arg Arg Asn Gly Glu Arg Leu
      245              250              255

atg cgc cgt atg cag agc ctg ttc gga cgc gcc aac acg caa acc gaa 816
Met Arg Arg Met Gln Ser Leu Phe Gly Arg Ala Asn Thr Gln Thr Glu
      260              265              270

gac atc gat atc ctg cgc ggt ttt ttc aat acc gtc agc cat cgt atc 864
Asp Ile Asp Ile Leu Arg Gly Phe Phe Asn Thr Val Ser His Arg Ile
      275              280              285

cat aaa aaa gac 876
His Lys Lys Asp
      290

<210> 156
<211> 292
<212> PRT
<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 156
Leu Thr Val Arg Thr Lys Lys Thr Ala His Tyr Thr Leu Phe His Ser
  1              5              10              15

Asp Arg Lys Pro Asn Met Thr Thr Leu Lys Pro Ala Leu Pro Ala Tyr
      20              25              30

Leu Asp Asn Ile Arg Ile Ile Leu Thr Arg Thr Ser His Pro Ala Asn
      35              40              45

Ile Gly Ser Ala Ala Arg Ala Met Lys Thr Met Gly Leu His Lys Leu

```

50	55	60	
Thr Ile Val Ala Pro Asn Leu Met Ala Thr Pro Met Thr Glu Asn Pro			
65	70	75	80
Pro Val Phe Asp Pro Glu His Pro Gln Ser Phe Lys Leu Pro Glu Glu			
	85	90	95
Ser Phe Ile Leu Ala Ser Gly Ala Ala Asp Val Leu Glu Asn Ala Thr			
	100	105	110
Ile Ala Ala Ser Leu Asp Glu Ala Leu Ala Asp Thr Thr Ile Ala Cys			
	115	120	125
Ala Leu Thr Ser Arg Arg Arg Glu Ile Thr Ala Pro Leu Gln Thr Pro			
	130	135	140
Arg Asp Leu Val Ser Glu Leu Leu Gln Thr Ala Asn Arg Gly Glu Lys			
	145	150	155
Val Ala Leu Val Phe Gly Asn Glu Thr Phe Gly Leu Ser Ile Glu Glu			
	165	170	175
Val Gln Ala Cys Asn Arg Leu Met Thr Ile Asn Gly Asn Pro Asp Tyr			
	180	185	190
Phe Ser Leu Asn Leu Ala Gln Ala Val Gln Val Val Cys Tyr Glu Ile			
	195	200	205
Phe Ser Gln Thr Gly Ser Pro Met Thr His Leu Gln Gln Glu Asp His			
	210	215	220
Ala Ala Thr His Glu Gln Ile Lys Gly Met Val Ala His Met Glu Ser			
	225	230	235
Val Met Asn Asp Ile Gly Phe Phe Asn Arg Arg Asn Gly Glu Arg Leu			
	245	250	255
Met Arg Arg Met Gln Ser Leu Phe Gly Arg Ala Asn Thr Gln Thr Glu			
	260	265	270
Asp Ile Asp Ile Leu Arg Gly Phe Phe Asn Thr Val Ser His Arg Ile			
	275	280	285
His Lys Lys Asp			
	290		

<210> 157

<211> 1008

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<220>

<221> CDS

<222> (1)..(1008)

<400> 157

```

atg tcc atc aaa atc ctg att att tcc ccc agt tgg ata ggc gac tgc   48
Met Ser Ile Lys Ile Leu Ile Ile Ser Pro Ser Trp Ile Gly Asp Cys
   1             5             10             15

gtg atg acc cag ccc ttg ttc cgc cgt ttg aag gaa ctt cac ccc ggt   96
Val Met Thr Gln Pro Leu Phe Arg Arg Leu Lys Glu Leu His Pro Gly
             20             25             30

tgc acg att gat gtg ttc gca ccg aag tgg tcg atg gcg gtg ttt gag  144
Cys Thr Ile Asp Val Phe Ala Pro Lys Trp Ser Met Ala Val Phe Glu
             35             40             45

cgt atg ccg gaa gtg aat gag att ctt gaa aat ccg ttc gga cac ggt  192
Arg Met Pro Glu Val Asn Glu Ile Leu Glu Asn Pro Phe Gly His Gly
             50             55             60

gcg ttg gag ttg aaa cgc cgt tgg cgg gtc ggt agg gat ttg ggg cgg  240
Ala Leu Glu Leu Lys Arg Arg Trp Arg Val Gly Arg Asp Leu Gly Arg
             65             70             75             80

cgc gga tac gat cag gtt atc gtg ttg ccc ggt tct ttg aaa tcg gca  288
Arg Gly Tyr Asp Gln Val Ile Val Leu Pro Gly Ser Leu Lys Ser Ala
             85             90             95

atc atc gcg ctg gcg aca ggt atc ggt aaa agg acg ggt tat gtc ggt  336
Ile Ile Ala Leu Ala Thr Gly Ile Gly Lys Arg Thr Gly Tyr Val Gly
             100            105            110

gaa agc cgt tat ttt ctg ttg aac gat ata cgc agg ctg gat aag gaa  384
Glu Ser Arg Tyr Phe Leu Leu Asn Asp Ile Arg Arg Leu Asp Lys Glu
             115            120            125

cgt ctg cct ttg atg gtg gac aga tat acg gct ctc gcg cat ccg agc  432
Arg Leu Pro Leu Met Val Asp Arg Tyr Thr Ala Leu Ala His Pro Ser
             130            135            140

cag gag gat ttt gac ggg cat tcg gga ttc ccc gag ttt tcc att gat  480

```

Gln Glu Asp Phe Asp Gly His Ser Gly Phe Pro Glu Phe Ser Ile Asp	
145	150 155 160
gaa cgg cgg cgg gaa att tct gtc gaa acc ttt ggc ttg gat att gga	528
Glu Arg Arg Arg Glu Ile Ser Val Glu Thr Phe Gly Leu Asp Ile Gly	
165	170 175
aag cct gtt ctg gct ttt tgt ccg ggt gcg gaa ttc ggg ccg gca aag	576
Lys Pro Val Leu Ala Phe Cys Pro Gly Ala Glu Phe Gly Pro Ala Lys	
180	185 190
cgt tgg ccg aca agg tat ttt gcc gag ttg ggc aaa cat tat tcg gcg	624
Arg Trp Pro Thr Arg Tyr Phe Ala Glu Leu Gly Lys His Tyr Ser Ala	
195	200 205
gcg ggt tgg cag gtt tgg ctg ttc ggt tcg caa aaa gat gat gaa att	672
Ala Gly Trp Gln Val Trp Leu Phe Gly Ser Gln Lys Asp Asp Glu Ile	
210	215 220
gcc gag gaa atc aac tgc ctt tca gac ggt atg tgt gtc aat ttg tgc	720
Ala Glu Glu Ile Asn Cys Leu Ser Asp Gly Met Cys Val Asn Leu Cys	
225	230 235 240
ggc aaa acc gat ttg tcg cag gca atg gat ttg ctg tcg ttg gcg gac	768
Gly Lys Thr Asp Leu Ser Gln Ala Met Asp Leu Leu Ser Leu Ala Asp	
245	250 255
acg gtc gtg tgc aac gac agc ggg ctg atg cac ttg gcg gcg gca ttg	816
Thr Val Val Cys Asn Asp Ser Gly Leu Met His Leu Ala Ala Ala Leu	
260	265 270
ggc agg aag gtg gtg gcg gtt tac ggt tct tcc agc ccg acg cat acg	864
Gly Arg Lys Val Val Ala Val Tyr Gly Ser Ser Ser Pro Thr His Thr	
275	280 285
ccg cct ttg agc gac agg gcg aaa atc gtc agc ctg cac ttg gaa tgt	912
Pro Pro Leu Ser Asp Arg Ala Lys Ile Val Ser Leu His Leu Glu Cys	
290	295 300
tcg ccc tgt ttt aag cgg gaa tgt ccg ctg ggg cat acc gac tgc ctc	960
Ser Pro Cys Phe Lys Arg Glu Cys Pro Leu Gly His Thr Asp Cys Leu	
305	310 315 320
aac agg ctg tat ccc gag aag att gtg cag gcg gtt gaa gag gcg gta	1008
Asn Arg Leu Tyr Pro Glu Lys Ile Val Gln Ala Val Glu Glu Ala Val	
325	330 335

<210> 158

<211> 336

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<400> 158

Met Ser Ile Lys Ile Leu Ile Ile Ser Pro Ser Trp Ile Gly Asp Cys
 1 5 10 15

Val Met Thr Gln Pro Leu Phe Arg Arg Leu Lys Glu Leu His Pro Gly
 20 25 30

Cys Thr Ile Asp Val Phe Ala Pro Lys Trp Ser Met Ala Val Phe Glu
 35 40 45

Arg Met Pro Glu Val Asn Glu Ile Leu Glu Asn Pro Phe Gly His Gly
 50 55 60

Ala Leu Glu Leu Lys Arg Arg Trp Arg Val Gly Arg Asp Leu Gly Arg
 65 70 75 80

Arg Gly Tyr Asp Gln Val Ile Val Leu Pro Gly Ser Leu Lys Ser Ala
 85 90 95

Ile Ile Ala Leu Ala Thr Gly Ile Gly Lys Arg Thr Gly Tyr Val Gly
 100 105 110

Glu Ser Arg Tyr Phe Leu Leu Asn Asp Ile Arg Arg Leu Asp Lys Glu
 115 120 125

Arg Leu Pro Leu Met Val Asp Arg Tyr Thr Ala Leu Ala His Pro Ser
 130 135 140

Gln Glu Asp Phe Asp Gly His Ser Gly Phe Pro Glu Phe Ser Ile Asp
 145 150 155 160

Glu Arg Arg Arg Glu Ile Ser Val Glu Thr Phe Gly Leu Asp Ile Gly
 165 170 175

Lys Pro Val Leu Ala Phe Cys Pro Gly Ala Glu Phe Gly Pro Ala Lys
 180 185 190

Arg Trp Pro Thr Arg Tyr Phe Ala Glu Leu Gly Lys His Tyr Ser Ala
 195 200 205

Ala Gly Trp Gln Val Trp Leu Phe Gly Ser Gln Lys Asp Asp Glu Ile
 210 215 220

```

Ala Glu Glu Ile Asn Cys Leu Ser Asp Gly Met Cys Val Asn Leu Cys
225                230                235                240

Gly Lys Thr Asp Leu Ser Gln Ala Met Asp Leu Leu Ser Leu Ala Asp
                245                250                255

Thr Val Val Cys Asn Asp Ser Gly Leu Met His Leu Ala Ala Ala Leu
                260                265                270

Gly Arg Lys Val Val Ala Val Tyr Gly Ser Ser Ser Pro Thr His Thr
                275                280                285

Pro Pro Leu Ser Asp Arg Ala Lys Ile Val Ser Leu His Leu Glu Cys
290                295                300

Ser Pro Cys Phe Lys Arg Glu Cys Pro Leu Gly His Thr Asp Cys Leu
305                310                315                320

Asn Arg Leu Tyr Pro Glu Lys Ile Val Gln Ala Val Glu Glu Ala Val
                325                330                335

```

<210> 159

<211> 381

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(381)

<400> 159

```

atg gaa cct tcc tcc tac gcg gca gaa aaa aaa gga aaa ggc ggc atc   48
Met Glu Pro Ser Ser Tyr Ala Ala Glu Lys Lys Gly Lys Gly Gly Ile
  1              5              10              15

```

```

agg cgc gtc atc aac gca ttc ggc tat tcg ata gac ggc atc gcc gcc   96
Arg Arg Val Ile Asn Ala Phe Gly Tyr Ser Ile Asp Gly Ile Ala Ala
      20              25              30

```

```

gcc tac cgt tac gaa gcg gca ttc cgt cag gtt ttg tgg ctg aac gcg   144
Ala Tyr Arg Tyr Glu Ala Ala Phe Arg Gln Val Leu Trp Leu Asn Ala
      35              40              45

```

```

ctg ctg gtg tgc gcg gca ttt ttt tgg gtt tcc gaa aag tcc ctc cgc   192
Leu Leu Val Cys Ala Ala Phe Phe Trp Val Ser Glu Lys Ser Leu Arg
      50              55              60

```

ctg ccg ttg att atc gcg tct ttt gtg tcg gtc att gtc gaa ctg ttc 240
 Leu Pro Leu Ile Ile Ala Ser Phe Val Ser Val Ile Val Glu Leu Phe
 65 70 75 80

aac act gcc gtc gaa gcc gcc gtc gat cat act tcg act gaa aaa cac 288
 Asn Thr Ala Val Glu Ala Ala Val Asp His Thr Ser Thr Glu Lys His
 85 90 95

gag ctg gct aaa cgc gcc aaa gac gca ggt tct gct gca caa ttg ttc 336
 Glu Leu Ala Lys Arg Ala Lys Asp Ala Gly Ser Ala Ala Gln Leu Phe
 100 105 110

gcg atg ctg atg tta gcg gcg gtt tgg ctg tcc gcc ctg ttc ggg 381
 Ala Met Leu Met Leu Ala Ala Val Trp Leu Ser Ala Leu Phe Gly
 115 120 125

<210> 160

<211> 127

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<400> 160

Met Glu Pro Ser Ser Tyr Ala Ala Glu Lys Lys Gly Lys Gly Gly Ile
 1 5 10 15

Arg Arg Val Ile Asn Ala Phe Gly Tyr Ser Ile Asp Gly Ile Ala Ala
 20 25 30

Ala Tyr Arg Tyr Glu Ala Ala Phe Arg Gln Val Leu Trp Leu Asn Ala
 35 40 45

Leu Leu Val Cys Ala Ala Phe Phe Trp Val Ser Glu Lys Ser Leu Arg
 50 55 60

Leu Pro Leu Ile Ile Ala Ser Phe Val Ser Val Ile Val Glu Leu Phe
 65 70 75 80

Asn Thr Ala Val Glu Ala Ala Val Asp His Thr Ser Thr Glu Lys His
 85 90 95

Glu Leu Ala Lys Arg Ala Lys Asp Ala Gly Ser Ala Ala Gln Leu Phe
 100 105 110

Ala Met Leu Met Leu Ala Ala Val Trp Leu Ser Ala Leu Phe Gly
 115 120 125

<210> 161

<211> 990

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(990)

<400> 161

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atg aaa aaa gaa agc cgc ccc gcg ttt gac gcg gca gcc gta ttt gac   48
Met Lys Lys Glu Ser Arg Pro Ala Phe Asp Ala Ala Ala Val Phe Asp
   1             5             10             15

gcg gca gcc gta ccg gta tcc gac agc ggg ttt gcc gcc aat gca aat   96
Ala Ala Ala Val Pro Val Ser Asp Ser Gly Phe Ala Ala Asn Ala Asn
           20             25             30

gtc cgc cgt ttt gtg gac gat gaa gtc ggg aaa ggg gat ttt tcc cgg   144
Val Arg Arg Phe Val Asp Asp Glu Val Gly Lys Gly Asp Phe Ser Arg
       35             40             45

gcg gaa tgg cag gat ttt ttt gac aaa gcg gct tac aag gcg gac atc   192
Ala Glu Trp Gln Asp Phe Phe Asp Lys Ala Ala Tyr Lys Ala Asp Ile
       50             55             60

gtc aag att atg cac cgc ccc tcc aca tcg cgt ccg tgg tat gtg ttc   240
Val Lys Ile Met His Arg Pro Ser Thr Ser Arg Pro Trp Tyr Val Phe
       65             70             75             80

cgc acg gga aat tcg ggc aag gcg aaa ttt cgc ggc gcg cgc cgg ttt   288
Arg Thr Gly Asn Ser Gly Lys Ala Lys Phe Arg Gly Ala Arg Arg Phe
           85             90             95

tat gcg gaa aac cgc gcg ctt atc gat gat gtg gcg caa aaa tac ggc   336
Tyr Ala Glu Asn Arg Ala Leu Ile Asp Asp Val Ala Gln Lys Tyr Gly
       100             105             110

gtg cct gcc gaa ctt atc gtg gcg gtt atc ggg att gaa acg aat tac   384
Val Pro Ala Glu Leu Ile Val Ala Val Ile Gly Ile Glu Thr Asn Tyr
       115             120             125

ggc aaa aat acg ggc agt ttc cgt gtg gcg gac gca ttg gcg acc tta   432
Gly Lys Asn Thr Gly Ser Phe Arg Val Ala Asp Ala Leu Ala Thr Leu
       130             135             140

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ggc ttt gat tac ccc cgc cgc gcc ggg ttt ttc caa aaa gaa ttg gtc 480
Gly Phe Asp Tyr Pro Arg Arg Ala Gly Phe Phe Gln Lys Glu Leu Val
145                150                155                160

gag ctt tta aag ctg gca aaa gaa gaa ggc ggc gat gtt ttc gcc ttt 528
Glu Leu Leu Lys Leu Ala Lys Glu Glu Gly Gly Asp Val Phe Ala Phe
165                170                175

aaa ggc agc tat gcg ggc gca atg ggg atg ccg caa ttt atg cct tcg 576
Lys Gly Ser Tyr Ala Gly Ala Met Gly Met Pro Gln Phe Met Pro Ser
180                185                190

agc tac cgg aaa tgg gcg gtg gat tat gac ggg gac gga cat cgg gac 624
Ser Tyr Arg Lys Trp Ala Val Asp Tyr Asp Gly Asp Gly His Arg Asp
195                200                205

ata tgg ggc aat gtt ggc gat gtc gcg gca tcg att gcc aat tat atg 672
Ile Trp Gly Asn Val Gly Asp Val Ala Ala Ser Ile Ala Asn Tyr Met
210                215                220

aag cag cac ggt tgg cgc acg ggc ggg aaa ata ctg gtg tct gca aca 720
Lys Gln His Gly Trp Arg Thr Gly Gly Lys Ile Leu Val Ser Ala Thr
225                230                235                240

ttg gcg ccg ggt gcg gat gtt cag gca atc att ggc gaa aaa acc gcc 768
Leu Ala Pro Gly Ala Asp Val Gln Ala Ile Ile Gly Glu Lys Thr Ala
245                250                255

ctg acg cgg acg gtg gcg gat ttg aag gcg tac ggc atc atc ccc ggc 816
Leu Thr Arg Thr Val Ala Asp Leu Lys Ala Tyr Gly Ile Ile Pro Gly
260                265                270

gaa gag ctt gcc gat gat gaa aag gcg gtt ttg ttc aaa ctg gaa acc 864
Glu Glu Leu Ala Asp Asp Glu Lys Ala Val Leu Phe Lys Leu Glu Thr
275                280                285

gca ccc ggc gtg ttt gaa tat tat ttg ggc ttg aac aat ttt tat acg 912
Ala Pro Gly Val Phe Glu Tyr Tyr Leu Gly Leu Asn Asn Phe Tyr Thr
290                295                300

gta tgg cag tac aat cac agt cgg atg tat gta acg gcg gtc agg gac 960
Val Trp Gln Tyr Asn His Ser Arg Met Tyr Val Thr Ala Val Arg Asp
305                310                315                320

att gcc aat tcg ctt ggc ggc ccg gga ttg 990
Ile Ala Asn Ser Leu Gly Gly Pro Gly Leu
325                330

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<210> 162

<211> 330

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<400> 162

Met Lys Lys Glu Ser Arg Pro Ala Phe Asp Ala Ala Ala Val Phe Asp
1 5 10 15

Ala Ala Ala Val Pro Val Ser Asp Ser Gly Phe Ala Ala Asn Ala Asn
20 25 30

Val Arg Arg Phe Val Asp Asp Glu Val Gly Lys Gly Asp Phe Ser Arg
35 40 45

Ala Glu Trp Gln Asp Phe Phe Asp Lys Ala Ala Tyr Lys Ala Asp Ile
50 55 60

Val Lys Ile Met His Arg Pro Ser Thr Ser Arg Pro Trp Tyr Val Phe
65 70 75 80

Arg Thr Gly Asn Ser Gly Lys Ala Lys Phe Arg Gly Ala Arg Arg Phe
85 90 95

Tyr Ala Glu Asn Arg Ala Leu Ile Asp Asp Val Ala Gln Lys Tyr Gly
100 105 110

Val Pro Ala Glu Leu Ile Val Ala Val Ile Gly Ile Glu Thr Asn Tyr
115 120 125

Gly Lys Asn Thr Gly Ser Phe Arg Val Ala Asp Ala Leu Ala Thr Leu
130 135 140

Gly Phe Asp Tyr Pro Arg Arg Ala Gly Phe Phe Gln Lys Glu Leu Val
145 150 155 160

Glu Leu Leu Lys Leu Ala Lys Glu Glu Gly Gly Asp Val Phe Ala Phe
165 170 175

Lys Gly Ser Tyr Ala Gly Ala Met Gly Met Pro Gln Phe Met Pro Ser
180 185 190

Ser Tyr Arg Lys Trp Ala Val Asp Tyr Asp Gly Asp Gly His Arg Asp
195 200 205

Ile Trp Gly Asn Val Gly Asp Val Ala Ala Ser Ile Ala Asn Tyr Met
210 215 220

Lys Gln His Gly Trp Arg Thr Gly Gly Lys Ile Leu Val Ser Ala Thr
225 230 235 240

Leu Ala Pro Gly Ala Asp Val Gln Ala Ile Ile Gly Glu Lys Thr Ala
245 250 255

Leu Thr Arg Thr Val Ala Asp Leu Lys Ala Tyr Gly Ile Ile Pro Gly
260 265 270

Glu Glu Leu Ala Asp Asp Glu Lys Ala Val Leu Phe Lys Leu Glu Thr
275 280 285

Ala Pro Gly Val Phe Glu Tyr Tyr Leu Gly Leu Asn Asn Phe Tyr Thr
290 295 300

Val Trp Gln Tyr Asn His Ser Arg Met Tyr Val Thr Ala Val Arg Asp
305 310 315 320

Ile Ala Asn Ser Leu Gly Gly Pro Gly Leu
325 330

<210> 163

<211> 1773

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1773)

<400> 163

atg agt atc gtg ctg cac ggc gtg gcg gcg ggc aaa ggc att gcc gtc 48
Met Ser Ile Val Leu His Gly Val Ala Ala Gly Lys Gly Ile Ala Val
1 5 10 15

ggt tgc gcc cac ctg att gcg cgc ggt acg gag gaa gtg ccg cag tat 96
Gly Cys Ala His Leu Ile Ala Arg Gly Thr Glu Glu Val Pro Gln Tyr
20 25 30

gat gtt gcg gag gcg gac acc gat gcc gaa gcc gaa cgt ttc gat gcc 144
Asp Val Ala Glu Ala Asp Thr Asp Ala Glu Ala Glu Arg Phe Asp Ala
35 40 45

gcc gtc aaa gcc acg cgc aaa gag ttg gaa cag ctc cgc agc gcg att 192
Ala Val Lys Ala Thr Arg Lys Glu Leu Glu Gln Leu Arg Ser Ala Ile

50	55	60	
ccc gaa aac gcc ccg acc gag ttg ggc gcg ttc atc tcg ctg cac ctg			240
Pro Glu Asn Ala Pro Thr Glu Leu Gly Ala Phe Ile Ser Leu His Leu			
65	70	75	80
atg ctc ttg acc gat gtt acc ttg tcg cgc gaa ccc gtc gat att tta			288
Met Leu Leu Thr Asp Val Thr Leu Ser Arg Glu Pro Val Asp Ile Leu			
	85	90	95
agg gaa caa aaa atc aac gcc gag tgg gca ttg aag cag cag agc gac			336
Arg Glu Gln Lys Ile Asn Ala Glu Trp Ala Leu Lys Gln Gln Ser Asp			
	100	105	110
aaa ctc gcc gcc caa ttc gac aat atg gac gat gcc tat ttg cgc gaa			384
Lys Leu Ala Ala Gln Phe Asp Asn Met Asp Asp Ala Tyr Leu Arg Glu			
	115	120	125
cgc aag cag gat atg ctg caa gtc gtc cgc cgc atc cac aac aac ctg			432
Arg Lys Gln Asp Met Leu Gln Val Val Arg Arg Ile His Asn Asn Leu			
	130	135	140
atc ggg cag ggc aac gag ttg gaa gtt gcc gac aac ctg ttt gac gaa			480
Ile Gly Gln Gly Asn Glu Leu Glu Val Ala Asp Asn Leu Phe Asp Glu			
145	150	155	160
acc gtt ctg att gca aac gac ctt tcg ccc gcc gac acg gtt ttg ttt			528
Thr Val Leu Ile Ala Asn Asp Leu Ser Pro Ala Asp Thr Val Leu Phe			
	165	170	175
aaa gag cag cgc att gcc gcc ttc gtt acc gat gcc ggc ggc ccc acc			576
Lys Glu Gln Arg Ile Ala Ala Phe Val Thr Asp Ala Gly Gly Pro Thr			
	180	185	190
ggg cat acg gcg att ttg ggc agg agc ttg gac atc ccg tcc gtc gtc			624
Gly His Thr Ala Ile Leu Gly Arg Ser Leu Asp Ile Pro Ser Val Val			
	195	200	205
ggg ctg cac aac gcg cgc aaa ctg att acc gag ggc gaa acg gtc att			672
Gly Leu His Asn Ala Arg Lys Leu Ile Thr Glu Gly Glu Thr Val Ile			
	210	215	220
gtg gac ggt atc aac ggc gtg ttg att atc gcg ccg gat gag tcg gtg			720
Val Asp Gly Ile Asn Gly Val Leu Ile Ile Ala Pro Asp Glu Ser Val			
225	230	235	240
ttg aac gaa tac cgc cgc cgt gcc cgc gaa tac cgc agc cac aaa cgc			768
Leu Asn Glu Tyr Arg Arg Arg Ala Arg Glu Tyr Arg Ser His Lys Arg			

245	250	255	
gat ttg aac aag ctc aaa aaa acc gcc gcc gcc acc gct gac ggg gtc			816
Asp Leu Asn Lys Leu Lys Lys Thr Ala Ala Ala Thr Ala Asp Gly Val			
260	265	270	
tgc atc gag ctt gtg ggc aat ata gaa tcc gcc gaa gac gtg aaa ccg			864
Cys Ile Glu Leu Val Gly Asn Ile Glu Ser Ala Glu Asp Val Lys Pro			
275	280	285	
ctg cac aac ctc ggc gca gac ggc atc ggg ctg ttc cgc agc gag ttt			912
Leu His Asn Leu Gly Ala Asp Gly Ile Gly Leu Phe Arg Ser Glu Phe			
290	295	300	
ctt tac ctg aac cgc gat acg atg ccg tct gaa gac gag cag tac gaa			960
Leu Tyr Leu Asn Arg Asp Thr Met Pro Ser Glu Asp Glu Gln Tyr Glu			
305	310	315	320
gtg tac agc gcg att gtc aaa aaa atg aaa ggc aaa agc gta acg ata			1008
Val Tyr Ser Ala Ile Val Lys Lys Met Lys Gly Lys Ser Val Thr Ile			
325	330	335	
cgg aca gtc gat ttg ggt gtg gac aaa aac ccg cgc tgg ttc ggg aaa			1056
Arg Thr Val Asp Leu Gly Val Asp Lys Asn Pro Arg Trp Phe Gly Lys			
340	345	350	
aac agc acg ccc aac ggc agc ctc aac ccc gcg ctg ggc atg acc ggc			1104
Asn Ser Thr Pro Asn Gly Ser Leu Asn Pro Ala Leu Gly Met Thr Gly			
355	360	365	
atc cgc ctg tgc ctt gcc gaa ccg gtc atg ttc cgc acc cag atg cgc			1152
Ile Arg Leu Cys Leu Ala Glu Pro Val Met Phe Arg Thr Gln Met Arg			
370	375	380	
gcc atc ctc cgc gcc gcc gcc cac ggc ccc gtg cgg atg atg tgg ccg			1200
Ala Ile Leu Arg Ala Ala Ala His Gly Pro Val Arg Met Met Trp Pro			
385	390	395	400
atg att acc tcc gta tcc gaa gtg cgc cag tgc ctc atc cac ctc gac			1248
Met Ile Thr Ser Val Ser Glu Val Arg Gln Cys Leu Ile His Leu Asp			
405	410	415	
acc gcg caa cgc cag ctt gcc gaa cgc ggc gat gcc ttc ggt aaa gtc			1296
Thr Ala Gln Arg Gln Leu Ala Glu Arg Gly Asp Ala Phe Gly Lys Val			
420	425	430	
ggc atc ggc tgt atg att gaa att ccg tct gcc gcg ctg acc gtc ggc			1344
Gly Ile Gly Cys Met Ile Glu Ile Pro Ser Ala Ala Leu Thr Val Gly			

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      435              440              445
agc att ttg aaa ctg gtc gat ttc atc tcc gtc ggt acc aac gac ctg 1392
Ser Ile Leu Lys Leu Val Asp Phe Ile Ser Val Gly Thr Asn Asp Leu
      450              455              460

att caa tac atc ttg tcc gtc gat cgc ggc gac gac agc gtc agc cac 1440
Ile Gln Tyr Ile Leu Ser Val Asp Arg Gly Asp Asp Ser Val Ser His
      465              470              475              480

ctc tac cag ccc ggc cat ccc gcc gtg ctg aaa atg ctg caa cac gtc 1488
Leu Tyr Gln Pro Gly His Pro Ala Val Leu Lys Met Leu Gln His Val
      485              490              495

atc cgt acc gcc aac cgc atg gac aaa gac gta tcc gta tgc ggc gag 1536
Ile Arg Thr Ala Asn Arg Met Asp Lys Asp Val Ser Val Cys Gly Glu
      500              505              510

atg gcg ggc gat acc gcg ttt acc cgc gtt tta ttg ggt atg ggg ctg 1584
Met Ala Gly Asp Thr Ala Phe Thr Arg Val Leu Leu Gly Met Gly Leu
      515              520              525

cgc cgt ttt tcc atg aac ccc aac aac atc ctg ccc gtc aaa aac atc 1632
Arg Arg Phe Ser Met Asn Pro Asn Asn Ile Leu Pro Val Lys Asn Ile
      530              535              540

att ctg cac agc aat gtc gga cag ctc gaa agc gat att gtg aaa gtc 1680
Ile Leu His Ser Asn Val Gly Gln Leu Glu Ser Asp Ile Val Lys Val
      545              550              555              560

atc cgc tgc gaa gac gaa gag aag tcg gaa aag ctg atc aaa cag atg 1728
Ile Arg Cys Glu Asp Glu Glu Lys Ser Glu Lys Leu Ile Lys Gln Met
      565              570              575

aac agc gtg tct gtc gag gaa gaa gcc gac ttc aag ggg cgg aaa 1773
Asn Ser Val Ser Val Glu Glu Glu Ala Asp Phe Lys Gly Arg Lys
      580              585              590

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<210> 164

<211> 591

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 164

Met Ser Ile Val Leu His Gly Val Ala Ala Gly Lys Gly Ile Ala Val

1

5

10

15

Gly Cys Ala His Leu Ile Ala Arg Gly Thr Glu Glu Val Pro Gln Tyr
 20 25 30
 Asp Val Ala Glu Ala Asp Thr Asp Ala Glu Ala Glu Arg Phe Asp Ala
 35 40 45
 Ala Val Lys Ala Thr Arg Lys Glu Leu Glu Gln Leu Arg Ser Ala Ile
 50 55 60
 Pro Glu Asn Ala Pro Thr Glu Leu Gly Ala Phe Ile Ser Leu His Leu
 65 70 75 80
 Met Leu Leu Thr Asp Val Thr Leu Ser Arg Glu Pro Val Asp Ile Leu
 85 90 95
 Arg Glu Gln Lys Ile Asn Ala Glu Trp Ala Leu Lys Gln Gln Ser Asp
 100 105 110
 Lys Leu Ala Ala Gln Phe Asp Asn Met Asp Asp Ala Tyr Leu Arg Glu
 115 120 125
 Arg Lys Gln Asp Met Leu Gln Val Val Arg Arg Ile His Asn Asn Leu
 130 135 140
 Ile Gly Gln Gly Asn Glu Leu Glu Val Ala Asp Asn Leu Phe Asp Glu
 145 150 155 160
 Thr Val Leu Ile Ala Asn Asp Leu Ser Pro Ala Asp Thr Val Leu Phe
 165 170 175
 Lys Glu Gln Arg Ile Ala Ala Phe Val Thr Asp Ala Gly Gly Pro Thr
 180 185 190
 Gly His Thr Ala Ile Leu Gly Arg Ser Leu Asp Ile Pro Ser Val Val
 195 200 205
 Gly Leu His Asn Ala Arg Lys Leu Ile Thr Glu Gly Glu Thr Val Ile
 210 215 220
 Val Asp Gly Ile Asn Gly Val Leu Ile Ile Ala Pro Asp Glu Ser Val
 225 230 235 240
 Leu Asn Glu Tyr Arg Arg Arg Ala Arg Glu Tyr Arg Ser His Lys Arg
 245 250 255
 Asp Leu Asn Lys Leu Lys Lys Thr Ala Ala Ala Thr Ala Asp Gly Val
 260 265 270

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Cys Ile Glu Leu Val Gly Asn Ile Glu Ser Ala Glu Asp Val Lys Pro
    275                      280                      285

Leu His Asn Leu Gly Ala Asp Gly Ile Gly Leu Phe Arg Ser Glu Phe
    290                      295                      300

Leu Tyr Leu Asn Arg Asp Thr Met Pro Ser Glu Asp Glu Gln Tyr Glu
    305                      310                      315                      320

Val Tyr Ser Ala Ile Val Lys Lys Met Lys Gly Lys Ser Val Thr Ile
                      325                      330                      335

Arg Thr Val Asp Leu Gly Val Asp Lys Asn Pro Arg Trp Phe Gly Lys
                      340                      345                      350

Asn Ser Thr Pro Asn Gly Ser Leu Asn Pro Ala Leu Gly Met Thr Gly
                      355                      360                      365

Ile Arg Leu Cys Leu Ala Glu Pro Val Met Phe Arg Thr Gln Met Arg
    370                      375                      380

Ala Ile Leu Arg Ala Ala Ala His Gly Pro Val Arg Met Met Trp Pro
    385                      390                      395                      400

Met Ile Thr Ser Val Ser Glu Val Arg Gln Cys Leu Ile His Leu Asp
                      405                      410                      415

Thr Ala Gln Arg Gln Leu Ala Glu Arg Gly Asp Ala Phe Gly Lys Val
                      420                      425                      430

Gly Ile Gly Cys Met Ile Glu Ile Pro Ser Ala Ala Leu Thr Val Gly
    435                      440                      445

Ser Ile Leu Lys Leu Val Asp Phe Ile Ser Val Gly Thr Asn Asp Leu
    450                      455                      460

Ile Gln Tyr Ile Leu Ser Val Asp Arg Gly Asp Asp Ser Val Ser His
    465                      470                      475                      480

Leu Tyr Gln Pro Gly His Pro Ala Val Leu Lys Met Leu Gln His Val
                      485                      490                      495

Ile Arg Thr Ala Asn Arg Met Asp Lys Asp Val Ser Val Cys Gly Glu
    500                      505                      510

Met Ala Gly Asp Thr Ala Phe Thr Arg Val Leu Leu Gly Met Gly Leu
    515                      520                      525

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Arg Arg Phe Ser Met Asn Pro Asn Asn Ile Leu Pro Val Lys Asn Ile
530 535 540

Ile Leu His Ser Asn Val Gly Gln Leu Glu Ser Asp Ile Val Lys Val
545 550 555 560

Ile Arg Cys Glu Asp Glu Glu Lys Ser Glu Lys Leu Ile Lys Gln Met
565 570 575

Asn Ser Val Ser Val Glu Glu Glu Ala Asp Phe Lys Gly Arg Lys
580 585 590

<210> 165

<211> 381

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<220>

<221> CDS

<222> (1)..(381)

<400> 165

atg gaa cct tcc tcc tac gcg gca gaa aaa aaa gga aaa ggc ggc atc 48
Met Glu Pro Ser Ser Tyr Ala Ala Glu Lys Lys Gly Lys Gly Gly Ile
1 5 10 15

agg cgc gtc atc aac gca ttc ggc tat tcg ata gac ggc atc gcc gcc 96
Arg Arg Val Ile Asn Ala Phe Gly Tyr Ser Ile Asp Gly Ile Ala Ala
20 25 30

gcc tac cgt tac gaa gcg gca ttc cgt cag gtt ttg tgg ctg aac gcg 144
Ala Tyr Arg Tyr Glu Ala Ala Phe Arg Gln Val Leu Trp Leu Asn Ala
35 40 45

ctg ctg gtg tgc gcg gca ttt ttt tgg gtt tcc gaa aag tcc ctc cgc 192
Leu Leu Val Cys Ala Ala Phe Phe Trp Val Ser Glu Lys Ser Leu Arg
50 55 60

ctg ccg ttg att atc gcg tct ttt gtg tcg gtc att gtc gaa ctg ttc 240
Leu Pro Leu Ile Ile Ala Ser Phe Val Ser Val Ile Val Glu Leu Phe
65 70 75 80

aac act gcc gtc gaa gcc gcc gtc gat cat act tcg act gaa aaa cac 288
Asn Thr Ala Val Glu Ala Ala Val Asp His Thr Ser Thr Glu Lys His
85 90 95

gag ctg gct aaa cgc gcc aaa gac gca ggt tct gct gca caa ttg ttc 336
 Glu Leu Ala Lys Arg Ala Lys Asp Ala Gly Ser Ala Ala Gln Leu Phe
 100 105 110

gcg atg ctg atg tta gcg gcg gtt tgg ctg tcc gcc ctg ttc ggg 381
 Ala Met Leu Met Leu Ala Ala Val Trp Leu Ser Ala Leu Phe Gly
 115 120 125

<210> 166

<211> 127

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 166

Met Glu Pro Ser Ser Tyr Ala Ala Glu Lys Lys Gly Lys Gly Gly Ile
 1 5 10 15

Arg Arg Val Ile Asn Ala Phe Gly Tyr Ser Ile Asp Gly Ile Ala Ala
 20 25 30

Ala Tyr Arg Tyr Glu Ala Ala Phe Arg Gln Val Leu Trp Leu Asn Ala
 35 40 45

Leu Leu Val Cys Ala Ala Phe Phe Trp Val Ser Glu Lys Ser Leu Arg
 50 55 60

Leu Pro Leu Ile Ile Ala Ser Phe Val Ser Val Ile Val Glu Leu Phe
 65 70 75 80

Asn Thr Ala Val Glu Ala Ala Val Asp His Thr Ser Thr Glu Lys His
 85 90 95

Glu Leu Ala Lys Arg Ala Lys Asp Ala Gly Ser Ala Ala Gln Leu Phe
 100 105 110

Ala Met Leu Met Leu Ala Ala Val Trp Leu Ser Ala Leu Phe Gly
 115 120 125

<210> 167

<211> 1257

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1257)

<400> 167

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atg agt atg gca ctt gcc caa aaa ctt gcc gcc gac agc att gcg gcg 48
Met Ser Met Ala Leu Ala Gln Lys Leu Ala Ala Asp Ser Ile Ala Ala
  1             5             10             15

gtt gcc gaa gga cgc aac ctt cag gac gtg ttg gcg caa atc cgc acc 96
Val Ala Glu Gly Arg Asn Leu Gln Asp Val Leu Ala Gln Ile Arg Thr
      20             25             30

gcg cat ccc gac ctt acg gcg cag gaa aac gcc gcg ttg cag gac atc 144
Ala His Pro Asp Leu Thr Ala Gln Glu Asn Gly Ala Leu Gln Asp Ile
      35             40             45

gcc tac gcc tgc cag cgt tat ttg gcc agt ttg aaa cat atg ctc gcg 192
Ala Tyr Gly Cys Gln Arg Tyr Leu Gly Ser Leu Lys His Met Leu Ala
      50             55             60

cag atg ctg aaa aag ccg att gcc aat ccg cag ctc gaa agt ctg ctt 240
Gln Met Leu Lys Lys Pro Ile Gly Asn Pro Gln Leu Glu Ser Leu Leu
      65             70             75             80

ttg gcg gcg ttg tac caa ctg cat tac acg cgc aac gcg ccg cat gct 288
Leu Ala Ala Leu Tyr Gln Leu His Tyr Thr Arg Asn Ala Pro His Ala
      85             90             95

gtg gtc aac gaa gct gtt gaa agc atc gcc aaa atc gga cgc ggg cag 336
Val Val Asn Glu Ala Val Glu Ser Ile Ala Lys Ile Gly Arg Gly Gln
      100            105            110

tac cgt tcg ttt gcc aac gcg att ttg cgc cgc ttt ttg cgc gaa cgc 384
Tyr Arg Ser Phe Ala Asn Ala Ile Leu Arg Arg Phe Leu Arg Glu Arg
      115            120            125

gac aag ctt gcg gct tcc tgc aaa aaa gac gat gtg gcg aaa cac aac 432
Asp Lys Leu Ala Ala Ser Cys Lys Lys Asp Asp Val Ala Lys His Asn
      130            135            140

ctg ccg ctg tgg tgg gtg gct tac ttg aaa aac cat tat ccg aaa cac 480
Leu Pro Leu Trp Trp Val Ala Tyr Leu Lys Asn His Tyr Pro Lys His
      145            150            155            160

tgg cac aac atc gcc gcc gcg ctg caa tcc cat ccg ccg atg acg ttg 528
Trp His Asn Ile Ala Ala Ala Leu Gln Ser His Pro Pro Met Thr Leu
      165            170            175

cgc gtc aac cgc cga cac gcc aac gcc gaa agc tat ttg gaa aaa ctg 576

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Arg Val Asn Arg Arg His Gly Asn Ala Glu Ser Tyr Leu Glu Lys Leu	
180 185 190	
gct gcg gaa ggc att gcg gca aag gcg ttg gac gaa tat gcg gtt acg	624
Ala Ala Glu Gly Ile Ala Ala Lys Ala Leu Asp Glu Tyr Ala Val Thr	
195 200 205	
ttg gaa gaa gcc gtg ccg gtg aac cgc ctg ccc ggt ttt tca gac ggc	672
Leu Glu Glu Ala Val Pro Val Asn Arg Leu Pro Gly Phe Ser Asp Gly	
210 215 220	
att gtt tcg gta cag gac ttc ggc gcg cag cag gcg gcg tat ctc ctt	720
Ile Val Ser Val Gln Asp Phe Gly Ala Gln Gln Ala Ala Tyr Leu Leu	
225 230 235 240	
aac ccg aaa gac ggc gaa cgg att ttg gac gcg tgc gcc gcg ccg ggc	768
Asn Pro Lys Asp Gly Glu Arg Ile Leu Asp Ala Cys Ala Ala Pro Gly	
245 250 255	
ggc aag acg ggg cat atc ttg gaa ctg gcg gat tgc cgc gtt acc gcc	816
Gly Lys Thr Gly His Ile Leu Glu Leu Ala Asp Cys Arg Val Thr Ala	
260 265 270	
ttg gac att gat gca ggc cgt ctg aag cgt gtg gag gac aat atc gcc	864
Leu Asp Ile Asp Ala Gly Arg Leu Lys Arg Val Glu Asp Asn Ile Ala	
275 280 285	
cgt ttg ggc ttt cag acg gca tcg gcg gcg tgt gcc gat gcg cgg gat	912
Arg Leu Gly Phe Gln Thr Ala Ser Ala Ala Cys Ala Asp Ala Arg Asp	
290 295 300	
ttg gcg gcg tgg tat gat gga aag cct ttc gac aca atc ctt gcc gac	960
Leu Ala Ala Trp Tyr Asp Gly Lys Pro Phe Asp Thr Ile Leu Ala Asp	
305 310 315 320	
gtg cca tgc acc gct tcc ggc gtg gcg cgg cgc aat ccc gac gtg aaa	1008
Val Pro Cys Thr Ala Ser Gly Val Ala Arg Arg Asn Pro Asp Val Lys	
325 330 335	
tgg ctg cgc cgt ccg acc gac gcg ctc aaa acc gcc cgc cag cag gaa	1056
Trp Leu Arg Arg Pro Thr Asp Ala Leu Lys Thr Ala Arg Gln Gln Glu	
340 345 350	
gcc ctg ctg gac gca ctt tgg cag acg ctg aaa cag ggc ggc aga atg	1104
Ala Leu Leu Asp Ala Leu Trp Gln Thr Leu Lys Gln Gly Gly Arg Met	
355 360 365	
ctg ctt gcc acc tgt tcc gtg ttc gtc gaa gaa aac gac ggg caa ttg	1152


