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(54)发明名称

氨基酸、核苷酸和表达它们的载体及其在预防沙贝病毒感染中的用途

(57)摘要

本文公开了用于治疗和/或预防沙贝病毒感染的氨基酸构建体的制备方法，包括：a.比较至少两种不同沙贝病毒刺突蛋白或其片段的氨基酸序列；b.识别该至少两种不同沙贝刺突蛋白或其片段的序列中的相同氨基酸；c.从该至少两种不同的沙贝病毒刺突蛋白或其片段的序列中去除任何不同的氨基酸，以识别独特的氨基酸序列；和d.形成独特氨基酸序列的氨基酸构建体，其中该氨基酸构建体与该至少两种不同沙贝病毒刺突蛋白或其片段具有至少90％序列同一性。还公开了采用本发明方法产生的氨基酸序列。



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1.一种氨基酸构建体,包含选自SEQ ID NO:10-22、164和165中的任一氨基酸序列,该构建体与至少两种不同的沙贝病毒刺突蛋白或其片段具有至少90%的序列同一性。

2.如权利要求1所述的氨基酸构建体,其特征在于,所述至少两种不同的沙贝病毒刺突蛋白包括与沙贝病毒刺突蛋白具有至少90%序列同一性的氨基酸序列,或与至少两种不同的沙贝病毒刺突蛋白的片段具有至少90%序列同一性的氨基酸序列。

3.如权利要求1所述的氨基酸构建体,其特征在于,所述片段包括沙贝病毒刺突蛋白的受体结合域片段。

4.如权利要求1-3中任一项所述的氨基酸构建体,其特征在于,所述氨基酸序列包括SEQ ID NO:10所示的序列。

5.如权利要求1-3中任一项所述的氨基酸构建体,其特征在于,所述氨基酸序列包括SEQ ID NO:11所示的序列。

6.如权利要求1-3中任一项所述的氨基酸构建体,其特征在于,所述氨基酸序列包括SEQ ID NO:12所示的序列。

7.如权利要求1-3中任一项所述的氨基酸构建体,其特征在于,所述氨基酸序列包括SEQ ID NO:13所示的序列。

8.如权利要求1-3中任一项所述的氨基酸构建体,其特征在于,所述氨基酸序列包括SEQ ID NO:14所示的序列。

9.如权利要求1-3中任一项所述的氨基酸构建体,其特征在于,所述氨基酸序列包括SEQ ID NO:15所示的序列。

10.如权利要求1-3中任一项所述的氨基酸构建体,其特征在于,所述氨基酸序列包括SEQ ID NO:16所示的序列。

11.如权利要求1-3中任一项所述的氨基酸构建体,其特征在于,所述氨基酸序列包括SEQ ID NO:17所示的序列。

12.如权利要求1-3中任一项所述的氨基酸构建体,其特征在于,所述氨基酸序列包括SEQ ID NO:18所示的序列。

13.如权利要求1-3中任一项所述的氨基酸构建体,其特征在于,所述氨基酸序列包括SEQ ID NO:19所示的序列。

14.如权利要求1-3中任一项所述的氨基酸构建体,其特征在于,所述氨基酸序列包括SEQ ID NO:20所示的序列。

15.如权利要求1-3中任一项所述的氨基酸构建体,其特征在于,所述氨基酸序列包括SEQ ID NO:21所示的序列。

16.如权利要求1-3中任一项所述的氨基酸构建体,其特征在于,所述氨基酸序列包括SEQ ID NO:22所示的序列。

17.如权利要求4-16中任一项所述的氨基酸构建体,其特征在于,所述氨基酸序列还包括折叠子和连接子序列。

18.如权利要求17所述的氨基酸构建体,其特征在于,所述氨基酸序列包括SEQ ID NO:165所示的序列。

19.如权利要求1-18中任一项所述的氨基酸构建体,其特征在于,包括寡聚多肽。

20.如权利要求19所述的氨基酸构建体,其特征在于,所述多肽是融合二聚体。

21.一种编码权利要求1-18中任一项所述的氨基酸构建体的核酸。

22.如权利要求21所述的核酸,包括信使核糖核酸(mRNA)。

23.一种免疫原性组合物,包括权利要求1-19中任一项所述的氨基酸构建体或权利要求21或权利要求22所述的核酸。

24.如权利要求23所述的免疫原性组合物,还包括佐剂。

25.如权利要求24所述的免疫原性组合物,其特征在于,所述佐剂是Sigma佐剂系统(S6533)。

26.如权利要求23所述的免疫原性组合物,包括至少两种沙贝病毒抗原。

27.一种病毒载体,包括权利要求21或22所述的核酸。

28.如权利要求27所述的病毒载体,其特征在于,所述载体选自重组麻疹病毒载体、水泡性口炎病毒(VSV)载体、牛痘病毒载体或腺病毒载体。

29.如权利要求1-19中任一项所述的氨基酸构建体,用于治疗或预防沙贝病毒感染。

30.如权利要求23-26中任一项所述的免疫原性组合物,用于治疗和/或预防沙贝病毒感染。

31.如权利要求21或22所述的核酸,用于治疗和/或预防沙贝病毒感染。

32.如权利要求27或28所述的病毒载体,用于治疗和/或预防沙贝病毒感染。

33.权利要求1-19中任一项所述的氨基酸构建体在制备用于治疗或预防沙贝病毒感染的药物中的用途。

34.权利要求23-26中任一项所述的免疫原性组合物在制备用于治疗和/或预防沙贝病毒感染的药物中的用途。

35.权利要求21或22所述的核酸在制备用于治疗和/或预防沙贝病毒感染的药物中的用途。

36.权利要求27或28所述的病毒载体在制备用于治疗和/或预防沙贝病毒感染的药物中的用途。

37.一种治疗和/或预防沙贝病毒所致感染的方法,包括给予受试者疫苗分子,所述疫苗分子包含权利要求1-19中任一项所述的氨基酸构建体、权利要求23-26中任一项所述的免疫原性组合物、权利要求21-22中所述的核酸或权利要求27-28中所述的病毒载体。

38.一种制备用于治疗和/或预防沙贝病毒感染的氨基酸构建体的方法,包括:

a.比较至少两种不同沙贝病毒刺突蛋白或其片段的氨基酸序列;

b.识别该至少两种不同沙贝刺突蛋白或其片段的序列中的相同氨基酸;

c.从该至少两种不同沙贝病毒刺突蛋白或其片段的序列中去除任何不同的氨基酸,以识别一独特氨基酸序列;和

d.形成该独特氨基酸序列的氨基(酸)构建体,其中该氨基(酸)构建体与该至少两种不同沙贝病毒刺突蛋白或其片段具有至少90%序列同一性。

39.如权利要求38所述的方法,还包括用折叠子和连接子序列修饰该独特氨基酸序列。

40.如权利要求38或39所述的方法,还包括识别该独特氨基酸序列内对应于该至少两种不同沙贝病毒刺突蛋白的受体结合域的片段,以形成一独特氨基酸片段序列;以及形成将该独特氨基酸片段序列与该独特氨基酸序列相结合的氨基酸构建体。

41.如权利要求38-40中任一项所述的方法,其特征在于,在步骤d中形成氨基(酸)构建

体包括形成编码该氨基酸构建体、能够表达该氨基酸构建体的核酸。

42.如权利要求41所述的方法,其特征在于,所述核酸包括信使核糖核酸(mRNA)。

43.如权利要求38-42中任一项所述的方法,其特征在于,将所述氨基酸构建体或编码该氨基酸构建体、能够表达该氨基酸构建体的核酸制备成免疫原性组合物。

44.如权利要求43所述的方法,其特征在于,所述免疫原性组合物包括佐剂。

45.如权利要求44所述的方法,其特征在于,所述佐剂是Sigma佐剂系统。

46.如权利要求41或42所述的方法,其特征在于,将所述核酸制备成病毒载体。

47.如权利要求46所述的方法,其特征在于,所述载体选自重组麻疹病毒载体、水泡性口炎病毒(VSV)载体、牛痘病毒载体或腺病毒载体。

氨基酸、核苷酸和表达它们的载体及其在预防沙贝病毒感染中的用途

[0001] 相关申请的交叉引用

[0002] 本申请要求2021年5月15日提交的第10202105099S号新加坡专利申请的优先权，其内容并入本文作为参考。

技术领域

[0003] 总体上，本发明涉及蛋白及其在治疗和/或预防与严重急性呼吸系统综合症(SARS)相关的冠状病毒感染，特别是沙贝病毒(sarbecovirus)感染中的用途。

[0004] 背景

[0005] 下文对本发明背景的讨论仅旨在促进对本发明的理解。应当理解的是，这些论述并不承认或承认所提及的任何材料在本发明优先权日已经发表、为任何司法管辖区的本领域技术人员所熟知或已成为其常识的一部分。

[0006] 自2002年以来，我们经历了由冠状病毒(CoVs)引起的三次重大人类传染病：2002-2003年的SARS冠状病毒(SARS-CoV)(Peiris等.Nat Med 2004,10:S88-97)、2012年以来的中东呼吸综合征冠状病毒(MERS-CoV)(Zaki等,N Engl J Med 2012,367:1814-1820)和正在发生的COVID-19或SARS冠状病毒2(SARS-CoV-2)(Wang等,Lancet 2020,395:470-473)。所有这些疾病都在全球范围内造成了毁灭性的经济和人员损失。对于SARS-CoV和MERS-CoV，我们仍然没有经许可的疫苗来保护我们免受未来的感染。就SARS-CoV-2而言，疫苗研发的空前速度已获得许多经许可的疫苗以供人类使用(Fauci,Science,2021年,372:109)。

[0007] 然而，最近出现的SARS-CoV-2变异株，例如在英国检测到的SARS-CoV-2 B.1.1.7/201/501Y.V1、南非SARS-CoV-2 B.1.351/20H/501Y.V2、巴西SARS-CoV-2 P.1/20J/501Y.V3/B.1.1.248，以及美国SARS-CoV-2 B.1.1427/B.1.429(Mascola等.JAMA 2021,325:1261-1262;Zhang等.JAMA 2021,325(13):1324-1326)，以及观察到基于原始病毒株的疫苗对新变异株的免疫保护能力下降提出了新的挑战，即需要对所有已知和未来的SARS-CoV-2变异株提供广谱保护。

[0008] 此外，还有许多冠状病毒在野生动物群体中流行，如蝙蝠中的SC2r-CoV RaTG13和穿山甲中的SC2r-CoV GX-P5L(Wang等.Curr Opin Virol 2019,34:79-89;Zhou等,Nature 2020,579:270-273;Lam等,Nature 2020,583:282-285)。

[0009] 此外，未来很有可能爆发由不同但相关的冠状病毒引起的疫情(SARS3、SARS4等)(Calistri等.Microorganisms 2021,9)。

[0010] 目前冠状病毒的分类如图1所示。已确定了四个属：α、β、δ和γ。对人类感染最易传播的冠状病毒属于沙棘病毒属。研究还发现，所有沙贝病毒都利用血管紧张素转换酶2(ACE2)作为进入人类宿主细胞的受体。

[0011] 因此，需要预防性或治疗性疫苗以便治疗和/或预防当前和未来由沙贝病毒引起的感染。

[0012] 概述

[0013] (本发明)设想了氨基酸构建体、核苷酸、载体以及含有或表达用于预防和/或治疗沙贝病毒感染的氨基酸序列的免疫原性组合物。

[0014] 本公开的一方面提供了一种氨基酸构建体,其包含选自SEQ ID No.10至22、164和165所构成的组中的任一氨基酸序列,该氨基酸构建体与至少两种不同的沙贝病毒刺突蛋白或其片段具有至少90%的序列同一性。

[0015] 另一方面是编码本文上述氨基酸构建体的核酸。

[0016] 另一方面是免疫原性组合物,其包含本文上述的氨基酸构建体或本文上述的核酸。

[0017] 另一方面是包含本文上述核酸的病毒载体。

[0018] 另一方面是适用于治疗或预防沙贝病毒感染的本文上述的氨基酸构建体、本文上述的核酸、本文上述的免疫原性组合物、本文上述的病毒载体或疫苗制剂。

[0019] 另一方面是本文上述氨基酸构建体、本文上述核酸、本文上述免疫原性组合物、本文上述病毒载体在制备用于治疗或预防沙贝病毒感染的药物中的用途。

[0020] 另一方面是治疗和/或预防沙贝病毒所致感染的方法,包括给予受试者疫苗分子,该疫苗分子包含本文上述的氨基酸构建体、本文上述的核酸、本文上述的免疫原性组合物或本文上述的病毒载体。

[0021] 另一方面是制备本文上述氨基酸构建体的方法,包括:a)比较至少两种不同的沙贝病毒刺突蛋白或其片段的氨基酸序列;b)识别所述至少两种不同的沙贝病毒刺突蛋白或其片段序列中的相同氨基酸;c)从至少两种不同的沙贝病毒刺突蛋白或其片段的序列中去除任何不同的氨基酸,以识别一独特氨基酸序列;和d)形成所述独特氨基酸序列的氨基(酸)构建体,其中该氨基(酸)构建体与所述至少两种不同的沙贝病毒刺突蛋白或其片段具有至少90%的序列同一性。

[0022] 结合附图以及具体实施例的以下描述,其他方面和特征对于本领域普通技术人员将变得显而易见。

[0023] 附图简述

[0024] 图中仅以举例方式说明了本发明的实施方式。

[0025] 图1显示了四个已知冠状病毒属的家谱;

[0026] 图2为考虑到系统发育关系和ACE2受体用途而建立的共识群(consensus group);

[0027] 图3显示了生成氨基酸共有识序列的设计方法;

[0028] 图4显示了替代病毒中和试验(sVNT),该试验可快速、多重地测定Nabs;

[0029] 图5显示了A)Luminex平台上的多重sVNT;B)显示六种RBD蛋白能够按以下顺序(从高亲和力到低亲和力)与hACE2受体分子结合:SARS-CoV-2 B.1.351>SARS-CoV-2 B.1.1.7＝SC2r-CoV GX-P5L(穿山甲)>SARS-CoV-2>SARS-CoV>SC2r-CoV RaTG13(蝙蝠);

[0030] 图6显示了六种不同RBD的多重sVNT(从左到右:SARS-CoV-2WT,B.1.1.7,B.1.351;蝙蝠病毒RaTG13;穿山甲病毒GX-P5L;SARS-CoV)。A)SARS患者(11人);B)COVID-19患者(40人);C)健康疫苗接种者(20人)。第二次接种后两周采集血清样本;D)SARS疫苗接种者(9人)。第一次疫苗接种后21-62天采集的SARS幸存者血清。所有血清样本均以1:20的单一稀释度进行检测。根据先前确定的,将截断值设定为30%。

[0031] 图7显示了不同组中针对六种沙贝病毒的中和抗体水平(NT50)滴定。通过4倍连续

滴定法检测稀释度为1:20至1:20480的血清样本。

[0032] 图8显示了对SARS疫苗接种组中,泛沙贝病毒(pan-sarbecovirus)交叉中和抗体增强的证实。图8A显示了通过多重sVNT测定的mAb 5B7D7对关注的SARS-CoV-2变体、蝙蝠SC2r-CoV RaTG13、穿山甲SC2r-CoV GX-P5L和SARS-CoV的泛沙贝病毒中和作用。图8B显示了四组不同血清对5B7D7与不同RBD结合的抑制作用。

[0033] 图9显示了靶向不同β冠状病毒RBD蛋白的兔超免疫血清的中和模式。

[0034] 图10显示了接种2剂25pg蛋白(SEQ ID No.165,SEQ ID No.13的经修饰形式,具有折叠子和连接子序列)和sigma佐剂或1剂25pg蛋白(SEQ ID No.165)和sigma佐剂后再接种1剂Sinovac疫苗后用20种不同沙贝病毒RBD作刺激。

[0035] 图11显示了接种2剂25pg蛋白(SEQ ID No.165,SEQ ID No.13的经修饰形式,具有折叠子和连接子序列)和sigma佐剂或1剂25pg蛋白(SEQ ID No.165,SEQ ID No.13的经修饰形式,具有折叠子和连接子序列)和sigma佐剂后再接种1剂Sinovac疫苗后用20种不同沙贝病毒RBD作刺激。

[0036] 图12显示了不同剂量方案的比较:第一种是3剂量的Pfizer BioNTech疫苗;第二种是2剂量的Pfizer BioNTech疫苗,随后用Sigma佐剂施用25pg剂量的SEQ ID No.165所示蛋白(SEQ ID No.13的具有折叠子和连接子序列的经修饰形式);第三种是2剂量的Pfizer BioNTech疫苗,随后是1pg剂量的SEQ ID No.165所示蛋白(SEQ ID No.13的具有折叠子和连接子序列的经修饰形式);第四种是2剂量的Pfizer BioNTech疫苗,然后是1剂量的生理盐水;最后是3剂量的生理盐水。

[0037] 图13显示了不同剂量方案的比较:第一种是3剂量的Moderna疫苗;第二种是2剂量的Moderna疫苗,随后用Sigma佐剂施用25pg剂量的SEQ ID No.165所示蛋白(SEQ ID No.13的具有折叠子和连接子序列的经修饰形式);第三种是2剂量的Moderna疫苗,随后是1pg剂量的SEQ ID No.165所示蛋白(SEQ ID No.13的具有折叠子和连接子序列的经修饰形式);第四种是2剂量的Moderna疫苗,然后是1剂量的生理盐水;最后是3剂量的生理盐水。