```

Leu Leu Ala Thr Cys Ser Val Phe Val Glu Glu Asn Asp Gly Gln Leu
  370                      375                      380

caa aaa ttc ctc aac cgc cat gcc gat gcc gaa ccg atc gaa tcg cgg 1200
Gln Lys Phe Leu Asn Arg His Ala Asp Ala Glu Pro Ile Glu Ser Arg
385                      390                      395                      400

gtg ctt tta ccg aac aaa cac caa gat ggc ttt tat tac gcg ctt att 1248
Val Leu Leu Pro Asn Lys His Gln Asp Gly Phe Tyr Tyr Ala Leu Ile
                      405                      410                      415

caa aag cat 1257
Gln Lys His

<210> 168
<211> 419
<212> PRT
<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 168
Met Ser Met Ala Leu Ala Gln Lys Leu Ala Ala Asp Ser Ile Ala Ala
  1                      5                      10                      15

Val Ala Glu Gly Arg Asn Leu Gln Asp Val Leu Ala Gln Ile Arg Thr
                      20                      25                      30

Ala His Pro Asp Leu Thr Ala Gln Glu Asn Gly Ala Leu Gln Asp Ile
                      35                      40                      45

Ala Tyr Gly Cys Gln Arg Tyr Leu Gly Ser Leu Lys His Met Leu Ala
  50                      55                      60

Gln Met Leu Lys Lys Pro Ile Gly Asn Pro Gln Leu Glu Ser Leu Leu
  65                      70                      75                      80

Leu Ala Ala Leu Tyr Gln Leu His Tyr Thr Arg Asn Ala Pro His Ala
                      85                      90                      95

Val Val Asn Glu Ala Val Glu Ser Ile Ala Lys Ile Gly Arg Gly Gln
                      100                      105                      110

Tyr Arg Ser Phe Ala Asn Ala Ile Leu Arg Arg Phe Leu Arg Glu Arg
                      115                      120                      125

Asp Lys Leu Ala Ala Ser Cys Lys Lys Asp Asp Val Ala Lys His Asn
  130                      135                      140

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Leu Pro Leu Trp Trp Val Ala Tyr Leu Lys Asn His Tyr Pro Lys His
145                      150                      155                      160

Trp His Asn Ile Ala Ala Ala Leu Gln Ser His Pro Pro Met Thr Leu
                      165                      170                      175

Arg Val Asn Arg Arg His Gly Asn Ala Glu Ser Tyr Leu Glu Lys Leu
                      180                      185                      190

Ala Ala Glu Gly Ile Ala Ala Lys Ala Leu Asp Glu Tyr Ala Val Thr
                      195                      200                      205

Leu Glu Glu Ala Val Pro Val Asn Arg Leu Pro Gly Phe Ser Asp Gly
210                      215                      220

Ile Val Ser Val Gln Asp Phe Gly Ala Gln Gln Ala Ala Tyr Leu Leu
225                      230                      235                      240

Asn Pro Lys Asp Gly Glu Arg Ile Leu Asp Ala Cys Ala Ala Pro Gly
                      245                      250                      255

Gly Lys Thr Gly His Ile Leu Glu Leu Ala Asp Cys Arg Val Thr Ala
260                      265                      270

Leu Asp Ile Asp Ala Gly Arg Leu Lys Arg Val Glu Asp Asn Ile Ala
275                      280                      285

Arg Leu Gly Phe Gln Thr Ala Ser Ala Ala Cys Ala Asp Ala Arg Asp
290                      295                      300

Leu Ala Ala Trp Tyr Asp Gly Lys Pro Phe Asp Thr Ile Leu Ala Asp
305                      310                      315                      320

Val Pro Cys Thr Ala Ser Gly Val Ala Arg Arg Asn Pro Asp Val Lys
                      325                      330                      335

Trp Leu Arg Arg Pro Thr Asp Ala Leu Lys Thr Ala Arg Gln Gln Glu
                      340                      345                      350

Ala Leu Leu Asp Ala Leu Trp Gln Thr Leu Lys Gln Gly Gly Arg Met
                      355                      360                      365

Leu Leu Ala Thr Cys Ser Val Phe Val Glu Glu Asn Asp Gly Gln Leu
370                      375                      380

Gln Lys Phe Leu Asn Arg His Ala Asp Ala Glu Pro Ile Glu Ser Arg
385                      390                      395                      400

```

Val Leu Leu Pro Asn Lys His Gln Asp Gly Phe Tyr Tyr Ala Leu Ile
 405 410 415

Gln Lys His

<210> 169

<211> 804

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(804)

<400> 169

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atg aat atg aaa aaa tgg att gcc gcc gcc ctt gcc tgt tcc gcg ctc 48
Met Asn Met Lys Lys Trp Ile Ala Ala Ala Leu Ala Cys Ser Ala Leu
  1          5          10         15

gcg ctg tct gcc tgc ggc ggt cag ggt aaa gat gcc gcc gcg ccc gcc 96
Ala Leu Ser Ala Cys Gly Gly Gln Gly Lys Asp Ala Ala Ala Pro Ala
      20          25          30

gca aat ccc gac aaa gtg tac cgc gtg gct tcc aac gcc gag ttt gcc 144
Ala Asn Pro Asp Lys Val Tyr Arg Val Ala Ser Asn Ala Glu Phe Ala
      35          40          45

ccc ttt gaa tct tta gac tcg aaa ggc aat gtc gaa ggt ttc gat gtg 192
Pro Phe Glu Ser Leu Asp Ser Lys Gly Asn Val Glu Gly Phe Asp Val
      50          55          60

gat ttg atg aac gcg atg gcg aag gcg ggc aat ttt aaa atc gaa ttc 240
Asp Leu Met Asn Ala Met Ala Lys Ala Gly Asn Phe Lys Ile Glu Phe
      65          70          75          80

aaa cac cag ccg tgg gac agc ctt ttc ccc gcc ttg aac aac ggc gat 288
Lys His Gln Pro Trp Asp Ser Leu Phe Pro Ala Leu Asn Asn Gly Asp
      85          90          95

gcg gac gtt gtg atg tcg ggc gta acc att acc gac gac cgc aaa cag 336
Ala Asp Val Val Met Ser Gly Val Thr Ile Thr Asp Asp Arg Lys Gln
      100         105         110

tct atg gac ttc agc gac ccg tat ttt gaa atc acc caa gtc gtc ctc 384
Ser Met Asp Phe Ser Asp Pro Tyr Phe Glu Ile Thr Gln Val Val Leu

```

Met Asn Met Lys Lys Trp Ile Ala Ala Ala Leu Ala Cys Ser Ala Leu
1 5 10 15

Ala Leu Ser Ala Cys Gly Gly Gln Gly Lys Asp Ala Ala Ala Pro Ala
20 25 30

Ala Asn Pro Asp Lys Val Tyr Arg Val Ala Ser Asn Ala Glu Phe Ala
35 40 45

Pro Phe Glu Ser Leu Asp Ser Lys Gly Asn Val Glu Gly Phe Asp Val
50 55 60

Asp Leu Met Asn Ala Met Ala Lys Ala Gly Asn Phe Lys Ile Glu Phe
65 70 75 80

Lys His Gln Pro Trp Asp Ser Leu Phe Pro Ala Leu Asn Asn Gly Asp
85 90 95

Ala Asp Val Val Met Ser Gly Val Thr Ile Thr Asp Asp Arg Lys Gln
100 105 110

Ser Met Asp Phe Ser Asp Pro Tyr Phe Glu Ile Thr Gln Val Val Leu
115 120 125

Val Pro Lys Gly Lys Lys Ile Ser Ser Ser Glu Asp Leu Lys Asn Met
130 135 140

Asn Lys Val Gly Val Val Thr Gly Tyr Thr Gly Asp Phe Ser Val Ser
145 150 155 160

Lys Leu Leu Gly Asn Asp Asn Pro Lys Ile Ala Arg Phe Glu Asn Val
165 170 175

Pro Leu Ile Ile Lys Glu Leu Glu Asn Gly Gly Leu Asp Ser Val Val
180 185 190

Ser Asp Ser Ala Val Ile Ala Asn Tyr Val Lys Asn Asn Pro Thr Lys
195 200 205

Gly Met Asp Phe Val Thr Leu Pro Asp Phe Thr Thr Glu His Tyr Gly
210 215 220

Ile Ala Val Arg Lys Gly Asp Glu Ala Thr Val Lys Met Leu Asn Asp
225 230 235 240

Ala Leu Lys Lys Val Arg Glu Ser Gly Glu Tyr Asp Lys Ile Tyr Ala
245 250 255

Lys Tyr Phe Ala Lys Glu Asp Gly Gln Ala Ala Lys
260 265

<210> 171

<211> 864

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(864)

<400> 171

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atg aaa gca aaa atc ctg act tcc gtt gca ctg ctt gcc tgt tcc ggc      48
Met Lys Ala Lys Ile Leu Thr Ser Val Ala Leu Leu Ala Cys Ser Gly
   1             5             10             15

agc ctg ttt gcc caa acg ctg gca acc gtc aac ggt cag aaa atc gac      96
Ser Leu Phe Ala Gln Thr Leu Ala Thr Val Asn Gly Gln Lys Ile Asp
          20             25             30

agt tcc gtc att gat gcg cag gtt gcc gca ttc cgt gcg gaa aac agc     144
Ser Ser Val Ile Asp Ala Gln Val Ala Ala Phe Arg Ala Glu Asn Ser
          35             40             45

cgt gcc gaa gac acg ccg caa ctg cgc caa tcc ctg ctg gaa aac gaa     192
Arg Ala Glu Asp Thr Pro Gln Leu Arg Gln Ser Leu Leu Glu Asn Glu
          50             55             60

gtg gtc aac acc gtg gtc gca cag gaa gtg aaa cgc ctg aaa ctc gac     240
Val Val Asn Thr Val Val Ala Gln Glu Val Lys Arg Leu Lys Leu Asp
          65             70             75             80

cgg tcg gca gag ttt aaa aat gcg ctt gcc aaa ttg cgt gcc gaa gcg     288
Arg Ser Ala Glu Phe Lys Asn Ala Leu Ala Lys Leu Arg Ala Glu Ala
          85             90             95

aaa aag tcg ggc gac gac aag aaa ccg tcc ttc aaa acc gtt tgg cag     336
Lys Lys Ser Gly Asp Asp Lys Lys Pro Ser Phe Lys Thr Val Trp Gln
          100            105            110

gcg gta aaa tat ggc ttg aac ggc gag gca tac gcg ctg cat atc gcc     384
Ala Val Lys Tyr Gly Leu Asn Gly Glu Ala Tyr Ala Leu His Ile Ala
          115            120            125

aaa acc caa ccg gtt tcc gag cag gaa gta aaa gcc gca tat gac aat     432
Lys Thr Gln Pro Val Ser Glu Gln Glu Val Lys Ala Ala Tyr Asp Asn
          130            135            140

```

atc agc ggt ttt tac aaa ggt acg cag gaa gtc cag ttg ggc gaa atc 480
 Ile Ser Gly Phe Tyr Lys Gly Thr Gln Glu Val Gln Leu Gly Glu Ile
 145 150 155 160

ctg acc gac aag gaa gaa aat gca aaa aaa gcg gtt gcc gac ttg aag 528
 Leu Thr Asp Lys Glu Glu Asn Ala Lys Lys Ala Val Ala Asp Leu Lys
 165 170 175

gcg aaa aaa ggt ttc gat gcc gtc ttg aaa caa tat tcc ctc aac gac 576
 Ala Lys Lys Gly Phe Asp Ala Val Leu Lys Gln Tyr Ser Leu Asn Asp
 180 185 190

cgt acc aaa cag acc ggt gcg ccg gtc gga tat gtg ccg ctg aaa gat 624
 Arg Thr Lys Gln Thr Gly Ala Pro Val Gly Tyr Val Pro Leu Lys Asp
 195 200 205

ttg gaa cag ggt gtt ccg ccg ctt tat cag gca att aag gac ttg aaa 672
 Leu Glu Gln Gly Val Pro Pro Leu Tyr Gln Ala Ile Lys Asp Leu Lys
 210 215 220

aaa ggc gaa ttt acg gca acg ccg ctg aaa aac ggc gat ttc tac ggc 720
 Lys Gly Glu Phe Thr Ala Thr Pro Leu Lys Asn Gly Asp Phe Tyr Gly
 225 230 235 240

gtt tat tat gtc aac gac agc cgc gag gta aaa gtg cct tct ttt gat 768
 Val Tyr Tyr Val Asn Asp Ser Arg Glu Val Lys Val Pro Ser Phe Asp
 245 250 255

gaa atg aaa gga cag att gcg ggc aac ctt cag gcg gaa cgg att gac 816
 Glu Met Lys Gly Gln Ile Ala Gly Asn Leu Gln Ala Glu Arg Ile Asp
 260 265 270

cgt gcc gtc ggt gca ctg ttg ggc aag gca aac atc aaa cct gca aaa 864
 Arg Ala Val Gly Ala Leu Leu Gly Lys Ala Asn Ile Lys Pro Ala Lys
 275 280 285

<210> 172

<211> 288

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 172

Met Lys Ala Lys Ile Leu Thr Ser Val Ala Leu Leu Ala Cys Ser Gly
 1 5 10 15

Ser Leu Phe Ala Gln Thr Leu Ala Thr Val Asn Gly Gln Lys Ile Asp
 20 25 30

Ser Ser Val Ile Asp Ala Gln Val Ala Ala Phe Arg Ala Glu Asn Ser
 35 40 45
 Arg Ala Glu Asp Thr Pro Gln Leu Arg Gln Ser Leu Leu Glu Asn Glu
 50 55 60
 Val Val Asn Thr Val Val Ala Gln Glu Val Lys Arg Leu Lys Leu Asp
 65 70 75 80
 Arg Ser Ala Glu Phe Lys Asn Ala Leu Ala Lys Leu Arg Ala Glu Ala
 85 90 95
 Lys Lys Ser Gly Asp Asp Lys Lys Pro Ser Phe Lys Thr Val Trp Gln
 100 105 110
 Ala Val Lys Tyr Gly Leu Asn Gly Glu Ala Tyr Ala Leu His Ile Ala
 115 120 125
 Lys Thr Gln Pro Val Ser Glu Gln Glu Val Lys Ala Ala Tyr Asp Asn
 130 135 140
 Ile Ser Gly Phe Tyr Lys Gly Thr Gln Glu Val Gln Leu Gly Glu Ile
 145 150 155 160
 Leu Thr Asp Lys Glu Glu Asn Ala Lys Lys Ala Val Ala Asp Leu Lys
 165 170 175
 Ala Lys Lys Gly Phe Asp Ala Val Leu Lys Gln Tyr Ser Leu Asn Asp
 180 185 190
 Arg Thr Lys Gln Thr Gly Ala Pro Val Gly Tyr Val Pro Leu Lys Asp
 195 200 205
 Leu Glu Gln Gly Val Pro Pro Leu Tyr Gln Ala Ile Lys Asp Leu Lys
 210 215 220
 Lys Gly Glu Phe Thr Ala Thr Pro Leu Lys Asn Gly Asp Phe Tyr Gly
 225 230 235 240
 Val Tyr Tyr Val Asn Asp Ser Arg Glu Val Lys Val Pro Ser Phe Asp
 245 250 255
 Glu Met Lys Gly Gln Ile Ala Gly Asn Leu Gln Ala Glu Arg Ile Asp
 260 265 270
 Arg Ala Val Gly Ala Leu Leu Gly Lys Ala Asn Ile Lys Pro Ala Lys
 275 280 285

<210> 173

<211> 1794

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1794)

<400> 173

```

ttg ccc cga att gcc atg ccc tat ttc gcc ctg ttt gac' gat gcc gta 48
Leu Pro Arg Ile Ala Met Pro Tyr Phe Ala Leu Phe Asp Asp Ala Val
1 5 10 15

```

```

agc ggt cgc gca aaa cgc tat caa aat cat gtg gaa agc cgt ttt ttc 96
Ser Gly Arg Ala Lys Arg Tyr Gln Asn His Val Glu Ser Arg Phe Phe
20 25 30

```

```

cgt ccc gaa gaa ctc gat gct ttg gac ggc gcg ctg caa tcg ggc tgg 144
Arg Pro Glu Glu Leu Asp Ala Leu Asp Gly Ala Leu Gln Ser Gly Trp
35 40 45

```

```

caa aaa ggg ctg cat gcc gtg ttg ttt gca gac tac gga ttc ggt ttg 192
Gln Lys Gly Leu His Ala Val Leu Phe Ala Asp Tyr Gly Phe Gly Leu
50 55 60

```

```

ccg ctg acg ggg gtc gag tcc gaa cgc ggc ggc aac ctt gcc ctg cac 240
Pro Leu Thr Gly Val Glu Ser Glu Arg Gly Gly Asn Leu Ala Leu His
65 70 75 80

```

```

tgg ttt gcc gac tgc gcc gac acc gat gcc gca agc tgg ctt gcc cga 288
Trp Phe Ala Asp Cys Ala Asp Thr Asp Ala Ala Ser Trp Leu Ala Arg
85 90 95

```

```

cac tca gac ggc ctc ccc gcc ggc att tcc acg ccg caa tcc tcc gta 336
His Ser Asp Gly Leu Pro Ala Gly Ile Ser Thr Pro Gln Ser Ser Val
100 105 110

```

```

tcc gaa gcc gat tac ctc gac cat atc cgc caa atc cac gaa gcc atc 384
Ser Glu Ala Asp Tyr Leu Asp His Ile Arg Gln Ile His Glu Ala Ile
115 120 125

```

```

cga cgc ggc gac acc tat caa atc aac tac act acc cgc ctg cac ctg 432
Arg Arg Gly Asp Thr Tyr Gln Ile Asn Tyr Thr Thr Arg Leu His Leu
130 135 140

```

```

caa gcc tac ggc aat ccc gtc aaa ctt tac caa cgc ctg cgc cag ccc 480
Gln Ala Tyr Gly Asn Pro Val Lys Leu Tyr Gln Arg Leu Arg Gln Pro
145      150      155      160

gtc ccc tat gcc gtt ttg tcc cac ctg ccc gat gca caa ggg caa tcc 528
Val Pro Tyr Ala Val Leu Ser His Leu Pro Asp Ala Gln Gly Gln Ser
      165      170      175

gcg tgg acg ctg tgt ttc tcg ccc gaa ctc ttc ctc aaa atc ggt tcg 576
Ala Trp Thr Leu Cys Phe Ser Pro Glu Leu Phe Leu Lys Ile Gly Ser
      180      185      190

gac ggc acc atc agc acc gaa ccg atg aaa ggc acc gcg ccg att ttg 624
Asp Gly Thr Ile Ser Thr Glu Pro Met Lys Gly Thr Ala Pro Ile Leu
      195      200      205

ggc gac gga caa gac gaa cgc cgc gcc gcc gag ttg caa gca gac ccg 672
Gly Asp Gly Gln Asp Glu Arg Arg Ala Ala Glu Leu Gln Ala Asp Pro
      210      215      220

aaa aac cgc gcc gaa aac gtg atg att gtc gat ttg ctg cgt aac gac 720
Lys Asn Arg Ala Glu Asn Val Met Ile Val Asp Leu Leu Arg Asn Asp
225      230      235      240

ctc ggc aaa atc gcc caa acc ggc aca gta tgc gta ccc gaa ccg ttt 768
Leu Gly Lys Ile Ala Gln Thr Gly Thr Val Cys Val Pro Glu Pro Phe
      245      250      255

aaa gta tcg cgt ttc ggc agc gtt tgg cag atg acc agc acc atc caa 816
Lys Val Ser Arg Phe Gly Ser Val Trp Gln Met Thr Ser Thr Ile Gln
      260      265      270

gcc caa gcc ttg ccg cac acc tcg ttc gcc gac atc ctc cgc gcc gcc 864
Ala Gln Ala Leu Pro His Thr Ser Phe Ala Asp Ile Leu Arg Ala Ala
      275      280      285

ttc ccc tgc ggc agc atc acc ggc gcg ccc aaa aaa atg agt atg cag 912
Phe Pro Cys Gly Ser Ile Thr Gly Ala Pro Lys Lys Met Ser Met Gln
      290      295      300

att atc gaa tcg ctc gaa gcc gaa gcg cgc gga ctt tat acg ggc agc 960
Ile Ile Glu Ser Leu Glu Ala Glu Ala Arg Gly Leu Tyr Thr Gly Ser
305      310      315      320

atc ggc tat ttg aac ccg tgt tcc ggc gcc ttg ggg ttt gaa ggc acg 1008
Ile Gly Tyr Leu Asn Pro Cys Ser Gly Gly Leu Gly Phe Glu Gly Thr
      325      330      335

```

ttc aac gtc gtt atc cgc acc ttg tgc ctc acg ccg ctt tca gac ggc	1056
Phe Asn Val Val Ile Arg Thr Leu Ser Leu Thr Pro Leu Ser Asp Gly	
340 345 350	
att tat caa ggc gtg tac ggt gtc ggt tcc ggc atc gtc atc gac agc	1104
Ile Tyr Gln Gly Val Tyr Gly Val Gly Ser Gly Ile Val Ile Asp Ser	
355 360 365	
gac cct gcc gcc gaa tat cgg gaa tgc ggc tgg aaa gcc cgt ttc ctc	1152
Asp Pro Ala Ala Glu Tyr Arg Glu Cys Gly Trp Lys Ala Arg Phe Leu	
370 375 380	
aac gaa ttg cgc ccc gac ttc ggc att ttt gaa acc ctg cgc gtg gaa	1200
Asn Glu Leu Arg Pro Asp Phe Gly Ile Phe Glu Thr Leu Arg Val Glu	
385 390 395 400	
aac gga cgc tgc gcc ctg ctc gac cgc cac cta tgc cgt ctg aaa acc	1248
Asn Gly Arg Cys Ala Leu Leu Asp Arg His Leu Cys Arg Leu Lys Thr	
405 410 415	
tcc gcc caa gcc ctc aac ctg ccc ctg ccc gac ggt tgc gaa aat caa	1296
Ser Ala Gln Ala Leu Asn Leu Pro Leu Pro Asp Gly Cys Glu Asn Gln	
420 425 430	
atc aaa caa tac atc gca cgc ttg ccc gac ggc gcg ttc cgc atc aaa	1344
Ile Lys Gln Tyr Ile Ala Arg Leu Pro Asp Gly Ala Phe Arg Ile Lys	
435 440 445	
gcc ctg ctc gct tca gac ggc atc agc ctg tcc cgc gcc gtt tta aac	1392
Ala Leu Leu Ala Ser Asp Gly Ile Ser Leu Ser Arg Ala Val Leu Asn	
450 455 460	
cgt ctg acc gac aaa caa cgc gtc atc att tgc ccg acc atc ctg ccc	1440
Arg Leu Thr Asp Lys Gln Arg Val Ile Ile Ser Pro Thr Ile Leu Pro	
465 470 475 480	
gca caa aac tac ctg cgc cgc ttc aaa acc acc tgc cgc acc gtc ttc	1488
Ala Gln Asn Tyr Leu Arg Arg Phe Lys Thr Thr Cys Arg Thr Val Phe	
485 490 495	
gac caa gcg tgg caa acc gcc gaa aca caa ggc gcg ttc gac agc ctg	1536
Asp Gln Ala Trp Gln Thr Ala Glu Thr Gln Gly Ala Phe Asp Ser Leu	
500 505 510	
ttt ttc aat tca gac ggc atc ctg ctc gaa ggc ggc aga agc aac gtg	1584
Phe Phe Asn Ser Asp Gly Ile Leu Leu Glu Gly Gly Arg Ser Asn Val	
515 520 525	

ttc gtc aaa cat cgc gga caa tgg ctc acg ccc tct tta gat tta gac 1632
 Phe Val Lys His Arg Gly Gln Trp Leu Thr Pro Ser Leu Asp Leu Asp
 530 535 540

att tta aac ggc ata atg cgc caa gcc gtg ttg gac gaa ccg caa aaa 1680
 Ile Leu Asn Gly Ile Met Arg Gln Ala Val Leu Asp Glu Pro Gln Lys
 545 550 555 560

tat ttg caa aca aat caa gta atc gaa aca cac atc aca caa aaa aca 1728
 Tyr Leu Gln Thr Asn Gln Val Ile Glu Thr His Ile Thr Gln Lys Thr
 565 570 575

ctg caa gaa gcc gaa gaa atc cgc ctc tcc aac gcc ttg cgc ggc gta 1776
 Leu Gln Glu Ala Glu Glu Ile Arg Leu Ser Asn Ala Leu Arg Gly Val
 580 585 590

ttt gcc gcc gcc ctt gcc -1794
 Phe Ala Ala Ala Leu Ala
 595

<210> 174

<211> 598

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 174

Leu Pro Arg Ile Ala Met Pro Tyr Phe Ala Leu Phe Asp Asp Ala Val
 1 5 10 15

Ser Gly Arg Ala Lys Arg Tyr Gln Asn His Val Glu Ser Arg Phe Phe
 20 25 30

Arg Pro Glu Glu Leu Asp Ala Leu Asp Gly Ala Leu Gln Ser Gly Trp
 35 40 45

Gln Lys Gly Leu His Ala Val Leu Phe Ala Asp Tyr Gly Phe Gly Leu
 50 55 60

Pro Leu Thr Gly Val Glu Ser Glu Arg Gly Gly Asn Leu Ala Leu His
 65 70 75 80

Trp Phe Ala Asp Cys Ala Asp Thr Asp Ala Ala Ser Trp Leu Ala Arg
 85 90 95

His Ser Asp Gly Leu Pro Ala Gly Ile Ser Thr Pro Gln Ser Ser Val
 100 105 110

Ser Glu Ala Asp Tyr Leu Asp His Ile Arg Gln Ile His Glu Ala Ile
 115 120 125

Arg Arg Gly Asp Thr Tyr Gln Ile Asn Tyr Thr Thr Arg Leu His Leu
 130 135 140

Gln Ala Tyr Gly Asn Pro Val Lys Leu Tyr Gln Arg Leu Arg Gln Pro
 145 150 155 160

Val Pro Tyr Ala Val Leu Ser His Leu Pro Asp Ala Gln Gly Gln Ser
 165 170 175

Ala Trp Thr Leu Cys Phe Ser Pro Glu Leu Phe Leu Lys Ile Gly Ser
 180 185 190

Asp Gly Thr Ile Ser Thr Glu Pro Met Lys Gly Thr Ala Pro Ile Leu
 195 200 205

Gly Asp Gly Gln Asp Glu Arg Arg Ala Ala Glu Leu Gln Ala Asp Pro
 210 215 220

Lys Asn Arg Ala Glu Asn Val Met Ile Val Asp Leu Leu Arg Asn Asp
 225 230 235 240

Leu Gly Lys Ile Ala Gln Thr Gly Thr Val Cys Val Pro Glu Pro Phe
 245 250 255

Lys Val Ser Arg Phe Gly Ser Val Trp Gln Met Thr Ser Thr Ile Gln
 260 265 270

Ala Gln Ala Leu Pro His Thr Ser Phe Ala Asp Ile Leu Arg Ala Ala
 275 280 285

Phe Pro Cys Gly Ser Ile Thr Gly Ala Pro Lys Lys Met Ser Met Gln
 290 295 300

Ile Ile Glu Ser Leu Glu Ala Glu Ala Arg Gly Leu Tyr Thr Gly Ser
 305 310 315 320

Ile Gly Tyr Leu Asn Pro Cys Ser Gly Gly Leu Gly Phe Glu Gly Thr
 325 330 335

Phe Asn Val Val Ile Arg Thr Leu Ser Leu Thr Pro Leu Ser Asp Gly
 340 345 350

Ile Tyr Gln Gly Val Tyr Gly Val Gly Ser Gly Ile Val Ile Asp Ser
 355 360 365

Asp Pro Ala Ala Glu Tyr Arg Glu Cys Gly Trp Lys Ala Arg Phe Leu
 370 375 380

Asn Glu Leu Arg Pro Asp Phe Gly Ile Phe Glu Thr Leu Arg Val Glu
 385 390 395 400

Asn Gly Arg Cys Ala Leu Leu Asp Arg His Leu Cys Arg Leu Lys Thr
 405 410 415

Ser Ala Gln Ala Leu Asn Leu Pro Leu Pro Asp Gly Cys Glu Asn Gln
 420 425 430

Ile Lys Gln Tyr Ile Ala Arg Leu Pro Asp Gly Ala Phe Arg Ile Lys
 435 440 445

Ala Leu Leu Ala Ser Asp Gly Ile Ser Leu Ser Arg Ala Val Leu Asn
 450 455 460

Arg Leu Thr Asp Lys Gln Arg Val Ile Ile Ser Pro Thr Ile Leu Pro
 465 470 475 480

Ala Gln Asn Tyr Leu Arg Arg Phe Lys Thr Thr Cys Arg Thr Val Phe
 485 490 495

Asp Gln Ala Trp Gln Thr Ala Glu Thr Gln Gly Ala Phe Asp Ser Leu
 500 505 510

Phe Phe Asn Ser Asp Gly Ile Leu Leu Glu Gly Gly Arg Ser Asn Val
 515 520 525

Phe Val Lys His Arg Gly Gln Trp Leu Thr Pro Ser Leu Asp Leu Asp
 530 535 540

Ile Leu Asn Gly Ile Met Arg Gln Ala Val Leu Asp Glu Pro Gln Lys
 545 550 555 560

Tyr Leu Gln Thr Asn Gln Val Ile Glu Thr His Ile Thr Gln Lys Thr
 565 570 575

Leu Gln Glu Ala Glu Glu Ile Arg Leu Ser Asn Ala Leu Arg Gly Val
 580 585 590

Phe Ala Ala Ala Leu Ala
 595

<210> 175

<211> 279

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(279)

<400> 175

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ttg caa aac ttt cgg aaa ccc aat atg cag acc gtt acc atg tac aca 48
Leu Gln Asn Phe Arg Lys Pro Asn Met Gln Thr Val Thr Met Tyr Thr
  1             5             10             15

ggt ccg ttt tgc ccc tac tgc acg atg gcg aaa agg ctg ctg cac gcg 96
Gly Pro Phe Cys Pro Tyr Cys Thr Met Ala Lys Arg Leu Leu His Ala
          20             25             30

gca ggt gtc gga cat atc gac gaa atc cgt gtc gat gca agt ccc gaa 144
Ala Gly Val Gly His Ile Asp Glu Ile Arg Val Asp Ala Ser Pro Glu
          35             40             45

gcc ttt gcc gaa atg cag cag ctt tcc gga cag cgc agc gtg ccg cag 192
Ala Phe Ala Glu Met Gln Gln Leu Ser Gly Gln Arg Ser Val Pro Gln
          50             55             60

att ttc atc ggc gaa acg cac gtc ggc gga ttt acc gac ctc tac cgc 240
Ile Phe Ile Gly Glu Thr His Val Gly Gly Phe Thr Asp Leu Tyr Arg
          65             70             75             80

ctc cag cag gaa ggc ggg ctg gac gga ctg ctg aac cct 279
Leu Gln Gln Glu Gly Gly Leu Asp Gly Leu Leu Asn Pro
          85             90

```

<210> 176

<211> 93

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 176

```

Leu Gln Asn Phe Arg Lys Pro Asn Met Gln Thr Val Thr Met Tyr Thr
  1             5             10             15

Gly Pro Phe Cys Pro Tyr Cys Thr Met Ala Lys Arg Leu Leu His Ala
          20             25             30

Ala Gly Val Gly His Ile Asp Glu Ile Arg Val Asp Ala Ser Pro Glu

```

```

          35              40              45
Ala Phe Ala Glu Met Gln Gln Leu Ser Gly Gln Arg Ser Val Pro Gln
   50              55              60

Ile Phe Ile Gly Glu Thr His Val Gly Gly Phe Thr Asp Leu Tyr Arg
   65              70              75              80

Leu Gln Gln Glu Gly Gly Leu Asp Gly Leu Leu Asn Pro
          85              90

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<210> 177

<211> 2274

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(2274)

<400> 177

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atg aca aca tta cat ttc tca ggc ttc ccg cgt gtc ggt gcc ttc cgc   48
Met Thr Thr Leu His Phe Ser Gly Phe Pro Arg Val Gly Ala Phe Arg
   1              5              10              15

gaa ttg aaa ttc gca caa gaa aaa tac tgg cgc aaa gaa atc agc gag   96
Glu Leu Lys Phe Ala Gln Glu Lys Tyr Trp Arg Lys Glu Ile Ser Glu
          20              25              30

caa gaa ttg ctg gct gtt gct aaa gac ttg cgc gag aaa aac tgg aaa  144
Gln Glu Leu Leu Ala Val Ala Lys Asp Leu Arg Glu Lys Asn Trp Lys
          35              40              45

cac cag gcc gct gcc aac gcc gat tac gtt gcc gta ggc gat ttc act  192
His Gln Ala Ala Ala Asn Ala Asp Tyr Val Ala Val Gly Asp Phe Thr
          50              55              60

ttc tac gac cac atc ctc gac ctg caa gtc gcc acc ggc gcg att ccc  240
Phe Tyr Asp His Ile Leu Asp Leu Gln Val Ala Thr Gly Ala Ile Pro
          65              70              75              80

gcc cgc ttc ggc ttc gac agc caa aac cta tct ttg gaa caa ttc ttc  288
Ala Arg Phe Gly Phe Asp Ser Gln Asn Leu Ser Leu Glu Gln Phe Phe
          85              90              95

caa ctg gcg cgc ggt aac aaa gac caa ttc gct atc gaa atg acc aaa  336

```


Gln	Leu	Ala	Arg	Gly	Asn	Lys	Asp	Gln	Phe	Ala	Ile	Glu	Met	Thr	Lys		
			100					105					110				
tg	g	t	c	a	c	a	c	t	a	c	t	a	c	t	a	c	384
Trp	Phe	Asp	Thr	Asn	Tyr	His	Tyr	Leu	Val	Pro	Glu	Phe	His	Ala	Asp		
			115				120					125					
acc	gaa	ttt	aaa	gcc	aat	gcc	aaa	cac	tac	gtt	caa	cag	ctg	caa	gaa	432	
Thr	Glu	Phe	Lys	Ala	Asn	Ala	Lys	His	Tyr	Val	Gln	Gln	Leu	Gln	Glu		
			130				135				140						
gcc	caa	gct	ttg	ggc	ctg	aaa	gcc	aaa	ccg	acc	gtt	gtg	ggg	ccg	ttg	480	
Ala	Gln	Ala	Leu	Gly	Leu	Lys	Ala	Lys	Pro	Thr	Val	Val	Gly	Pro	Leu		
			145			150				155					160		
act	ttc	ctg	tg	g	t	c	g	g	t	a	a	a	g	g	c	528	
Thr	Phe	Leu	Trp	Val	Gly	Lys	Glu	Lys	Gly	Ala	Val	Glu	Phe	Asp	Arg		
			165						170				175				
ctg	agc	ctg	ttg	cct	aaa	ctg	ttg	cct	gtt	tac	gtt	gaa	atc	ctg	act	576	
Leu	Ser	Leu	Leu	Pro	Lys	Leu	Leu	Pro	Val	Tyr	Val	Glu	Ile	Leu	Thr		
			180					185					190				
gct	ttg	gtt	gaa	gcc	ggg	gcc	gag	tgg	att	caa	atc	gac	gag	cct	gct	624	
Ala	Leu	Val	Glu	Ala	Gly	Ala	Glu	Trp	Ile	Gln	Ile	Asp	Glu	Pro	Ala		
			195				200					205					
ttg	act	gtt	gac	ctg	cct	aaa	gaa	tgg	gta	gaa	gca	tac	aaa	gac	gtt	672	
Leu	Thr	Val	Asp	Leu	Pro	Lys	Glu	Trp	Val	Glu	Ala	Tyr	Lys	Asp	Val		
			210				215				220						
tac	gcc	act	ttg	agc	aaa	gta	agt	gcc	aaa	atc	ctg	ctg	agc	act	tac	720	
Tyr	Ala	Thr	Leu	Ser	Lys	Val	Ser	Ala	Lys	Ile	Leu	Leu	Ser	Thr	Tyr		
			225			230				235				240			
ttc	ggg	tct	gtt	gcc	gaa	cac	gcc	gca	ttg	ttg	aaa	tcc	ctg	cct	gtt	768	
Phe	Gly	Ser	Val	Ala	Glu	His	Ala	Ala	Leu	Leu	Lys	Ser	Leu	Pro	Val		
			245					250					255				
gac	ggc	ctg	cac	atc	gac	ttg	gta	cgc	gct	cct	gaa	caa	ctg	gat	gcg	816	
Asp	Gly	Leu	His	Ile	Asp	Leu	Val	Arg	Ala	Pro	Glu	Gln	Leu	Asp	Ala		
			260					265					270				
ttc	gcc	gac	tac	gac	aaa	gtt	ctg	tct	gcc	ggc	gtc	att	gac	ggc	cgc	864	
Phe	Ala	Asp	Tyr	Asp	Lys	Val	Leu	Ser	Ala	Gly	Val	Ile	Asp	Gly	Arg		
			275				280					285					
aat	att	tgg	cgc	gcc	aac	ctg	aac	aaa	gtt	ttg	gaa	act	gtt	gag	ctt	912	

```

Asn Ile Trp Arg Ala Asn Leu Asn Lys Val Leu Glu Thr Val Glu Leu
290 295 300

ctg caa gcc aaa ctg ggc gac cgt ttg tgg att tcc agc tct tgc tcg 960
Leu Gln Ala Lys Leu Gly Asp Arg Leu Trp Ile Ser Ser Ser Cys Ser
305 310 315 320

ctg ctg cac act ccg ttt gac ttg tca gtt gaa gaa aaa ctg aaa gcc 1008
Leu Leu His Thr Pro Phe Asp Leu Ser Val Glu Glu Lys Leu Lys Ala
325 330 335

aac aaa ccc gac ctg tac tct tgg ttg gca ttc acc ctg caa aaa acc 1056
Asn Lys Pro Asp Leu Tyr Ser Trp Leu Ala Phe Thr Leu Gln Lys Thr
340 345 350

caa gaa ttg cgc gtc ctg aaa gcc gca ttg aac gaa ggc cgt gat tct 1104
Gln Glu Leu Arg Val Leu Lys Ala Ala Leu Asn Glu Gly Arg Asp Ser
355 360 365

gtt gcc gaa gaa ctg gct gcc agc caa gct gct gcc gac tcc cgt gcc 1152
Val Ala Glu Glu Leu Ala Ala Ser Gln Ala Ala Ala Asp Ser Arg Ala
370 375 380

aac agc agc gaa atc cac cgt gca gac gtt gcc aaa cgc ctg gcc gat 1200
Asn Ser Ser Glu Ile His Arg Ala Asp Val Ala Lys Arg Leu Ala Asp
385 390 395 400

ttg cct gcc aac gca gac caa cgc aaa tcc cca ttt gcc gac cgt atc 1248
Leu Pro Ala Asn Ala Asp Gln Arg Lys Ser Pro Phe Ala Asp Arg Ile
405 410 415

aaa gcg caa caa gca tgg ttg aac ctg cct ctg ctg ccg acg acc aac 1296
Lys Ala Gln Gln Ala Trp Leu Asn Leu Pro Leu Leu Pro Thr Thr Asn
420 425 430

atc ggt tct ttc ccg caa act acc gaa atc cgc caa gca cgc gca gcc 1344
Ile Gly Ser Phe Pro Gln Thr Thr Glu Ile Arg Gln Ala Arg Ala Ala
435 440 445

ttc aaa aaa ggc gaa ctg tct gcc gcc gat tac gaa gcc gcg atg aaa 1392
Phe Lys Lys Gly Glu Leu Ser Ala Ala Asp Tyr Glu Ala Ala Met Lys
450 455 460

aaa gaa atc gcc ttg gtg gtt gaa gag caa gaa aaa ctg gac ttg gac 1440
Lys Glu Ile Ala Leu Val Val Glu Glu Gln Glu Lys Leu Asp Leu Asp
465 470 475 480

gta ctg gta cac ggc gaa gcc gag cgt aac gac atg gtt gaa tac ttc 1488

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Val Leu Val His Gly Glu Ala Glu Arg Asn Asp Met Val Glu Tyr Phe	
485 490 495	
ggc gaa ttg ttg agc ggt ttt gca ttc acc caa tat ggc tgg gta caa	1536
Gly Glu Leu Leu Ser Gly Phe Ala Phe Thr Gln Tyr Gly Trp Val Gln	
500 505 510	
agc tac ggt tct cgc tgc gtt aaa cca ccg att atc ttc ggt gac gta	1584
Ser Tyr Gly Ser Arg Cys Val Lys Pro Pro Ile Ile Phe Gly Asp Val	
515 520 525	
agc cgt cct gaa gcc atg acc gta gct tgg tct act tac gca caa agc	1632
Ser Arg Pro Glu Ala Met Thr Val Ala Trp Ser Thr Tyr Ala Gln Ser	
530 535 540	
ctg acc aaa cgc ccg atg aaa ggt atg ttg acc ggc cct gta acc att	1680
Leu Thr Lys Arg Pro Met Lys Gly Met Leu Thr Gly Pro Val Thr Ile	
545 550 555 560	
ctg caa tgg tct ttc gtc cgc aac gat att cct cgc tct acc gtg tgt	1728
Leu Gln Trp Ser Phe Val Arg Asn Asp Ile Pro Arg Ser Thr Val Cys	
565 570 575	
aaa caa atc gca ctg gct ctg aac gac gaa gta ttg gat ctg gaa aaa	1776
Lys Gln Ile Ala Leu Ala Leu Asn Asp Glu Val Leu Asp Leu Glu Lys	
580 585 590	
gca ggc atc aaa gtc atc caa atc gac gaa cct gcc atc cgc gaa ggc	1824
Ala Gly Ile Lys Val Ile Gln Ile Asp Glu Pro Ala Ile Arg Glu Gly	
595 600 605	
ctg cct ttg aaa cgt gcc gat tgg gat gcc tac ctg aac tgg gcc ggc	1872
Leu Pro Leu Lys Arg Ala Asp Trp Asp Ala Tyr Leu Asn Trp Ala Gly	
610 615 620	
gaa tct ttc cgc ctg tcc tct acc ggt tgc gaa gac agc act caa atc	1920
Glu Ser Phe Arg Leu Ser Ser Thr Gly Cys Glu Asp Ser Thr Gln Ile	
625 630 635 640	
cac acc cat atg tgc tac tct gag ttc aac gac atc ctg cct gcg att	1968
His Thr His Met Cys Tyr Ser Glu Phe Asn Asp Ile Leu Pro Ala Ile	
645 650 655	
gct gca atg gat gcg gac gtg atc acc atc gag act tca cgt tcc gac	2016
Ala Ala Met Asp Ala Asp Val Ile Thr Ile Glu Thr Ser Arg Ser Asp	
660 665 670	
atg gaa ctc ttg acc gcg ttc ggc gaa ttc aaa tac ccg aac gac atc	2064