[0038] 图14显示了不同剂量方案的比较:第一种是3剂量的Sinovac疫苗;第二种是2剂量的Sinovac疫苗,随后用Sigma佐剂施用25pg剂量的SEQ ID No.165所示蛋白(SEQ ID No.13的具有折叠子和连接子序列的经修饰形式);第三种是2剂量的Sinovac疫苗,随后用Sigma佐剂施用25pg剂量的SEQ ID No.165所示蛋白(SEQ ID No.13的具有折叠子和连接子序列的经修饰形式);第四种是2剂量的Sinovac疫苗,随后是1pg剂量的SEQ ID No.165所示蛋白(SEQ ID No.13的具有折叠子和连接子序列的经修饰形式);最后是3剂量的生理盐水。

[0039] 详述

[0040] 本公开提供了包含沙贝病毒刺突蛋白的氨基酸序列的蛋白。下面举例说明这样的多肽。

[0041] 在本文中,除非另有相反说明,否则术语“包括”、“由...组成”、“具有”等应被解释为非穷尽的,换言之,其含义为“包括但不限于”。

[0042] 此外,在整个说明书中,除非上下文另有要求,否则“包括”一词或诸如“包含”或“包含着”等变体将被理解为包括所述整数或整数组,但不排除任何其他整数或整数组。

[0043] 除非另有定义,否则本文中使用的所有技术和科学术语与本文主题所属的技术人员通常理解的含义相同。

[0044] 各种实施方式涉及包含选自SEQ ID No.10-22164和165中的任一氨基酸序列的氨基酸构建体,所述氨基酸构建体与至少两种不同的沙贝病毒刺突蛋白或其片段具有至少90%的序列同一性。

[0045] 在整个说明书中,应该理解术语"沙贝病毒"及其复数形式包括任何使用血管紧张素转换酶2(ACE2)受体进入细胞的β冠状病毒。在各种实施方式中,沙贝病毒包括任何使用ACE2受体进入细胞的任何β冠状病毒。在各种实施方式中,沙贝病毒包括使用人ACE2受体进入人细胞的任何β冠状病毒。在各种实施方式中,沙贝病毒包括任何已知的或新的沙贝病毒。在各种实施方式中,沙贝病毒选自包含或由以下组成的组:SARS-CoV、SARS-CoV-2、SARS-CoV-2 B.1.1.7、SARS-冠状病毒2B.1.351、SC2r-CoV-RaTG13和SC2r-CoV GX-P5L。

[0046] 在各种实施方式中,氨基酸构建体包含设计为与两个或多个不同的沙贝病毒刺突蛋白序列或其片段具有共有性的序列。藉此两个或多个不同的沙贝病毒刺突蛋白序列或其片段被比对,所有相同的氨基酸被保留,第一个改变任意地选自至少一个沙贝病毒刺突蛋白片段或其片段,并且随后的改变选自不同的沙贝病毒刺突蛋白序列或其片段。因此,得到的共有序列与所述两个或多个不同的沙贝病毒刺突蛋白序列或其衍生片段的序列相似并具有共有性,但不同于这些序列。在各种实施方式中,构建体可以用折叠子和连接子序列修饰。优点是,当这种氨基酸构建体用作免疫原性组合物时,它产生的抗体能够中和几种不同的沙贝病毒感染,即该蛋白可以用作泛沙贝病毒疫苗。

[0047] 在各种实施方式中,沙贝病毒刺突蛋白是指从上述任何沙贝病毒中鉴定或分离的野生型刺突蛋白,其片段是指与ACE2受体结合的刺突蛋白的野生型沙贝病毒受体结合域(RBD)。在各种实施方式中,沙贝病毒刺突蛋白包括具有SEQ ID NO:1所示氨基酸序列的SARS-CoV刺突蛋白。在各种实施方式中,沙贝病毒刺突蛋白包括具有SEQ ID NO:2所示氨基酸序列的SARS-CoV2刺突蛋白。在各种实施方式中,沙贝病毒刺突蛋白包括具有SEQ ID NO:23-163所示氨基酸序列的任一蛋白。在各种实施方式中,刺突蛋白的片段包括具有SEQ ID NO:4所示氨基酸序列的SARS-CoV,RBD。在各种实施方式中,刺突蛋白的片段包括具有SEQ ID NO:7所示氨基酸序列的SARS-CoV2,RBD。在各种实施方式中,刺突蛋白的片段包括具有SEQ ID NO:3或SEQ ID NO:5所示氨基酸序列。在各种实施方式中,氨基酸构建体与至少两种不同的沙贝病毒刺突蛋白或其片段具有至少75%,包括75%、80%、85%、90%、91%、92%、93%、94%、95%、96%、97%、98%或甚至99.9%的序列同一性。在各种实施方式中,氨基酸构建体与第一沙贝病毒的野生型刺突蛋白或其片段和第二沙贝病毒的刺突蛋白或其片段具有至少75%,包括75%、80%、85%、90%、91%、92%、93%、94%、95%、96%、97%、98%或甚至99.9%的序列同一性。在各种实施方式中,第一沙贝病毒可包含SARS-CoV,而第二沙贝病毒可包含SC1-r-CoV。在各种实施方式中,第一沙贝病毒可包含SARS-CoV,第二沙贝病毒可包含SARS-CoV-2 B.1.1.7。在各种实施方式中,第一沙贝病毒可包含SARS-CoV,第二沙贝病毒可包含SARS-CoV-2 B.1.351。在各种实施方式中,第一沙贝病毒可包含SARS-CoV-2,第二沙贝病毒可以包含SC2r-CoV。在各种实施方式中,第一沙贝病毒可包含SARS-CoV-2,第二沙贝病毒可以包含SC2r-CoV。在各种实施方式中,第一沙贝病毒可选自以下任一种:SARS-CoV-2、也称为20J/501Y.V3/B.1/248的巴西SARS-CoV-2变体P.1、UK SARS-CoV-2变体B.1.1.7、也称为20H/501Y.V2或501Y.V2变体的南非SARS-CoV-2变体B.1351、印度SARS-CoV-2变体B1.617、SC2r-CoV RaTG13和SC2r-CoV GX-P5L,第二沙贝病毒

可以选自以下的任一种:SARS-CoV、SARS-CoV-2、SARS-CoV-2 B.1.1.7、SARS-CoV-2 B.1.351、SARS-CoV-2 B1.617、SC2r-CoV RaTG13和SC2r-CoV GX-P5L,只要其不同于第一沙贝病毒。

[0048] 在整个说明书中,应当理解术语“分离的”包括通过标准纯化方法纯化的那些。它不需要绝对纯度,并且可以包括至少80%、85%、90%、95%、98%或99%分离的蛋白、肽、核酸或疫苗分子。

[0049] 在各种实施方式中,所述至少两种不同的沙贝病毒刺突蛋白或片段包含与所述至少二种沙贝病毒刺突蛋白具有至少90%,包括90%、91%、92%、93%、94%、95%、96%、97%、98%或甚至99.9%序列同一性的氨基酸序列,和与二种或更多种不同的沙贝病毒刺突蛋白具有至少90%,包括90%、91%、92%、93%、94%、95%、96%、97%、98%或甚至99.9%序列同一性的氨基酸序列。在各种实施方式中,所述至少两种不同的沙贝病毒刺突蛋白或片段包含沙贝病毒刺突蛋白和不同沙贝病毒刺突蛋白的片段。

[0050] 在各种实施方式中,所述片段包含沙贝病毒刺突蛋白的受体结合域片段。

[0051] 在各种实施方式中,所述氨基酸序列包含或由选自SEQ ID NO:10-22或165的任一序列或其任何组合组成。在各种实施方式中,所述氨基酸序列包含或由被设计为与选自SEQ ID NO:1至9或23至163的任一序列中的至少两个具有至少75%序列同一性的构建体组成。

[0052] 在各种实施方式中,所述氨基酸构建体包含SEQ ID NO:10所示的共有序列。

[0053] 在各种实施方式中,所述氨基酸构建体包含SEQ ID NO:11所示的共有序列。

[0054] 在各种实施方式中,所述氨基酸构建体包含SEQ ID NO:12所示的共有序列。

[0055] 在各种实施方式中,所述氨基酸构建体包含SEQ ID NO:13所示的共有序列。

[0056] 在各种实施方式中,所述氨基酸构建体包含SEQ ID NO:14所示的共有序列。

[0057] 在各种实施方式中,所述氨基酸构建体包含SEQ ID NO:15所示的共有序列。

[0058] 在各种实施方式中,所述氨基酸构建体包含SEQ ID NO:16所示的共有序列。

[0059] 在各种实施方式中,所述氨基酸构建体包含SEQ ID NO:17所示的共有序列。

[0060] 在各种实施方式中,所述氨基酸构建体包含SEQ ID NO:18所示的共有序列。

[0061] 在各种实施方式中,所述氨基酸构建体包含SEQ ID NO:19所示的共有序列。

[0062] 在各种实施方式中,所述氨基酸构建体包含SEQ ID NO:20所示的共有序列。

[0063] 在各种实施方式中,所述氨基酸构建体包含SEQ ID NO:21所示的共有序列。

[0064] 在各种实施方式中,所述氨基酸构建体包含SEQ ID NO:22所示的共有序列。

[0065] 在各种实施方式中,所述氨基酸构建体包括折叠子和连接子序列。在各种实施方式中,包含折叠子和连接子序列的氨基酸构建体包含SEQ ID NO:164或SEQ ID NO:165所示的共有序列。

[0066] 在各种实施方式中,所述氨基酸构建体包含寡聚多肽。在各种实施方式中,所述寡聚多肽包括杂寡聚物。

[0067] 在各种实施方式中,所述多肽是融合二聚体。

[0068] 各种实施方式涉及编码本文上述的氨基酸构建体的核酸。

[0069] 在各种实施方式中,所述核酸包括信使核糖核酸(mRNA)。

[0070] 在各种实施方式中,核酸是RNA。术语“RNA”包括核糖核酸(RNA)多核苷酸,其具有编码氨基酸构建体的多肽的开放读框,该多肽能够诱导抵御一种或多种沙贝病毒感染的免

疫反应。在各种实施方式中,其包括至少一种具有开放读框的核糖核酸(RNA)多核苷酸,所述开放读框编码能够引发抵御两种或多种不同的沙贝病毒感染的免疫应答的氨基酸构建体,其中所述氨基酸构建体如上所述。

[0071] 各种实施方式涉及包含如本文上述氨基酸构建体或如本文上述核酸的免疫原性组合物。

[0072] 在各种实施方式中,所述免疫原性组合物包括重组沙贝病毒刺突外结构域三聚体,其在给予受试者时引发或诱导抵御沙贝病毒的可测量反应。对于体内使用,所述免疫原性组合物通常包括在药学上可接受的运载体中的重组冠状病毒刺突外结构域三聚体或编码重组冠状病毒刺突外结构域三聚体的原聚体(protomer)的核酸分子,并且还可包括其他试剂,例如佐剂。

[0073] 在各种实施方式中,佐剂包括MF59、佐剂系统03(AS03)、CpG1018或Sigma佐剂系统(S6322)。

[0074] 在各种实施方式中,所述免疫原性组合物包括至少两种氨基酸构建体,当施用于受试者时,这些氨基酸构建体能够激发或诱导抵御沙贝病毒的可测量应答。在各种实施方式中,所述受试者或个体是动物,如哺乳动物,如可能接触沙贝病毒感染的人。

[0075] 在各种实施方式中,所述免疫原性组合物是RNA疫苗。术语"RNA疫苗"包括具有核糖核酸(RNA)多核苷酸的疫苗,该核糖核酸多核苷酸具有开放读框,编码能够诱导抵御沙贝病毒感染的免疫应答的氨基酸构建体。在各种实施方式中,所述免疫原性组合物包括至少一种具有开放读框的核糖核酸(RNA)多核苷酸,编码能够诱导抵御沙贝病毒感染的免疫应答的两种或多种氨基酸构建体。

[0076] 在各种实施方式中,所述免疫原性组合物包括本文上述的氨基酸构建体,或封闭在脂质纳米颗粒中的本文上述核酸。在各种实施方式中,所述免疫原性组合物是包含脂质纳米颗粒的mRNA疫苗。在各种实施方式中,所述免疫原性组合物包括预融合稳定的刺突-RBD-佐剂三聚体(pre-fusion stabilized spike-RBD-adjuvant trimer)。

[0077] 在各种实施方式中,与沙贝病毒RBD片段具有至少75%序列同一性的氨基酸构建体包括重组RBD(rRBD)。在各种不同的实施方式中,所述免疫原性组合物包括选自串联二聚体和rRBD-Fc融合二聚体的两种二聚体形式。

[0078] 在各种实施方式中,所述免疫原性组合物包括运载体。在各种实施方式中,所述运载体是脂质纳米粒(LNP)、聚合物纳米粒、脂质运载体如类脂质、脂质体、脂质体、肽载体、纳米粒模拟物、纳米管或共轭物中的任何一种。

[0079] 各种实施方式涉及包含本文上述核酸的病毒载体。

[0080] 在各种实施方式中,所述载体选自重组麻疹病毒载体、水泡性口炎病毒(VSV)载体、牛痘病毒载体或腺病毒载体。

[0081] 各种实施方式涉及本文上述的氨基酸构建体,用于治疗或预防沙贝病毒感染。

[0082] 各种实施方式涉及本文上述的免疫原性组合物,用于治疗和/或预防沙贝病毒感染。

[0083] 各种实施方式涉及本文上述的氨基酸构建体在制备治疗和/或预防沙贝病毒感染的药物中的用途。

[0084] 各种实施方式涉及本文上述的免疫原性组合物在制备治疗和/或预防沙贝病毒感

染的药物中的用途。

[0085] 各种实施方式涉及采用治疗和/或预防沙贝病毒引起的感染的方法,包括向受试者施用包含本文上述的氨基酸构建体、本文上述的免疫原性组合物或本文上述的病毒载体的疫苗分子。

[0086] 在各种实施方式中,诱导哺乳动物受试者的免疫应答的方法包括向哺乳动物受试者施用治疗有效量的本文上述的免疫原性组合物。

[0087] 各种实施方式涉及制备本文上述氨基酸构建体的方法,包括:a)比较来自至少两种不同的沙贝病毒刺突蛋白或其片段的氨基酸序列;b)识别所述至少两种不同的沙贝病毒刺突蛋白或其片段序列中的相同氨基酸;c)从至少两种不同的沙贝病毒刺突蛋白或其片段的序列中去除任何不同的氨基酸,以确定独特的氨基酸序列;和d)形成独特氨基酸序列的氨基(酸)构建体,其中该构建体与所述至少两种不同的沙贝病毒刺突蛋白或其片段具有至少75%的序列同一性。

[0088] 在各种实施方式中,制备氨基酸构建体的方法还包括用折叠子和连接子序列修饰独特的氨基酸序列。已知T4纤维蛋白的C端结构域(折叠子)可形成纤维蛋白三聚体结构,可用作人工三聚体结构域。在各种实施方式中,连接子包括His6-标记。

[0089] 在各种实施方式中,所述至少两种不同的沙贝病毒刺突蛋白或其片段包括2、5、10、20、30、40、50、60、70、80、90、100、110、120、130、140、150、160和170种不同的刺突蛋白或其片段中的任一种。在各种实施方式中,所述至少两种不同的沙贝病毒刺突蛋白或其片段包括多种沙贝病毒刺突蛋白或其片段。在各种实施方式中,所述多种沙贝病毒刺突蛋白或其片段包括50-100、80-150、100-200种不同的沙贝病毒刺突蛋白或其片段。在各种实施方式中,步骤a)包括比较来自多种不同的沙贝病毒刺突蛋白或其片段的氨基酸序列,步骤b)包括识别来自多种不同的沙贝病毒刺突蛋白质或其片段的氨基酸序列,其与所述多种不同的沙贝病毒刺突蛋白或其片段中的大多数(的序列同一性)高于预定序列同一性,步骤c)包括去除来自多种不同的沙贝病毒刺突蛋白或其片段的氨基酸序列,其与所述多种不同的沙贝病毒刺突蛋白或其片段中的大多数(的序列同一性)低于预定序列同一性。在各种实施方式中,预定序列同一性为85%或90%或95%,或96%或97%,或98%或99%。

[0090] 在各种实施方式中,该方法还包括识别独特氨基酸序列内的片段,该片段对应于所述至少两种不同的沙贝病毒刺突蛋白的受体结合域,以形成独特氨基酸片段序列;以及形成将独特氨基酸片段序列与独特氨基酸序列相结合的氨基酸构建体。

[0091] 在各种实施方式中,在步骤d)中形成氨基酸构建体包括形成编码氨基酸构建体的核酸,其能够表达氨基酸构建体。

[0092] 在各种实施方式中,所述核酸包括信使核糖核酸(mRNA)。

[0093] 在各种实施方式中,将所述氨基酸构建体或能够表达氨基酸构建体的编码该氨基酸构建体的核酸制备成免疫原性组合物。

[0094] 在各种实施方式中,所述免疫原性组合物包括佐剂。

[0095] 在各种实施方式中,所述核酸制备在病毒载体中。

[0096] 在各种实施方式中,所述载体选自重组麻疹病毒载体、水泡性口炎病毒(VSV)载体、牛痘病毒载体或腺病毒载体。

[0097] 在整个说明书中,应理解术语“多肽”(可与蛋白或肽互换使用)包括氨基酸聚合

物,包括天然存在的氨基酸聚合物和非天然存在的氨基酸聚合物。多肽具有氨基末端(N-端)和羧基末端(C-端)。

[0098] 在各种实施方式中,所述氨基酸构建体包括SEQ ID NO:10;SEQ ID NO:11;SEQ ID NO:12;SEQ ID NO:13;SEQ ID NO:14;SEQ ID NO:15;SEQ ID NO:16;SEQ ID NO:17;SEQ ID NO:18;SEQ ID NO:19;SEQ ID NO:20;SEQ ID NO:21;SEQ ID NO:22;SEQ ID NO:164或SEQ ID NO:165所示的共有氨基酸序列。