```

Met Glu Leu Leu Thr Ala Phe Gly Glu Phe Lys Tyr Pro Asn Asp Ile
    675                      680                      685

ggc ccg ggg gtt tac gac atc cac agc ccg cgc gta ccg aca gaa gcc 2112
Gly Pro Gly Val Tyr Asp Ile His Ser Pro Arg Val Pro Thr Glu Ala
    690                      695                      700

gaa gtg gag cac ctg ttg cgc aaa gcc atc gag gtt gta ccg gtt gaa 2160
Glu Val Glu His Leu Leu Arg Lys Ala Ile Glu Val Val Pro Val Glu
    705                      710                      715                      720

cgt ctg tgg gtt aac ccg gac tgc ggc ctg aaa aca cgc ggc tgg aaa 2208
Arg Leu Trp Val Asn Pro Asp Cys Gly Leu Lys Thr Arg Gly Trp Lys
    725                      730                      735

gaa act ctg gaa caa ctc caa gtg atg atg aac gta acc cac aaa ttg 2256
Glu Thr Leu Glu Gln Leu Gln Val Met Met Asn Val Thr His Lys Leu
    740                      745                      750

cgt gcc gaa ttg gcg aaa 2274
Arg Ala Glu Leu Ala Lys
    755

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<210> 178

<211> 758

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 178

```

Met Thr Thr Leu His Phe Ser Gly Phe Pro Arg Val Gly Ala Phe Arg
    1                      5                      10                      15

Glu Leu Lys Phe Ala Gln Glu Lys Tyr Trp Arg Lys Glu Ile Ser Glu
    20                      25                      30

Gln Glu Leu Leu Ala Val Ala Lys Asp Leu Arg Glu Lys Asn Trp Lys
    35                      40                      45

His Gln Ala Ala Ala Asn Ala Asp Tyr Val Ala Val Gly Asp Phe Thr
    50                      55                      60

Phe Tyr Asp His Ile Leu Asp Leu Gln Val Ala Thr Gly Ala Ile Pro
    65                      70                      75                      80

Ala Arg Phe Gly Phe Asp Ser Gln Asn Leu Ser Leu Glu Gln Phe Phe
    85                      90                      95

```

Gln Leu Ala Arg Gly Asn Lys Asp Gln Phe Ala Ile Glu Met Thr Lys
 100 105 110

Trp Phe Asp Thr Asn Tyr His Tyr Leu Val Pro Glu Phe His Ala Asp
 115 120 125

Thr Glu Phe Lys Ala Asn Ala Lys His Tyr Val Gln Gln Leu Gln Glu
 130 135 140

Ala Gln Ala Leu Gly Leu Lys Ala Lys Pro Thr Val Val Gly Pro Leu
 145 150 155 160

Thr Phe Leu Trp Val Gly Lys Glu Lys Gly Ala Val Glu Phe Asp Arg
 165 170 175

Leu Ser Leu Leu Pro Lys Leu Leu Pro Val Tyr Val Glu Ile Leu Thr
 180 185 190

Ala Leu Val Glu Ala Gly Ala Glu Trp Ile Gln Ile Asp Glu Pro Ala
 195 200 205

Leu Thr Val Asp Leu Pro Lys Glu Trp Val Glu Ala Tyr Lys Asp Val
 210 215 220

Tyr Ala Thr Leu Ser Lys Val Ser Ala Lys Ile Leu Leu Ser Thr Tyr
 225 230 235 240

Phe Gly Ser Val Ala Glu His Ala Ala Leu Leu Lys Ser Leu Pro Val
 245 250 255

Asp Gly Leu His Ile Asp Leu Val Arg Ala Pro Glu Gln Leu Asp Ala
 260 265 270

Phe Ala Asp Tyr Asp Lys Val Leu Ser Ala Gly Val Ile Asp Gly Arg
 275 280 285

Asn Ile Trp Arg Ala Asn Leu Asn Lys Val Leu Glu Thr Val Glu Leu
 290 295 300

Leu Gln Ala Lys Leu Gly Asp Arg Leu Trp Ile Ser Ser Ser Cys Ser
 305 310 315 320

Leu Leu His Thr Pro Phe Asp Leu Ser Val Glu Glu Lys Leu Lys Ala
 325 330 335

Asn Lys Pro Asp Leu Tyr Ser Trp Leu Ala Phe Thr Leu Gln Lys Thr
 340 345 350

Gln Glu Leu Arg Val Leu Lys Ala Ala Leu Asn Glu Gly Arg Asp Ser
 355 360 365
 Val Ala Glu Glu Leu Ala Ala Ser Gln Ala Ala Ala Asp Ser Arg Ala
 370 375 380
 Asn Ser Ser Glu Ile His Arg Ala Asp Val Ala Lys Arg Leu Ala Asp
 385 390 395 400
 Leu Pro Ala Asn Ala Asp Gln Arg Lys Ser Pro Phe Ala Asp Arg Ile
 405 410 415
 Lys Ala Gln Gln Ala Trp Leu Asn Leu Pro Leu Leu Pro Thr Thr Asn
 420 425 430
 Ile Gly Ser Phe Pro Gln Thr Thr Glu Ile Arg Gln Ala Arg Ala Ala
 435 440 445
 Phe Lys Lys Gly Glu Leu Ser Ala Ala Asp Tyr Glu Ala Ala Met Lys
 450 455 460
 Lys Glu Ile Ala Leu Val Val Glu Glu Gln Glu Lys Leu Asp Leu Asp
 465 470 475 480
 Val Leu Val His Gly Glu Ala Glu Arg Asn Asp Met Val Glu Tyr Phe
 485 490 495
 Gly Glu Leu Leu Ser Gly Phe Ala Phe Thr Gln Tyr Gly Trp Val Gln
 500 505 510
 Ser Tyr Gly Ser Arg Cys Val Lys Pro Pro Ile Ile Phe Gly Asp Val
 515 520 525
 Ser Arg Pro Glu Ala Met Thr Val Ala Trp Ser Thr Tyr Ala Gln Ser
 530 535 540
 Leu Thr Lys Arg Pro Met Lys Gly Met Leu Thr Gly Pro Val Thr Ile
 545 550 555 560
 Leu Gln Trp Ser Phe Val Arg Asn Asp Ile Pro Arg Ser Thr Val Cys
 565 570 575
 Lys Gln Ile Ala Leu Ala Leu Asn Asp Glu Val Leu Asp Leu Glu Lys
 580 585 590
 Ala Gly Ile Lys Val Ile Gln Ile Asp Glu Pro Ala Ile Arg Glu Gly
 595 600 605

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Leu Pro Leu Lys Arg Ala Asp Trp Asp Ala Tyr Leu Asn Trp Ala Gly
 610                      615                      620

Glu Ser Phe Arg Leu Ser Ser Thr Gly Cys Glu Asp Ser Thr Gln Ile
 625                      630                      635                      640

His Thr His Met Cys Tyr Ser Glu Phe Asn Asp Ile Leu Pro Ala Ile
                      645                      650                      655

Ala Ala Met Asp Ala Asp Val Ile Thr Ile Glu Thr Ser Arg Ser Asp
                      660                      665                      670

Met Glu Leu Leu Thr Ala Phe Gly Glu Phe Lys Tyr Pro Asn Asp Ile
                      675                      680                      685

Gly Pro Gly Val Tyr Asp Ile His Ser Pro Arg Val Pro Thr Glu Ala
 690                      695                      700

Glu Val Glu His Leu Leu Arg Lys Ala Ile Glu Val Val Pro Val Glu
 705                      710                      715                      720

Arg Leu Trp Val Asn Pro Asp Cys Gly Leu Lys Thr Arg Gly Trp Lys
                      725                      730                      735

Glu Thr Leu Glu Gln Leu Gln Val Met Met Asn Val Thr His Lys Leu
                      740                      745                      750

Arg Ala Glu Leu Ala Lys
                      755

```

<210> 179

<211> 867

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(867)

<400> 179

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atg aaa ccc ata cgg aaa gcc gtc ttc ccc gtc gca ggg atg gga aca   48
Met Lys Pro Ile Arg Lys Ala Val Phe Pro Val Ala Gly Met Gly Thr
  1                      5                      10                      15

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cgc ttc ctg ccc gcc acc aag gca agc ccg aaa gaa atg ctg ccc atc   96
Arg Phe Leu Pro Ala Thr Lys Ala Ser Pro Lys Glu Met Leu Pro Ile

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20	25	30	
gtc gac aag ccg ctg atc caa tac gcc gta gaa gaa gcc gtg gaa gcc	144		
Val Asp Lys Pro Leu Ile Gln Tyr Ala Val Glu Glu Ala Val Clu Ala			
35	40	45	
ggc tgc acg gaa atg gtg ttt gtt acc gga cgc aac aaa cgc agc atc	192		
Gly Cys Thr Glu Met Val Phe Val Thr Gly Arg Asn Lys Arg Ser Ile			
50	55	60	
gaa gac cat ttc gac aag gca tac gaa ctc gaa acc gag ttg gaa atg	240		
Glu Asp His Phe Asp Lys Ala Tyr Glu Leu Glu Thr Glu Leu Glu Met			
65	70	75	80
cgc cat aaa gac aaa ttg ttg gaa cac gtc cgc aac atc ctg ccg ccg	288		
Arg His Lys Asp Lys Leu Leu Glu His Val Arg Asn Ile Leu Pro Pro			
85	90	95	
aac att acc tgc ctc tac atc cgt cag gcg gaa gca ctg ggc ttg gga	336		
Asn Ile Thr Cys Leu Tyr Ile Arg Gln Ala Glu Ala Leu Gly Leu Gly			
100	105	110	
cac gcc gtc ttg tgc gcc cgc gcc gcc atc ggc gac gaa ccc ttt gcc	384		
His Ala Val Leu Cys Ala Arg Ala Ala Ile Gly Asp Glu Pro Phe Ala			
115	120	125	
gtg att ttg gct gac gat tta atc gat gcc caa aaa ggc gcg ctc aaa	432		
Val Ile Leu Ala Asp Asp Leu Ile Asp Ala Gln Lys Gly Ala Leu Lys			
130	135	140	
caa atg gtc gaa gtg tac gaa cgc agc ggc aac agc att ttg ggc gta	480		
Gln Met Val Glu Val Tyr Glu Arg Ser Gly Asn Ser Ile Leu Gly Val			
145	150	155	160
gaa act gtc gaa ccg tcg caa acc ggc tca tac ggc atc gtc gaa acc	528		
Glu Thr Val Glu Pro Ser Gln Thr Gly Ser Tyr Gly Ile Val Glu Thr			
165	170	175	
gaa cag ctc aaa cag ttc caa cgc att acc ggc att gtc gaa aaa ccc	576		
Glu Gln Leu Lys Gln Phe Gln Arg Ile Thr Gly Ile Val Glu Lys Pro			
180	185	190	
aag ccc gaa gac gcg ccc tcc aac ctt gcc gtc gtc gga cgc tac atc	624		
Lys Pro Glu Asp Ala Pro Ser Asn Leu Ala Val Val Gly Arg Tyr Ile			
195	200	205	
ctt acc ccg cgc att ttc gac tta ctg acc gga ctg ccg cgc ggc gcg	672		
Leu Thr Pro Arg Ile Phe Asp Leu Leu Thr Gly Leu Pro Arg Gly Ala			

210	215	220	
ggc aac gaa atc cag ctt aca gac ggc atc gcc aag ctg ctc gat cac			720
Gly Asn Glu Ile Gln Leu Thr Asp Gly Ile Ala Lys Leu Leu Asp His			
225	230	235	240
gaa ttt gtc cta gcg cac ccc ttt gaa ggc acg cgc tac gac tgc ggc			768
Glu Phe Val Leu Ala His Pro Phe Glu Gly Thr Arg Tyr Asp Cys Gly			
245	250	255	
agc aaa ctg ggc tat ctg gaa gcc acc gtc gcc tac ggc ctg aaa cac			816
Ser Lys Leu Gly Tyr Leu Glu Ala Thr Val Ala Tyr Gly Leu Lys His			
260	265	270	
ccc gaa acc ggc gaa ccc ttc cgc cgc ctt ttg gaa aaa tac cgt acc			864
Pro Glu Thr Gly Glu Pro Phe Arg Arg Leu Leu Glu Lys Tyr Arg Thr			
275	280	285	
gaa			867
Glu			

<210> 180

<211> 289

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 180

Met Lys Pro Ile Arg Lys Ala Val Phe Pro Val Ala Gly Met Gly Thr			
1	5	10	15
Arg Phe Leu Pro Ala Thr Lys Ala Ser Pro Lys Glu Met Leu Pro Ile			
20	25	30	
Val Asp Lys Pro Leu Ile Gln Tyr Ala Val Glu Glu Ala Val Glu Ala			
35	40	45	
Gly Cys Thr Glu Met Val Phe Val Thr Gly Arg Asn Lys Arg Ser Ile			
50	55	60	
Glu Asp His Phe Asp Lys Ala Tyr Glu Leu Glu Thr Glu Leu Glu Met			
65	70	75	80
Arg His Lys Asp Lys Leu Leu Glu His Val Arg Asn Ile Leu Pro Pro			
85	90	95	
Asn Ile Thr Cys Leu Tyr Ile Arg Gln Ala Glu Ala Leu Gly Leu Gly			
100	105	110	

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His Ala Val Leu Cys Ala Arg Ala Ala Ile Gly Asp Glu Pro Phe Ala
      115                      120                      125

Val Ile Leu Ala Asp Asp Leu Ile Asp Ala Gln Lys Gly Ala Leu Lys
      130                      135                      140

Gln Met Val Glu Val Tyr Glu Arg Ser Gly Asn Ser Ile Leu Gly Val
      145                      150                      155                      160

Glu Thr Val Glu Pro Ser Gln Thr Gly Ser Tyr Gly Ile Val Glu Thr
      165                      170                      175

Glu Gln Leu Lys Gln Phe Gln Arg Ile Thr Gly Ile Val Glu Lys Pro
      180                      185                      190

Lys Pro Glu Asp Ala Pro Ser Asn Leu Ala Val Val Gly Arg Tyr Ile
      195                      200                      205

Leu Thr Pro Arg Ile Phe Asp Leu Leu Thr Gly Leu Pro Arg Gly Ala
      210                      215                      220

Gly Asn Glu Ile Gln Leu Thr Asp Gly Ile Ala Lys Leu Leu Asp His
      225                      230                      235                      240

Glu Phe Val Leu Ala His Pro Phe Glu Gly Thr Arg Tyr Asp Cys Gly
      245                      250                      255

Ser Lys Leu Gly Tyr Leu Glu Ala Thr Val Ala Tyr Gly Leu Lys His
      260                      265                      270

Pro Glu Thr Gly Glu Pro Phe Arg Arg Leu Leu Glu Lys Tyr Arg Thr
      275                      280                      285

Glu

```

<210> 181

<211> 603

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(603)

<400> 181

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atg aca ata atg aat atc aat act tcc gaa aat aaa gat gct gtt gcc 48
Met Thr Ile Met Asn Ile Asn Thr Ser Glu Asn Lys Asp Ala Val Ala
1 5 10 15

gaa cac acc gga caa tgg ttg gaa aaa gcc gtc atc ggt ctg aac ctg 96
Glu His Thr Gly Gln Trp Leu Glu Lys Ala Val Ile Gly Leu Asn Leu
20 25 30

tgt ccc ttt gcc aaa gcc ccc cac gtt aaa aac ctt gtc cgc atc gca 144
Cys Pro Phe Ala Lys Ala Pro His Val Lys Asn Leu Val Arg Ile Ala
35 40 45

atc agc gaa gcc aaa cac ctt gac agt ttt ttg gaa gac ttg gac gaa 192
Ile Ser Glu Ala Lys His Leu Asp Ser Phe Leu Glu Asp Leu Asp Glu
50 55 60

gaa ctg cag cga ctg ggc aat aca ccc gcc acc gaa ctg gaa act acc 240
Glu Leu Gln Arg Leu Gly Asn Thr Pro Ala Thr Glu Leu Glu Thr Thr
65 70 75 80

ctg ctg gtt cac ccg acc cta ttc ccc gat ttc gac gta ttc aac gat 288
Leu Leu Val His Pro Thr Leu Phe Pro Asp Phe Asp Val Phe Asn Asp
85 90 95

atg ctc gac att gcc gat gcc gcc gtt gtc gaa aac ggc ttg gaa ggc 336
Met Leu Asp Ile Ala Asp Ala Ala Val Val Glu Asn Gly Leu Glu Gly
100 105 110

atc atc caa atc gcc ccg ttt cat ccc gat ttc caa ttt gaa ggc acg 384
Ile Ile Gln Ile Ala Pro Phe His Pro Asp Phe Gln Phe Glu Gly Thr
115 120 125

gat tca gac gac atc ggc aac tac acc aac cgt tct ccc tat ccg acg 432
Asp Ser Asp Asp Ile Gly Asn Tyr Thr Asn Arg Ser Pro Tyr Pro Thr
130 135 140

ctg cac ctc atc cgc gaa gac agc att gcc aaa gcc gca caa gcc ttt 480
Leu His Leu Ile Arg Glu Asp Ser Ile Ala Lys Ala Ala Gln Ala Phe
145 150 155 160

ccc gac gct tcg gca ata ttc gaa cgc aat atc gcc ctg ctg gaa aaa 528
Pro Asp Ala Ser Ala Ile Phe Glu Arg Asn Ile Ala Leu Leu Glu Lys
165 170 175

atg gga cat gag ggc tgg gca aaa ctc ggt atc aca tcc tgc cct tat 576
Met Gly His Glu Gly Trp Ala Lys Leu Gly Ile Thr Ser Cys Pro Tyr
180 185 190

```

ccg cac .aat aag aaa aat att tca aaa
 Pro His Asn Lys Lys Asn Ile Ser Lys
 195 200

603

<210> 182

<211> 201

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 182

Met Thr Ile Met Asn Ile Asn Thr Ser Glu Asn Lys Asp Ala Val Ala
 1 5 10 15

Glu His Thr Gly Gln Trp Leu Glu Lys Ala Val Ile Gly Leu Asn Leu
 20 25 30

Cys Pro Phe Ala Lys Ala Pro His Val Lys Asn Leu Val Arg Ile Ala
 35 40 45

Ile Ser Glu Ala Lys His Leu Asp Ser Phe Leu Glu Asp Leu Asp Glu
 50 55 60

Glu Leu Gln Arg Leu Gly Asn Thr Pro Ala Thr Glu Leu Glu Thr Thr
 65 70 75 80

Leu Leu Val His Pro Thr Leu Phe Pro Asp Phe Asp Val Phe Asn Asp
 85 90 95

Met Leu Asp Ile Ala Asp Ala Ala Val Val Glu Asn Gly Leu Glu Gly
 100 105 110

Ile Ile Gln Ile Ala Pro Phe His Pro Asp Phe Gln Phe Glu Gly Thr
 115 120 125

Asp Ser Asp Asp Ile Gly Asn Tyr Thr Asn Arg Ser Pro Tyr Pro Thr
 130 135 140

Leu His Leu Ile Arg Glu Asp Ser Ile Ala Lys Ala Ala Gln Ala Phe
 145 150 155 160

Pro Asp Ala Ser Ala Ile Phe Glu Arg Asn Ile Ala Leu Leu Glu Lys
 165 170 175

Met Gly His Glu Gly Trp Ala Lys Leu Gly Ile Thr Ser Cys Pro Tyr
 180 185 190

Pro His Asn Lys Lys Asn Ile Ser Lys
195 200

<210> 183

<211> 1338

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1338)

<400> 183

ttg cac acc ctt cta gct ttt atc ttc gcc atc ctg att ttg gtc agc 48
Leu His Thr Leu Leu Ala Phe Ile Phe Ala Ile Leu Ile Leu Val Ser
1 5 10 15

ctg cac gaa ttc gga cac tac atc gtc gcc aga ttg tgc ggc gtc aag 96
Leu His Glu Phe Gly His Tyr Ile Val Ala Arg Leu Cys Gly Val Lys
20 25 30

gtt gtg cgt ttt tcc gtc ggc ttc ggc aaa ccg ttt ttc acc cga aag 144
Val Val Arg Phe Ser Val Gly Phe Gly Lys Pro Phe Phe Thr Arg Lys
35 40 45

cgc ggc gac acc gaa tgg tgc ctc gcc ccg att ccg ttg ggc ggt tac 192
Arg Gly Asp Thr Glu Trp Cys Leu Ala Pro Ile Pro Leu Gly Gly Tyr
50 55 60

gtc aaa atg gtc gac acg cgc gaa ggc gaa gta tca gaa gcc gat tta 240
Val Lys Met Val Asp Thr Arg Glu Gly Glu Val Ser Glu Ala Asp Leu
65 70 75 80

ccc tac gct ttt gac aaa caa cac ccc gcc aag cgc atc gcc atc gtc 288
Pro Tyr Ala Phe Asp Lys Gln His Pro Ala Lys Arg Ile Ala Ile Val
85 90 95

gcc gcc ggc ccg ctg acc aac ctc gca ctg gcg gtt ttg ctg tac gga 336
Ala Ala Gly Pro Leu Thr Asn Leu Ala Leu Ala Val Leu Leu Tyr Gly
100 105 110

ctg agc ttt tcc ttc ggc gtt acc gaa ctg cgc ccc tat gtc ggc aca 384
Leu Ser Phe Ser Phe Gly Val Thr Glu Leu Arg Pro Tyr Val Gly Thr
115 120 125

gtc gaa ccc gac acc att gcc gcc cgc gcc ggc ttc caa agc ggc gac 432

Val Glu Pro Asp Thr Ile Ala Ala Arg Ala Gly Phe Gln Ser Gly Asp	
130	135 140
aaa ata caa tcc gtc aac ggc aca ccc gtt gca gat tgg ggc agc gcg	480
Lys Ile Gln Ser Val Asn Gly Thr Pro Val Ala Asp Trp Gly Ser Ala	
145	150 155 160
caa acc gaa atc gtc ctc aac ctc gaa gcc ggc aaa gtc gcc gtc ggc	528
Gln Thr Glu Ile Val Leu Asn Leu Glu Ala Gly Lys Val Ala Val Gly	
	165 170 175
gtt cag acg gca tcg ggc gcg caa acc gtc cgc acc atc gat gcc gca	576
Val Gln Thr Ala Ser Gly Ala Gln Thr Val Arg Thr Ile Asp Ala Ala	
	180 185 190
ggc acg ccg gaa gcc ggt aaa atc gca aaa aac caa ggc tac atc gga	624
Gly Thr Pro Glu Ala Gly Lys Ile Ala Lys Asn Gln Gly Tyr Ile Gly	
	195 200 205
ctg atg ccc ttt aaa atc aca acc gtt gcc ggc ggc gtg gaa aaa ggc	672
Leu Met Pro Phe Lys Ile Thr Thr Val Ala Gly Gly Val Glu Lys Gly	
	210 215 220
agc ccc gcc gaa aaa gca ggc ctg aaa ccg ggc gac agg ctg act gcc	720
Ser Pro Ala Glu Lys Ala Gly Leu Lys Pro Gly Asp Arg Leu Thr Ala	
225	230 235 240
gcc gac ggc aaa ccc atc gcc tca tgg caa gaa tgg gca aac ctg acc	768
Ala Asp Gly Lys Pro Ile Ala Ser Trp Gln Glu Trp Ala Asn Leu Thr	
	245 250 255
cgc caa agc ccc ggc aaa aaa atc acc ctg acc tac gaa cgc gcc gga	816
Arg Gln Ser Pro Gly Lys Lys Ile Thr Leu Thr Tyr Glu Arg Ala Gly	
	260 265 270
caa acc cat acc gcc gac atc cgc ccc gat act gtc gaa cag ccc gac	864
Gln Thr His Thr Ala Asp Ile Arg Pro Asp Thr Val Glu Gln Pro Asp	
	275 280 285
cac acc ctg atc ggg cgc gtc ggc ctc cgt ccg cag ccg gac agg gcg	912
His Thr Leu Ile Gly Arg Val Gly Leu Arg Pro Gln Pro Asp Arg Ala	
	290 295 300
tgg gac gcg caa atc cgc cgc agc tac cgt ccg tct gtt gtc cgc gca	960
Trp Asp Ala Gln Ile Arg Arg Ser Tyr Arg Pro Ser Val Val Arg Ala	
305	310 315 320
ttc ggc atg ggc tgg gaa aaa acc gtt tcc cac tcg tgg aca acc ctc	1008

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Phe Gly Met Gly Trp Glu Lys Thr Val Ser His Ser Trp Thr Thr Leu
      325                      330                      335

aaa ttt ttc ggc aaa cta atc agc ggc aac gcc tcc gtc agc cat att 1056
Lys Phe Phe Gly Lys Leu Ile Ser Gly Asn Ala Ser Val Ser His Ile
      340                      345                      350

tcc ggt ccg ctg acc att gcc gat att gcc gga cag tcc gcc gaa ctc 1104
Ser Gly Pro Leu Thr Ile Ala Asp Ile Ala Gly Gln Ser Ala Glu Leu
      355                      360                      365

ggc ttg caa agt tat ttg gaa ttt ttg gca ctg gtc agc atc agc ctc 1152
Gly Leu Gln Ser Tyr Leu Glu Phe Leu Ala Leu Val Ser Ile Ser Leu
      370                      375                      380

ggc gtg ctg aac ctg ctg ccc gtc ccc gtt ttg gac ggc ggc cac ctc 1200
Gly Val Leu Asn Leu Leu Pro Val Pro Val Leu Asp Gly Gly His Leu
      385                      390                      395                      400

gtg ttt tat act gcc gaa tgg ata cgc ggc aaa cct ttg ggc gaa cgc 1248
Val Phe Tyr Thr Ala Glu Trp Ile Arg Gly Lys Pro Leu Gly Glu Arg
      405                      410                      415

gtc caa aac atc ggt ttg cgc ttc ggg ctt gcc ctc atg atg ctg atg 1296
Val Gln Asn Ile Gly Leu Arg Phe Gly Leu Ala Leu Met Met Leu Met
      420                      425                      430

atg gcg gtc gcc ttc ttc aac gac gtt acc cgg ctg ctc ggt 1338
Met Ala Val Ala Phe Phe Asn Asp Val Thr Arg Leu Leu Gly
      435                      440                      445

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<210> 184

<211> 446

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 184

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Leu His Thr Leu Leu Ala Phe Ile Phe Ala Ile Leu Ile Leu Val Ser
  1                      5                      10                      15

Leu His Glu Phe Gly His Tyr Ile Val Ala Arg Leu Cys Gly Val Lys
      20                      25                      30

Val Val Arg Phe Ser Val Gly Phe Gly Lys Pro Phe Phe Thr Arg Lys
      35                      40                      45

Arg Gly Asp Thr Glu Trp Cys Leu Ala Pro Ile Pro Leu Gly Gly Tyr

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50	55	60
Val Lys Met Val Asp Thr Arg Glu Gly Glu Val Ser Glu Ala Asp Leu		
65	70	75 80
Pro Tyr Ala Phe Asp Lys Gln His Pro Ala Lys Arg Ile Ala Ile Val		
	85	90 95
Ala Ala Gly Pro Leu Thr Asn Leu Ala Leu Ala Val Leu Leu Tyr Gly		
	100	105 110
Leu Ser Phe Ser Phe Gly Val Thr Glu Leu Arg Pro Tyr Val Gly Thr		
	115	120 125
Val Glu Pro Asp Thr Ile Ala Ala Arg Ala Gly Phe Gln Ser Gly Asp		
	130	135 140
Lys Ile Gln Ser Val Asn Gly Thr Pro Val Ala Asp Trp Gly Ser Ala		
145	150	155 160
Gln Thr Glu Ile Val Leu Asn Leu Glu Ala Gly Lys Val Ala Val Gly		
	165	170 175
Val Gln Thr Ala Ser Gly Ala Gln Thr Val Arg Thr Ile Asp Ala Ala		
	180	185 190
Gly Thr Pro Glu Ala Gly Lys Ile Ala Lys Asn Gln Gly Tyr Ile Gly		
	195	200 205
Leu Met Pro Phe Lys Ile Thr Thr Val Ala Gly Gly Val Glu Lys Gly		
	210	215 220
Ser Pro Ala Glu Lys Ala Gly Leu Lys Pro Gly Asp Arg Leu Thr Ala		
225	230	235 240
Ala Asp Gly Lys Pro Ile Ala Ser Trp Gln Glu Trp Ala Asn Leu Thr		
	245	250 255
Arg Gln Ser Pro Gly Lys Lys Ile Thr Leu Thr Tyr Glu Arg Ala Gly		
	260	265 270
Gln Thr His Thr Ala Asp Ile Arg Pro Asp Thr Val Glu Gln Pro Asp		
	275	280 285
His Thr Leu Ile Gly Arg Val Gly Leu Arg Pro Gln Pro Asp Arg Ala		
	290	295 300
Trp Asp Ala Gln Ile Arg Arg Ser Tyr Arg Pro Ser Val Val Arg Ala		


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305              310              315              320
Phe Gly Met Gly Trp Glu Lys Thr Val Ser His Ser Trp Thr Thr Leu
              325              330              335
Lys Phe Phe Gly Lys Leu Ile Ser Gly Asn Ala Ser Val Ser His Ile
              340              345              350
Ser Gly Pro Leu Thr Ile Ala Asp Ile Ala Gly Gln Ser Ala Glu Leu
              355              360              365
Gly Leu Gln Ser Tyr Leu Glu Phe Leu Ala Leu Val Ser Ile Ser Leu
              370              375              380
Gly Val Leu Asn Leu Leu Pro Val Pro Val Leu Asp Gly Gly His Leu
385              390              395              400
Val Phe Tyr Thr Ala Glu Trp Ile Arg Gly Lys Pro Leu Gly Glu Arg
              405              410              415
Val Gln Asn Ile Gly Leu Arg Phe Gly Leu Ala Leu Met Met Leu Met
              420              425              430
Met Ala Val Ala Phe Phe Asn Asp Val Thr Arg Leu Leu Gly
              435              440              445

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<210> 185

<211> 1476

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1476)

<400> 185

atg aaa tac aaa gac ctg cgc gac ttc atc gcc atg ctc gag cag cag 48

Met Lys Tyr Lys Asp Leu Arg Asp Phe Ile Ala Met Leu Glu Gln Gln

1

5

10

15

ggc aaa ctc aaa cgc atc gcg cac ccc gtt tcc ccg cat ttg gaa atg 96

Gly Lys Leu Lys Arg Ile Ala His Pro Val Ser Pro His Leu Glu Met

20

25

30

acc gaa atc gcc gac cgc gtg ctg cgc gcc gaa ggg ccg gcg ttg ttg 144

Thr Glu Ile Ala Asp Arg Val Leu Arg Ala Glu Gly Pro Ala Leu Leu

35	40	45	
ttt gaa cac cca gtt aag ccc gac ggt acg cgc tat gat tat ccc gtg			192
Phe Glu His Pro Val Lys Pro Asp Gly Thr Arg Tyr Asp Tyr Pro Val			
50	55	60	
ttg gca aac ctg ttc ggc acg ccc gaa cgt gtg gcg atg ggc atg ggc			240
Leu Ala Asn Leu Phe Gly Thr Pro Glu Arg Val Ala Met Gly Met Gly			
65	70	75	80
gcg gac agc gtg tcc aag ctg cgc gaa atc ggg cag acg ctg gcg tat			288
Ala Asp Ser Val Ser Lys Leu Arg Glu Ile Gly Gln Thr Leu Ala Tyr			
85	90	95	
ttg aaa gaa ccc gaa ccg ccc aaa ggc att aaa gac gcg ttt tcc aaa			336
Leu Lys Glu Pro Glu Pro Pro Lys Gly Ile Lys Asp Ala Phe Ser Lys			
100	105	110	
ctg ccg ctc ttg aaa gac att tgg agc atg gcg ccg aac gtg gtg aaa			384
Leu Pro Leu Leu Lys Asp Ile Trp Ser Met Ala Pro Asn Val Val Lys			
115	120	125	
aat gcg ccg tgt cag gaa atc gta tgg gaa ggc gaa gac gtt gat ttg			432
Asn Ala Pro Cys Gln Glu Ile Val Trp Glu Gly Glu Asp Val Asp Leu			
130	135	140	
tat caa ctt ccg att cag cat tgc tgg ccg gaa gac gtt gcg ccg ctg			480
Tyr Gln Leu Pro Ile Gln His Cys Trp Pro Glu Asp Val Ala Pro Leu			
145	150	155	160
gta acg tgg ggc ttg acc gtc acg cgc ggg ccg cac aaa aaa cgc caa			528
Val Thr Trp Gly Leu Thr Val Thr Arg Gly Pro His Lys Lys Arg Gln			
165	170	175	
aat ctc ggc att tac cgc caa caa tta atc ggc ata aac aag ctg att			576
Asn Leu Gly Ile Tyr Arg Gln Gln Leu Ile Gly Ile Asn Lys Leu Ile			
180	185	190	
atg cgc tgg ctg tcg cat cgc ggc ggc gcg ctg gat tat cag gaa ttc			624
Met Arg Trp Leu Ser His Arg Gly Gly Ala Leu Asp Tyr Gln Glu Phe			
195	200	205	
cgc aaa ctc aat ccc gat acg ccg tat ccc gtc gcc gtc gtg ctc ggc			672
Arg Lys Leu Asn Pro Asp Thr Pro Tyr Pro Val Ala Val Val Leu Gly			
210	215	220	
tgc gac cct gcc acc att ttg ggc gcg gta acg ccc gtt ccc gat acc			720
Cys Asp Pro Ala Thr Ile Leu Gly Ala Val Thr Pro Val Pro Asp Thr			

225	230	235	240	
ttg agc gaa tac cag ttt gcc gga ctg ctg cgc ggt tgc cgg acg gaa				768
Leu Ser Glu Tyr Gln Phe Ala Gly Leu Leu Arg Gly Ser Arg Thr Glu				
245		250	255	
ctg gtg aaa tgt atc ggc aac gat ttg caa gtg cct gcc cgc gca gaa				816
Leu Val Lys Cys Ile Gly Asn Asp Leu Gln Val Pro Ala Arg Ala Glu				
260		265	270	
atc gtg ttg gaa ggc gtc atc cat cca aac gaa acc gcg ttg gaa ggt				864
Ile Val Leu Glu Gly Val Ile His Pro Asn Glu Thr Ala Leu Glu Gly				
275		280	285	
cca tac ggc gac cac acg ggc tat tac aac gag cag gac cat ttc ccc				912
Pro Tyr Gly Asp His Thr Gly Tyr Tyr Asn Glu Gln Asp His Phe Pro				
290		295	300	
gtg ttt acg gtc gaa cgc atc acc atg cgc gaa aac ccg att tac cac				960
Val Phe Thr Val Glu Arg Ile Thr Met Arg Glu Asn Pro Ile Tyr His				
305		310	315	320
tct acc tac aca ggc aaa ccg ccc gat gaa ccc gcc gtt ttg ggc gtg				1008
Ser Thr Tyr Thr Gly Lys Pro Pro Asp Glu Pro Ala Val Leu Gly Val				
325		330	335	
gcg ttg aac gaa gtg ttc gta ccg ctt ttg caa aag cag ttc ccc gaa				1056
Ala Leu Asn Glu Val Phe Val Pro Leu Leu Gln Lys Gln Phe Pro Glu				
340		345	350	
atc acc gat ttt tac ctg ccg ccc gaa ggc tgc tcc tac cgc atg gcg				1104
Ile Thr Asp Phe Tyr Leu Pro Pro Glu Gly Cys Ser Tyr Arg Met Ala				
355		360	365	
gtg gtg agc atg aaa aaa cag tac gcc gga cac gcc aag cgc gtg atg				1152
Val Val Ser Met Lys Lys Gln Tyr Ala Gly His Ala Lys Arg Val Met				
370		375	380	
atg ggc tgc tgg tgc ttc ctg cgc cag ttt atg tac acc aaa ttc atc				1200
Met Gly Cys Trp Ser Phe Leu Arg Gln Phe Met Tyr Thr Lys Phe Ile				
385		390	395	400
att gtg gtg gat gac gat gtg gat gtg cgc gac tgg aaa gaa gtc atc				1248
Ile Val Val Asp Asp Asp Val Asp Val Arg Asp Trp Lys Glu Val Ile				
405		410	415	
tgg gcg gta acc acg cgc atg gac ccc gtg cgc gat acc gtt ttg atg				1296
Trp Ala Val Thr Thr Arg Met Asp Pro Val Arg Asp Thr Val Leu Met				

420	425	430	
gaa aac acg ccc atc gac tac ctc gac ttc gcc agc ccc gtc agc gga			1344
Glu Asn Thr Pro Ile Asp Tyr Leu Asp Phe Ala Ser Pro Val Ser Gly			
435	440	445	
ctt ggc ggc aaa atg ggt ttg gat gcg acc aac aag tgg ccg ggc gaa			1392
Leu Gly Gly Lys Met Gly Leu Asp Ala Thr Asn Lys Trp Pro Gly Glu			
450	455	460	
acc gac cgc gaa tgg gga cgg gtg att aaa aaa gac cct gcg gtt acg			1440
Thr Asp Arg Glu Trp Gly Arg Val Ile Lys Lys Asp Pro Ala Val Thr			
465	470	475	480
gct aag att gat gag att tgg gag gaa ttg ggg ttg			1476
Ala Lys Ile Asp Glu Ile Trp Glu Glu Leu Gly Leu			
485	490		

<210> 186

<211> 492

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 186

Met Lys Tyr Lys Asp Leu Arg Asp Phe Ile Ala Met Leu Glu Gln Gln			
1	5	10	15
Gly Lys Leu Lys Arg Ile Ala His Pro Val Ser Pro His Leu Glu Met			
20	25	30	
Thr Glu Ile Ala Asp Arg Val Leu Arg Ala Glu Gly Pro Ala Leu Leu			
35	40	45	
Phe Glu His Pro Val Lys Pro Asp Gly Thr Arg Tyr Asp Tyr Pro Val			
50	55	60	
Leu Ala Asn Leu Phe Gly Thr Pro Glu Arg Val Ala Met Gly Met Gly			
65	70	75	80
Ala Asp Ser Val Ser Lys Leu Arg Glu Ile Gly Gln Thr Leu Ala Tyr			
85	90	95	
Leu Lys Glu Pro Glu Pro Pro Lys Gly Ile Lys Asp Ala Phe Ser Lys			
100	105	110	
Leu Pro Leu Leu Lys Asp Ile Trp Ser Met Ala Pro Asn Val Val Lys			
115	120	125	

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Asn Ala Pro Cys Gln Glu Ile Val Trp Glu Gly Glu Asp Val Asp Leu
 130                      135                      140

Tyr Gln Leu Pro Ile Gln His Cys Trp Pro Glu Asp Val Ala Pro Leu
 145                      150                      155                      160

Val Thr Trp Gly Leu Thr Val Thr Arg Gly Pro His Lys Lys Arg Gln
          165                      170                      175

Asn Leu Gly Ile Tyr Arg Gln Gln Leu Ile Gly Ile Asn Lys Leu Ile
          180                      185                      190

Met Arg Trp Leu Ser His Arg Gly Gly Ala Leu Asp Tyr Gln Glu Phe
 195                      200                      205

Arg Lys Leu Asn Pro Asp Thr Pro Tyr Pro Val Ala Val Val Leu Gly
 210                      215                      220

Cys Asp Pro Ala Thr Ile Leu Gly Ala Val Thr Pro Val Pro Asp Thr
 225                      230                      235                      240

Leu Ser Glu Tyr Gln Phe Ala Gly Leu Leu Arg Gly Ser Arg Thr Glu
          245                      250                      255

Leu Val Lys Cys Ile Gly Asn Asp Leu Gln Val Pro Ala Arg Ala Glu
          260                      265                      270

Ile Val Leu Glu Gly Val Ile His Pro Asn Glu Thr Ala Leu Glu Gly
 275                      280                      285

Pro Tyr Gly Asp His Thr Gly Tyr Tyr Asn Glu Gln Asp His Phe Pro
 290                      295                      300

Val Phe Thr Val Glu Arg Ile Thr Met Arg Glu Asn Pro Ile Tyr His
 305                      310                      315                      320

Ser Thr Tyr Thr Gly Lys Pro Pro Asp Glu Pro Ala Val Leu Gly Val
          325                      330                      335

Ala Leu Asn Glu Val Phe Val Pro Leu Leu Gln Lys Gln Phe Pro Glu
          340                      345                      350

Ile Thr Asp Phe Tyr Leu Pro Pro Glu Gly Cys Ser Tyr Arg Met Ala
          355                      360                      365

Val Val Ser Met Lys Lys Gln Tyr Ala Gly His Ala Lys Arg Val Met
 370                      375                      380

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Met Gly Cys Trp Ser Phe Leu Arg Gln Phe Met Tyr Thr Lys Phe Ile
385                      390                      395                      400

Ile Val Val Asp Asp Asp Val Asp Val Arg Asp Trp Lys Glu Val Ile
                      405                      410                      415

Trp Ala Val Thr Thr Arg Met Asp Pro Val Arg Asp Thr Val Leu Met
                      420                      425                      430

Glu Asn Thr Pro Ile Asp Tyr Leu Asp Phe Ala Ser Pro Val Ser Gly
                      435                      440                      445

Leu Gly Gly Lys Met Gly Leu Asp Ala Thr Asn Lys Trp Pro Gly Glu
                      450                      455                      460

Thr Asp Arg Glu Trp Gly Arg Val Ile Lys Lys Asp Pro Ala Val Thr
465                      470                      475                      480

Ala Lys Ile Asp Glu Ile Trp Glu Glu Leu Gly Leu
                      485                      490

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<210> 187

<211> 1191

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1191)

<400> 187

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atg ttc ttc aag cac atc gaa gcc gcc ccc gcc gat ccg att ctc ggt   48
Met Phe Phe Lys His Ile Glu Ala Ala Pro Ala Asp Pro Ile Leu Gly
  1              5              10              15

ttg ggc gaa gca ttc aaa gcc gaa acc cgc ccc gaa aaa gtc aac ctc   96
Leu Gly Glu Ala Phe Lys Ala Glu Thr Arg Pro Glu Lys Val Asn Leu
                20              25              30

ggc atc ggc gtg tac aaa gac gca tcc ggc gcg aca cct att gtc aaa   144
Gly Ile Gly Val Tyr Lys Asp Ala Ser Gly Ala Thr Pro Ile Val Lys
                35              40              45

gcc gtc aaa gaa gcc gaa aaa cgc ctg ttg gaa agc gaa aca act aaa   192
Ala Val Lys Glu Ala Glu Lys Arg Leu Leu Glu Ser Glu Thr Thr Lys

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50	55	60	
aac tac ctc acc atc gac ggc gtt gcc gac tac aac gag caa acc caa			240
Asn Tyr Leu Thr Ile Asp Gly Val Ala Asp Tyr Asn Glu Gln Thr Gln			
65	70	75	80
att ctg ctg ttc ggc aaa gac cac gaa atc atc gcc agc cgt cgc gcc			288
Ile Leu Leu Phe Gly Lys Asp His Glu Ile Ile Ala Ser Arg Arg Ala			
85	90	95	
aaa aca gcg caa agc ctt ggc ggt aca ggc gca ttg cgt att gcg gcc			336
Lys Thr Ala Gln Ser Leu Gly Gly Thr Gly Ala Leu Arg Ile Ala Ala			
100	105	110	
gag ttt gcc aaa cgt cag ttg aac gcg caa acc atc tgg att tcc aat			384
Glu Phe Ala Lys Arg Gln Leu Asn Ala Gln Thr Ile Trp Ile Ser Asn			
115	120	125	
ccg act tgg ccc aac cac aac gcc atc gcc aaa gcg gtc ggt atc caa			432
Pro Thr Trp Pro Asn His Asn Ala Ile Ala Lys Ala Val Gly Ile Gln			
130	135	140	
gac caa cct tat cgc tac tat gat gcc gcc aaa cac ggt ttg gat tgg			480
Asp Gln Pro Tyr Arg Tyr Tyr Asp Ala Ala Lys His Gly Leu Asp Trp			
145	150	155	160
gac ggt atg att gaa gac ttg agc caa gcg caa aaa ggc gac atc gtc			528
Asp Gly Met Ile Glu Asp Leu Ser Gln Ala Gln Lys Gly Asp Ile Val			
165	170	175	
ctg ctg cac ggc tgc tgc cac aac cct acc ggt atc gac cct acg ccc			576
Leu Leu His Gly Cys Cys His Asn Pro Thr Gly Ile Asp Pro Thr Pro			
180	185	190	
gaa caa tgg gaa act ctg gca aaa ctt tct gcc gaa aaa ggc tgg tta			624
Glu Gln Trp Glu Thr Leu Ala Lys Leu Ser Ala Glu Lys Gly Trp Leu			
195	200	205	
ccg ctg ttt gac ttt gcc tac caa ggc ttc ggc aat ggt ttg gaa gaa			672
Pro Leu Phe Asp Phe Ala Tyr Gln Gly Phe Gly Asn Gly Leu Glu Glu			
210	215	220	
gat gcc tac ggc ctg cgc gtg ttc ttg aaa cac aat aca gaa ttg ctg			720
Asp Ala Tyr Gly Leu Arg Val Phe Leu Lys His Asn Thr Glu Leu Leu			
225	230	235	240
att gcc agc tct tat tcc aaa aac ttc ggt atg tac aac gag cgc gtc			768
Ile Ala Ser Ser Tyr Ser Lys Asn Phe Gly Met Tyr Asn Glu Arg Val			

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                245                250                255
ggc gcg ttc act ttg gtg gcc gaa gat gaa gca acc gcc gcc cgc gcc 816
Gly Ala Phe Thr Leu Val Ala Glu Asp Glu Ala Thr Ala Ala Arg Ala
                260                265                270

cac agc caa gtc aaa acc att atc cgt acc ttg tat tcc aac cct gct 864
His Ser Gln Val Lys Thr Ile Ile Arg Thr Leu Tyr Ser Asn Pro Ala
                275                280                285

tca cac ggc gcg aac act att gcg ctg gtg ttg aaa aat gat gat ttg 912
Ser His Gly Ala Asn Thr Ile Ala Leu Val Leu Lys Asn Asp Asp Leu
                290                295                300

aaa gca caa tgg att gcc gaa ctc gat gaa atg cgc gcc cgt atc aaa 960
Lys Ala Gln Trp Ile Ala Glu Leu Asp Glu Met Arg Gly Arg Ile Lys
305                310                315                320

gcc atg cgc caa aaa ttt gtc gag ttg ctc aaa gcc aaa ggt gca act 1008
Ala Met Arg Gln Lys Phe Val Glu Leu Leu Lys Ala Lys Gly Ala Thr
                325                330                335

caa gac ttt gat ttc att atc gaa caa aac ggc atg ttc tcc ttc agc 1056
Gln Asp Phe Asp Phe Ile Ile Glu Gln Asn Gly Met Phe Ser Phe Ser
                340                345                350

ggc ttg act ccc gaa caa gtc gac cgt tta aaa aac gag ttt gcc att 1104
Gly Leu Thr Pro Glu Gln Val Asp Arg Leu Lys Asn Glu Phe Ala Ile
                355                360                365

tat gcc gtc cgc tcc ggc cgc atc aac gtc gcc ggc att acc gac gac 1152
Tyr Ala Val Arg Ser Gly Arg Ile Asn Val Ala Gly Ile Thr Asp Asp
                370                375                380

aac atc gat tat ctg tgc gaa agt atc gta aaa gta ctg 1191
Asn Ile Asp Tyr Leu Cys Glu Ser Ile Val Lys Val Leu
385                390                395

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<210> 188

<211> 397

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 188

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Met Phe Phe Lys His Ile Glu Ala Ala Pro Ala Asp Pro Ile Leu Gly
  1              5              10              15

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Leu Gly Glu Ala Phe Lys Ala Glu Thr Arg Pro Glu Lys Val Asn Leu
      20              25              30

Gly Ile Gly Val Tyr Lys Asp Ala Ser Gly Ala Thr Pro Ile Val Lys
      35              40              45

Ala Val Lys Glu Ala Glu Lys Arg Leu Leu Glu Ser Glu Thr Thr Lys
      50              55              60

Asn Tyr Leu Thr Ile Asp Gly Val Ala Asp Tyr Asn Glu Gln Thr Gln
      65              70              75              80

Ile Leu Leu Phe Gly Lys Asp His Glu Ile Ile Ala Ser Arg Arg Ala
      85              90              95

Lys Thr Ala Gln Ser Leu Gly Gly Thr Gly Ala Leu Arg Ile Ala Ala
      100             105             110

Glu Phe Ala Lys Arg Gln Leu Asn Ala Gln Thr Ile Trp Ile Ser Asn
      115             120             125

Pro Thr Trp Pro Asn His Asn Ala Ile Ala Lys Ala Val Gly Ile Gln
      130             135             140

Asp Gln Pro Tyr Arg Tyr Tyr Asp Ala Ala Lys His Gly Leu Asp Trp
      145             150             155             160

Asp Gly Met Ile Glu Asp Leu Ser Gln Ala Gln Lys Gly Asp Ile Val
      165             170             175

Leu Leu His Gly Cys Cys His Asn Pro Thr Gly Ile Asp Pro Thr Pro
      180             185             190

Glu Gln Trp Glu Thr Leu Ala Lys Leu Ser Ala Glu Lys Gly Trp Leu
      195             200             205

Pro Leu Phe Asp Phe Ala Tyr Gln Gly Phe Gly Asn Gly Leu Glu Glu
      210             215             220

Asp Ala Tyr Gly Leu Arg Val Phe Leu Lys His Asn Thr Glu Leu Leu
      225             230             235             240

Ile Ala Ser Ser Tyr Ser Lys Asn Phe Gly Met Tyr Asn Glu Arg Val
      245             250             255

Gly Ala Phe Thr Leu Val Ala Glu Asp Glu Ala Thr Ala Ala Arg Ala
      260             265             270

```

His Ser Gln Val Lys Thr Ile Ile Arg Thr Leu Tyr Ser Asn Pro Ala
275 280 285

Ser His Gly Ala Asn Thr Ile Ala Leu Val Leu Lys Asn Asp Asp Leu
290 295 300

Lys Ala Gln Trp Ile Ala Glu Leu Asp Glu Met Arg Gly Arg Ile Lys
305 310 315 320

Ala Met Arg Gln Lys Phe Val Glu Leu Leu Lys Ala Lys Gly Ala Thr
325 330 335

Gln Asp Phe Asp Phe Ile Ile Glu Gln Asn Gly Met Phe Ser Phe Ser
340 345 350

Gly Leu Thr Pro Glu Gln Val Asp Arg Leu Lys Asn Glu Phe Ala Ile
355 360 365

Tyr Ala Val Arg Ser Gly Arg Ile Asn Val Ala Gly Ile Thr Asp Asp
370 375 380

Asn Ile Asp Tyr Leu Cys Glu Ser Ile Val Lys Val Leu
385 390 395

<210> 189

<211> 462

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(462)

<400> 189

ttg ctt tgc ccg gaa aaa atg tcg ggg atg gcg gga cag tat ccg tac 48
Leu Leu Cys Pro Glu Lys Met Ser Gly Met Ala Gly Gln Tyr Pro Tyr
1 5 10 15

ggc gtc cgg tcg ggt ttg cgg agg aac ggc ttg aaa ctt tgg gat att 96
Gly Val Arg Ser Gly Leu Arg Arg Asn Gly Leu Lys Leu Trp Asp Ile
20 25 30

cat ttt aga atg acc cgt ttt atc gtc gca aga tgc ggt tta ttg ttt 144
His Phe Arg Met Thr Arg Phe Ile Val Ala Arg Cys Gly Leu Leu Phe
35 40 45

```

gca acc ctt aaa gga aaa acc atg aag aaa atg ttc gtg ctg ttc tgt 192
Ala Thr Leu Lys Gly Lys Thr Met Lys Lys Met Phe Val Leu Phe Cys
    50                55                60

atg ctg ttc tcc tgc gcc ttc tcc ctt gcg gcg gta aac atc aat gcg 240
Met Leu Phe Ser Cys Ala Phe Ser Leu Ala Ala Val Asn Ile Asn Ala
    65                70                75                80

gct tcg cag cag gag ctg gag gcg ctg ccg ggc ata ggc cct gcg aag 288
Ala Ser Gln Gln Glu Leu Glu Ala Leu Pro Gly Ile Gly Pro Ala Lys
                85                90                95

gcg aag gcc att gcg gaa tac cgt gcg caa aac ggt gcg ttc aag tct 336
Ala Lys Ala Ile Ala Glu Tyr Arg Ala Gln Asn Gly Ala Phe Lys Ser
        100                105                110

gta gac gat ttg acc aag gta aag ggc atc ggc cct gcg gtg ctg gcg 384
Val Asp Asp Leu Thr Lys Val Lys Gly Ile Gly Pro Ala Val Leu Ala
        115                120                125

aag ctg aag gat cag gct tct gtc ggt gcg ccc gca cca aaa ggc ccg 432
Lys Leu Lys Asp Gln Ala Ser Val Gly Ala Pro Ala Pro Lys Gly Pro
        130                135                140

gca aaa ccg gct ctg ccc gca gct aaa aaa 462
Ala Lys Pro Ala Leu Pro Ala Ala Lys Lys
145                150