[0099] 在各种实施方式中,与沙贝病毒刺突蛋白具有至少75%序列同一性的氨基酸构建体包括SEQ ID NO:1;SEQ ID NO:10;SEQ ID NO:11;SEQ ID NO:12;SEQ ID NO:13;SEQ ID NO:14;SEQ ID NO:15;SEQ ID NO:16;SEQ ID NO:17;SEQ ID NO:164;SEQ ID NO:165所示的氨基酸序列。

[0100] 在各种实施方式中,与沙贝病毒受体结合域(RBD)蛋白具有至少75%序列同一性的氨基酸构建体包含如SEQ ID NO:4;SEQ ID NO:18;SEQ ID NO:19;SEQ ID NO:20;SEQ ID NO:21;SEQ ID NO:22;SEQ ID NO:164;或SEQ ID NO:165所示的共有氨基酸序列。

[0101] 在各种实施方式中,与沙贝病毒刺突蛋白具有至少75%序列同一性的氨基酸构建体的最小长度可以是25、50、100、200、300、400、500、600、700、800、900、1,000、1,100或1,200个氨基酸中的一个,并且最大长度可以是50、100、200、300、400、500、600、700、800、900、1,000、1,100或1,200个氨基酸中的一个。

[0102] 在各种实施方式中,与沙贝病毒受体结合域(RBD)蛋白具有至少75%序列同一性的氨基酸构建体的最小长度可以是10、20、30、40、50、100、150、200个氨基酸中的一个,并且最大长度可以是20、10、20、30、40、50、100、150、200个氨基酸中的一个。

实施例

[0103] 序列:

[0104]

SEQ ID NO:	描述	氨基酸序列
1	SARS-CoV 刺突蛋白	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKV EAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCG KGYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTS WFITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKN HTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWY VWLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHY T
2	SARS-CoV-2 刺突蛋白	MFLLTTKRTMFVFLVLLPLVSSQCVNLTTRTQLPPAYTNSFTRGVYYPDKVFRSSVL HSTQDLFLPFFSNVTWFHAIHVSGTNGTKRFDNPVLPFNDGVYFASTEKSNIIRGWI FGTTLDSKTQSLLIVNNATNVVIKVCEFQFCNDPFLGVYYHKNNKSWMESEFRVYSS ANNCTFEYVSQPFLMDLEGKQGNFKNLREFVFKNIDGYFKIYSKHTPINLVRDLPQG FSALEPLVDLPIGINITRFQTLLALHRSYLTPGDSSSGWTAGAAAYYVGYLQPRTFL LKYNENGTITDAVDCALDPLSETKCTLKSFTVEKGIYQTSNFRVQPTESIVRFPNIT NLCPFGEVFNATRFASVYAWNRKRISNCVADYSVLYNSASFSTFKCYGVSPTKLNDL CFTNVYADSFVIRGDEVRQIAPGQTGKIADYNYKLPDDFTGCVIAWNSNNLDSKVGG NYNYLYRLFRKSNLKPFERDISTEIYQAGSTPCNGVEGFNCYFPLQSYGFQPTNGVG YQPYRVVVLSFELLHAPATVCGPKKSTNLVKNKCVNFNFNGLTGTGVLTESNKKFLP FQQFGRDIADTTDAVRDPQTLEILDITPCSFGGVSVITPGTNTSNQVAVLYQDVNCT EVPVAIHADQLTPTWRVYSTGSNVFQTRAGCLIGAEHVNNSYECDIPIGAGICASYQ TQTNSPRRARSVASQSIIAYTMSLGAENSVAYSNNSIAIPTNFTISVTTEILPVSMT KTSVDCTMYICGDSTECSNLLLQYGSFCTQLNRALTGIAVEQDKNTQEVFAQVKQIY

[0105]

		KTPPIKDFGGFNFSQILPDPSKPSKRSFIEDLLFNKVTLADAGFIKQYGDCLGDIAA RDLICAQKFNGLTVLPPLLTDEMIAQYTSALLAGTITSGWTFGAGAALQIPFAMQMA YRFNGIGVTQNVLYENQKLIANQFNSAIGKIQDSLSSTASALGKLQDVVNQNAQALN TLVKQLSSNFGAISSVLNDILSRLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAE IRASANLAATKMSECVLGQSKRVDFCGKGYHLMSFPQSAPHGVVFLHVTYVPAQEKN FTTAPAICHDGKAHFPREGVFVSNGTHWFVTQRNFYEPQIITTDNTFVSGNCDVVIG IVNNTVYDPLQPELDSFKEELDKYFKNHTSPDVDLGDISGINASVVNIQKEIDRLNE VAKNLNESLIDLQELGKYEQYIKWPWYIWLGFIAGLIAIVMVTIMLCCMTSCCSCLK GCCSCGSCCKFDEDDSEPVLKGVKLHYT
3	SARS-CoV 刺突蛋白S1亚基	SDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQDLFLPFYSNVTGFH TINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSVIIINNSTNVVIRA CNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLDVSEKSGNFKHLRE FVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINITNFRAILTAFSPA QDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAELKCSVKSFEIDKG IYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWERKKISNCVADYSVL YNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKL PDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDISNVPFSPDGKPCTP PALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGPKLSTDLIKNQCVN FNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEILDISPCSFGGVSV ITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNNVFQTQAGCLIGAE HVDTSYECDIPIGAGICASYHTVSLLR
4	SARS-CoV 刺突蛋白RBD	RVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWERKKISNCVADYSVLYNSTFFS TFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDFMGC VLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDISNVPFSPDGKPCTPPALNCYW PLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGPKLSTDLIKNQCVNF
5	SARS-CoV-2 刺突蛋白S1亚基	SQCVNLTTRTQLPPAYTNSFTRGVYYPDKVFRSSVLHSTQDLFLPFFSNVTWFHAIH VSGTNGTKRFDNPVLPFNDGVYFASTEKSNIIRGWIFGTTLDSKTQSLLIVNNATNV VIKVCEFQFCNDPFLGVYYHKNNKSWMESEFRVYSSANNCTFEYVSQPFLMDLEGKQ GNFKNLREFVFKNIDGYFKIYSKHTPINLVRDLPQGFSALEPLVDLPIGINITRFQT LLALHRSYLTPGDSSSGWTAGAAAYYVGYLQPRTFLLKYNENGTITDAVDCALDPLS ETKCTLKSFTVEKGIYQTSNFRVQPTESIVRFPNITNLCPFGEVFNATRFASVYAWN RKRISNCVADYSVLYNSASFSTFKCYGVSPTKLNDLCFTNVYADSFVIRGDEVRQIA PGQTGKIADYNYKLPDDFTGCVIAWNSNNLDSKVGGNYNYLYRLFRKSNLKPFERDI STEIYQAGSTPCNGVEGFNCYFPLQSYGFQPTNGVGYQPYRVVVLSFELLHAPATVC GPKKSTNLVKNKCVNFNFNGLTGTGVLTESNKKFLPFQQFGRDIADTTDAVRDPQTL EILDITPCSFGGVSVITPGTNTSNQVAVLYQDVNCTEVPVAIHADQLTPTWRVYSTG SNVFQTRAGCLIGAEHVNNSYECDIPIGAGICASYQTQTNSPRRAR
6	SARS-CoV-2 刺突蛋白RBD	RVQPTESIVRFPNITNLCPFGEVFNATRFASVYAWNRKRISNCVADYSVLYNSASFS TFKCYGVSPTKLNDLCFTNVYADSFVIRGDEVRQIAPGQTGKIADYNYKLPDDFTGC VIAWNSNNLDSKVGGNYNYLYRLFRKSNLKPFERDISTEIYQAGSTPCNGVEGFNCY FPLQSYGFQPTNGVGYQPYRVVVLSFELLHAPATVCGPKKSTNLVKNKCVNF
7	SARS-CoV-2 刺突蛋白RBD	PNITNLCPFGEVFNATRFASVYAWNRKRISNCVADYSVLYNSASFSTFKCYGVSPTK LNDLCFTNVYDSFVIRGDEVRQIAPGQTGKIADYNYKLPDDFTGCVIAWNSNNLDSK VGGNYNYLYRLFRKSNLKPFERDISTEIYQAGSTPCNGVEGFNCYFPLQSYGFQPTN GVGYQPYRVVVLSFELLHAPATVCGPKKS
8	SARS-CoV-2 刺突蛋白S1亚基	MLLVNQSHQGFNKEHTSKMVSAIVLYVLLAAAAHSAFAQCVNLTTRTQLPPAYTNSF TRGVYYPDKVFRSSVLHSTQDLFLPFFSNVTWFHAIHVSGTNGTKRFDNPVLPFNDG VYFASTEKSNIIRGWIFGTTLDSKTQSLLIVNNATNVVIKVCEFQFCNDPFLGVYYH KNNKSWMESEFRVYSSANNCTFEYVSQPFLMDLEGKQGNFKNLREFVFKNIDGYFKI YSKHTPINLVRDLPQGFSALEPLVDLPIGINITRFQTLLALHRSYLTPGDSSSGWTA GAAAYYVGYLQPRTFLLKYNENGTITDAVDCALDPLSETKCTLKSFTVEKGIYQTSN FRVQPTESIVRFPNITNLCPFGEVFNATRFASVYAWNRKRISNCVADYSVLYNSASF

[0106]

		STFKCYGVSPTKLNDLCFTNVYADSFVIRGDEVRQIAPGQTGKIADYNYKLPDDFTG CVIAWNSNNLDSKVGGNYNYLYRLFRKSNLKPFERDISTEIYQAGSTPCNGVEGFNC YFPLQSYGFQPTNGVGYQPYRVVVLSFELLHAPATVCGPKKSTNLVKNKCVNFNFNG LTGTGVLTESNKKFLPFQQFGRDIADTTDAVRDPQTLEILDITPCSFGGVSVITPGT NTSNQVAVLYQDVNCTEVPVAIHADQLTPTWRVYSTGSNVFQTRAGCLIGAEHVNNS YECDIPIGAGICASYQTQTNSPRRAR
9	SARS-CoV 刺突蛋白RBD	MNITNLCPFGEVFNATKFPSVYAWERKKISNCVADYSVLYNSTFFSTFKCYGVSATK LNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDFMGCVLAWNTRNIDA TSTGNYNYKYRYLRHGKLRPFERDISNVPFSPDGKPCTPPALNCYWPLNDYGFYTTT GIGYQPYRVVVLSFELLNAPATYLSLNTAAAL
10	人工沙贝病毒刺突共有1	MFIFLFFLTLVSGSTIEKCTTFDDVQPPNYTQFLSSHRGVYYPDDIFRSDVLHLTQD HFLPFDSNVTGFITFGLNFDNPIIPFKDGIYFAATEKSNVIRGWVFGSTMNNKSQSV IIMNNSTNVVIRACNFELCDNPFFAVSKPNNTQIPSYIFNNAFNCTFEYVSDDFNLD VGEKPGNFKHLREFVFKNKDGFLYVYSGYQPIDVASGLPSGFNALKPIFKLPLGINI TNFRTLLTAFPPRPDYWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNTSSEVAVLYQDVNCTDVPVAIHADQLTPAWRVYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAVEQDRNTREVFAQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDPP EAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCG KGYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTS WFITQRNFFSPQIITTDNTFVSGSCDVVIGIINNTVYDPLQPELDSFKEELDKYFKN HTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWY VWLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHY T
11	人工沙贝病毒刺突共有2	MFIFLLFFTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTRTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGIKI TNFRAILTAFSPAQGTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNHNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLRGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPRSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMTKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTVDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDPP EAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVGFCG KGYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFSGTS

		WFITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKN HTSPDVDLGDISGINASWNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
12	人工沙贝病毒刺突共有3	MFIFLFFLTLVSGSDLESCTTFDDVQAPNYPQHSSSRRGVYYPDEIFRSDTLYLTQD LFLPFDSNVTGFHTINHRFDNPVIPFKDGVYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPTGTQTHTMIFNNAFNCTFEYISDSFSLD VAEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNILKPIFKLPLGINI TNFRAILTAFLPAQDTWGTSAAAYFVGYLKPATFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFTGCVLAWNTRNIDATQTGNYNYKYRSLRHGKLRPFERDIS NVPFSPDGKPCTPPAFNCYWPLNDYGFYTTNGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNTSSEVAVLYQDVNCTDVPVAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAVEQDRNTREVFAQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDPP EAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCG KGYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTS WFITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKN HTSPDVDLGDISGINASWNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
13	人工沙贝病毒刺突共有4	MFIFLFFLTLVSGSTIEKCTTFDDVQPPNYTQFLSSHRGVYYPDDIFRSDVLHLTQD HFLPFDSNVTGFITFGLNFDNPIIPFKDGIYFAATEKSNVIRGWVFGSTMNNKSQSV IIMNNSTNVVIRACNFELCDNPFFAVSKPNNTQIPSYIFNNAFNCTFEYVSDDFNLD VGEKPGNFKHLREFVFKNKDGFLYVYSGYQPIDVASGLPSGFNALKPIFKLPLGINI TNFRTLLTAFPPRPDYWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRSLRHGKLRPFERDIS NVPFSPDGKPCTPPAFNCYWPLNDYGFFTTNGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNTSSEVAVLYQDVNCTDVPVAIHADQLTPAWRVYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAVEQDRNTREVFAQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDPP EAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCG KGYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTS WFITQRNFFSPQIITTDNTFVSGSCDVVIGIINNTVYDPLQPELDSFKEELDKYFKN HTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWY VWLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHY T
14	人工沙贝病毒刺突共有5	MFVFLFLLLPLVSSQCVNLTTRTGIPPGYTNSSTRGVYYPDKVFRSSVLHLTQDLFLP FFSNVTWFNAINYQGGFKRFDNPVLPFNDGVYFASTEKSNIIRGWIFGTTLDARTQS LLIVNNATNWIKVCEFQFCTDPFLGVYYHNNNKTWVENEFRVYSSANNCTFEYVSQP FLMDLEGKQGNFKNLREFVFKNVDGYFKIYSKHTPIDLVRDLPRGFSALEPLVDLPI

[0107]

[0108]