```

<210> 190

<211> 154

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 190

```

Leu Leu Cys Pro Glu Lys Met Ser Gly Met Ala Gly Gln Tyr Pro Tyr
    1                5                10                15

Gly Val Arg Ser Gly Leu Arg Arg Asn Gly Leu Lys Leu Trp Asp Ile
        20                25                30

His Phe Arg Met Thr Arg Phe Ile Val Ala Arg Cys Gly Leu Leu Phe
        35                40                45

Ala Thr Leu Lys Gly Lys Thr Met Lys Lys Met Phe Val Leu Phe Cys
        50                55                60

Met Leu Phe Ser Cys Ala Phe Ser Leu Ala Ala Val Asn Ile Asn Ala

```

```

65              70              75              80
Ala Ser Gln Gln Glu Leu Glu Ala Leu Pro Gly Ile Gly Pro Ala Lys
              85              90              95
Ala Lys Ala Ile Ala Glu Tyr Arg Ala Gln Asn Gly Ala Phe Lys Ser
              100             105             110
Val Asp Asp Leu Thr Lys Val Lys Gly Ile Gly Pro Ala Val Leu Ala
              115             120             125
Lys Leu Lys Asp Gln Ala Ser Val Gly Ala Pro Ala Pro Lys Gly Pro
              130             135             140
Ala Lys Pro Ala Leu Pro Ala Ala Lys Lys
145              150

```

<210> 191

<211> 684

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(684)

<400> 191

```

atg ttt gct ttt tta gaa gcc ttt ttt gtc gaa tac ggt tat gcg gct 48
Met Phe Ala Phe Leu Glu Ala Phe Phe Val Glu Tyr Gly Tyr Ala Ala
  1              5              10              15

```

```

gtt ttt ttt gta ttg gtc atc tgc ggt ttc ggc gtg ccg att ccc gag 96
Val Phe Phe Val Leu Val Ile Cys Gly Phe Gly Val Pro Ile Pro Glu
      20              25              30

```

```

gat ttg acc ttg gta aca ggc ggc gtg att tcg ggt atg ggt tat acc 144
Asp Leu Thr Leu Val Thr Gly Gly Val Ile Ser Gly Met Gly Tyr Thr
      35              40              45

```

```

aat ccg cat att atg ttt gca gtc ggt atg ctc ggc gta ttg gtc ggg 192
Asn Pro His Ile Met Phe Ala Val Gly Met Leu Gly Val Leu Val Gly
      50              55              60

```

```

gac ggc atc atg ttc gcc gcc gga cga att tgg ggg cag aaa atc cta 240
Asp Gly Ile Met Phe Ala Ala Gly Arg Ile Trp Gly Gln Lys Ile Leu
      65              70              75              80

```

```

agg ttc aaa cct att gcg cgc atc atg acg ccg aaa cgt tat gag cag 288
Arg Phe Lys Pro Ile Ala Arg Ile Met Thr Pro Lys Arg Tyr Glu Gln
      85                      90                      95

```

```

gtt cag gaa aaa ttc gac aaa tac ggt aac tgg gtc tta ttt gtc gcc 336
Val Gln Glu Lys Phe Asp Lys Tyr Gly Asn Trp Val Leu Phe Val Ala
      100                      105                      110

```

```

cgt ttc ctg ccc ggt ttg aga acg gcc gta ttt gtt aca gcc ggt atc 384
Arg Phe Leu Pro Gly Leu Arg Thr Ala Val Phe Val Thr Ala Gly Ile
      115                      120                      125

```

```

agc cgc aag gtt tca tac ttg cgt ttt atc att atg gat gga ctg gcc 432
Ser Arg Lys Val Ser Tyr Leu Arg Phe Ile Ile Met Asp Gly Leu Ala
      130                      135                      140

```

```

gca ctg att tcc gtc cct att tgg att tat ctg gcc gaa tac ggt gcg- 480
Ala Leu Ile Ser Val Pro Ile Trp Ile Tyr Leu Gly Glu Tyr Gly Ala
      145                      150                      155                      160

```

```

cac aac atc gat tgg ctg atg gcg aaa atg cac agc ctg caa tcg ggt 528
His Asn Ile Asp Trp Leu Met Ala Lys Met His Ser Leu Gln Ser Gly
      165                      170                      175

```

```

att ttt gtt atc ttg ggt ata ggt gcg acc gtt gtc gct tgg att tgg 576
Ile Phe Val Ile Leu Gly Ile Gly Ala Thr Val Val Ala Trp Ile Trp
      180                      185                      190

```

```

tgg aaa aaa cgc caa cgt atc cag ttt tac cgc agc aaa ttg aaa gaa 624
Trp Lys Lys Arg Gln Arg Ile Gln Phe Tyr Arg Ser Lys Leu Lys Glu
      195                      200                      205

```

```

aag cgg gcg caa cgc aaa gcc gcc aag gca gcc aaa aaa gcc gcg caa 672
Lys Arg Ala Gln Arg Lys Ala Ala Lys Ala Ala Lys Lys Ala Ala Gln
      210                      215                      220

```

```

agc aaa caa taa 684
Ser Lys Gln
225

```

<210> 192

<211> 227

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 192

Met Phe Ala Phe Leu Glu Ala Phe Phe Val Glu Tyr Gly Tyr Ala Ala
 1 5 10 15
 Val Phe Phe Val Leu Val Ile Cys Gly Phe Gly Val Pro Ile Pro Glu
 20 25 30
 Asp Leu Thr Leu Val Thr Gly Gly Val Ile Ser Gly Met Gly Tyr Thr
 35 40 45
 Asn Pro His Ile Met Phe Ala Val Gly Met Leu Gly Val Leu Val Gly
 50 55 60
 Asp Gly Ile Met Phe Ala Ala Gly Arg Ile Trp Gly Gln Lys Ile Leu
 65 70 75 80
 Arg Phe Lys Pro Ile Ala Arg Ile Met Thr Pro Lys Arg Tyr Glu Gln
 85 90 95
 Val Gln Glu Lys Phe Asp Lys Tyr Gly Asn Trp Val Leu Phe Val Ala
 100 105 110
 Arg Phe Leu Pro Gly Leu Arg Thr Ala Val Phe Val Thr Ala Gly Ile
 115 120 125
 Ser Arg Lys Val Ser Tyr Leu Arg Phe Ile Ile Met Asp Gly Leu Ala
 130 135 140
 Ala Leu Ile Ser Val Pro Ile Trp Ile Tyr Leu Gly Glu Tyr Gly Ala
 145 150 155 160
 His Asn Ile Asp Trp Leu Met Ala Lys Met His Ser Leu Gln Ser Gly
 165 170 175
 Ile Phe Val Ile Leu Gly Ile Gly Ala Thr Val Val Ala Trp Ile Trp
 180 185 190
 Trp Lys Lys Arg Gln Arg Ile Gln Phe Tyr Arg Ser Lys Leu Lys Glu
 195 200 205
 Lys Arg Ala Gln Arg Lys Ala Ala Lys Ala Ala Lys Lys Ala Ala Gln
 210 215 220
 Ser Lys Gln
 225

<210> 193

<211> 1089

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<220>

<221> CDS

<222> (1)..(1089)

<400> 193

```

atg aat gac tac acg cag cag ctt caa ggt aaa aaa gac tac ctt aaa   48
Met Asn Asp Tyr Thr Gln Gln Leu Gln Gly Lys Lys Asp Tyr Leu Lys
   1             5             10             15

acc ctt ttt gca ggt ttg gat gtt cct gag tgg gaa gtg tac gaa tct   96
Thr Leu Phe Ala Gly Leu Asp Val Pro Glu Trp Glu Val Tyr Glu Ser
          20             25             30

ccg gac aaa cat tac cgt atg cgt gcc gag ttc cgt att tgg cac gaa   144
Pro Asp Lys His Tyr Arg Met Arg Ala Glu Phe Arg Ile Trp His Glu
          35             40             45

ggc ggg gaa atg ttt tat gcc atg ttt gaa aaa ggg cag aaa gcc agc   192
Gly Gly Glu Met Phe Tyr Ala Met Phe Glu Lys Gly Gln Lys Ala Ser
          50             55             60

ggc gca agc atg ata cgc tgc gac cgt ttt gaa gca gct tcc gag gct   240
Gly Ala Ser Met Ile Arg Cys Asp Arg Phe Glu Ala Ala Ser Glu Ala
          65             70             75             80

gtc aac cgc ctc atg ccc gag ctg atc gcc gcc gcc gcg caa tcc ccc   288
Val Asn Arg Leu Met Pro Glu Leu Ile Ala Ala Ala Ala Gln Ser Pro
          85             90             95

gaa ctc aaa aaa cgc tgg tat gcc gtc gaa ttt ctg tcc acg ctc agc   336
Glu Leu Lys Lys Arg Trp Tyr Ala Val Glu Phe Leu Ser Thr Leu Ser
          100            105            110

ggg gaa atg ctg gtt acc atg att tac cac aaa agg ctt gat gct gag   384
Gly Glu Met Leu Val Thr Met Ile Tyr His Lys Arg Leu Asp Ala Glu
          115            120            125

tgg atg cag gcg gcg caa gcg tta cag caa cag ttg gat att tcc gtt   432
Trp Met Gln Ala Ala Gln Ala Leu Gln Gln Gln Leu Asp Ile Ser Val
          130            135            140

att ggg cgg agc agg gga cag aaa ata gtc tta aaa cag gac tat gta   480
Ile Gly Arg Ser Arg Gly Gln Lys Ile Val Leu Lys Gln Asp Tyr Val
          145            150            155            160

```

```

acg gaa act ttg aag gtc ggc aac cgg gat ttc cgt tat cgg caa att 528
Thr Glu Thr Leu Lys Val Gly Asn Arg Asp Phe Arg Tyr Arg Gln Ile
      165              170              175

gaa ggc agt ttt acc caa ccg aat gcc gcc gtg tgt cag aaa atg ctt 576
Glu Gly Ser Phe Thr Gln Pro Asn Ala Ala Val Cys Gln Lys Met Leu
      180              185              190

gaa tgg gcg tgc cgc acg gcg gaa ggc ttg ggc agc gac ctg ctc gaa 624
Glu Trp Ala Cys Arg Thr Ala Glu Gly Leu Gly Ser Asp Leu Leu Glu
      195              200              205

ctg tat tgc gga aac ggc aat ttc acc ctg ccg ctg tcc cga tat ttc 672
Leu Tyr Cys Gly Asn Gly Asn Phe Thr Leu Pro Leu Ser Arg Tyr Phe
      210              215              220

cga cag gtt ttg gca acc gaa atc tcc aaa acc tcc gtc agc gcg gcg 720
Arg Gln Val Leu Ala Thr Glu Ile Ser Lys Thr Ser Val Ser Ala Ala
225              230              235              240

caa tgg aat atc gaa gcc aac cgc atc ggc aac atc aaa atc gcc cgt 768
Gln Trp Asn Ile Glu Ala Asn Arg Ile Gly Asn Ile Lys Ile Ala Arg
      245              250              255

ctg tct gct gaa gaa ttt acc gaa gcc tat acc gga aaa cgt gag ttt 816
Leu Ser Ala Glu Glu Phe Thr Glu Ala Tyr Thr Gly Lys Arg Glu Phe
      260              265              270

aaa cgc ctt aag gat ggc ggt att gct ttg acg gat tac gca ttt tcc 864
Lys Arg Leu Lys Asp Gly Gly Ile Ala Leu Thr Asp Tyr Ala Phe Ser
      275              280              285

act att ttc gtc gat ccg ccg cgt gcc ggt atc gat gag gaa act ttg 912
Thr Ile Phe Val Asp Pro Pro Arg Ala Gly Ile Asp Glu Glu Thr Leu
      290              295              300

aag ctg gtg tcg cag ttt gac aac atc atc tac att tcc tgc aat ccc 960
Lys Leu Val Ser Gln Phe Asp Asn Ile Ile Tyr Ile Ser Cys Asn Pro
305              310              315              320

gaa acg ttg cgc gcc aat ttg gac acc ttg gcg gaa acc cat gcg gtc 1008
Glu Thr Leu Arg Ala Asn Leu Asp Thr Leu Ala Glu Thr His Ala Val
      325              330              335

gaa cgt gcc gcc ctg ttc gac caa ttc ccg ttt acg cac cat atc gaa 1056
Glu Arg Ala Ala Leu Phe Asp Gln Phe Pro Phe Thr His His Ile Glu
      340              345              350

```


agt ggt gta ttg ttg aaa aag aaa atc ctt tga 1089
 Ser Gly Val Leu Leu Lys Lys Lys Ile Leu
 355 360

<210> 194

<211> 362

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 194

Met Asn Asp Tyr Thr Gln Gln Leu Gln Gly Lys Lys Asp Tyr Leu Lys
 1 5 10 15

Thr Leu Phe Ala Gly Leu Asp Val Pro Glu Trp Glu Val Tyr Glu Ser
 20 25 30

Pro Asp Lys His Tyr Arg Met Arg Ala Glu Phe Arg Ile Trp His Glu
 35 40 45

Gly Gly Glu Met Phe Tyr Ala Met Phe Glu Lys Gly Gln Lys Ala Ser
 50 55 60

Gly Ala Ser Met Ile Arg Cys Asp Arg Phe Glu Ala Ala Ser Glu Ala
 65 70 75 80

Val Asn Arg Leu Met Pro Glu Leu Ile Ala Ala Ala Ala Gln Ser Pro
 85 90 95

Glu Leu Lys Lys Arg Trp Tyr Ala Val Glu Phe Leu Ser Thr Leu Ser
 100 105 110

Gly Glu Met Leu Val Thr Met Ile Tyr His Lys Arg Leu Asp Ala Glu
 115 120 125

Trp Met Gln Ala Ala Gln Ala Leu Gln Gln Gln Leu Asp Ile Ser Val
 130 135 140

Ile Gly Arg Ser Arg Gly Gln Lys Ile Val Leu Lys Gln Asp Tyr Val
 145 150 155 160

Thr Glu Thr Leu Lys Val Gly Asn Arg Asp Phe Arg Tyr Arg Gln Ile
 165 170 175

Glu Gly Ser Phe Thr Gln Pro Asn Ala Ala Val Cys Gln Lys Met Leu
 180 185 190

```

Glu Trp Ala Cys Arg Thr Ala Glu Gly Leu Gly Ser Asp Leu Leu Glu
    195                200                205

Leu Tyr Cys Gly Asn Gly Asn Phe Thr Leu Pro Leu Ser Arg Tyr Phe
    210                215                220

Arg Gln Val Leu Ala Thr Glu Ile Ser Lys Thr Ser Val Ser Ala Ala
    225                230                235                240

Gln Trp Asn Ile Glu Ala Asn Arg Ile Gly Asn Ile Lys Ile Ala Arg
    245                250                255

Leu Ser Ala Glu Glu Phe Thr Glu Ala Tyr Thr Gly Lys Arg Glu Phe
    260                265                270

Lys Arg Leu Lys Asp Gly Gly Ile Ala Leu Thr Asp Tyr Ala Phe Ser
    275                280                285

Thr Ile Phe Val Asp Pro Pro Arg Ala Gly Ile Asp Glu Glu Thr Leu
    290                295                300

Lys Leu Val Ser Gln Phe Asp Asn Ile Ile Tyr Ile Ser Cys Asn Pro
    305                310                315                320

Glu Thr Leu Arg Ala Asn Leu Asp Thr Leu Ala Glu Thr His Ala Val
    325                330                335

Glu Arg Ala Ala Leu Phe Asp Gln Phe Pro Phe Thr His His Ile Glu
    340                345                350

Ser Gly Val Leu Leu Lys Lys Lys Ile Leu
    355                360

```

<210> 195

<211> 2145

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(2145)

<400> 195

```

atg aat acc cca ttg ttc cgt ctc agc ctg ctc tcg ctt acc ctg gcg   48
Met Asn Thr Pro Leu Phe Arg Leu Ser Leu Leu Ser Leu Thr Leu Ala
    1                5                10                15

```

```

gca ggt ttt gcc cat gcg gca gaa aat aat gcc aag gtc gta ctg gat 96
Ala Gly Phe Ala His Ala Ala Glu Asn Asn Ala Lys Val Val Leu Asp
      20              25              30

acc gtt acc gta aaa ggc gac cgc caa ggc agc aaa atc cgt acc aac 144
Thr Val Thr Val Lys Gly Asp Arg Gln Gly Ser Lys Ile Arg Thr Asn
      35              40              45

atc gtt acg ctg caa caa aaa gac gaa agc acc gca acc gat atg cgc 192
Ile Val Thr Leu Gln Gln Lys Asp Glu Ser Thr Ala Thr Asp Met Arg
      50              55              60

gaa ctc tta aaa gaa gag ccc tcc atc gat ttc ggc ggc ggc aac ggc 240
Glu Leu Leu Lys Glu Glu Pro Ser Ile Asp Phe Gly Gly Gly Asn Gly
      65              70              75              80

acg tcc caa ttc ctg acg ctg cgc ggc atg ggt caa aac tct gtc gac 288
Thr Ser Gln Phe Leu Thr Leu Arg Gly Met Gly Gln Asn Ser Val Asp
      85              90              95

atc aag gtg gac aac gcc tat tcc gac agc caa atc ctt tac cac caa 336
Ile Lys Val Asp Asn Ala Tyr Ser Asp Ser Gln Ile Leu Tyr His Gln
      100             105             110

ggc aga ttt att gtc gat ccc gct ttg gtt aaa gtc gtt tcc gta caa 384
Gly Arg Phe Ile Val Asp Pro Ala Leu Val Lys Val Val Ser Val Gln
      115             120             125

aaa ggc gcg ggt tcc gcc tct gcc ggt atc ggc gcg acc aac ggc gcg 432
Lys Gly Ala Gly Ser Ala Ser Ala Gly Ile Gly Ala Thr Asn Gly Ala
      130             135             140

atc atc acc aaa acc gtc gat gcc caa gac ctg ctc aaa ggc ttg gat 480
Ile Ile Thr Lys Thr Val Asp Ala Gln Asp Leu Leu Lys Gly Leu Asp
      145             150             155             160

aaa aac tgg ggc gtg cgc ctc aac agc ggc ttt gcc agc aac gaa ggc 528
Lys Asn Trp Gly Val Arg Leu Asn Ser Gly Phe Ala Ser Asn Glu Gly
      165             170             175

gta agc tac ggc gca agc gta ttc ggg aaa gag ggc aac ttc gac ggc 576
Val Ser Tyr Gly Ala Ser Val Phe Gly Lys Glu Gly Asn Phe Asp Gly
      180             185             190

ttg ttc tct tac aac cgc aac aat gaa aaa gat tac gaa gca ggt aaa 624
Leu Phe Ser Tyr Asn Arg Asn Asn Glu Lys Asp Tyr Glu Ala Gly Lys
      195             200             205

```

```

ggc ttc cgt aat aat ttc aac ggc ggc aaa acc gta cgc tac agc gcg 672
Gly Phe Arg Asn Asn Phe Asn Gly Gly Lys Thr Val Pro Tyr Ser Ala
210 215 220

ctg gac aaa cgc agc tac ctc gcc aaa atc gga aca agc ttc ggc gac 720
Leu Asp Lys Arg Ser Tyr Leu Ala Lys Ile Gly Thr Ser Phe Gly Asp
225 230 235 240

ggc gac cac cgc atc gta ttg agc cat atg aaa gac cag cac cgg ggc 768
Gly Asp His Arg Ile Val Leu Ser His Met Lys Asp Gln His Arg Gly
245 250 255

atc cgt acc gtc cgt gaa gaa ttt acc gtc ggc ggc gat aaa gag cga 816
Ile Arg Thr Val Arg Glu Glu Phe Thr Val Gly Gly Asp Lys Glu Arg
260 265 270

ata agt atg gaa cgc caa gcc cct gct tac cgc gaa acc aca caa tcc 864
Ile Ser Met Glu Arg Gln Ala Pro Ala Tyr Arg Glu Thr Thr Gln Ser
275 280 285

aac acc aat ttg gcg tac acg ggt aaa aac ctg ggc ttt gtc gaa aaa 912
Asn Thr Asn Leu Ala Tyr Thr Gly Lys Asn Leu Gly Phe Val Glu Lys
290 295 300

ctg gat gcc aac gcc tat gtg ttg gaa aaa gaa cgc tat tcc gcc gat 960
Leu Asp Ala Asn Ala Tyr Val Leu Glu Lys Glu Arg Tyr Ser Ala Asp
305 310 315 320

gac agc ggc acc ggt tac gca ggc aat gta aaa ggc ccc aac cat acc 1008
Asp Ser Gly Thr Gly Tyr Ala Gly Asn Val Lys Gly Pro Asn His Thr
325 330 335

caa atc acc act cgg ggt atg aac ttc aac ttc gac agc cgc ctt gcc 1056
Gln Ile Thr Thr Arg Gly Met Asn Phe Asn Phe Asp Ser Arg Leu Ala
340 345 350

gaa caa acc ctg ctg aaa tac ggt atc aac tac cgc cat cag gaa atc 1104
Glu Gln Thr Leu Leu Lys Tyr Gly Ile Asn Tyr Arg His Gln Glu Ile
355 360 365

aaa ccg caa gcg ttt ttg aat tca caa ttt aaa att gaa gat aaa gaa 1152
Lys Pro Gln Ala Phe Leu Asn Ser Gln Phe Lys Ile Glu Asp Lys Glu
370 375 380

aaa gca act gat gaa gag aaa aat aag aac cgt gaa aat gaa aaa att 1200
Lys Ala Thr Asp Glu Glu Lys Asn Lys Asn Arg Glu Asn Glu Lys Ile
385 390 395 400

```

```

gcc aaa gcc tac cgt ctg acc aac ccg acc aaa acc gat acc ggc gcg 1248
Ala Lys Ala Tyr Arg Leu Thr Asn Pro Thr Lys Thr Asp Thr Gly Ala
      405              410              415

tat atc gaa gcc att cac gag att gac ggc ttt acc ctg acc ggc ggg 1296
Tyr Ile Glu Ala Ile His Glu Ile Asp Gly Phe Thr Leu Thr Gly Gly
      420              425              430

ctg cgt tac gac cgc ttc aag gtg aaa acc cac gac ggc aaa acc gtt 1344
Leu Arg Tyr Asp Arg Phe Lys Val Lys Thr His Asp Gly Lys Thr Val
      435              440              445

tca agc aac aac ctt aac ccg agt ttc ggc gtg att tgg cag ccg cac 1392
Ser Ser Asn Asn Leu Asn Pro Ser Phe Gly Val Ile Trp Gln Pro His
      450              455              460

gaa cac tgg agc ttc agc gcg agc cac aac tac gcc agc cgc agc ccg 1440
Glu His Trp Ser Phe Ser Ala Ser His Asn Tyr Ala Ser Arg Ser Pro
      465              470              475              480

cgc ctg tat gac gcg ctg caa acc cac ggc aaa cgc ggc atc atc tcg 1488
Arg Leu Tyr Asp Ala Leu Gln Thr His Gly Lys Arg Gly Ile Ile Ser
      485              490              495

att gcc gac ggc acg aaa gcc gaa cgc gcg cgc aat acc gaa atc ggc 1536
Ile Ala Asp Gly Thr Lys Ala Glu Arg Ala Arg Asn Thr Glu Ile Gly
      500              505              510

ttc aac tac aac gac ggc acg ttt gcc gca aac ggc agc tac ttc tgg 1584
Phe Asn Tyr Asn Asp Gly Thr Phe Ala Ala Asn Gly Ser Tyr Phe Trp
      515              520              525

cag acc atc aaa gac gcg ctt gcc aat ccg caa aac cgc cac gac tct 1632
Gln Thr Ile Lys Asp Ala Leu Ala Asn Pro Gln Asn Arg His Asp Ser
      530              535              540

gtc gcc gtc cgt gaa gcc gtc aat gcc ggt tac atc aaa aac cac ggt 1680
Val Ala Val Arg Glu Ala Val Asn Ala Gly Tyr Ile Lys Asn His Gly
      545              550              555              560

tac gaa ttg ggc gcg tcc tac cgc acc ggc ggc ctg act gcc aaa gtc 1728
Tyr Glu Leu Gly Ala Ser Tyr Arg Thr Gly Gly Leu Thr Ala Lys Val
      565              570              575

ggc gta agc cac agc aaa ccg cgc ttt tac gat acg cac aaa gac aag 1776
Gly Val Ser His Ser Lys Pro Arg Phe Tyr Asp Thr His Lys Asp Lys
      580              585              590