		GINITRFQTLLALHRSYLTPGKLESGWTTGAAAYYVGYLQPRTFLLSYNENGTITDA VDCALDPLSETKCTLKSLTVEKGIYQTSNFRVQPTISIVRFPNITNLCPFGEVFNAT RFASVYAWNRKRISNCVADYSVLYNSTSFSTFKCYGVSPTKLNDLCFTNVYADSFVV RGDEVRQIAPGQTGVIADYNYKLPDDFTGCVIAWNSVKQDALTGGNYNYLYRLFRKS KLKPFERDISTEIYQAGSTPCNGVVGLNCYYPLQRYGFHPTTGVGYQPYRVVVLSFE LLNAPATVCGPKKSTNLVKNKCVNFNFNGLTGTGVLTESNKKFLPFQQFGRDIADTT DAVRDPQTLEILDITPCSFGGVSVITPGTNTSNQVAVLYQDVNCTEVPVAIHADQLT PTWRVYSTGSNVFQTRAGCLIGAEHVNNSYECDIPIGAGICASYQTQTNSPRRARSV NSQSIIAYTMSLGAENSVAYSNNSIAIPTNFTISVTTEILPVSMTKTSVDCTMYICG DSIECSNLLLQYGSFCTQLNRALTGIAVEQDKNTQEVFAQVKQIYKTPPIKDFGGFN FSQILPDPSKPSKRSFIEDLLFNKVTLADAGFIKQYGDCLGDIAARDLICAQKFNGL TVLPPLLTDEMIAQYTSALLAGTITSGWTFGAGAALQIPFAMQMAYRFNGIGVTQNV LYENQKLIANQFNSAIGKIQDSLSSTASALGKLQDVNQNAQALNTLVKQLSSNFGAI SSVLNDILSRLDPPEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMS ECVLGQSKRVDFCGKGYHLMSFPQSAPHGVVFLHVTYVPAQEKNFTTAPAICHEGKA HFPREGVFVSNGTHWFVTQRNFYEPQIITTDNTFVSGSCDVVIGIVNNTVYDPLQPE LDSFKEELDKYFKNHTSPDVDLGDISGINASWNIQKEIDRLNEVAKNLNESLIDLQE LGKYEQYIKWPWYIWLGFIAGLIAIIMVTIMLCCMTSCCSCLKGCCSCGSCCKFDED DSEPVLKGVKLHYT
15	人工沙贝病毒刺突共有6	MFVFLFLLPLVSSQCVNLTTRTGIPPGYTNSSTRGVYYPDKVFRSSVLHLTQDLFLP FFSNVTWFNAINYQGGFKRFDNPVLPFNDGVYFASTEKSNIIRGWIFGTTLDARTQS LLIVNNATNWIKVCEFQFCTDPFLGVYYHNNNKTWVENEFRVYSSANNCTFEYVSQP FLMDLEGKQGNFKNLREFVFKNVDGYFKIYSKHTPIDLVRDLPRGFSALEPLVDLPI GINITRFQTLLALHRSYLTPGKLESGWTTGAAAYYVGYLQPRTFLLSYNENGTITDA VDCALDPLSETKCTLKSFTVEKGIYQTSNFRVQPTESIVRFPNITNLCPFGEVFNAT RFASVYAWNRKRISNCVADYSVLYNSASFSTFKCYGVSPTKLNDLCFTNVYADSFVI RGDEVRQIAPGQTGKIADYNYKLPDDFTGCVIAWNSNNLDSKVGGNYNYLYRLFRKS NLKPFERDISTEIYQAGSTPCNGVEGFNCYFPLQSYGFQPTNGVGYQPYRVVVLSFE LLHAPATVCGPKKSTNLVKNKCVNFNFNGLTGTGVLTESNKKFLPFQQFGRDIADTT DAVRDPQTLEILDITPCSFGGVSVITPGTNTSNQVAVLYQDVNCTEVPVAIHADQLT PTWRVYSTGSNVFQTRAGCLIGAEHVNNSYECDIPIGAGICASYQTQTNSPRRARSV NSQSIIAYTMSLGAENSVAYSNNSIAIPTNFTISVTTEILPVSMTKTSVDCTMYICG DSIECSNLLLQYGSFCTQLNRALTGIAVEQDKNTQEVFAQVKQIYKTPPIKDFGGFN FSQILPDPSKPSKRSFIEDLLFNKVTLADAGFIKQYGDCLGDIAARDLICAQKFNGL TVLPPLLTDEMIAQYTSALLAGTITSGWTFGAGAALQIPFAMQMAYRFNGIGVTQNV LYENQKLIANQFNSAIGKIQDSLSSTASALGKLQDWNQNAQALNTLVKQLSSNFGAI SSVLNDILSRLDPPEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMS ECVLGQSKRVDFCGKGYHLMSFPQSAPHGVVFLHVTYVPAQEKNFTTAPAICHEGKA HFPREGVFVSNGTHWFVTQRNFYEPQIITTDNTFVSGSCDVVIGIVNNTVYDPLQPE LDSFKEELDKYFKNHTSPDVDLGDISGINASWNIQKEIDRLNEVAKNLNESLIDLQE LGKYEQYIKWPWYIWLGFIAGLIAIIMVTIMLCCMTSCCSCLKGCCSCGSCCKFDED DSEPVLKGVKLHYT
16	人工沙贝病毒刺突共有7	MFVFLFLLPLVSSQCVNLTTRTGIPPGYTNSSTRGVYYPDKVFRSSILHLTQDLFLP FFSNVTWFNTINYQGGFKKFDNPVLPFNDGVYFASTEKSNIIRGWIFGTTLDNTTQS LLIVNNATNVVIKVCEFQFCTDPFLGVYYHNNNKTWVENEFRVYSSANNCTFEYVSQ PFLMDLEGKQGNFKNLREFVFKNVDGYFKIYSKHTPIDLVRDLPRGFSALEPLVDLP IGINITRFQTLLALHRSYLTPGKLESGWTTGAAAYYVGYLQQRTFLLSYNENGTITD AVDCSLDPLSETKCTLKSLTVEKGIYQTSNFRVQPTISIVRFPNITNLCPFGEVFNA TKFASVYAWNRKRISNCVADYSVLYNSTSFSTFKCYGVSPTKLNDLCFTNVYADSFV VRGDEVRQIAPGQTGVIADYNYKLPDDFTGCVIAWNSVKQDAKTGGNYNYLYRLFRK SKLKPFERDISTEIYQAGSTPCNGVVGLNCYYPLERYGFHPTNGVGYQPYRVVVLSF ELLNAPATVCGPKLSTTLVKNKCVNFNFNGLTGTGVLTTSKKKFLPFQQFGRDISDT

[0109]

		TDAVRDPQTLEILDITPCSFGGVSVITPGTNTSNQVAVLYQDVNCTEVPMAIHADQL TPTWRVYSTGANVFQTRAGCLIGAEHVNNSYECDIPIGAGICASYHTQTNSRSVNSQ SIIAYTMSLGAENSVAYSNNSIAIPTNFTISVTTEILPVSMTKTSVDCTMYICGDSI ECSNLLLQYGSFCTQLNRALTGIAVEQDKNTQEVFAQVKQIYKTPPIKDFGGFNFSQ ILPDPSKPSKRSFIEDLLFNKVTLADAGFIKQYGDCLGDIAARDLICAQKFNGLTVL PPLLTDEMIAQYTSALLAGTITSGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYE NQKLIANQFNSAIGKIQDSLSSTASALGKLQDVVNQNAQALNTLVKQLSSNFGAISS VLNDILSRLDPPEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSEC VLGQSKRVDFCGKGYHLMSFPQSAPHGVVFLHVTYVPAQEKNFTTAPAICHEGKAHF PREGVFVSNGTHWFVTQRNFYEPQIITTDNTFVSGSCDVVIGIVNNTVYDPLQPELD SFKEELDKYFKNHTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQEL GKYEQYIKWPWYIWLGFIAGLIAIIMVTIMLCCMTSCCSCLKGCCSCGSCCKFDEDD SEPVLKGVKLHYT
	17	人工沙贝病毒刺突共有8	MFIFLFFLTLVSSQCVNFDDRTPPPPTQTNSSTRGVYYPDDIFRSSVLHLTQDLFLP FFSNVTWFHTINYRFDNPVIPFKDGVYFAATEKSNVIRGWIFGSTMDNKSQSVIIVN NSTNVVIRVCNFQLCDNPFFAVYNKTWTQIESRVYSNAFNCTFEYVSKSFLLDLGEK QGNFKHLREFVFKNKDGFLKVYSGYTPIDLVRDLPSGFNALKPIFKLPLGINITNFR TLLTAFRPGQSGWGTSAAAYFVGYLKPRTFMLKYDENGTITDAVDCSQDPLAELKCT LKSFEVEKGIYQTSNFRVQPTKEVVRFPNITNLCPFGEVFNATTFPSVYAWERKRIS NCVADYSVLYNSTSFSTFKCYGVSPTKLNDLCFSNVYADSFVVKGDDVRQIAPGQTG VIADYNYKLPDDFTGCVLAWNTRNIDATTGGNYNYLYRLFRHSKLKPFERDISNVIY SPGGKPCTPPGFNCYWPLNDYGFYPTNGVGYQPYRVVVLSFELLNAPATVCGPKLST DLVKNKCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTLEILDIS PCSFGGVSVITPGTNTSSEVAVLYQDVNCTDVPVAIHADQLTPAWRVYSTGNNVFQT QAGCLIGAEHVNNSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAENSIA YSNNSIAIPTNFSISVTTEVLPVSMTKTSVDCTMYICGDSTECSNLLLQYGSFCTQL NRALSGIAVEQDKNTQEVFAQVKQIYKTPPIKDFGGFNFSQILPDPSKPSKRSFIED LLFNKVTLADAGFMKQYGDCLGDINARDLICAQKFNGLTVLPPLLTDEMIAAYTAAL VSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKAISQI QESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDPPEAEV QIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGKGYH LMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAHFPREGVFVSNGTHWFIT QRNFYSPQIITTDNTFVSGSCDVVIGIVNNTVYDPLQPELDSFKEELDKYFKNHTSP DVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYVWLG FIAGLIAIVMVTIMLCCMTSCCSCLKGCCSCGSCCKFDEDDSEPVLKGVKLHYT
	18	人工沙贝病毒RBD共有1	SNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWERKRISNCVADYSVLYNST SFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDF MGCVLAWNTRNIDATSTGNHNYKYRYLRHGKLRPFERDISNVPFSPDGKPCTPPAPN CYWPLRGYGFYTTSGIGYQPYRWVLSFELLNAPATVCGPKLSTDLIKNQCVNFNFNG LTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEIL
	19	人工沙贝病毒RBD共有2	SNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWERKRISNCVADYSVLYNST SFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDF TGCVLAWNTRNIDATQTGNYNYKYRSLRHGKLRPFERDISNVPFSPDGKPCTPPAFN CYWPLNDYGYTTNGIGYQPYRVVVLSFELLNAPATVCGPKLSTDLIKNQCVNFNFNG LTGTGVLTPSSRFQPFQQFGRDVSDFTDSVRDPKTSEIL
	20	人工沙贝病毒RBD共有3	SNFRVQPTISIVRFPNITNLCPFGEVFNATRFASVYAWNRKRISNCVADYSVLYNST SFSTFKCYGVSPTKLNDLCFTNVYADSFVVRGDEVRQIAPGQTGVIADYNYKLPDDF TGCVIAWNSVKQDALTGGNYNYLYRLFRKSKLKPFERDISTEIYQAGSTPCNGVVGL NCYYPLQRYGFHPTTGVGYQPYRVVVLSFELLNAPATVCGPKKSTNLVKNKCVNFNF NGLTGTGVLTESNKKFLPFQQFGRDIADTTDAVRDPQTLEIL
	21	人工沙贝病毒RBD共有4	SNFRVQPTISIVRFPNITNLCPFGEVFNATKFASVYAWNRKRISNCVADYSVLYNST SFSTFKCYGVSPTKLNDLCFTNVYADSFVVRGDEVRQIAPGQTGVIADYNYKLPDDF

[0110]

		TGCVIAWNSVKQDAKTGGNYNYLYRLFRKSKLKPFERDISTEIYQAGSTPCNGVVGL NCYYPLERYGFHPTNGVGYQPYRVVVLSFELLNAPATVCGPKLSTTLVKNKCVNFNF NGLTGTGVLTTSKKKFLPFQQFGRDISDTTDAVRDPQTLEIL
22	人工沙贝病毒RBD共有5	SNFRVQPTKEVVRFPNITNLCPFGEVFNATTFPSVYAWERKRISNCVADYSVLYNST SFSTFKCYGVSPTKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDF TGCVLAWNTRNIDATTGGNYNYLYRLFRHSKLKPFERDISNVIYSPGGKPCTPPGFN CYWPLNDYGFYPTNGVGYQPYRVVVLSFELLNAPATVCGPKLSTDLVKNKCVNFNFN GLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTLEIL
23	冠状病毒BtRs-Beta CoV/ YN2018B刺突蛋白(Genbank: QDF43825)	MKLLVLVFATLVSSYTIEKCTDFDDRTPPSNTQFLSSHRGVYYPDDIFRSNVLHLVQ DHFLPFDSNVTRFITFGLNFDNPIIPFRDGVYFAATEKSNVIRGWVFGSTMNNKSQS VIIMNNSTNLVIRACNFELCDNPFFVVLRSNNTQIPSYIFNNAFNCTFEYVSKDFNL DIGEKPGNFKDLREFVFRNKDGFLHVYSGYQPISAASGLPTGFNALKPIFKLPLGIN ITNFRTLLTAFPPNPGYWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLA ELKCSVKSFEIDKGIYQTSNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWE RKRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIA PGQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRSLRHGKLRPFERDI SNVPFSPDGKPCTPPAFNCYWPLNDYGFFTTNGIGYQPYRVVVLSFELLNAPATVCG PKLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSE ILDISPCSFGGVSVITPGTNTSSEVAVLYQDVNCTDVPVAIHADQLTPAWRIYSTGN NVFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGA DSSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGS FCTQLNRALSGIAVEQDRNTREVFAQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKR SFIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAA YTAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNK AISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDK VEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFC GKGYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGT SWFITQRNFFSPQIITTDNTFVSGSCDVVIGIINNTVYDPLQPELDSFKEELDKYFK NHTSPDVDLGDISGINASWNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWY VWLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHY T
24	蝙蝠SARS-样冠状病毒刺突蛋白(Genbank: AT098218)	MKLLVLVFATLVSSYTIEKCLDFDDRTPPANTQFLSSHRGVYYPDDIFRSNVLHLVQ DHFLPFDSNVTRFITFGLNFDNPIIPFRDGIYFAATEKSNVIRGWVFGSTMNNKSQS VIIMNNSTNLVIRACNFELCDNPFFVVLKSNNTQIPSYIFNNAFNCTFEYVSKDFNL DLGEKPGNFKDLREFVFRNKDGFLHVYSGYQPISAASGLPTGFNALKPIFKLPLGIN ITNFRTLLTAFPPRPDYWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLA ELKCSVKSFEIDKGIYQTSNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWE RKRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIA PGQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRSLRHGKLRPFERDI SNVPFSPDGKPCTPPAFNCYWPLNDYGFFTTNGIGYQPYRVVVLSFELLNAPATVCG PKLSTDLIKNQCVNFNFNGLTGTGVLTSSSKRFQPFQQFGRDVSDFTDSVRDPKTSE ILDISPCSFGGVSVITPGTNTSSEVAVLYQDVNCTDVPVAIHADQLTPAWRIYSTGN NVFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGA DSSIVYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGS FCTQLNRALSGIAVEQDRNTREVFAQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKR SFIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAA YTAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNK AISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDK VEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFC GKGYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGT SWFITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFK NHTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPW

		YVWLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
25	蝙蝠SARS-样冠状病毒刺突蛋白(Genbank:AT098231)	MKLLVLVFATLVSSYTIEKCLDFDDRTPPANTQFLSSHRGVYYPDDIFRSNVLHLVQDHFLPFDSNVTRFITFGLNFDNPIIPFRDGIYFAATEKSNVIRGWVFGSTMNNKSQSVIIMNNSTNLVIRACNFELCDNPFFVVLKSNNTQIPSYIFNNAFNCTFEYVSKDFNLDLGEKPGNFKDLREFVFRNKDGFLHVYSGYQPISAASGLPTGFNALKPIFKLPLGINITNFRTLLTAFPPRPDYWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAELKCSVKSFEIDKGIYQTSNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWERKRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDFLGCVLAWNTNSKDSSTSGNYNYLYRWVRRSKLNPYERDLSNDIYSPGGQSCSAVGPNCYNPLRPYGFFTTAGVGHQPYRVVVLSFELLNAPATVCGPKLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEILDISPCSFGGVSVITPGTNTSSEVAVLYQDVNCTDVPVAIHADQLTPSWRVYSTGNNVFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGADSSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSFCTQLNRALSGIAVEQDRNTREVFAQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRSFIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAYTAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKAISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGKGYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSWFITQRNFFSPQIITTDNTFVSGSCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNHTSPDVDLGDISGINASWNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYVWLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
26	蝙蝠SARS-样冠状病毒RsSHC014刺突蛋白(Genbank:AGZ48806)	MKLLVLVFATLVSSYTIEKCLDFDDRTPPANTQFLSSHRGVYYPDDIFRSNVLHLVQDHFLPFDSNVTRFITFGLNFDNPIIPFRDGIYFAATEKSNVIRGWVFGSTMNNKSQSVIIMNNSTNLVIRACNFELCDNPFFVVLKSNNTQIPSYIFNNAFNCTFEYVSKDFNLDLGEKPGNFKDLREFVFRNKDGFLHVYSGYQPISAASGLPTGFNALKPIFKLPLGINITNFRTLLTAFPPRPDYWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAELKCSVKSFEIDKGIYQTSNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWERKRISNCVADYSILYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDFLGCVLAWNTNSKDSSTSGNYNYLYRWVRRSKLNPYERDLSNDIYSPGGQSCSAVGPNCYNPLRPYGFFTTAGVGHQPYRVVVLSFELLNAPATVCGPKLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEILDISPCSFGGVSVITPGTNTSSEVAVLYQDVNCTDVPVAIHADQLTPSWRVYSTGNNVFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGADSSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSFCTQLNRALSGIAVEQDRNTREVFAQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRSFIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAYTAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKAISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGKGYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSWFITQRNFFSPQIITTDNTFVSGSCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNHTSPDVDLGDISGINASWNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYVWLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
27	蝙蝠SARS-样冠状病毒刺突蛋白(Genbank:	MKLLVLVFATLVSSYTIEKCLDFDDRTPPANTQFLSSHRGVYYPDDIFRSNVLHLVQDHFLPFDSNVTRFITFGLNFDNPIIPFKDGIYFAATEKSNVIRGWVFGSTMNNKSQSVIIMNNSTNLVIRACNFELCDNPFFVVLKSNNTQIPSYIFNNAFNCTFEYVSKDFNLDLGEKPGNFKDLREFVFRNKDGFLHVYSGYQPISAASGLPTGFNALKPIFKLPLGIN

[0111]

[0112]

	AT098132)	ITNFRTLLTAFPPRPDYWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLA ELKCSVKSFEIDKGIYQTSNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWE RKRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIA PGQTGVLADYNYKLPDDFTGCVLAWNTRNIDATQTGNYNYKYRSLRHGKLRPFERDI SNVPFSPDGKPCTPPAFNCYWPLNDYGFYITNGIGYQPYRVVVLSFELLNAPATVCG PKLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSE ILDISPCSFGGVSVITPGTNTSSEVAVLYQDVNCTDVPVAIHADQLTPSWRVYSTGN NVFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGA DSSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGS FCTQLNRALSGIAVEQDRNTREVFAQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKR SFIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAA YTAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNK AISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDK VEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFC GKGYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGT SWFITQRNFFSPQIITTDNTFVSGSCDVVIGIINNTVYDPLQPELDSFKEELDKYFK NHTSPDVDLGDISGINASWNIQKEINRLNEVAKNLNESLIDLQELGKYEQYIKWPWY VWLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHY T
28	蝙蝠SARS-样冠状病毒Rs3367刺突蛋白(Genbank:AGZ48818)	MKLLVLVFATLVSSYTIEKCLDFDDRTPPANTQFLSSHRGVYYPDDIFRSNVLHLVQ DHFLPFDSNVTRFITFGLNFDNPIIPFKDGIYFAATEKSNVIRGWVFGSTMNNKSQS VIIMNNSTNLVIRACNFELCDNPFFVVLKSNNTQIPSYIFNNAFNCTFEYVSKDFNL DLGEKPGNFKDLREFVFRNKDGFLHVYSGYQPISAASGLPTGFNALKPIFKLPLGIN ITNFRTLLTAFPPRPDYWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLA ELKCSVKSFEIDKGIYQTSNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWE RKRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIA PGQTGVLADYNYKLPDDFTGCVLAWNTRNIDATQTGNYNYKYRSLRHGKLRPFERDI SNVPFSPDGKPCTPPAFNCYWPLNDYGFYITNGIGYQPYRVVVLSFELLNAPATVCG PKLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSE ILDISPCSFGGVSVITPGTNTSSEVAVLYQDVNCTDVPVAIHADQLTPSWRVHSTGN NVFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGA DSSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGS FCTQLNRALSGIAVEQDRNTREVFAQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKR SFIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAA YTAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNK AISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDK VEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFC GKGYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGT SWFITQRNFFSPQIITTDNTFVSGSCDVVIGIINNTVYDPLQPELDSFKEELDKYFK NHTSPDVDLGDISGINASWNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWY VWLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHY T
29	蝙蝠SARS-样冠状病毒WIV1刺突蛋白(Genbank:AGZ48828)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI

[0113]

		LDISPCAFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
30	SARS冠状病毒Tor2刺突糖蛋白(Genbank:YP_009825051)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCAFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
31	蝙蝠SARS-样冠状病毒刺突蛋白(Genbank:AT098157)	MFIFLFFLTLTSGSDLESCTTFDDVQAPNYPQHSSSRRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHRFDNPVIPFKDGVYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPTGTQTHTMIFDNAFNCTFEYISDSFSLD VAEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNILKPIFKLPLGINI TNFRAILTAFLPAQDTWGTSAAAYFVGYLKPATFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFLGCVLAWNTNSKDSSTSGNYNYLYRWVRRSKLNPYERDLS NDIYSPGGQSCSAIGPNCYNPLRPYGFFTTAGVGHQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTSSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNTSSEVAVLYQDVNCTDVPVAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAVEQDRNTREVFAQVKQMYKTPALKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDVNARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK

[0114]

		GYHLMSFPQAAPHGVVFLHVTCVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGSCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
32	SARS-样冠状病毒WIV16刺突蛋白(Genbank:ALK02457)	MFIFLFFLTLTSGSDLESCTTFDDVQAPNYPQHSSSRRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHRFDNPVIPFKDGVYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPTGTQTHTMIFDNAFNCTFEYISDSFSLD VAEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNILKPIFKLPLGINI TNFRAILTAFLPAQDTWGTSAAAYFVGYLKPATFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFTGCVLAWNTRNIDATQTGNYNYKYRSLRHGKLRPFERDIS NVPFSPDGKPCTPPAFNCYWPLNDYGFYITNGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVLDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNTSSEVAVLYQDVNCTDVPVAIHADQLTPSWRVYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAVEQDRNTREVFAQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGSCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
33	蝙蝠SARS-样冠状病毒刺突蛋白(Genbank:AT098205)	MFIFLFFLTLTSGSDLESCTTFDDVQAPNYPQHSSSRRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHRFDNPVIPFKDGVYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPTGTQTHTMIFDNAFNCTFEYISDSFSLD VAEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNILKPIFKLPLGINI TNFRAILTAFLPAQDTWGTSAAAYFVGYLKPATFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFTGCVLAWNTRNIDATQTGNYNYKYRSLRHGKLRPFERDIS NVPFSPDGKPCTPPAFNCYWPLNDYGFYITNGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNTSSEVAVLYQDVNCTDVPVAIHADQLTPSWRVYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAVEQDRNTREVFAQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGSCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
34	中菊头蝠(*Rhinolophus affinis*)冠状病毒刺	MFLTCFILSFSLFCVSGDSIDTCETFDDVSPPQQNLVSSSKRGVYYPDDIYRSDVHH LVQDLFLPFNSNVVGLMSFNYRFDNPIIPFKDGVYFAATEKSNVVRGWVFGSTMNNK SQSVIIMNNSTNVVIRACNFQLCDNPFFAVIRPTSQQIETILFENAFNCTFEYVSDS FLMDVGEKPGNFKHLREFIFKNKDGFLNIYSGFQNIDVANGLPSGFSLLKPLLKLPL

[0115]

	突蛋白(Genbank:AHX37558)	GLNITNFRVLLTAFIPNIGTWGTSPVAYFVGYLKPTTFMLKYDYNGTIVDAVDCSQH PLAELKCSVKSFEIDKGIYQTSNFRVSPSKEVVRFPNITNLCPFGEVFNATTFPSVY AWERKRISNCVADYSVLYNSTSFSTFKCYGVSAIKLNDLCFSNVYADSFVVKGDDVR QIAPGQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSSGNFNYKYRSLRHGKLRPFE RDISNVPFSPDGKPCTPPAFNCYWPLNDYGFYTTNGIGYQPYRVVVLSFELLNAPAT VCGPKLSTDLITNQCVNFNFNGLTGTGVLTPSLKRFQPFQQFGRDFSDFTDSVRDPK TLEVLDISPCSFGGVSVITPGTNISSEVAVLYQDVNCTDVPTAIHADQLTPAWRIYS AGVNVFQTQAGCLIGAEHVNASYECDIPIGAGICASYHTASLLRNTDQKSIVAYTMS LGAENSIAYANNSIAIPTNFSISITTEVMPVSMAKTSVDCTMYICGDSQECSNLLLQ YGSFCTQLNRALSGIAVEQDKNTQEVFAQVKQIYKTPAIKDFGGFNFSQILPDPSKP TKRSFIEDLLFNKVTLADAGFMKQYGECLGDISARDLICAQKFNGLTVLPPLLTDEM IAAYTAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQ FNKAISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSR LDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRV DFCGKGYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVS NGTSWFITQRNFFSPQLITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDK YFKNHTSPDVDLGDISRINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIK WPWYVWLGFIAGLIAIVMATILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGV KLHYT
35	中菊头蝠冠状病毒刺突蛋白(Genbank:AHX37569)	MFLTCFILIFSLFCVSGDSIDTCETFDDVSPPQQNLVSSSKRGVYYPDDIYRSDAHH LVQDLFLPFNSNWGLMSFNYRFDNPIIPFKDGVYFAATEKSNVVRGWVFGSTMNNKS QSAIIMNNSTNVVIRACNFQLCDNPFFAVIRPTSQQIETILFENAFNCTFEYVSDSF LMDVGEKPGNFKHLREFIFKNKDGFLYIYSGFQNIDVANGLPSGFSLLKPLLKLPLG LNITNFRVLLTAFIPNIGTWGTSPVAYFVGYLKPTTFMLKYDYNGTIVDAVDCSQHP LAELKCSVKSFDIDKGIYQTSNFRVSPSREVVRFPNITNLCPFGEVFNATTFPSVYA WERKRISNCVADYSVLYNSTSFSTFKCYGVSAIKLNDLCFSNVYADSFVVKGDDVRQ IAPGQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSSGNFHYKYRSLRHGKLRPFER DISNVPFSPDGKPCTPPAFNCYWPLNDYGFYTTNGIGYQPYRVVVLSFELLNAPATV CGPKLSTDLITNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKT LEVLDISPCSFGGVSVITPGTNISSEVAVLYQDVNCTDVPTAIHADQLTPAWRIYSA GENVFQTQAGCLIGAEHVNASYECDIPIGAGICASYHTASLLRNTGQKSIVAYTMSL GAENSIAYANNSIAIPTNFSISITTEVMPVSMAKTSVDCTMYICGDSQECSNLLLQY GSFCTQLNRALSGIAVEQDSNTQEVFAQVKQIYKTPAIKDFGGFNFSQILPDPSKPT KRSFIEDLLFNKVTLADAGFMKQYGECLGDISARDLICAQKFNGLTVLPPLLTDEMI AAYTAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQF NKAISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRL DKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVD FCGKGYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFN GTSWFITQRNFFSPQLITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKY FKNHTSPDVDLGDISRINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKW PWYVWLGFIAGLIAIVMATILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVK LHYT
36	SARS-相关冠状病毒刺突蛋白(Genbank:AP040579)	MKFFILLSLLSFTTAQEGCGILSNKSNPALTQYFSSRRGFYYFDDTFRSSVRVLTTG YFLPFNSNLTGYSSRNSVTGRLIQFDNPNIPFKDGLYFAATERSNVLRGWIFGSTLD NTTQSAVLFNNGTHIVINVCNFYFCQDPMLAVANGSHFKSWVFLNATNCTYNRVHGF EIDPSPNTGSFIHLREHVFRNVDGFLYVYHNYERVDVYDNFPQGFSVLKPIFKLPFG LNITQFKVIMTLFSPTTSSFNADASVYFVGHLKPLTMLAEFDENGTITDAVDCSQDP LSELKCTTKSLTVEKGIYQTSNFRVSPSTEVVRFPNITNLCPFGQVFNASNFPSVYA WERLRISDCVADYAVLYNSSSSFSTFKCYGVSPTKLNDLCFSSVYADYFVVKGDDVR QIAPAQTGVIADYNYKLPDDFTGCVLAWNTNSVDSKSGNNFYYRLFRHGKIKPYERD ISNVLYNSAGGTCSSISQLGCYEPLKSYGFTPTVGVGYQPYRVVVLSFELLNAPATV CGPKKSTELVKNKCVNFNFNGLTGTGVLTSSTKKFQPFQQFGRDVSDFTDSVRDPKT

[0116]

		FEILDISPCSYGGVSVITPGTNTSKAVAVLYQDVNCTDVPTMIHVEQVSSDWRVYAF NSYGNMFQTQAGCLVGAIYENTTYECDIPIGAGICAKFGSDKIRMGQESIVAYTMSI GEDQSIAYSNNIIAIPTNFSISVTTEVLPVSMTKTSVDCNMYICGDSTECSNLLLQY GSFCTQLNRALSGIAVEQDRNTRDVFAQTKSIYKTPNIKDFGGFNFSQILPDPKKLS YRSFIEDLLYNKVTLSDPGFMKQYGDCLGGINARDLICAQKFNGLTVLPPLLTDDMI AAYTAALISGTATAGYTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQF NNAISKIQDSLTTTSAALGKLQDVINQNAVALNTLVKQLSSNFGAISSVLNDILSRL DKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVD FCGKGYHLMSFPQAAPHGVVFLHVTYVPSQQQNFTTAPAICHNGKAYFPREGVFVMN GTHWFITQRNFYSPQVITTDNTFESGSCDVVIGIINNTVYDPLQPELESFKQELDKY FKNHTSPDVDFGDISGINASVVDIKKEIAHLNEIAKNLNESLIDLQELGKYEQYVKW PWYVWLGFVAGIVAILMSVIMLCCMTNCCSCFKGMCSCGSCCKFDEDHSEPVSGVKL HYT
37	SARS-样冠状病毒 BatCoV/BB9904/BGR/2008 刺突糖蛋白 (Genbank: ALJ94036)	MKVLIFLSLLSLVSAQDGCDRFSSKKTPLLTQFPSSKRGLYYFDDIFRSSTRVLTSG HFLPFNSNVTRYTTQHSAPGEWMIYFDNPNITFGDGVYFGAAERSNALRGWIFGSTM DNTTQSAILYNNGTHIVISVCNFNLCEQPMIKVFAGRSYRSLIYTNAANCTYQRVHA FNITTATGNGNLIHFREHVFRNVDGFLYVYHNYELVNLSHTNPSFPAGFSVLKPIFK LPFGLNITFVRAIMTVFSASTSQFEADYSAYFVGHLKPLTMLVDFDENGTITDAVDC SQDPLSELKCTTKSFTVEKGIYQTSNFRVTPTTEVVRFPNITKLCPFDQVFNASSFP SVYAWERVRITDCVANYAVLYNSSVSFSTFQCYGVSPTKLNDLCFSSVYADYFIVKG DDVRQIAPSQTGVIADYNYKLPDDFTGCVIAWNTNALDSNKDFYYRLFRHGKIKPYG RDLSNIPYSPSGTCSTINNLNCFAPLKSYGFTQSSGISFQPYRVVVLSFELLNAPAT VCGPKQSTELVKDKCVNFNFNGLTGTGVLTSSSKKFQPFQQFGRDVSDFTDSVRDPK TLEILDIAPCSYGGVSVITPGTNASNSVAVLYQDVNCTDVPTMLHAEQISHDWRVYT FSSDSNIYQTQAGCLIGAAYDNSSYECDIPIGAGICAKYGISSNTRLRSNSQSIVAY TMSLGEDQSIAYSNNTIAIPMNFSISVTTEVLPVSMTKTSVDCNMYICGDSTECSNL LLQYGSFCTQLNRALAGIAVEQDRNTRDVFAQTKAMYKTPSLKDFGGFNFSQILPDP AKPSSRSFIEDLLYNKVTLADPGFMKQYGDCLGGVNARDLICAQKFNGLTVLPPLLT DEMIAAYTAALVSGTATAGFTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQI ANQFNKAISQIQDSLSTTTTALGKLQDVINQNAIALNTLVKQLSSNFGAISSVLNDI LSRLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANIAATKMSECVLGQS KRVDFCGKGYHLMSFPQAAPHGVVFLHVTYVPSQEQNFTTAPAICHGGKAHFPREGV FVTNGTHWFITQRNFYSPQPITTDNTFVSGNCDVVIGIVNNTVYDPLQPELESFKEE LDKYFKNHTSQNVSLDGLNNINASVVDIKKEIEHLNEIAKSLNESLIDLQELGKYEQ YIKWPWYVWLGFIAGLIAIVMATIMLCCMTSCCSCLKGVCSCASCCKFDEDHSEPVL TGVKLHYT
38	蝙蝠冠状病毒 BM48-31/BGR/2008刺突蛋白 (Genbank: YP_003858584)	MKFLAFLCLLGFANAQDGKCGTLSNKSPSKLTQTPSSRRGFYYFDDIFRSSIRVLTT GHFLPFNTNLTWYLTLKSNGKQRIYYDNPNINFGDGVYFGLTEKSNVFRGWIFGSTL DNTTQSAVLFNNGTHIVIDVCNFNFCADPMFAVNSGQPYKTWIYTSAANCTYHRAHA FNISTNMNPGKFKHFREHLFKNVDGFLYVYHNYEPIDLNSGFPSGFSVLKPILKLPF GLNITYVKAIMTLFSSTQSNFDADASAYFVGHLKPLTMLVDFDENGTIIDAIDCSQD PLSELKCTTKSFTVEKGIYQTSNFRVTPTTEVVRFPNITQLCPFNEVFNITSFPSVY AWERMRITNCVADYSVLYNSSASFSTFQCYGVSPTKLNDLCFSSVYADYFVVKGDDV RQIAPAQTGVIADYNYKLPDDFTGCVIAWNTNSLDSSNEFFYRRFRHGKIKPYGRDL SNVLFNPSGGTCSAEGLNCYKPLASYGFTQSSGIGFQPYRVVVLSFELLNAPATVCG PKQSTELVKNKCVNFNFNGLTGTGVLTNSTKKFQPFQQFGRDVSDFTDSVRDPKTLE ILDIAPCSYGGVSVITPGTNASSSVAVLYQDVNCTDVPTMLHADQISHDWRVYAFRN DGNIFQTQAGCLIGAAYDNSSYECDIPIGAGICAKYTNVSSTLVRSGGHSILAYTMS LGDNQDIVYSNNTIAIPMNFSISVTTEVLPVSMTKTSVDCNMYICGDSTECSNLLLQ YGSFCTQLNRALAGIAVEQDRNTRDVFAQTKAMYKTPSLKDFGGFNFSQILPDPAKP SSRSFIEDLLYNKVTLADPGFMKQYGDCLGGVNARDLICAQKFNGLTVLPPLLTDEM IAAYTAALISGTATAGFTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQ

[0117]

		FNKAISQIQDSLSTTTTALGKLQDVINQNAIALNTLVKQLSSNFGAISSVLNDILSR LDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRV DFCGKGYHLMSFPQAAPHGVVFLHVTYVPSQEQNFTTAPAICHEGKAHFPREGVFVT NGTHWFITQRNFYSPQPITTDNTFVSGNCDVVIGIVNNTVYDPLQPELDSFKEELDK YFKNHTSQNVSLDGLNNINASVVDIKKEIEHLNEIAKSLNESLIDLQELGKYEQYIK WPWYVWLGFIAGLIAIVMATIMLCCMTSCCSCLKGVCSCASCCKFDEDHSEPVLTGV KLHYT
39	穿山甲(Pangolin)冠状病毒表面糖蛋白(Genbank:QLR06867)	MLFFFFLHFALVNSQCVNLTGRAAIQPSFTNSSQRGVYYPDTIFRSNTLVLSQGYFL PFYSNVSWYYALTKTNSAEKRVDNPVLDFKDGIYFAATEKSNIVRGWIFGTTLDNTS QSLLIVNNATNVIIKVCNFQFCYDPYLSGYYHNNKTWSTREFAVYSSYANCTFEYVS KSFMLDIAGKSGLFDTLREFVFRNVDGYFKIYSKYTPVNVNSNLPIGFSALEPLVEI PAGINITKFRTLLTIHRGDPMPNNGWTVFSAAYYVGYLAPRTFMLNYNENGTITDAV DCALDPLSEAKCTLKSLTVEKGIYQTSNFRVQPTESIVRFPNITNLCPFGEVFNATT FASVYAWNRKRISNCVADYSVLYNSTSFSTFKCYGVSPTKLNDLCFTNVYADSFVVR GDEVRQIAPGQTGRIADYNYKLPDDFTGCVIAWNSNNLDSKVGGNYNYLYRLFRKSN LKPFERDISTEIYQAGSTPCNGVEGFNCYFPLQSYGFHPTNGVGYQPYRVVVLSFEL LNAPATVCGPKQSTNLVKNKCVNFNFNGLTGTGVLTESSKKFLPFQQFGRDIADTTD AVRDPQTLEILDITPCSFGGVSVITPGTNTSNQVAVLYQDVNCTEVPVAIHADQLTP TWSVYSTGSNVFQTRAGCLIGAEHVNNSYECDIPIGAGICASYQTQTNSRSVSSQAI IAYTMSLGAENSVAYANNSIAIPTNFTISVTTEILPVSMTKTSVDCTMYICGDSIEC SNLLLQYGSFCTQLNRALTGIAVEQDKNTQEVFAQVKQIYKTPPIKDFGGFNFSQIL PDPSKPSKRSFIEDLLFNKVTLADAGFIKQYGDCLGDIAARDLICAQKFNGLTVLPP LLTDEMIAQYTSALLAGTITSGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQ KLIANQFNSAIGKIQDSLSSTASALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVL NDILSRLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVL GQSKRVDFCGKGYHLMSFPQSAPHGVVFLHVTYVPSQEKNFTTTPAICHEGKAHFPR EGVFVSNGTHWFVTQRNFYEPQIITTDNTFVSGSCDVVIGIVNNTVYDPLQPELDSF KEELDKYFKNHTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGK YEQYIKWPWYIWLGFIAGLIAIIMVTIMLCCMTSCCSCLKGCCSCGSCCKFDEDDSE PVLKGVKLHYT
40	穿山甲冠状病毒表面糖蛋白(Genbank:QLR06864)	MLFFFFLHFALVNSQCVNLTGRAAIQPSFTNSSQRGVYYPDTIFRSNTLVLSQGYFL PFYSNVSWYYALTKTNSAEKRVDNPVLDFKDGIYFAATEKSNIVRGWIFGTTLDNTS QSLLIVNNATNVIIKVCNFQFCYDPYLSGYYHNNKTWSTREFAVYSSYANCTFEYVS KSFMLDIAGKSGLFDTLREFVFRNVDGYFKIYSKYTPVNVNSNLPIGFSALEPLVEI PAGINITKFRTLLTIHRGDPMPNNGWTVFSAAYYVGYLAPRTFMLNYNENGTITDAV DCALDPLSEAKCTLKSLTVEKGIYQTSNFRVQPTESIVRFPNITNLCPFGEVFNATT FASVYAWNRKRISNCVADYSVLYNSTSFSTFKCYGVSPTKLNDLCFTNVYADSFVVR GDEVRQIAPGQTGRIADYNYKLPDDFTGCVIAWNSNNLDSKVGGNYNYLYRLFRKSN LKPFERDISTEIYQAGSTPCNGVEGFNCYFPLQSYGFHPTNGVGYQPYRVVVLSFEL LNAPATVCGPKQSTNLVKNKCVNFNFNGLTGTGVLTESSKKFLPFQQFGRDIADTTD AVRDPQTLEILDITPCSFGGVSVITPGTNTSNQVAVLYQDVNCTEVPVAIHADQLTP TWRVYSTGSNVFQTRAGCLIGAEHVNNTYECDIPIGAGICASYQTQTNSRSVSSQAI IAYTMSLGAENSVAYANNSIAIPTNFTISVTTEILPVSMTKTSVDCTMYICGDSIEC SNLLLQYGSFCTQLNRALTGIAVEQDKNTQEVFAQVKQIYKTPPIKDFGGFNFSQIL PDPSKPSKRSFIEDLLFNKVTLADAGFIKQYGDCLGDIAARDLICAQKFNGLTVLPP LLTDEMIAQYTSALLAGTITSGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQ KLIANQFNSAIGKIQDSLSSTASALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVL NDILSRLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVL GQSKRVDFCGKGYHLMSFPQSAPHGVVFLHVTYVPSQEKNFTTTPAICHEGKAHFPR EGVFVSNGTHWFVTQRNFYEPQIITTDNTFVSGSCDVVIGIVNNTVYDPLQPELDSF KEELDKYFKNHTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGK YEQYIKWPWYIWLGFIAGLIAIIMVTIMLCCMTSCCSCLKGCCSCGSCCKFDEDDSE

[0118]

		PVLKGVKLHYT
41	穿山甲冠状病毒表面糖蛋白(Genbank:QLR06866)	MLFFFFLHFALVNSQCVNLTGRAAIQPSFTNSSQRGVYYPDTIFRSNTLVLSQGYFL PFYSNVSWYYALTKTNSAEKRVDNPVLDFKDGIYFAATEKSNIVRGWIFGTTLDNTS QSLLIVNNATNVIIKVCNFQFCYDPYLSGYYHNNKTWSTREFAVYSSYANCTFEYVS KSFMLDIAGKSGLFDTLREFVFRNVDGYFKIYSKYTPVNVNSNLPIGFSALEPLVEI PAGINITKFRTLLTIHRGDPMPNNGWTVFSAAYYVGYLAPRTFMLNYNENGTITDAV ECALDPLSEAKCTLKSLTVEKGIYQTSNFRVQPTESIVRFPNITNLCPFGEVFNATT FASVYAWNRKRISNCVADYSVLYNSTSFSTFKCYGVSPTKLNDLCFTNVYADSFVVR GDEVRQIAPGQTGRIADYNYKLPDDFTGCVIAWNSNNLDSKVGGNYNYLYRLFRKSN LKPFERDISTEIYQAGSTPCNGVEGFNCYFPLQSYGFHPTNGVGYQPYRVVVLSFEL LNAPATVCGPKQSTNLVKNKCVNFNFNGLTGTGVLTESSKKFLPFQQFGRDIADTTD AVRDPQTLEILDITPCSFGGVSVITPGTNTSNQVAVLYQDVNCTEVPVAIHADQLTP TWRVYSTGSNVFQTRAGCLIGAEHVNNTYECDIPIGAGICASYQTQTNSRSVSSQAI IAYTMSLGAENSVAYANNSIAIPTNFTISVTTEILPVSMTKTSVDCTMYICGDSIEC SNLLLQYGSFCTQLNRALTGIAVEQDKNTQEVFAQVKQIYKTPPIKDFGGFNFSQIL PDPSKPSKRSFIEDLLFNKVTLADAGFIKQYGDCLGDIAARDLICAQKFNGLTVLPP LLTDEMIAQYTSALLAGTITSGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQ KLIANQFNSAIGKIQDSLSSTASALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVL NDILSRLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVL GQSKRVDFCGKGYHLMSFPQSAPHGVVFLHVTYVPSQEKNFTTTPAICHEGKAHFPR EGVFVSNGTHWFVTQRNFYEPQIITTDNTFVSGSCDVVIGIVNNTVYDPLQPELDSF KEELDKYFKNHTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGK YEQYIKWPWYIWLGFIAGLIAIIMVTIMLCCMTSCCSCLKGCCSCGSCCKFDEDDSE PVLKGVKLHYT
42	蝙蝠冠状病毒 RaTG13 刺突糖蛋白(Genbank:QHR63300)	MFVFLVLLPLVSSQCVNLTTRTQLPPAYTNSSTRGVYYPDKVFRSSVLHLTQDLFLP FFSNVTWFHAIHVSGTNGIKRFDNPVLPFNDGVYFASTEKSNIIRGWIFGTTLDSKT QSLLIVNNATNVVIKVCEFQFCNDPFLGVYYHKNNKSWMESEFRVYSSANNCTFEYV SQPFLMDLEGKQGNFKNLREFVFKNIDGYFKIYSKHTPINLVRDLPPGFSALEPLVD LPIGINITRFQTLLALHRSYLTPGDSSSGWTAGAAAYYVGYLQPRTFLLKYNENGTI TDAVDCALDPLSETKCTLKSFTVEKGIYQTSNFRVQPTDSIVRFPNITNLCPFGEVF NATTFASVYAWNRKRISNCVADYSVLYNSTSFSTFKCYGVSPTKLNDLCFTNVYADS FVITGDEVRQIAPGQTGKIADYNYKLPDDFTGCVIAWNSKHIDAKEGGNFNYLYRLF RKANLKPFERDISTEIYQAGSKPCNGQTGLNCYYPLYRYGFYPTDGVGHQPYRVVVL SFELLNAPATVCGPKKSTNLVKNKCVNFNFNGLTGTGVLTESNKKFLPFQQFGRDIA DTTDAVRDPQTLEILDITPCSFGGVSVITPGTNASNQVAVLYQDVNCTEVPVAIHAD QLTPTWRVYSTGSNVFQTRAGCLIGAEHVNNSYECDIPIGAGICASYQTQTNSRSVA SQSIIAYTMSLGAENSVAYSNNSIAIPTNFTISVTTEILPVSMTKTSVDCTMYICGD STECSNLLLQYGSFCTQLNRALTGIAVEQDKNTQEVFAQVKQIYKTPPIKDFGGFNF SQILPDPSKPSKRSFIEDLLFNKVTLADAGFIKQYGDCLGDIAARDLICAQKFNGLT VLPPLLTDEMIAQYTSALLAGTITSGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVL YENQKLIANQFNSAIGKIQDSLSSTASALGKLQDVVNQNAQALNTLVKQLSSNFGAI SSVLNDILSRLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMS ECVLGQSKRVDFCGKGYHLMSFPQSAPHGVVFLHVTYVPAQEKNFTTAPAICHDGKA HFPREGVFVSNGTHWFVTQRNFYEPQIITTDNTFVSGSCDVVIGIVNNTVYDPLQPE LDSFKEELDKYFKNHTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQ ELGKYEQYIKWPWYIWLGFIAGLIAIIMVTIMLCCMTSCCSCLKGCCSCGSCCKFDE DDSEPVLKGVKLHYT
43	SARS-CoV2 表面糖蛋白(Genbank:YP_009724390)	MFVFLVLLPLVSSQCVNLTTRTQLPPAYTNSFTRGVYYPDKVFRSSVLHSTQDLFLP FFSNVTWFHAIHVSGTNGTKRFDNPVLPFNDGVYFASTEKSNIIRGWIFGTTLDSKT QSLLIVNNATNVVIKVCEFQFCNDPFLGVYYHKNNKSWMESEFRVYSSANNCTFEYV SQPFLMDLEGKQGNFKNLREFVFKNIDGYFKIYSKHTPINLVRDLPQGFSALEPLVD LPIGINITRFQTLLALHRSYLTPGDSSSGWTAGAAAYYVGYLQPRTFLLKYNENGTI

[0119]

		TDAVDCALDPLSETKCTLKSFTVEKGIYQTSNFRVQPTESIVRFPNITNLCPFGEVF NATRFASVYAWNRKRISNCVADYSVLYNSASFSTFKCYGVSPTKLNDLCFTNVYADS FVIRGDEVRQIAPGQTGKIADYNYKLPDDFTGCVIAWNSNNLDSKVGGNYNYLYRLF RKSNLKPFERDISTEIYQAGSTPCNGVEGFNCYFPLQSYGFQPTNGVGYQPYRVVVL SFELLHAPATVCGPKKSTNLVKNKCVNFNFNGLTGTGVLTESNKKFLPFQQFGRDIA DTTDAVRDPQTLEILDITPCSFGGVSVITPGTNTSNQVAVLYQDVNCTEVPVAIHAD QLTPTWRVYSTGSNVFQTRAGCLIGAEHVNNSYECDIPIGAGICASYQTQTNSPRRA RSVASQSIIAYTMSLGAENSVAYSNNSIAIPTNFTISVTTEILPVSMTKTSVDCTMY ICGDSTECSNLLLQYGSFCTQLNRALTGIAVEQDKNTQEVFAQVKQIYKTPPIKDFG GFNFSQILPDPSKPSKRSFIEDLLFNKVTLADAGFIKQYGDCLGDIAARDLICAQKF NGLTVLPPLLTDEMIAQYTSALLAGTITSGWTFGAGAALQIPFAMQMAYRFNGIGVT QNVLYENQKLIANQFNSAIGKIQDSLSSTASALGKLQDVVNQNAQALNTLVKQLSSN FGAISSVLNDILSRLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAA TKMSECVLGQSKRVDFCGKGYHLMSFPQSAPHGVVFLHVTYVPAQEKNFTTAPAICH DGKAHFPREGVFVSNGTHWFVTQRNFYEPQIITTDNTFVSGNCDVVIGIVNNTVYDP LQPELDSFKEELDKYFKNHTSPDVDLGDISGINASWNIQKEIDRLNEVAKNLNESLI DLQELGKYEQYIKWPWYIWLGFIAGLIAIVMVTIMLCCMTSCCSCLKGCCSCGSCCK FDEDDSEPVLKGVKLHYT
44	SARS-CoV2 VOC_May_01)	MFVFFVLLPLVFIQCVSFTNIIHLPSSYINSFTRGVYYPDKVFRSSVLYSIRDFFLP FFSNVTWFHVIRTNVIKRFANPVLPFNDGVYFAFIDKFNIIRGWIFGTTLDSKTQSL LIVNNATNVVIKVCEFQFCNYPFYKNNKSCTKSESRVYSSATNCTFEYVSKPFFIDL VVKQGNFKNFSEFVFKNIDGYFKIYSKHTPNLVRGFPQGFLVLEPLVDLPIGINITR FQILYRSYLTPGGFFLGLTAGSAAYYVGYLQLRTFLLKYNENGTITDAVDCALDPLS EIKCTLKSFILEKGIYQTSNFRVQPTESIVRFPNITNLCPFGEVFNATRFASVYAWN RKRISNCVADYSFLYNSASFSTFKCYGVSLTKLNDLCFTNVYADSFVIRGDEVRQIA PGKTGNIADYNYKLPDDFTGCVIAWNSKKLDSKVGGNYKYRFRLFRKSNLKPFERDI STEIYQAGNKPCNGVKGFNCYSPLQPYGFQPTYGVGYQPYRVVVLSFELLHSPSTVC GPKKSTNLVKNKCVNFNFNGLIGTGVLTESNKNFLPFQQFGRDIDDITDAVRDPQTL DILDITPCSFGGVSVITPGTNTSNQVAVLYHGVNCTEVPFAIHSDQLTPTWRVYSTG FNVFQTRAGCLIGVEYVNNSYECDIPIGAGICATYHTHTKSHRRARSVVSQSIIAYT MSLGVENLVVYSNNSIAIPINFTISVITEILPVSMAKTSVDCTMYICGDSTECSNLL LQYGSFCTQLNRALTVIAIEQDKNTQQVFAQVKQIYKIPPIKYFGGFNFSQILPDSS KSSKRSFIEDLFFNKVTLADAGFIKQYGDCLGDISARDLICAQKFNGLNVLPPLLTD EMIAQYTSALLSGTITSGWTLGAGAALQIPFSMQMAYRFNGIGVTQNVLYENQKLIA NQFNSAIGKIQYSFFFTAPALGKLQHVVNQNARALNTLVKQLSSNFGAISSVLNDIL ARLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRSSANLAAIKMSECVLGQSK RVDFCGKGYHLMSFPQSAPHGVVFFHVTYVPALENNFTTSPAICHYGKAHFPREGVF VSNGTYWFLTQRNFYEPQIITIHNTFLSGNCDVVIGIVNNTVYDPLQPELDSFKEEL DKYFKNHTSSYVDLVDISGINASFVNIQKEIDRLNEVANNLNESLIDLQQLGKYEQY IKWPWYIWLCFIAGLIAILIVTIMLCCITSCCSCLKGCCSCGFCCKFDEDDSELLLK GVKLHYT
45	SARS-CoV2 VOC 全 VOC 表面糖蛋白 (Genbank: YP_009724390)	MFVFFVLLPLVFIQCVNFTIIIHLPSSYINSFTRGVYYPDKVFRSSVLYSIRDFFLP FFSNVTWFHVIRTNVIKRFANPVLPFNDGVYFASIDKFNIIRGWIFGTTLDSKTQSL LIVNNATNVVIKVCEFQFCNYPFYKNNKSCTESESRVYSSATNCTFEYVSKPFFIDL VVKQGNFKNFSEFVFKNIDGYFKIYSKHTPNLVRGFPQGFLVLEPLVDLPIGINITR FQTLYRSYLTPGGFFLGLTAGSAAYYVGYLQLRTFLLKYNENGTITDAVDCALDPLS EIKCTLKSFILEKGIYQTSNFRVQPTESIVRFPNITNLCPFGEVFNATRFASVYAWN RKRISNCVADYSFLYNSASFSTFKCYGVSLTKLNDLCFTNVYADSFVIRGDEVRQIA PGKTGNIADYNYKLPDDFTGCVIAWNSKKLDSKVGGNYNYRFRLFRKSNLKPFERDI STEIYQAGNKPCNGVKGFNCYSPLQPYGFQPTYGVGYQPYRVVVLSFELLHSPSTVC GPKKSTNLVKNKCVNFNFNGLIGTGVLTESNKNFLPFQQFGRDIDDITDAVRDPQTL DILDITPCSFGGVSVITPGTNTSNQVAVLYHGVNCTEVPFAIHSDQLTPTWRVYSTG

[0120]