```

```

ctg ttg agc gcg aat cct gaa ttt ggc gca caa gtc ggc cgc act tgg 1824
Leu Leu Ser Ala Asn Pro Glu Phe Gly Ala Gln Val Gly Arg Thr Trp
      595                600                605

acg gct tcc ctt gcc tac cgc ttc caa aac ccg aat ctg gaa atc ggc 1872
Thr Ala Ser Leu Ala Tyr Arg Phe Gln Asn Pro Asn Leu Glu Ile Gly
      610                615                620

tgg cgc ggc cgt tat gtt caa aaa gcc gtg ggt tcg ata ttg gtg gca 1920
Trp Arg Gly Arg Tyr Val Gln Lys Ala Val Gly Ser Ile Leu Val Ala
      625                630                635                640

ggg caa aaa gac cgc aac ggc aaa ttg gaa aac gtt gta cgc aaa ggt 1968
Gly Gln Lys Asp Arg Asn Gly Lys Leu Glu Asn Val Val Arg Lys Gly
      645                650                655

ttc ggt gtg aac gat gtc ttc gcc aac tgg aaa ccg ctg ggc aaa gac 2016
Phe Gly Val Asn Asp Val Phe Ala Asn Trp Lys Pro Leu Gly Lys Asp
      660                665                670

acg ctc aat gtt aat ctt tcg gtt aac aac gtg ttc aac acg ttc tac 2064
Thr Leu Asn Val Asn Leu Ser Val Asn Asn Val Phe Asn Thr Phe Tyr
      675                680                685

tat ccg cac agc caa cga tgg acc aat acc ctg ccg ggc gtg gga cgt 2112
Tyr Pro His Ser Gln Arg Trp Thr Asn Thr Leu Pro Gly Val Gly Arg
      690                695                700

gat gta cgc ttg ggc gtg aac tac aag ttc taa 2145
Asp Val Arg Leu Gly Val Asn Tyr Lys Phe
      705                710                715

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<210> 196

<211> 714

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 196

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Met Asn Thr Pro Leu Phe Arg Leu Ser Leu Leu Ser Leu Thr Leu Ala
  1                5                10                15

Ala Gly Phe Ala His Ala Ala Glu Asn Asn Ala Lys Val Val Leu Asp
      20                25                30

Thr Val Thr Val Lys Gly Asp Arg Gln Gly Ser Lys Ile Arg Thr Asn
      35                40                45

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Ile Val Thr Leu Gln Gln Lys Asp Glu Ser Thr Ala Thr Asp Met Arg
  50                      55                      60

Glu Leu Leu Lys Glu Glu Pro Ser Ile Asp Phe Gly Gly Gly Asn Gly
  65                      70                      75                      80

Thr Ser Gln Phe Leu Thr Leu Arg Gly Met Gly Gln Asn Ser Val Asp
                      85                      90                      95

Ile Lys Val Asp Asn Ala Tyr Ser Asp Ser Gln Ile Leu Tyr His Gln
  100                      105                      110

Gly Arg Phe Ile Val Asp Pro Ala Leu Val Lys Val Val Ser Val Gln
  115                      120                      125

Lys Gly Ala Gly Ser Ala Ser Ala Gly Ile Gly Ala Thr Asn Gly Ala
  130                      135                      140

Ile Ile Thr Lys Thr Val Asp Ala Gln Asp Leu Leu Lys Gly Leu Asp
  145                      150                      155                      160

Lys Asn Trp Gly Val Arg Leu Asn Ser Gly Phe Ala Ser Asn Glu Gly
                      165                      170                      175

Val Ser Tyr Gly Ala Ser Val Phe Gly Lys Glu Gly Asn Phe Asp Gly
                      180                      185                      190

Leu Phe Ser Tyr Asn Arg Asn Asn Glu Lys Asp Tyr Glu Ala Gly Lys
                      195                      200                      205

Gly Phe Arg Asn Asn Phe Asn Gly Gly Lys Thr Val Pro Tyr Ser Ala
  210                      215                      220

Leu Asp Lys Arg Ser Tyr Leu Ala Lys Ile Gly Thr Ser Phe Gly Asp
  225                      230                      235                      240

Gly Asp His Arg Ile Val Leu Ser His Met Lys Asp Gln His Arg Gly
                      245                      250                      255

Ile Arg Thr Val Arg Glu Glu Phe Thr Val Gly Gly Asp Lys Glu Arg
                      260                      265                      270

Ile Ser Met Glu Arg Gln Ala Pro Ala Tyr Arg Glu Thr Thr Gln Ser
                      275                      280                      285

Asn Thr Asn Leu Ala Tyr Thr Gly Lys Asn Leu Gly Phe Val Glu Lys
  290                      295                      300

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Leu Asp Ala Asn Ala Tyr Val Leu Glu Lys Glu Arg Tyr Ser Ala Asp
305                      310                      315                      320

Asp Ser Gly Thr Gly Tyr Ala Gly Asn Val Lys Gly Pro Asn His Thr
                      325                      330                      335

Gln Ile Thr Thr Arg Gly Met Asn Phe Asn Phe Asp Ser Arg Leu Ala
                      340                      345                      350

Glu Gln Thr Leu Leu Lys Tyr Gly Ile Asn Tyr Arg His Gln Glu Ile
                      355                      360                      365

Lys Pro Gln Ala Phe Leu Asn Ser Gln Phe Lys Ile Glu Asp Lys Glu
                      370                      375                      380

Lys Ala Thr Asp Glu Glu Lys Asn Lys Asn Arg Glu Asn Glu Lys Ile
385                      390                      395                      400

Ala Lys Ala Tyr Arg Leu Thr Asn Pro Thr Lys Thr Asp Thr Gly Ala
                      405                      410                      415

Tyr Ile Glu Ala Ile His Glu Ile Asp Gly Phe Thr Leu Thr Gly Gly
                      420                      425                      430

Leu Arg Tyr Asp Arg Phe Lys Val Lys Thr His Asp Gly Lys Thr Val
                      435                      440                      445

Ser Ser Asn Asn Leu Asn Pro Ser Phe Gly Val Ile Trp Gln Pro His
                      450                      455                      460

Glu His Trp Ser Phe Ser Ala Ser His Asn Tyr Ala Ser Arg Ser Pro
465                      470                      475                      480

Arg Leu Tyr Asp Ala Leu Gln Thr His Gly Lys Arg Gly Ile Ile Ser
                      485                      490                      495

Ile Ala Asp Gly Thr Lys Ala Glu Arg Ala Arg Asn Thr Glu Ile Gly
                      500                      505                      510

Phe Asn Tyr Asn Asp Gly Thr Phe Ala Ala Asn Gly Ser Tyr Phe Trp
                      515                      520                      525

Gln Thr Ile Lys Asp Ala Leu Ala Asn Pro Gln Asn Arg His Asp Ser
                      530                      535                      540

Val Ala Val Arg Glu Ala Val Asn Ala Gly Tyr Ile Lys Asn His Gly
545                      550                      555                      560

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Tyr Glu Leu Gly Ala Ser Tyr Arg Thr Gly Gly Leu Thr Ala Lys Val
 565 570 575
 Gly Val Ser His Ser Lys Pro Arg Phe Tyr Asp Thr His Lys Asp Lys
 580 585 590
 Leu Leu Ser Ala Asn Pro Glu Phe Gly Ala Gln Val Gly Arg Thr Trp
 595 600 605
 Thr Ala Ser Leu Ala Tyr Arg Phe Gln Asn Pro Asn Leu Glu Ile Gly
 610 615 620
 Trp Arg Gly Arg Tyr Val Gln Lys Ala Val Gly Ser Ile Leu Val Ala
 625 630 635 640
 Gly Gln Lys Asp Arg Asn Gly Lys Leu Glu Asn Val Val Arg Lys Gly
 645 650 655
 Phe Gly Val Asn Asp Val Phe Ala Asn Trp Lys Pro Leu Gly Lys Asp
 660 665 670
 Thr Leu Asn Val Asn Leu Ser Val Asn Asn Val Phe Asn Thr Phe Tyr
 675 680 685
 Tyr Pro His Ser Gln Arg Trp Thr Asn Thr Leu Pro Gly Val Gly Arg
 690 695 700
 Asp Val Arg Leu Gly Val Asn Tyr Lys Phe
 705 710

<210> 197

<211> 2625

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(2625)

<400> 197

atg aaa acc tcc gaa ctg cgc caa aaa ttc cta aaa ttt ttt gaa acc 48
 Met Lys Thr Ser Glu Leu Arg Gln Lys Phe Leu Lys Phe Phe Glu Thr
 1 5 10 15

aaa ggc cac acc gtc gtc cgc tct tcc agc ctc gtg ccg cac gac gac 96

Lys	Gly	His	Thr	Val	Val	Arg	Ser	Ser	Ser	Leu	Val	Pro	His	Asp	Asp	
			20					25					30			
ccg	acc	ctg	ctg	ttt	acc	aac	gcg	ggc	atg	aac	cag	ttt	aaa	gac	gta	144
Pro	Thr	Leu	Leu	Phe	Thr	Asn	Ala	Gly	Met	Asn	Gln	Phe	Lys	Asp	Val	
		35					40					45				
ttc	tta	ggt	ttc	gac	aaa	cgc	cgc	tac	agc	cgc	gcc	acc	acc	gcg	caa	192
Phe	Leu	Gly	Phe	Asp	Lys	Arg	Pro	Tyr	Ser	Arg	Ala	Thr	Thr	Ala	Gln	
		50				55					60					
aaa	tgc	gta	cgc	gca	ggc	ggc	aaa	cac	aac	gac	ttg	gaa	aac	gtc	ggc	240
Lys	Cys	Val	Arg	Ala	Gly	Gly	Lys	His	Asn	Asp	Leu	Glu	Asn	Val	Gly	
	65				70					75				80		
tac	acc	gcc	cgc	cac	cac	acc	ttc	ttt	gaa	atg	atg	ggc	aac	ttc	tcc	288
Tyr	Thr	Ala	Arg	His	His	Thr	Phe	Phe	Glu	Met	Met	Gly	Asn	Phe	Ser	
				85					90					95		
ttc	ggc	gac	tac	ttc	aaa	cgc	gac	gcc	atc	cac	ttc	gct	tggt	gaa	ttt	336
Phe	Gly	Asp	Tyr	Phe	Lys	Arg	Asp	Ala	Ile	His	Phe	Ala	Trp	Glu	Phe	
		100					105					110				
ctg	act	tcc	ccc	gaa	tggt	ctc	aac	atc	cct	aaa	gac	aaa	ctg	ttg	gcg	384
Leu	Thr	Ser	Pro	Glu	Trp	Leu	Asn	Ile	Pro	Lys	Asp	Lys	Leu	Leu	Ala	
		115					120					125				
acc	gtt	tac	gcg	gaa	gac	gac	gaa	gcc	tac	aac	atc	tggt	ttg	aac	gaa	432
Thr	Val	Tyr	Ala	Glu	Asp	Asp	Glu	Ala	Tyr	Asn	Ile	Trp	Leu	Asn	Glu	
	130					135					140					
atc	ggt	atg	cgc	tcc	gag	cgc	atc	gtc	cgc	atc	ggc	gac	aac	aaa	ggc	480
Ile	Gly	Met	Pro	Ser	Glu	Arg	Ile	Val	Arg	Ile	Gly	Asp	Asn	Lys	Gly	
	145				150					155				160		
gcg	aaa	tac	gca	tcc	gac	aac	ttc	tggt	caa	atg	ggc	gac	acc	ggc	cct	528
Ala	Lys	Tyr	Ala	Ser	Asp	Asn	Phe	Trp	Gln	Met	Gly	Asp	Thr	Gly	Pro	
				165				170						175		
tgc	ggc	ccc	tgc	tcc	gaa	att	ttc	tac	gac	cac	ggc	gaa	gaa	atc	tggt	576
Cys	Gly	Pro	Cys	Ser	Glu	Ile	Phe	Tyr	Asp	His	Gly	Glu	Glu	Ile	Trp	
		180					185					190				
ggc	ggc	att	ccc	ggc	agt	ccc	gaa	gaa	gac	ggc	gac	cgc	tggt	atc	gaa	624
Gly	Gly	Ile	Pro	Gly	Ser	Pro	Glu	Glu	Asp	Gly	Asp	Arg	Trp	Ile	Glu	
		195					200					205				
att	tggt	aac	tgc	gta	ttt	atg	cag	ttc	aac	cgc	gac	gaa	caa	ggc	aat	672

Ile Trp Asn Cys Val Phe Met Gln Phe Asn Arg Asp Glu Gln Gly Asn	
210 215 220	
atg aac ccg ctt ccc aaa cct tcc gtc gat acc ggt atg ggc ttg gaa	720
Met Asn Pro Leu Pro Lys Pro Ser Val Asp Thr Gly Met Gly Leu Glu	
225 230 235 240	
cgc ata gcc gcc gtc atg cag cat gtt cac agc aac tac gaa atc gac	768
Arg Ile Ala Ala Val Met Gln His Val His Ser Asn Tyr Glu Ile Asp	
245 250 255	
ttg ttc caa gac ctg ctc aaa gcc gtt gcc cgc gaa acc ggc gcg ccg	816
Leu Phe Gln Asp Leu Leu Lys Ala Val Ala Arg Glu Thr Gly Ala Pro	
260 265 270	
ttc aga atg gaa gaa ccc agc ctg aaa gtc atc gcc gac cac atc cgc	864
Phe Arg Met Glu Glu Pro Ser Leu Lys Val Ile Ala Asp His Ile Arg	
275 280 285	
tcc tgc tcg ttc ctg att gca gac ggc gtc ttg cct tcc aac gaa ggc	912
Ser Cys Ser Phe Leu Ile Ala Asp Gly Val Leu Pro Ser Asn Glu Gly	
290 295 300	
cgc ggc tac gta ttg cgc cgc att atc cgc cgc gcc gtg cgc cac ggt	960
Arg Gly Tyr Val Leu Arg Arg Ile Ile Arg Arg Ala Val Arg His Gly	
305 310 315 320	
tac aaa ctg ggt caa agc aaa ccg ttc ttc cac aaa ctc gtt gcc gat	1008
Tyr Lys Leu Gly Gln Ser Lys Pro Phe Phe His Lys Leu Val Ala Asp	
325 330 335	
ttg gtc aaa gag atg ggc ggt gcc tac cct gaa ttg aaa gaa aaa caa	1056
Leu Val Lys Glu Met Gly Gly Ala Tyr Pro Glu Leu Lys Glu Lys Gln	
340 345 350	
gcc caa atc gaa gaa gca ttg aaa aac gaa gaa agc cgt ttt gcc caa	1104
Ala Gln Ile Glu Glu Ala Leu Lys Asn Glu Glu Ser Arg Phe Ala Gln	
355 360 365	
acg ctg gaa acc ggt atg gct ttg ttg gaa aac gcg ctg gtc aaa ggc	1152
Thr Leu Glu Thr Gly Met Ala Leu Leu Glu Asn Ala Leu Val Lys Gly	
370 375 380	
ggc aaa aca ctc ggc ggc gaa atc atc ttc aaa ctc tac gat acc tac	1200
Gly Lys Thr Leu Gly Gly Glu Ile Ile Phe Lys Leu Tyr Asp Thr Tyr	
385 390 395 400	
ggg ttc cca tac gac ttg act gcc gac atc tgc cgc gaa cgc aat atc	1248

Gly Phe Pro Tyr Asp Leu Thr Ala Asp Ile Cys Arg Glu Arg Asn Ile	
405 410 415	
gaa ccg gac gaa gca ggc ttc gag cgc gaa atg gaa gcc caa cgc gca	1296
Glu Pro Asp Glu Ala Gly Phe Glu Arg Glu Met Glu Ala Gln Arg Ala	
420 425 430	
cgc gca cgc gcc gcc caa agc ttc aaa gcc aac gcc caa ctg cct tat	1344
Arg Ala Arg Ala Ala Gln Ser Phe Lys Ala Asn Ala Gln Leu Pro Tyr	
435 440 445	
gac ggt caa gac acc gag ttt aaa ggt tat agc gaa cgc caa acc gaa	1392
Asp Gly Gln Asp Thr Glu Phe Lys Gly Tyr Ser Glu Arg Gln Thr Glu	
450 455 460	
tcc aaa gtc ctc gcc ctc tac aaa gac ggc gag caa gtc aac gaa ttg	1440
Ser Lys Val Leu Ala Leu Tyr Lys Asp Gly Glu Gln Val Asn Glu Leu	
465 470 475 480	
aac gaa ggc gac agc ggc gca gtc gtc atc gac ttt acc ccg ttc tat	1488
Asn Glu Gly Asp Ser Gly Ala Val Val Ile Asp Phe Thr Pro Phe Tyr	
485 490 495	
gca gaa tcc ggc ggc caa gtc ggc gat gtc ggc tat atc ttc tca ggc	1536
Ala Glu Ser Gly Gly Gln Val Gly Asp Val Gly Tyr Ile Phe Ser Gly	
500 505 510	
gaa aac cgc ttt gaa gta cgc gat acc caa aaa atc aaa gcg gcc gta	1584
Glu Asn Arg Phe Glu Val Arg Asp Thr Gln Lys Ile Lys Ala Ala Val	
515 520 525	
ttc ggt caa ttc ggc gta caa act tca ggc cgt ctg aaa gtc gcc gac	1632
Phe Gly Gln Phe Gly Val Gln Thr Ser Gly Arg Leu Lys Val Gly Asp	
530 535 540	
agc gtt acc gcc aaa gtg gac gac gaa atc cgc aat gcc aat atg cgc	1680
Ser Val Thr Ala Lys Val Asp Asp Glu Ile Arg Asn Ala Asn Met Arg	
545 550 555 560	
aac cac agc gca acc cac ttg atg cac aaa gcc ctg cgc gat gta ttg	1728
Asn His Ser Ala Thr His Leu Met His Lys Ala Leu Arg Asp Val Leu	
565 570 575	
ggc aga cac gtc gaa caa aaa ggc tct ttg gtt acc gcc gaa tcc acc	1776
Gly Arg His Val Glu Gln Lys Gly Ser Leu Val Thr Ala Glu Ser Thr	
580 585 590	
cgt ttc gac att tcc cat ccc caa gcg gta act gcc gaa gaa att gcc	1824

Arg Phe Asp Ile Ser His Pro Gln Ala Val Thr Ala Glu Glu Ile-Ala	
595	600 605
gaa gta gaa cgc cgc gtc aac gaa gcc att ttg gcg aac gtt gcc gtc	1872
Glu Val Glu Arg Arg Val Asn Glu Ala Ile Leu Ala Asn Val Ala Val	
610	615 620
aat gca gcc att atg agc atg gaa gac gcg caa aaa acc ggc gcg atg	1920
Asn Ala Ala Ile Met Ser Met Glu Asp Ala Gln Lys Thr Gly Ala Met	
625	630 635 640
atg ctc ttc ggc gaa aaa tac ggc gaa gaa gtg cgc gta ctg caa atg	1968
Met Leu Phe Gly Glu Lys Tyr Gly Glu Glu Val Arg Val Leu Gln Met	
645	650 655
ggc ggt ttc tct acc gaa ttg tgc ggc ggc aca cac gtt tca cgc acc	2016
Gly Gly Phe Ser Thr Glu Leu Cys Gly Gly Thr His Val Ser Arg Thr	
660	665 670
ggc gac atc ggc ctc ttc aaa atc atc agc gaa ggc ggt att gcc gca	2064
Gly Asp Ile Gly Leu Phe Lys Ile Ile Ser Glu Gly Gly Ile Ala Ala	
675	680 685
ggc gtg cgc cgt atc gaa gcc atc acc ggc ctg aac gca ctc aaa tgg	2112
Gly Val Arg Arg Ile Glu Ala Ile Thr Gly Leu Asn Ala Leu Lys Trp	
690	695 700
gcg caa gag caa gag cgt ttg gtg aaa gac att att gcc gaa acc aaa	2160
Ala Gln Glu Gln Glu Arg Leu Val Lys Asp Ile Ile Ala Glu Thr Lys	
705	710 715 720
gcc caa acc gaa aaa gac gta ctg gca aaa atc caa gca ggc gcg gca	2208
Ala Gln Thr Glu Lys Asp Val Leu Ala Lys Ile Gln Ala Gly Ala Ala	
725	730 735
cac gcc aaa gca ttg gaa aaa gaa ttg gca cgc gcc aaa gcc gaa ctc	2256
His Ala Lys Ala Leu Glu Lys Glu Leu Ala Arg Ala Lys Ala Glu Leu	
740	745 750
gcc gtc cac gca ggc gcc aaa ctc ttg gac gat gca aaa gac ttg ggc	2304
Ala Val His Ala Gly Ala Lys Leu Leu Asp Asp Ala Lys Asp Leu Gly	
755	760 765
gca gcc aaa ctc gtt gcc gcc caa atc gaa gcc gac gca gcc gcc ctg	2352
Ala Ala Lys Leu Val Ala Ala Gln Ile Glu Ala Asp Ala Ala Ala Leu	
770	775 780
cgc gaa atc gtt acc gat tta acc ggt aaa tcc gac aac gcc gtg att	2400

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Arg Glu Ile Val Thr Asp Leu Thr Gly Lys Ser Asp Asn Ala Val Ile
785                      790                      795                      800

ctt tta gcg gca gta aac gac ggc aaa gtc tcc ctg tgc gcc ggc gta 2448
Leu Leu Ala Ala Val Asn Asp Gly Lys Val Ser Leu Cys Ala Gly Val
                      805                      810                      815

tcc aaa ccg ttg acc ggc aaa gtg aaa gca ggc gat ctg gtt aaa ttt 2496
Ser Lys Pro Leu Thr Gly Lys Val Lys Ala Gly Asp Leu Val Lys Phe
                      820                      825                      830

gca gcc gaa caa gtc ggc ggc aaa ggc ggc ggc aga cca gat ttg gcg 2544
Ala Ala Glu Gln Val Gly Gly Lys Gly Gly Gly Arg Pro Asp Leu Ala
                      835                      840                      845

caa gcc ggc ggc acg gat gcc gac aaa ttg ccc gcc gtg ttg gat agc 2592
Gln Ala Gly Gly Thr Asp Ala Asp Lys Leu Pro Ala Val Leu Asp Ser
                      850                      855                      860

gtg aaa gac tgg gtc ggc gcg aag ctg gtt tga 2625
Val Lys Asp Trp Val Gly Ala Lys Leu Val
865                      870                      875

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<210> 198

<211> 874

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 198

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Met Lys Thr Ser Glu Leu Arg Gln Lys Phe Leu Lys Phe Phe Glu Thr
  1                      5                      10                      15

Lys Gly His Thr Val Val Arg Ser Ser Ser Leu Val Pro His Asp Asp
                20                      25                      30

Pro Thr Leu Leu Phe Thr Asn Ala Gly Met Asn Gln Phe Lys Asp Val
    35                      40                      45

Phe Leu Gly Phe Asp Lys Arg Pro Tyr Ser Arg Ala Thr Thr Ala Gln
    50                      55                      60

Lys Cys Val Arg Ala Gly Gly Lys His Asn Asp Leu Glu Asn Val Gly
    65                      70                      75                      80

Tyr Thr Ala Arg His His Thr Phe Phe Glu Met Met Gly Asn Phe Ser
                85                      90                      95

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Phe Gly Asp Tyr Phe Lys Arg Asp Ala Ile His Phe Ala Trp Glu Phe
100 105 110

Leu Thr Ser Pro Glu Trp Leu Asn Ile Pro Lys Asp Lys Leu Leu Ala
115 120 125

Thr Val Tyr Ala Glu Asp Asp Glu Ala Tyr Asn Ile Trp Leu Asn Glu
130 135 140

Ile Gly Met Pro Ser Glu Arg Ile Val Arg Ile Gly Asp Asn Lys Gly
145 150 155 160

Ala Lys Tyr Ala Ser Asp Asn Phe Trp Gln Met Gly Asp Thr Gly Pro
165 170 175

Cys Gly Pro Cys Ser Glu Ile Phe Tyr Asp His Gly Glu Glu Ile Trp
180 185 190

Gly Gly Ile Pro Gly Ser Pro Glu Glu Asp Gly Asp Arg Trp Ile Glu
195 200 205

Ile Trp Asn Cys Val Phe Met Gln Phe Asn Arg Asp Glu Gln Gly Asn
210 215 220

Met Asn Pro Leu Pro Lys Pro Ser Val Asp Thr Gly Met Gly Leu Glu
225 230 235 240

Arg Ile Ala Ala Val Met Gln His Val His Ser Asn Tyr Glu Ile Asp
245 250 255

Leu Phe Gln Asp Leu Leu Lys Ala Val Ala Arg Glu Thr Gly Ala Pro
260 265 270

Phe Arg Met Glu Glu Pro Ser Leu Lys Val Ile Ala Asp His Ile Arg
275 280 285

Ser Cys Ser Phe Leu Ile Ala Asp Gly Val Leu Pro Ser Asn Glu Gly
290 295 300

Arg Gly Tyr Val Leu Arg Arg Ile Ile Arg Arg Ala Val Arg His Gly
305 310 315 320

Tyr Lys Leu Gly Gln Ser Lys Pro Phe Phe His Lys Leu Val Ala Asp
325 330 335

Leu Val Lys Glu Met Gly Gly Ala Tyr Pro Glu Leu Lys Glu Lys Gln
340 345 350

Ala Gln Ile Glu Glu Ala Leu Lys Asn Glu Glu Ser Arg Phe Ala Gln
 355 360 365
 Thr Leu Glu Thr Gly Met Ala Leu Leu Glu Asn Ala Leu Val Lys Gly
 370 375 380
 Gly Lys Thr Leu Gly Gly Glu Ile Ile Phe Lys Leu Tyr Asp Thr Tyr
 385 390 395 400
 Gly Phe Pro Tyr Asp Leu Thr Ala Asp Ile Cys Arg Glu Arg Asn Ile
 405 410 415
 Glu Pro Asp Glu Ala Gly Phe Glu Arg Glu Met Glu Ala Gln Arg Ala
 420 425 430
 Arg Ala Arg Ala Ala Gln Ser Phe Lys Ala Asn Ala Gln Leu Pro Tyr
 435 440 445
 Asp Gly Gln Asp Thr Glu Phe Lys Gly Tyr Ser Glu Arg Gln Thr Glu
 450 455 460
 Ser Lys Val Leu Ala Leu Tyr Lys Asp Gly Glu Gln Val Asn Glu Leu
 465 470 475 480
 Asn Glu Gly Asp Ser Gly Ala Val Val Ile Asp Phe Thr Pro Phe Tyr
 485 490 495
 Ala Glu Ser Gly Gly Gln Val Gly Asp Val Gly Tyr Ile Phe Ser Gly
 500 505 510
 Glu Asn Arg Phe Glu Val Arg Asp Thr Gln Lys Ile Lys Ala Ala Val
 515 520 525
 Phe Gly Gln Phe Gly Val Gln Thr Ser Gly Arg Leu Lys Val Gly Asp
 530 535 540
 Ser Val Thr Ala Lys Val Asp Asp Glu Ile Arg Asn Ala Asn Met Arg
 545 550 555 560
 Asn His Ser Ala Thr His Leu Met His Lys Ala Leu Arg Asp Val Leu
 565 570 575
 Gly Arg His Val Glu Gln Lys Gly Ser Leu Val Thr Ala Glu Ser Thr
 580 585 590
 Arg Phe Asp Ile Ser His Pro Gln Ala Val Thr Ala Glu Glu Ile Ala
 595 600 605

Glu Val Glu Arg Arg Val Asn Glu Ala Ile Leu Ala Asn Val Ala Val
 610 615 620
 Asn Ala Ala Ile Met Ser Met Glu Asp Ala Gln Lys Thr Gly Ala Met
 625 630 635 640
 Met Leu Phe Gly Glu Lys Tyr Gly Glu Glu Val Arg Val Leu Gln Met
 645 650 655
 Gly Gly Phe Ser Thr Glu Leu Cys Gly Gly Thr His Val Ser Arg Thr
 660 665 670
 Gly Asp Ile Gly Leu Phe Lys Ile Ile Ser Glu Gly Gly Ile Ala Ala
 675 680 685
 Gly Val Arg Arg Ile Glu Ala Ile Thr Gly Leu Asn Ala Leu Lys Trp
 690 695 700
 Ala Gln Glu Gln Glu Arg Leu Val Lys Asp Ile Ile Ala Glu Thr Lys
 705 710 715 720
 Ala Gln Thr Glu Lys Asp Val Leu Ala Lys Ile Gln Ala Gly Ala Ala
 725 730 735
 His Ala Lys Ala Leu Glu Lys Glu Leu Ala Arg Ala Lys Ala Glu Leu
 740 745 750
 Ala Val His Ala Gly Ala Lys Leu Leu Asp Asp Ala Lys Asp Leu Gly
 755 760 765
 Ala Ala Lys Leu Val Ala Ala Gln Ile Glu Ala Asp Ala Ala Ala Leu
 770 775 780
 Arg Glu Ile Val Thr Asp Leu Thr Gly Lys Ser Asp Asn Ala Val Ile
 785 790 795 800
 Leu Leu Ala Ala Val Asn Asp Gly Lys Val Ser Leu Cys Ala Gly Val
 805 810 815
 Ser Lys Pro Leu Thr Gly Lys Val Lys Ala Gly Asp Leu Val Lys Phe
 820 825 830
 Ala Ala Glu Gln Val Gly Gly Lys Gly Gly Gly Arg Pro Asp Leu Ala
 835 840 845
 Gln Ala Gly Gly Thr Asp Ala Asp Lys Leu Pro Ala Val Leu Asp Ser
 850 855 860

Val Lys Asp Trp Val Gly Ala Lys Leu Val
865 870

<210> 199

<211> 207

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(207)

<400> 199

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gtg caa aga ggc cgt ctg aaa ggt ctc gtt tgc cgt agg ttg ggt cgc   48
Val Gln Arg Gly Arg Leu Lys Gly Leu Val Cys Arg Arg Leu Gly Arg
   1             5             10             15

gac cca aca aat ttt gtg aag tat aaa aat gtt ggt cat gac cca acc   96
Asp Pro Thr Asn Phe Val Lys Tyr Lys Asn Val Gly His Asp Pro Thr
          20             25             30

tac ctg cct ttt tgt aca aag agg cta tct gaa agg cct tgt ttg ccg   144
Tyr Leu Pro Phe Cys Thr Lys Arg Leu Ser Glu Arg Pro Cys Leu Pro
          35             40             45

tat ggt ggg tcg cga ccc agc aga ttt tta tta ggg tat gac cca agc   192
Tyr Gly Gly Ser Arg Pro Ser Arg Phe Leu Leu Gly Tyr Asp Pro Ser
          50             55             60

tac ttg cta cga taa                                           207
Tyr Leu Leu Arg
   65

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<210> 200

<211> 68

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 200

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Val Gln Arg Gly Arg Leu Lys Gly Leu Val Cys Arg Arg Leu Gly Arg
   1             5             10             15

Asp Pro Thr Asn Phe Val Lys Tyr Lys Asn Val Gly His Asp Pro Thr
          20             25             30

```

Tyr Leu Pro Phe Cys Thr Lys Arg Leu Ser Glu Arg Pro Cys Leu Pro
 35 40 45

Tyr Gly Gly Ser Arg Pro Ser Arg Phe Leu Leu Gly Tyr Asp Pro Ser
 50 55 60

Tyr Leu Leu Arg
 65

<210> 201

<211> 2277

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(2277)