		FNVFQTRAGCLIGVQYVNNSYECDIPIGAGICATYHTHTKSHRRARSVVSQSIIAYT MSLGVENLVVYSNNSIAIPINFTISVITEILPVSMAKTSVDCTMYICGDSTECSNLL LQYGSFCTQLNRALTVIAIEQDKNTQQVFAQVKQIYKIPPIKYFGGFNFSQILPDSS KSSKRSFIEDLFFNKVTLADAGFIKQYGDCLGDISARDLICAQKFNGLNVLPPLLTD EMIAQYTSALLSGTITSGWTLGAGAALQIPFSMQMAYRFNGIGVTQNVLYENQKLIA NQFNSAIGKIQYSFFFTASALGKLQHVVNQNARALNTLVKQLSSNFGAISSVLNDIL ARLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRSSANLAAIKMSECVLGQSK RVDFCGKGYHLMSFPQSAPHGVVFFHVTYVPALENNFTTSPAICHYGKAHFPREGVF VSNGTHWFLTQRNFYEPQIITIHNTFLSGNCDVVIGIVNNTVYDPLQPELDSFKEEL DKYFKNHTSSYVDLVDISGINASFVNIQKEIDRLNEVANNLNESLIDLQQLGKYEQY IKWPWYIWLCFIAGFIAILIVTIMLCCITSCCSCLKGCCSCGFCCKFDEDDSELLLK GVKLHYT
46	穿山甲冠状病毒刺突蛋白(Genbank:QIA48614)	MFVFLFVLPLVSSQCVNLTTRTGIPPGYTNSSTRGVYYPDKVFRSSILHLTQDLFLP FFSNVTWFNTINYQGGFKKFDNPVLPFNDGVYFASTEKSNIIRGWIFGTTLDARTQS LLIVNNATNVVIKVCEFQFCTDPFLGVYYHNNNKTWVENEFRVYSSANNCTFEYISQ PFLMDLEGKQGNFKNLREFVFKNVDGYFKIYSKHTPIDLVRDLPRGFAALEPLVDLP IGINITRFQTLLALHRSYLTPGNLESGWTTGAAAYYVGYLQQRTFLLSYNQNGTITD AVDCSLDPLSETKCTLKSLTVEKGIYQTSNFRVQPTISIVRFPNITNLCPFGEVFNA SKFASVYAWNRKRISNCVADYSVLYNSTSFSTFKCYGVSPTKLNDLCFTNVYADSFV VKGDEVRQIAPGQTGVIADYNYKLPDDFTGCVIAWNSVKQDALTGGNYGYLYRLFRK SKLKPFERDISTEIYQAGSTPCNGQVGLNCYYPLERYGFHPTTGVNYQPFRVVVLSF ELLNGPATVCGPKLSTTLVKDKCVNFNFNGLTGTGVLTTSKKQFLPFQQFGRDISDT TDAVRDPQTLEILDITPCSFGGVSVITPGTNTSNQVAVLYQDVNCTEVPMAIHAEQL TPAWRVYSAGANVFQTRAGCLVGAEHVNNSYECDIPVGAGICASYHSMSSLRSVNQR SIIAYTMSLGAENSVAYSNNSIAIPTNFTISVTTEILPVSMTKTSVDCTMYICGDSI ECSNLLLQYGSFCTQLNRALTGIAVEQDKNTQEVFAQVKQIYKTPPIKDFGGFNFSQ ILPDPSKPSKRSFIEDLLFNKVTLADAGFIKQYGDCLGDIAARDLICAQKFNGLTVL PPLLTDEMIAQYTSALLAGTITSGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYE NQKLIANQFNSAIGKIQDSLSSTASALGKLQDVVNQNAQALNTLVKQLSSNFGAISS VLNDILSRLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSEC VLGQSKRVDFCGKGYHLMSFPQSAPHGVVFLHVTYVPAQEKNFTTAPAICHEGKAHF PREGVFVSNGTHWFITQRNFYEPQIITTDNTFVSGSCDVVIGIVNNTVYDPLQPELD SFKEELDKYFKNHTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESPIDLQEL GKYEQYIKWPWYIWLGFIAGLIAIIMVTIMLCCMTSCCSCLKGCCSCGSCCKFDEDD SEPVLKGVKLHYT
47	穿山甲冠状病毒刺突蛋白(Genbank:QIA48623)	MFVFLFVLPLVSSQCVNLTTRTGIQPGYTNSSTRGVYYPDKVFRSSILHLTQDLFLP FFSNVTWFNTINYQGGFKKFDNPVLPFNDGVYFASTEKSNIIRGWIFGTTLDARTQS LLIVNNATNVVIKVCEFQFCTDPFLGVYYHNNNKTWVENEFRVYSSANNCTFEYISQ PFLMDLEGKQGNFKNLREFVFKNVDGYFKIYSKHTPIDLVRDLPRGFAALEPLVDLP IGINITRFQTLLALHRSYLTPGKLESGWTTGAAAYYVGYLQQRTFLLSYNQNGTITD AVDCSLDPLSETKCTLKSLTVEKGIYQTSNFRVQPTISIVRFPNITNLCPFGEVFNA SKFASVYAWNRKRISNCVADYSVLYNSTSFSTFKCYGVSPTKLNDLCFTNVYADSFV VKGDEVRQIAPGQTGVIADYNYKLPDDFTGCVIAWNSVKQDALTGGNYLYRLFRKSK LKPFERDISTEIYQAGSTPCNGQVGLNCYYPLERYGFHPTTGVNYQPFRVVVLSFEL LNGPATVCGPKLSTTLVKDKCVNFNFNGLTGTGVLTTSKKQFLPFQQFGRDISDTTD AVRDPQTLEILDITPCSFGGVSVITPGTNTSNQVAVLYQDVNCTEVPMAIHAEQLTP AWRVYSAGANVFQTRAGCLVGAEHVNNSYECDIPVGAGICASYHSMSSLRSVNQRSI IAYTMSLGAENSVAYSNNSIAIPTNFTISVTTEILPVSMTKTSVDCTMYICGDSIEC SNLLLQYGSFCTQLNRALTGIAVEQDKNTQEVFAQVKQIYKTPPIKDFGGFNFSQIL PDPSKPSKRSFIEDLLFNKVTLADAGFIKQYGDCLGDIAARDLICAQKFNGLTVLPP LLTDEMIAQYTSALLAGTITSGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQ KLIANQFNSAIGKIQDSLSSTASALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVL

[0121]

		NDILSRLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVL GQSKRVDFCGKGYHLMSFPQSAPHGVVFLHVTYVPAQEKNFTTAPAICHEGKAHFPR EGVFVSNGTHWFITQRNFYEPQIITTDNTFVSGSCDVVIGIVNNTVYDPLQPELDSF KEELDKYFKNHTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGK YEQYIKWPWYIWLGFIAGLIAIIMVTIMLCCMTSCCSCLKGCCSCGSCCKFDEDDSE PVLKGVKLHYT
48	穿山甲冠状病毒刺突蛋白(Genbank:QIA48623)	MFVFLFVLPLVSSQCVNLTTRTGIPPGYTNSSTRGVYYPDKVFRSSILHLTQDLFLP FFSNVTWFNTITYQGGSKKFDNPVLPFNDGVYFASTEKSNIIRGWIFGTTLDARTQS LLIVNNATNVVIKVCEFQFCTDPFLGVYYHNNNKTWVENEFRVYSSANNCTFEYISQ PFLMDLEGKQGNFKNLREFVFKNVDGYFKIYSKHTPIDLVRDLPRGFAALEPLVDLP IGINITRFQTLLALHRSYLTPGKLESGWTTGAAAYYVGYLQQRTFLLSYNQNGTITD AVDCSLDPLSETKCTLKSLTVEKGIYQTSNFRVQPTISIVRFPNITNLCPFGEVFNA SKFASVYAWNRKRISNCVADYSVLYNSTSFSTFKCYGVSPTKLNDLCFTNVYADSFV VKGDEVRQIAPGQTGVIADYNYKLPDDFTGCVIAWNSVKQDALTGDNYGYLYRLFRK SKLKPFERDISTEIYQAGSTPCNGQVGLNCYYPLERYGFHPTTGVNYQPFRVVVLSF ELLNGPATVCGPKLSTTLVKDKCVNFNFNGLTGTGVLTTSKKQFLPFQQFGRDISDT TDAVRDPQTLEILDITPCSFGGVSVITPGTNTSNQVAVLYQDVNCTEVPMAIHAEQL TPAWRVYSAGANVFQTRAGCLVGAEHVNNSYECDIPVGAGICASYHSMSSFRSVNQR SIIAYTMSLGAENSVAYSNNSIAIPTNFTISVTTEILPVSMTKTSVDCTMYICGDSI ECSNLLLQYGSFCTQLNRALTGIAVEQDKNTQEVFAQVKQIYKTPPIKDFGGFNFSQ ILPDPSKPSKRSFIEDLLFNKVTLADAGFIKQYGDCLGDIAARDLICAQKFNGLTVL PPLLTDEMIAQYTSALLAGTITSGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYE NQKLIANQFNSAIGKIQDSLSSTASALGKLQDVVNQNAQALNTLVKQLSSNFGAISS VLNDILSRLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSEC VLGQSKRVDFCGKGYHLMSFPQSAPHGVVFLHVTYVPAQEKNFTTAPAICHEGKAHF PREGVFVSNGTHWFITQRNFYEPQIITTDNTFVSGSCDVVIGIVNNTVYDPLQPELD SFKEELDKYFKNHTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQEL GKYEQYIKWPWYIWLGFIAGLIAIIMVTIMLCCMTSCCSCLKGCCSCGSCCKFDEDD SEPVLKGVKLHYT
49	穿山甲冠状病毒刺突蛋白(Genbank:QIA48632)	MFVFLFVLPLVSSQCVNLTTRTGIPPGYTNSSTRGVYYPDKVFRSSILHLTQDLFLP FFSNVTWFNTINYQGGFKKFDNPVLPFNDGVYFASTEKSNIIRGWIFGTTLDARTQS LLIVNNATNVVIKVCEFQFCTDPFLGVYYHNNNKTWVENEFRVYSSANNCTFEYISQ PFLMDLEGKQGNFKNLREFVFKNVDGYFKIYSKHTPIDLVRDLPRGFAALEPLVDLP IGINITRFQTLLALHRSYLTPGKLESGWTTGAAAYYVGYLQQRTFLLSYNQNGTITD AVDCSLDPLSETKCTLKSLTVEKGIYQTSNFRVQPTISIVRFPNITNLCPFGEVFNA SKFASVYAWNRKRISNCVADYSVLYNSTSFSTFKCYGVSPTKLNDLCFTNVYADSFV VKGDEVRQIAPGQTGVIADYNYKLPDDFTGCVIAWNSVKQDALTGGNYGYLYRLFRK SKLKPFERDISTEIYQAGSTPCNGQVGLNCYYPLERYGFHPTTGVNYQPFRVVVLSF ELLNGPATVCGPKLSTTLVKDKCVNFNFNGLTGTGVLTTSKKQFLPFQQFGRDISDT TDAVRDPQTLEILDITPCSFGGVSVITPGTNTSNQVAVLYQDVNCTEVPMAIHAEQL TPAWRVYSAGANVFQTRAGCLVGAEHVNNSYECDIPVGAGICASYHSMSSFRSVNQR SIIAYTMSLGAENSVAYSNNSIAIPTNFTISVTTEILPVSMTKTSVDCTMYICGDSI ECSNLLLQYGSFCTQLNRALTGIAVEQDKNTQEVFAQVKQIYKTPPIKDFGGFNFSQ ILPDPSKPSKRSFIEDLLFNKVTLADAGFIKQYGDCLGDIAARDLICAQKFNGLTVL PPLLTDEMIAQYTSALLAGTITSGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYE NQKLIANQFNSAIGKIQDSLSSTASALGKLQDVVNQNAQALNTLVKQLSSNFGAISS VLNDILSRLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSEC VLGQSKRVDFCGKGYHLMSFPQSAPHGVVFLHVTYVPAQEKNFTTAPAICHEGKAHF PREGVFVSNGTHWFITQRNFYEPQIITTDNTFVSGSCDVVIGIVNNTVYDPLQPELD SFKEELDKYFKNHTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQEL GKYEQYIKWPWYIWLGFIAGLIAIIMVTIMLCCMTSCCSCLKGCCSCGSCCKFDEDD SEPVLKGVKLHYT

[0122]

50	穿山甲冠状病毒刺突蛋白(Genbank:QIQ54048)	MFVFLFVLPLVSSQCVNLTTRTGIPPGYTNSSTRGVYYPDKVFRSSILHLTQDLFLP FFSNVTWFNTIHLNYQGGFKKFDNPVLPXNDGVYFASTEKSNIIRGWIFGTTLDART QSLLIVNNATNVVIKVCEFQFCTDPFLGVYYHNNNKTWVENEFRVYSSANNCTFEYI SQPFLMDLEGKQGNFKNLREFVFKNVDGYFKIYSKHTPIDLVRDLPRGFAALEPLVD LPIGINITRFQTLLALHRSYLTPGKLESGWTTGAAAYYVGYLQQRTFLLSYNQNGTI TDAVDCSLDPLSETKCTLKSLTVEKGIYQTSNFRVQPTISIVRFPNITNLCPFGEVF NASKFASVYAWNRKRISNCVADYSVLYNSTSFSTFKCYGVSPTKLNDLCFTNVYADS FVVKGDEVRQIAPGQTGVIADYNYKLPDDFTGCVIAWNSVKQDALTGGNYGYLYRLF RKSKLKPFERDISTEIYQAGSTPCNGQVGLNCYYPLERYGFHPTTGVNYQPFRVVVL SXELLNGPATVCGPKLSTTLVKDKCVNFNFNGLTGTGVLTTSKKQFLPFQQFGRDIS DTTDAVRDPQTLEILDITPCSFGGVSVITPGTNTSNQVAVLYQDVNCTEVPMAIHAE QLTPAWRVYSAGANVFQTRAGCLVGAEHVNNSYECDIPVGAGICASYHSMSSFRSVN QRSIIAYTMSLGAENSVAYSNNSIAIPTNFTISVTTEILPVSMTKTSVDCTMYICGD SIECSNLLLQYGSFCTQLNRALTGIAVEQDKNTQEVFAQVKQIYKTPPIKDFGGFNF LQILPDPSKPSKRSFIEDLLFNKVTLADAGFIKQYGDCLGDIAARDLICAQKFNGLT VLPPLLTDEMIAQYTSALLAGTITSGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVL YENQKLIANQFNSAIGKIQDSLSSTASALGKLQDVVNQNAQALNTLVKQLSSNFGAI SSVLNDILSRLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMS ECVLGQSKRVDFCGKGYHLMSFPQSAPHGVVFLHVTYVPAQEKNFTTAPAICHEGKA HFPREGVFVSNGTHWFITQRNFYEPQIITTDNTFVSGSCDVVIGIVNNTVYDPLQPE LDSFKEELDKYFKNHTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQ ELGKYEQYIKWPWYIWLGFIAGLIAIIMVTIMLCCMTSCCSCLKGCCSCGSCCKFDE DDSEPVLKGVKLHYT
51	SC2r-CoV 蝙蝠ACE2刺突	MFILVLLNVLSVYGCVNITYGSHHLYVSSRTRGVYYPDDAFRSSTNVLHEGFFLPFD SNVTWYSFWNQKYSVATSPFGDGVYFSTIDKSNWRGWVFGTTLDNDTQSVLLYNDGT HVRVEVCTFHFCPTPVFSASSPHLYSSAFNCTLNYTLASVRADFTEVDGSFKTIREF VFKLQDGSLNVYYASTSYVLAIGATSQLPSGVTPLVPLWKIPIGLNITNFKTLVYLR SDNTPLQAAYVVGHLKRRTMMFKYDENGTIVDAIDCALDPLSETKCTLRSFIVEKGI YQTSNFRVQPQDTVVRFPNITNLCPFSEVFNATTFASVYAWNRKRISNCVADYSVLY NSTSFSTFQCYGVSSTKLNDLCFTNVYADSFVVRGDEVRQIAPGQTGVIADYNYKLP DDFTGCVLAWNSRNQDASTSGNFNYYYRIWRSEKLRPFERDIAHYDYQVGTQFKSSL KNYGFYSSAGDSHQPYRVVVLSFELLNAPATVCGPKQSTELIKNKCVNFNFNGLTGT GVLTDSNKKFQSFQQFGRDVSDFTDSVKDPKTLEVLDITPCSYGGVSVITPGTNAST QVAVLYQDVNCTDVPTAIHAEQLTPSWRVYSTGTNMFQTQAGCLIGAEHVNNSYDCD IPIGAGICATYHTPSMLRSANNNKRIVAYVMSLGAENSVAYSNNTIAIPTNFTISVT TEVMPVSMTKTSVDCTMYICGDSVECSTLLLQYGSFCTQLNRALTGIAVEQDKNTQE VFAQVKQIYKTPDIKDFGGFNFSQILPDPSKPSKRSFIEDLLFNKVTLADAGFVKQY GDCLGDIQARDLICAQKFNGLTVLPPLLTDEMIAAYTAALISGTATAGWTFGAGAAL QIPFAMQMAYRFNGIGVTQNVLYENQKLIANQFNSAIGKIQESLTSTASALGKLQDV VNQNAQALNTLVKQLSSNFGAISSVLNDIISRLDKVEAEVQIDRLITGRLQSLQTYV TQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGKGYHLMSFPQAAPHGVVFLHV TYIPSQERNFTTAPAICHEGKAHFPREGVFVSNGTHWFITQRNFYEPQIITTDNTFV SGTCDVVIGIVNNTVYDPLQPELESFKDELDKYFKNHTSPDIDLGDISGINASVVDI QKEIDILKDVAKNLNESLINLQELGKYEQYIKWPWYVWLGFIAGLIAIIMVTIMLCC MTSCCSCLKGCCSCGSCCKFDEDDSEPVLKGVKLHYT

[0123]