<400> 201

atg gca caa act aca ctc aaa ccc att gtt tta tca att ctt tta atc 48
 Met Ala Gln Thr Thr Leu Lys Pro Ile Val Leu Ser Ile Leu Leu Ile
 1 5 10 15

aac aca ccc ctc ctc gcc caa gcg cat gaa act gag caa tcg gtg gat 96
 Asn Thr Pro Leu Leu Ala Gln Ala His Glu Thr Glu Gln Ser Val Asp
 20 25 30

ttg gaa acg gtc agc gtc gtc ggc aaa agc cgt ccg cgc gcc acg tcg 144
 Leu Glu Thr Val Ser Val Val Gly Lys Ser Arg Pro Arg Ala Thr Ser
 35 40 45

ggg ctg ttg cac act tcg acc gcc tcc gac aaa atc atc tcc ggc gat 192
 Gly Leu Leu His Thr Ser Thr Ala Ser Asp Lys Ile Ile Ser Gly Asp
 50 55 60

acc ttg cgc caa aaa gcc gtc aac ttg ggc gac gct tta gac ggc gta 240
 Thr Leu Arg Gln Lys Ala Val Asn Leu Gly Asp Ala Leu Asp Gly Val
 65 70 75 80

ccg ggc atc cac gct tcg caa tac ggc ggc ggc gcg tct gct ccc gtc 288
 Pro Gly Ile His Ala Ser Gln Tyr Gly Gly Gly Ala Ser Ala Pro Val
 85 90 95

att cgc ggt caa aca ggc agg cgg att aaa gtg ttg aac cat cac ggc 336
 Ile Arg Gly Gln Thr Gly Arg Arg Ile Lys Val Leu Asn His His Gly
 100 105 110

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gaa aca ggc gat atg gcg gat ttt tcg ccc gat cac gcc att atg gta 384
Glu Thr Gly Asp Met Ala Asp Phe Ser Pro Asp His Ala Ile Met Val
      115              120              125

gat acc gcc ttg tcg caa cag gtc gaa atc ctg cgc ggg ccg gtt acg 432
Asp Thr Ala Leu Ser Gln Gln Val Glu Ile Leu Arg Gly Pro Val Thr
      130              135              140

ctc ttg tac agc tcg ggc aat gtg gcg ggg ctg gtc gat gtt gcc gat 480
Leu Leu Tyr Ser Ser Gly Asn Val Ala Gly Leu Val Asp Val Ala Asp
      145              150              155              160

ggc aaa atc ccc gaa aaa atg cct gaa aac ggc gta tcg ggc gaa ctc 528
Gly Lys Ile Pro Glu Lys Met Pro Glu Asn Gly Val Ser Gly Glu Leu
      165              170              175

gga ttg cgt ttg agc agc ggc aat ctg gaa aaa ctc acg tcc ggc ggc 576
Gly Leu Arg Leu Ser Ser Gly Asn Leu Glu Lys Leu Thr Ser Gly Gly
      180              185              190

atc aat atc ggt ttg ggc aaa aac ttt gta ttg cac acg gaa ggg ctg 624
Ile Asn Ile Gly Leu Gly Lys Asn Phe Val Leu His Thr Glu Gly Leu
      195              200              205

tac cgc aaa tcg ggg gat tac gcc gta ccg cgt tac cgc aat ctg aaa 672
Tyr Arg Lys Ser Gly Asp Tyr Ala Val Pro Arg Tyr Arg Asn Leu Lys
      210              215              220

cgc ctg ccc gac agc cac gcc gat tcg caa acg ggc agc atc ggg ctg 720
Arg Leu Pro Asp Ser His Ala Asp Ser Gln Thr Gly Ser Ile Gly Leu
      225              230              235              240

tct tgg gtt ggc gaa aaa ggt ttt atc ggc gta gcg tac agc gac cgt 768
Ser Trp Val Gly Glu Lys Gly Phe Ile Gly Val Ala Tyr Ser Asp Arg
      245              250              255

cgc gac caa tat ggt ctg cct gcc cac agc cac gaa tac gat gat tgc 816
Arg Asp Gln Tyr Gly Leu Pro Ala His Ser His Glu Tyr Asp Asp Cys
      260              265              270

cac gcc gac atc atc tgg caa aag agc ttg att aac aaa cgc tat tta 864
His Ala Asp Ile Ile Trp Gln Lys Ser Leu Ile Asn Lys Arg Tyr Leu
      275              280              285

cag ctt tat ccg cac ctg ttg acc gaa gaa gac atc gat tac gac aat 912
Gln Leu Tyr Pro His Leu Leu Thr Glu Glu Asp Ile Asp Tyr Asp Asn
      290              295              300

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409

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cca caa cac aaa ctc agc ctg acc gcc tcc cat cag gaa cgc ctg ccg 1536
Pro Gln His Lys Leu Ser Leu Thr Ala Ser His Gln Glu Arg Leu Pro
          500                505                510

tca acg caa gag ctg tac gca cac ggc aaa cac gtc gcc acc aac acc 1584
Ser Thr Gln Glu Leu Tyr Ala His Gly Lys His Val Ala Thr Asn Thr
          515                520                525

ttt gaa gtc ggc aac aaa cac ctc aac aaa gag cgt tcc aac aat atc 1632
Phe Glu Val Gly Asn Lys His Leu Asn Lys Glu Arg Ser Asn Asn Ile
          530                535                540

gaa ctc gcg ctg ggc tac gaa ggc gac cgc tgg caa tac aat ctg gca 1680
Glu Leu Ala Leu Gly Tyr Glu Gly Asp Arg Trp Gln Tyr Asn Leu Ala
          545                550                555                560

ctc tac cgc aac cgc ttc ggt aac tac att tac gcc caa acc tta aac 1728
Leu Tyr Arg Asn Arg Phe Gly Asn Tyr Ile Tyr Ala Gln Thr Leu Asn
          565                570                575

gac gga cgc ggc ccc aaa tcc atc gaa gac gac agc gaa atg aag ctc 1776
Asp Gly Arg Gly Pro Lys Ser Ile Glu Asp Asp Ser Glu Met Lys Leu
          580                585                590

gtg cgc tac aac caa tcc ggc gcc gac ttc tac ggc gcg gaa ggc gaa 1824
Val Arg Tyr Asn Gln Ser Gly Ala Asp Phe Tyr Gly Ala Glu Gly Glu
          595                600                605

atc tac ttc aaa ccg aca ccg cgc tac cgc atc ggc gtt tcc ggc gac 1872
Ile Tyr Phe Lys Pro Thr Pro Arg Tyr Arg Ile Gly Val Ser Gly Asp
          610                615                620

tat gta cga ggc cgt ctg aaa aac ctg cct tcc cta ccc ggc aga gaa 1920
Tyr Val Arg Gly Arg Leu Lys Asn Leu Pro Ser Leu Pro Gly Arg Glu
          625                630                635                640

gat gcc tac ggc aac cgt cct ttc atc gca cag gac gac caa aat gcc 1968
Asp Ala Tyr Gly Asn Arg Pro Phe Ile Ala Gln Asp Asp Gln Asn Ala
          645                650                655

ccc cgt gtt ccg gct gcg cgc ctc ggc ttc cac ctg aaa gcc tcg ctg 2016
Pro Arg Val Pro Ala Ala Arg Leu Gly Phe His Leu Lys Ala Ser Leu
          660                665                670

acc gac cgt atc gat gcc aat ttg gac tac tac cgc gtg ttc gcc caa 2064
Thr Asp Arg Ile Asp Ala Asn Leu Asp Tyr Tyr Arg Val Phe Ala Gln
          675                680                685

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aac aaa ctc gcc cgc tac gaa acg cgc acg ccc gga cac cat atg ctc 2112
 Asn Lys Leu Ala Arg Tyr Glu Thr Arg Thr Pro Gly His His Met Leu
 690 695 700

aac ctc ggc gca aac tac cgc cgc aat acg cgc tat ggc gag tgg aat 2160
 Asn Leu Gly Ala Asn Tyr Arg Arg Asn Thr Arg Tyr Gly Glu Trp Asn
 705 710 715 720

tgg tac gtc aaa gcc gac aac ctg ctc aac caa tcc gtt tac gcc cac 2208
 Trp Tyr Val Lys Ala Asp Asn Leu Leu Asn Gln Ser Val Tyr Ala His
 725 730 735

agc agc ttt ctc tct gat acg ccg caa atg ggc cgc agc ttt acc ggc 2256
 Ser Ser Phe Leu Ser Asp Thr Pro Gln Met Gly Arg Ser Phe Thr Gly
 740 745 750

ggc gtg aac gtg aag ttt taa 2277
 Gly Val Asn Val Lys Phe
 755

<210> 202

<211> 758

<212> .PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 202

Met Ala Gln Thr Thr Leu Lys Pro Ile Val Leu Ser Ile Leu Leu Ile
 1 5 10 15

Asn Thr Pro Leu Leu Ala Gln Ala His Glu Thr Glu Gln Ser Val Asp
 20 25 30

Leu Glu Thr Val Ser Val Val Gly Lys Ser Arg Pro Arg Ala Thr Ser
 35 40 45

Gly Leu Leu His Thr Ser Thr Ala Ser Asp Lys Ile Ile Ser Gly Asp
 50 55 60

Thr Leu Arg Gln Lys Ala Val Asn Leu Gly Asp Ala Leu Asp Gly Val
 65 70 75 80

Pro Gly Ile His Ala Ser Gln Tyr Gly Gly Gly Ala Ser Ala Pro Val
 85 90 95

Ile Arg Gly Gln Thr Gly Arg Arg Ile Lys Val Leu Asn His His Gly
 100 105 110

Glu Thr Gly Asp Met Ala Asp Phe Ser Pro Asp His Ala Ile Met Val
 115 120 125

Asp Thr Ala Leu Ser Gln Gln Val Glu Ile Leu Arg Gly Pro Val Thr
 130 135 140

Leu Leu Tyr Ser Ser Gly Asn Val Ala Gly Leu Val Asp Val Ala Asp
 145 150 155 160

Gly Lys Ile Pro Glu Lys Met Pro Glu Asn Gly Val Ser Gly Glu Leu
 165 170 175

Gly Leu Arg Leu Ser Ser Gly Asn Leu Glu Lys Leu Thr Ser Gly Gly
 180 185 190

Ile Asn Ile Gly Leu Gly Lys Asn Phe Val Leu His Thr Glu Gly Leu
 195 200 205

Tyr Arg Lys Ser Gly Asp Tyr Ala Val Pro Arg Tyr Arg Asn Leu Lys
 210 215 220

Arg Leu Pro Asp Ser His Ala Asp Ser Gln Thr Gly Ser Ile Gly Leu
 225 230 235 240

Ser Trp Val Gly Glu Lys Gly Phe Ile Gly Val Ala Tyr Ser Asp Arg
 245 250 255

Arg Asp Gln Tyr Gly Leu Pro Ala His Ser His Glu Tyr Asp Asp Cys
 260 265 270

His Ala Asp Ile Ile Trp Gln Lys Ser Leu Ile Asn Lys Arg Tyr Leu
 275 280 285

Gln Leu Tyr Pro His Leu Leu Thr Glu Glu Asp Ile Asp Tyr Asp Asn
 290 295 300

Pro Gly Leu Ser Cys Gly Phe His Asp Asp Asp Asn Ala His Ala His
 305 310 315 320

Thr His Ser Gly Arg Pro Trp Ile Asp Leu Arg Asn Lys Arg Tyr Glu
 325 330 335

Leu Arg Ala Glu Trp Lys Gln Pro Phe Pro Gly Phe Glu Ala Leu Arg
 340 345 350

Val His Leu Asn Arg Asn Asp Tyr Arg His Asp Glu Lys Ala Gly Asp
 355 360 365

Ala Val Glu Asn Phe Phe Asn Asn Gln Thr Gln Asn Ala Arg Ile Glu
 370 375 380

Leu Arg His Gln Pro Ile Gly Arg Leu Lys Gly Ser Trp Gly Val Gln
 385 390 395 400

Tyr Leu Gln Gln Lys Ser Ser Ala Leu Ser Ala Ile Ser Glu Ala Val
 405 410 415

Lys Gln Pro Met Leu Leu Asp Asn Lys Val Gln His Tyr Ser Phe Phe
 420 425 430

Gly Val Glu Gln Ala Asn Trp Asp Asn Phe Thr Leu Glu Gly Gly Val
 435 440 445

Arg Val Glu Lys Gln Lys Ala Ser Ile Gln Tyr Asp Lys Ala Leu Ile
 450 455 460

Asp Arg Glu Asn Tyr Tyr Asn His Pro Leu Pro Asp Leu Gly Ala His
 465 470 475 480

Arg Gln Thr Ala Arg Ser Phe Ala Leu Ser Gly Asn Trp Tyr Phe Thr
 485 490 495

Pro Gln His Lys Leu Ser Leu Thr Ala Ser His Gln Glu Arg Leu Pro
 500 505 510

Ser Thr Gln Glu Leu Tyr Ala His Gly Lys His Val Ala Thr Asn Thr
 515 520 525

Phe Glu Val Gly Asn Lys His Leu Asn Lys Glu Arg Ser Asn Asn Ile
 530 535 540

Glu Leu Ala Leu Gly Tyr Glu Gly Asp Arg Trp Gln Tyr Asn Leu Ala
 545 550 555 560

Leu Tyr Arg Asn Arg Phe Gly Asn Tyr Ile Tyr Ala Gln Thr Leu Asn
 565 570 575

Asp Gly Arg Gly Pro Lys Ser Ile Glu Asp Asp Ser Glu Met Lys Leu
 580 585 590

Val Arg Tyr Asn Gln Ser Gly Ala Asp Phe Tyr Gly Ala Glu Gly Glu
 595 600 605

Ile Tyr Phe Lys Pro Thr Pro Arg Tyr Arg Ile Gly Val Ser Gly Asp
 610 615 620

Tyr Val Arg Gly Arg Leu Lys Asn Leu Pro Ser Leu Pro Gly Arg Glu
625 630 635 640

Asp Ala Tyr Gly Asn Arg Pro Phe Ile Ala Gln Asp Asp Gln Asn Ala
645 650 655

Pro Arg Val Pro Ala Ala Arg Leu Gly Phe His Leu Lys Ala Ser Leu
660 665 670

Thr Asp Arg Ile Asp Ala Asn Leu Asp Tyr Tyr Arg Val Phe Ala Gln
675 680 685

Asn Lys Leu Ala Arg Tyr Glu Thr Arg Thr Pro Gly His His Met Leu
690 695 700

Asn Leu Gly Ala Asn Tyr Arg Arg Asn Thr Arg Tyr Gly Glu Trp Asn
705 710 715 720

Trp Tyr Val Lys Ala Asp Asn Leu Leu Asn Gln Ser Val Tyr Ala His
725 730 735

Ser Ser Phe Leu Ser Asp Thr Pro Gln Met Gly Arg Ser Phe Thr Gly
740 745 750

Gly Val Asn Val Lys Phe
755

<210> 203

<211> 225

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (*Neisseria meningitidis*)

<220>

<221> CDS

<222> (1)..(225)

<400> 203

atg agg ctg gca acc aag gat ttg gcg gaa gcc att agg aaa gga cag 48
Met Arg Leu Ala Thr Lys Asp Leu Ala Glu Ala Ile Arg Lys Gly Gln
1 5 10 15

gtt cgc aaa tca agc ttt aac aca gaa caa tta agg gca att gaa aaa 96
Val Arg Lys Ser Ser Phe Asn Thr Glu Gln Leu Arg Ala Ile Glu Lys
20 25 30

gga gaa tct aaa ata ccg gat tac act tgg cat cat cat caa gat aca 144
 Gly Glu Ser Lys Ile Pro Asp Tyr Thr Trp His His His Gln Asp Thr
 35 40 45

gga agg atg caa ttg att cgt gaa ggc ttg cat cat gat acc ggc cat 192
 Gly Arg Met Gln Leu Ile Arg Glu Gly Leu His His Asp Thr Gly His
 50 55 60

att ggt tgg gaa gca atg aac aaa gga agg taa 225
 Ile Gly Trp Glu Ala Met Asn Lys Gly Arg
 65 70 75

<210> 204

<211> 74

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 204

Met Arg Leu Ala Thr Lys Asp Leu Ala Glu Ala Ile Arg Lys Gly Gln
 1 5 10 15

Val Arg Lys Ser Ser Phe Asn Thr Glu Gln Leu Arg Ala Ile Glu Lys
 20 25 30

Gly Glu Ser Lys Ile Pro Asp Tyr Thr Trp His His His Gln Asp Thr
 35 40 45

Gly Arg Met Gln Leu Ile Arg Glu Gly Leu His His Asp Thr Gly His
 50 55 60

Ile Gly Trp Glu Ala Met Asn Lys Gly Arg
 65 70

<210> 205

<211> 1176

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(1176)

<400> 205

atg gca aaa atg atg aaa tgg gcg gct gtt gcg gcg gtc gcg gcg gca 48
 Met Ala Lys Met Met Lys Trp Ala Ala Val Ala Ala Val Ala Ala Ala

1	5	10	15	
gcg gtt tgg ggc gga tgg tct tat ctg aag ccc gag ccg cag gct gct	96			
Ala Val Trp Gly Gly Trp Ser Tyr Leu Lys Pro Glu Pro Gln Ala Ala				
20	25	30		
tat att acg gaa acg gtc agg cgc ggc gac atc agc cgg acg gtt tct	144			
Tyr Ile Thr Glu Thr Val Arg Arg Gly Asp Ile Ser Arg Thr Val Ser				
35	40	45		
gca aca ggg gag att tcg ccg tcc aac ctg gta tcg gtc ggc gcg cag	192			
Ala Thr Gly Glu Ile Ser Pro Ser Asn Leu Val Ser Val Gly Ala Gln				
50	55	60		
gca tcg ggg cag att aag aaa ctt tat gtc aaa ctc ggg caa cag gtt	240			
Ala Ser Gly Gln Ile Lys Lys Leu Tyr Val Lys Leu Gly Gln Gln Val				
65	70	75	80	
aaa aag ggc gat ttg att gcg gaa atc aat tcg acc tcg cag acc aat	288			
Lys Lys Gly Asp Leu Ile Ala Glu Ile Asn Ser Thr Ser Gln Thr Asn				
85	90	95		
acg ctc aat acg gaa aaa tcc aaa ttg gaa acg tat cag gcg aag ctg	336			
Thr Leu Asn Thr Glu Lys Ser Lys Leu Glu Thr Tyr Gln Ala Lys Leu				
100	105	110		
gtg tcg gca cag att gca ttg ggc agc gcg gag aag aaa tat aag cgt	384			
Val Ser Ala Gln Ile Ala Leu Gly Ser Ala Glu Lys Lys Tyr Lys Arg				
115	120	125		
cag gcg gcg ttg tgg aag gat gat gcg acc gct aaa gaa gat ttg gaa	432			
Gln Ala Ala Leu Trp Lys Asp Asp Ala Thr Ala Lys Glu Asp Leu Glu				
130	135	140		
agc gca cag gat gcg ctt gcc gcc gcc aaa gcc aat gtt gcc gag ctg	480			
Ser Ala Gln Asp Ala Leu Ala Ala Ala Lys Ala Asn Val Ala Glu Leu				
145	150	155	160	
aag gct cta atc aga cag agc aaa att tcc atc aat acc gcc gag tcg	528			
Lys Ala Leu Ile Arg Gln Ser Lys Ile Ser Ile Asn Thr Ala Glu Ser				
165	170	175		
gaa ttg ggc tac acg cgc att acc gca acg atg gac ggc acg gtg gtg	576			
Glu Leu Gly Tyr Thr Arg Ile Thr Ala Thr Met Asp Gly Thr Val Val				
180	185	190		
gcg att ctc gtg gaa gag ggg cag act gtg aac gcg gcg cag tct acg	624			
Ala Ile Leu Val Glu Glu Gly Gln Thr Val Asn Ala Ala Gln Ser Thr				

195	200	205	
ccg acg att gtc caa ttg gcg aat ctg gat atg atg ttg aac aaa atg			672
Pro Thr Ile Val Gln Leu Ala Asn Leu Asp Met Met Leu Asn Lys Met			
210	215	220	
cag att gcc gag ggc gat att acc aag gtg aag gcg ggg cag gat att			720
Gln Ile Ala Glu Gly Asp Ile Thr Lys Val Lys Ala Gly Gln Asp Ile			
225	230	235	240
tcg ttt acg att ttg tcc gaa ccg gat acg ccg att aag gcg aag ctc			768
Ser Phe Thr Ile Leu Ser Glu Pro Asp Thr Pro Ile Lys Ala Lys Leu			
245	250	255	
gac agc gtc gac ccc ggg ctg acc acg atg tcg tcg ggc ggc tac aac			816
Asp Ser Val Asp Pro Gly Leu Thr Thr Met Ser Ser Gly Gly Tyr Asn			
260	265	270	
agc agt acg gat acg gct tcc aat gcg gtc tac tat tat gcc cgt tcg			864
Ser Ser Thr Asp Thr Ala Ser Asn Ala Val Tyr Tyr Tyr Ala Arg Ser			
275	280	285	
ttt gtg ccg aat ccg gac ggc aaa ctc gcc acg ggg atg acg acg cag			912
Phe Val Pro Asn Pro Asp Gly Lys Leu Ala Thr Gly Met Thr Thr Gln			
290	295	300	
aat acg gtt gaa atc gac ggt gtg aaa aat gtg ctg att att ccg tcg			960
Asn Thr Val Glu Ile Asp Gly Val Lys Asn Val Leu Ile Ile Pro Ser			
305	310	315	320
ctg acc gtg aaa aat cgc ggc ggc agg gcg ttt gtg cgc gtg ttg ggt			1008
Leu Thr Val Lys Asn Arg Gly Gly Arg Ala Phe Val Arg Val Leu Gly			
325	330	335	
gca gac ggc aag gcg gcg gaa cgc gaa atc cgg acc ggt atg aga gac			1056
Ala Asp Gly Lys Ala Ala Glu Arg Glu Ile Arg Thr Gly Met Arg Asp			
340	345	350	
agt atg aat acc gaa gta aaa agc ggg ttg aaa gag ggg gac aaa gtg			1104
Ser Met Asn Thr Glu Val Lys Ser Gly Leu Lys Glu Gly Asp Lys Val			
355	360	365	
gtc atc tcc gaa ata acc gcc gcc gag cag cag gaa agc ggc gaa cgc			1152
Val Ile Ser Glu Ile Thr Ala Ala Glu Gln Gln Glu Ser Gly Glu Arg			
370	375	380	
gcc cta ggc ggc ccg ccg cgc cga			1176
Ala Leu Gly Gly Pro Pro Arg Arg			

385

390

<210> 206

<211> 392

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 206

Met Ala Lys Met Met Lys Trp Ala Ala Val Ala Ala Val Ala Ala Ala
 1 5 10 15

Ala Val Trp Gly Gly Trp Ser Tyr Leu Lys Pro Glu Pro Gln Ala Ala
 20 25 30

Tyr Ile Thr Glu Thr Val Arg Arg Gly Asp Ile Ser Arg Thr Val Ser
 35 40 45

Ala Thr Gly Glu Ile Ser Pro Ser Asn Leu Val Ser Val Gly Ala Gln
 50 55 60

Ala Ser Gly Gln Ile Lys Lys Leu Tyr Val Lys Leu Gly Gln Gln Val
 65 70 75 80

Lys Lys Gly Asp Leu Ile Ala Glu Ile Asn Ser Thr Ser Gln Thr Asn
 85 90 95

Thr Leu Asn Thr Glu Lys Ser Lys Leu Glu Thr Tyr Gln Ala Lys Leu
 100 105 110

Val Ser Ala Gln Ile Ala Leu Gly Ser Ala Glu Lys Lys Tyr Lys Arg
 115 120 125

Gln Ala Ala Leu Trp Lys Asp Asp Ala Thr Ala Lys Glu Asp Leu Glu
 130 135 140

Ser Ala Gln Asp Ala Leu Ala Ala Ala Lys Ala Asn Val Ala Glu Leu
 145 150 155 160

Lys Ala Leu Ile Arg Gln Ser Lys Ile Ser Ile Asn Thr Ala Glu Ser
 165 170 175

Glu Leu Gly Tyr Thr Arg Ile Thr Ala Thr Met Asp Gly Thr Val Val
 180 185 190

Ala Ile Leu Val Glu Glu Gly Gln Thr Val Asn Ala Ala Gln Ser Thr
 195 200 205

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Pro Thr Ile Val Gln Leu Ala Asn Leu Asp Met Met Leu Asn Lys Met
    210                215                220

Gln Ile Ala Glu Gly Asp Ile Thr Lys Val Lys Ala Gly Gln Asp Ile
225                230                235                240

Ser Phe Thr Ile Leu Ser Glu Pro Asp Thr Pro Ile Lys Ala Lys Leu
    245                250                255

Asp Ser Val Asp Pro Gly Leu Thr Thr Met Ser Ser Gly Gly Tyr Asn
    260                265                270

Ser Ser Thr Asp Thr Ala Ser Asn Ala Val Tyr Tyr Tyr Ala Arg Ser
    275                280                285

Phe Val Pro Asn Pro Asp Gly Lys Leu Ala Thr Gly Met Thr Thr Gln
    290                295                300

Asn Thr Val Glu Ile Asp Gly Val Lys Asn Val Leu Ile Ile Pro Ser
305                310                315                320

Leu Thr Val Lys Asn Arg Gly Gly Arg Ala Phe Val Arg Val Leu Gly
    325                330                335

Ala Asp Gly Lys Ala Ala Glu Arg Glu Ile Arg Thr Gly Met Arg Asp
    340                345                350

Ser Met Asn Thr Glu Val Lys Ser Gly Leu Lys Glu Gly Asp Lys Val
    355                360                365

Val Ile Ser Glu Ile Thr Ala Ala Glu Gln Gln Glu Ser Gly Glu Arg
    370                375                380

Ala Leu Gly Gly Pro Pro Arg Arg
385                390

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<210> 207

<211> 342

<212> DNA

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<220>

<221> CDS

<222> (1)..(342)

<400> 207

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ttg ttt gta tgc ttt gaa aaa tgt ttg ttt ccg gat ttt gcc att ccc 48
Leu Phe Val Cys Phe Glu Lys Cys Leu Phe Pro Asp Phe Ala Ile Pro
1 5 10 15

atc cgg ttt tgc gct gta cga tgt gtt tta gcg cgg act tgc tca aaa 96
Ile Arg Phe Cys Ala Val Arg Cys Val Leu Ala Arg Thr Cys Ser Lys
20 25 30

tcg gat gtg gtt ccg gta ttt ggg gct ttg att agg gat gcg gac ttt 144
Ser Asp Val Val Pro Val Phe Gly Ala Leu Ile Arg Asp Ala Asp Phe
35 40 45

caa tat att ttt ctc agc tac aac aac gaa ggc ttg atg tct gtc ggg 192
Gln Tyr Ile Phe Leu Ser Tyr Asn Asn Glu Gly Leu Met Ser Val Gly
50 55 60

cag gta agg gag att ttt gag cgt ttc ggc aaa tat aat ttg gtt caa 240
Gln Val Arg Glu Ile Phe Glu Arg Phe Gly Lys Tyr Asn Leu Val Gln
65 70 75 80

acg gaa tat cgg cgt ttt aag gca gat aag aca gaa aac cgt aat cat 288
Thr Glu Tyr Arg Arg Phe Lys Ala Asp Lys Thr Glu Asn Arg Asn His
85 90 95

aag gca aat tcg ata ttc gaa tat ctg cat gag acc ttt gca aaa ata 336
Lys Ala Asn Ser Ile Phe Glu Tyr Leu His Glu Thr Phe Ala Lys Ile
100 105 110

gtc tgt 342
Val Cys

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<210> 208

<211> 114

<212> PRT

<213> 脑膜炎奈瑟氏球菌 (Neisseria meningitidis)

<400> 208

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Leu Phe Val Cys Phe Glu Lys Cys Leu Phe Pro Asp Phe Ala Ile Pro
1 5 10 15

Ile Arg Phe Cys Ala Val Arg Cys Val Leu Ala Arg Thr Cys Ser Lys
20 25 30

Ser Asp Val Val Pro Val Phe Gly Ala Leu Ile Arg Asp Ala Asp Phe
35 40 45

Gln Tyr Ile Phe Leu Ser Tyr Asn Asn Glu Gly Leu Met Ser Val Gly

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<223>人工序列说明: 引物序列

<400> 211
atcctacaac ctcaagct 18

<210> 212
<211> 18
<212> DNA
<213> 人工序列

<220>
<223> 人工序列说明: 引物序列

<400> 212
atcccattct aaccaagc 18

<210> 213
<211> 19
<212> DNA
<213> 人工序列

<220>
<223> 人工序列说明: 引物序列

<400> 213
aagagattac gcgcagacc 19

<210> 214
<211> 18
<212> DNA
<213> 人工序列

<220>
<223> 人工序列说明: 引物序列

<400> 214
aatacgcaac cgcctctc 18