52	蝙蝠SARS冠状病毒Rc-0319刺突(Genbank:QIQ54048)	MFILVLLNVLSVYGCVNITYGSHHLYVSSRTRGVYYPDDAFRS STNVLHEGFFLPFDSNVTWYSFWNQKYSVATSPFGDG VYFSTIDKSNVVRGWVFGTTLDNDTQSVLLYNDGTHVRVEVC TFHFCPTPVFSASSPHLYSSAFNCTLNYTLASVRADFT EVDGSFKTIREFVFKLQDGSLNVYYASTSYVLAIGATSQLPSG VTPLVPLWKIPIGLNITNFKTLVYLRSDNTPLQAAYV VGHLKRRTMMFKYDENGTIVDAIDCALDPLSETKCTLRSFIVEK GIYQTSNFRVQPQDTVVRFPNITNLCPFSEVFNATT FASVYAWNRKRISNCVADYSVLYNSTSFSTFQCYGVSSTKLN DLCFTNVYADSFVVRGDEVRQIAPGQTGVIADYNYKLP DDFTGCVLAWNSRNQDASTSGNFNYYYRIWRSEKLRPFERDI AHYDYQVGTQFKSSLKNYGFYSSAGDSHQPYRVVVLSF ELLNAPATVCGPKQSTELIKNKCVNFNFNGLTGTGVLTDSNKK FQSFQQFGRDVSDFTDSVKDPKTLEVLDITPCSYGGV SVITPGTNASTQVAVLYQDVNCTDVPTAIHAEQLTPSWRVYST GTNMFQTQAGCLIGAEHVNNSYDCDIPIGAGICATYH TPSMLRSANNNKRIVAYVMSLGAENSVAYSNNTIAIPTNFTISV TTEVMPVSMTKTSVDCTMYICGDSVECSTLLLQYGS FCTQLNRALTGIAVEQDKNTQEVFAQVKQIYKTPDIKDFGGFN FSQILPDPSKPSKRSFIEDLLFNKVTLADAGFVKQYG DCLGDIQARDLICAQKFNGLTVLPPLLTDEMIAAYTAALISGTAT AGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYE NQKLIANQFNSAIGKIQESLTSTASALGKLQDVVNQNAQALNTL VKQLSSNFGAISSVLNDIISRLDKVEAEVQIDRLIT GRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVD FCGKGYHLMSFPQAAPHGVVFLHVTYIPSQERNFTTA PAICHEGKAHFPREGVFVSNGTHWFITQRNFYEPQIITTDNTFV SGTCDVVIGIVNNTVYDPLQPELESFKDELDKYFKN HTSPDIDLGDISGINASVVDIQKEIDILKDVAKNLNESLINLQELG KYEQYIKWPWYVWLGFIAGLIAIIMVTIMLCCMT SCCSCLKGCCSCGSCCKFDEDDSEPVLKGVKLHYT
53	蝙蝠SARS-样冠状病毒Rs7327 S蛋白RBD(Genbank:AT098218)	SNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWERKRISNCVADYSVLYNST SFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDF MGCVLAWNTRNIDATSTGNYNYKYRSLRHGKLRPFERDISNVPFSPDGKPCTPPAFN CYWPLNDYGFFTTNGIGYQPYRVVVLSFELLNAPATVCGPKLSTDLIKNQCVNFNFN GLTGTGVLTSSSKRFQPFQQFGRDVSDFTDSVRDPKTSEIL
54	冠状病毒BtRs-BetaCoV/YN2018B S蛋白RBD(Genbank:QDF43825)	SNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWERKRISNCVADYSVLYNST SFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDF MGCVLAWNTRNIDATSTGNYNYKYRSLRHGKLRPFERDISNVPFSPDGKPCTPPAFN CYWPLNDYGFFTTNGIGYQPYRVVVLSFELLNAPATVCGPKLSTDLIKNQCVNFNFN GLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEIL
55	中菊头蝠冠状病毒LYRa11 S蛋白RBD(Genbank:AHX37558)	SNFRVSPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWERKRISNCVADYSVLYNST SFSTFKCYGVSAIKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDF MGCVLAWNTRNIDATSSGNFNYKYRSLRHGKLRPFERDISNVPFSPDGKPCTPPAFN CYWPLNDYGFYTTNGIGYQPYRVVVLSFELLNAPATVCGPKLSTDLITNQCVNFNFN GLTGTGVLTPSLKRFQPFQQFGRDFSDFTDSVRDPKTLEVL
56	中菊头蝠冠状病毒LYRa3 S蛋白RBD(Genbank:AHX37569)	SNFRVSPSREVVRFPNITNLCPFGEVFNATTFPSVYAWERKRISNCVADYSVLYNST SFSTFKCYGVSAIKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDF MGCVLAWNTRNIDATSSGNFHYKYRSLRHGKLRPFERDISNVPFSPDGKPCTPPAFN CYWPLNDYGFYTTNGIGYQPYRVVVLSFELLNAPATVCGPKLSTDLITNQCVNFNFN GLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTLEVL
57	SARS冠状病毒Tor2刺突	SNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWERKKISNCVADYSVLYNST FFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDF

[0124]

	糖蛋白RBD(Genbank: YP-_009825051)	MGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDISNVPFSPDGKPCTPPALN CYWPLNDYGFYTTTGIGYQPYRWVLSFELLNAPATVCGPKLSTDLIKNQCVNFNFNG LTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEIL
58	蝙蝠SARS-样冠状病毒Rs3367 S蛋白RBD(Genbank: AGZ48818)	SNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWERKRISNCVADYSVLYNST SFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDF TGCVLAWNTRNIDATQTGNYNYKYRSLRHGKLRPFERDISNVPFSPDGKPCTPPAFN CYWPLNDYGFYITNGIGYQPYRVVVLSFELLNAPATVCGPKLSTDLIKNQCVNFNFN GLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEIL
59	SARS-样冠状病毒WIV16 S蛋白RBD(Genbank: ALK02457)	SNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWERKRISNCVADYSVLYNST SFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDF TGCVLAWNTRNIDATQTGNYNYKYRSLRHGKLRPFERDISNVPFSPDGKPCTPPAFN CYWPLNDYGFYITNGIGYQPYRVVVLSFELLNAPATVCGPKLSTDLIKNQCVNFNFN GLTGTGVLTPSSKRFQPFQQFGRDVLDFTDSVRDPKTSEIL
60	蝙蝠SARS-样冠状病毒Rs4231 S蛋白RBD(Genbank: AT098157)	SNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWERKRISNCVADYSVLYNST SFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDF LGCVLAWNTNSKDSSTSGNYNYLYRWVRRSKLNPYERDLSNDIYSPGGQSCSAIGPN CYNPLRPYGFFTTAGVGHQPYRVVVLSFELLNAPATVCGPKLSTDLIKNQCVNFNFN GLTGTGVLTSSSKRFQPFQQFGRDVSDFTDSVRDPKTSEIL
61	蝙蝠SARS-样冠状病毒RsSHC014 S蛋白RBD(Genbank: AGZ48806)	SNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWERKRISNCVADYSVLYNST SFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDF LGCVLAWNTNSKDSSTSGNYNYLYRWVRRSKLNPYERDLSNDIYSPGGQSCSAVGPN CYNPLRPYGFFTTAGVGHQPYRVVVLSFELLNAPATVCGPKLSTDLIKNQCVNFNFN GLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEIL
62	蝙蝠SARS-样冠状病毒Rs4084 S蛋白RBD(Genbank: AT098132)	SNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWERKRISNCVADYSILYNST SFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDF LGCVLAWNTNSKDSSTSGNYNYLYRWVRRSKLNPYERDLSNDIYSPGGQSCSAVGPN CYNPLRPYGFFTTAGVGHQPYRVVVLSFELLNAPATVCGPKLSTDLIKNQCVNFNFN GLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEIL
63	蝙蝠SARS冠状病毒BtKY72 S蛋白RBD(Genbank: AT040579)	SNFRVSPSTEVVRFPNITNLCPFGQVFNASNFPSVYAWERLRISDCVADYAVLYNSS SSFSTFKCYGVSPTKLNDLCFSSVYADYFVVKGDDVRQIAPAQTGVIADYNYKLPDD FTGCVLAWNTNSVDSKSGNNFYYRLFRHGKIKPYERDISNVLYNSAGGTCSSISQLG CYEPLKSYGFTPTVGVGYQPYRVVVLSFELLNAPATVCGPKKSTELVKNKCVNFNFN GLTGTGVLTSSTKKFQPFQQFGRDVSDFTDSVRDPKTFEIL
64	SARS-样冠状病毒蝙蝠CoV/BB9904/BGR/2008 S蛋白RBD(Genbank: ALJ94036)	SNFRVTPTTEVVRFPNITKLCPFDQVFNASSFPSVYAWERVRITDCVANYAVLYNSS VSFSTFQCYGVSPTKLNDLCFSSVYADYFIVKGDDVRQIAPSQTGVIADYNYKLPDD FTGCVIAWNTNALDSNKDFYYRLFRHGKIKPYGRDLSNIPYSPSGTCSTINNLNCFA PLKSYGFTQSSGISFQPYRVVVLSFELLNAPATVCGPKQSTELVKDKCVNFNFNGLT GTGVLTSSSKKFQPFQQFGRDVSDFTDSVRDPKTLEIL
65	蝙蝠冠状病毒BM48-31/BGR/2008 S蛋白RBD(Genbank:	SNFRVTPTTEVVRFPNITQLCPFNEVFNITSFPSVYAWERMRITNCVADYSVLYNSS ASFSTFQCYGVSPTKLNDLCFSSVYADYFVVKGDDVRQIAPAQTGVIADYNYKLPDD FTGCVIAWNTNSLDSSNEFFYRRFRHGKIKPYGRDLSNVLFNPSGGTCSAEGLNCYK PLASYGFTQSSGIGFQPYRVVVLSFELLNAPATVCGPKQSTELVKNKCVNFNFNGLT GTGVLTNSTKKFQPFQQFGRDVSDFTDSVRDPKTLEIL

[0125]

	YP_003858584)	
66	穿山甲冠状病毒cDNA8-S S蛋白RBD (Genbank: QLR06864)	SNFRVQPTESIVRFPNITNLCPFGEVFNATTFASVYAWNRKRISNCVADYSVLYNST SFSTFKCYGVSPTKLNDLCFTNVYADSFVVRGDEVRQIAPGQTGRIADYNYKLPDDF TGCVIAWNSNNLDSKVGGNYNYLYRLFRKSNLKPFERDISTEIYQAGSTPCNGVEGF NCYFPLQSYGFHPTNGVGYQPYRVVVLSFELLNAPATVCGPKQSTNLVKNKCVNFNF NGLTGTGVLTES
67	SARS-CoV2 S蛋白RBD (Genbank: YP_009724390)	SNFRVQPTESIVRFPNITNLCPFGEVFNATRFASVYAWNRKRISNCVADYSVLYNSA SFSTFKCYGVSPTKLNDLCFTNVYADSFVIRGDEVRQIAPGQTGKIADYNYKLPDDF TGCVIAWNSNNLDSKVGGNYNYLYRLFRKSNLKPFERDISTEIYQAGSTPCNGVEGF NCYFPLQSYGFQPTNGVGYQPYRVVVLSFELLHAPATVCGPKKSTNLVKNKCVNFNF NGLTGTGVLTESNKKFLPFQQFGRDIADTTDAVRDPQTLEIL
68	SARS-CoV2 VOC May 01 RBD	SNFRVQPTESIVRFPNITNLCPFGEVFNATRFASVYAWNRKRISNCVADYSFLYNSA SFSTFKCYGVSLTKLNDLCFTNVYADSFVIRGDEVRQIAPGKTGNIADYNYKLPDDF TGCVIAWNSKKLDSKVGGNYKYRFRLFRKSNLKPFERDISTEIYQAGNKPCNGVKGF NCYSPLQPYGFQPTYGVGYQPYRVVVLSFELLHSPSTVCGPKKSTNLVKNKCVNFNF NGLIGTGVLTESNKNFLPFQQFGRDIDDITDAVRDPQTLDIL
69	SARS-CoV2 VOC S蛋白RBD (Genbank: YP_009724390)	SNFRVQPTESIVRFPNITNLCPFGEVFNATRFASVYAWNRKRISNCVADYSFLYNSA SFSTFKCYGVSLTKLNDLCFTNVYADSFVIRGDEVRQIAPGQTGNIADYNYKLPDDF TGCVIAWNSKKLDSKVGGNYNYRFRLFRKSNLKPFERDISTEIYQAGNKPCNGVKGF NCYFPLQPYGFQPTYGVGYQPYRVVVLSFELLHSPSTVCGPKKSTNLVKNKCVNFNF NGLTGTGVLTESNKKFLPFQQFGRDIDDITDAVRDPQTLEIL
70	蝙蝠冠状病毒RaTG13 S蛋白RBD (Genbank: QHR63300)	SNFRVQPTDSIVRFPNITNLCPFGEVFNATTFASVYAWNRKRISNCVADYSVLYNST SFSTFKCYGVSPTKLNDLCFTNVYADSFVITGDEVRQIAPGQTGKIADYNYKLPDDF TGCVIAWNSKHIDAKEGGNFNYLYRLFRKANLKPFERDISTEIYQAGSKPCNGQTGL NCYYPLYRYGFYPTDGVGHQPYRVVVLSFELLNAPATVCGPKKSTNLVKNKCVNFNF NGLTGTGVLTESNKKFLPFQQFGRDIADTTDAVRDPQTLEIL
71	穿山甲冠状病毒GX-P1E S蛋白 (Genbank: QIA48623)	SNFRVQPTISIVRFPNITNLCPFGEVFNASKFASVYAWNRKRISNCVADYSVLYNST SFSTFKCYGVSPTKLNDLCFTNVYADSFVVKGDEVRQIAPGQTGVIADYNYKLPDDF TGCVIAWNSVKQDALTGGNYLYRLFRKSKLKPFERDISTEIYQAGSTPCNGQVGLNC YYPLERYGFHPTTGVNYQPFRVVVLSFELLNGPATVCGPKLSTTLVKDKCVNFNFNG LTGTGVLTTSKKQFLPFQQFGRDISDTTDAVRDPQTLEIL
72	穿山甲冠状病毒GX-P2V S蛋白 (Genbank: QIQ54048)	SNFRVQPTISIVRFPNITNLCPFGEVFNASKFASVYAWNRKRISNCVADYSVLYNST SFSTFKCYGVSPTKLNDLCFTNVYADSFVVKGDEVRQIAPGQTGVIADYNYKLPDDF TGCVIAWNSVKQDALTGGNYGYLYRLFRKSKLKPFERDISTEIYQAGSTPCNGQVGL NCYYPLERYGFHPTTGVNYQPFRVVVLSXELLNGPATVCGPKLSTTLVKDKCVNFNF NGLTGTGVLTTSKKQFLPFQQFGRDISDTTDAVRDPQTLEIL
73	穿山甲冠状病毒GX-P4L S蛋白 (Genbank: QIA48614)	SNFRVQPTISIVRFPNITNLCPFGEVFNASKFASVYAWNRKRISNCVADYSVLYNST SFSTFKCYGVSPTKLNDLCFTNVYADSFVVKGDEVRQIAPGQTGVIADYNYKLPDDF TGCVIAWNSVKQDALTGGNYGYLYRLFRKSKLKPFERDISTEIYQAGSTPCNGQVGL NCYYPLERYGFHPTTGVNYQPFRVVVLSFELLNGPATVCGPKLSTTLVKDKCVNFNF NGLTGTGVLTTSKKQFLPFQQFGRDISDTTDAVRDPQTLEIL
74	穿山甲冠状病毒GX-P5E S蛋白 (Genbank: QIA48641)	SNFRVQPTISIVRFPNITNLCPFGEVFNASKFASVYAWNRKRISNCVADYSVLYNST SFSTFKCYGVSPTKLNDLCFTNVYADSFVVKGDEVRQIAPGQTGVIADYNYKLPDDF TGCVIAWNSVKQDALTGDNYGYLYRLFRKSKLKPFERDISTEIYQAGSTPCNGQVGL NCYYPLERYGFHPTTGVNYQPFRVVVLSFELLNGPATVCGPKLSTTLVKDKCVNFNF NGLTGTGVLTTSKKQFLPFQQFGRDISDTTDAVRDPQTLEIL
75	蝙蝠SARS冠状病毒Rc-o319 S蛋	SNFRVQPQDTVVRFPNITNLCPFSEVFNATTFASVYAWNRKRISNCVADYSVLYNST SFSTFQCYGVSSTKLNDLCFTNVYADSFVVRGDEVRQIAPGQTGVIADYNYKLPDDF TGCVLAWNSRNQDASTSGNFNYYYRIWRSEKLRPFERDIAHYDYQVGTQFKSSLKNY

[0126]

	白 RBD (Genbank: BCG66627)	GFYSSAGDSHQPYRVVVLSFELLNAPATVCGPKQSTELIKNKCVNFNFNGLTGTGVL TDSNKKFQSFQQFGRDVSDFTDSVKDPKTLEVL
76	蝙蝠 SARS CoV RShSTT182 S 蛋白 RBD (Genbank: RShSTT182/2010| EPI_ISL_852604)	SNFRTSPTTQVVRFPNITNLCPFGEVFNATTFASVYAWNRRRISNCVADYSVLYNTT SFSTFKCYGVSPTKLNDLCFTNVYADSFVVRGDEVRQIAPGQTGKIADYNYKLPDDF MGCVIAWNSISLDAGGSYYYRLFRKSVLKPFERDISTQLYQAGDKPCSVEGPDCYYP LQSYYFQSTNGVGYQPYRVVVLSFELLNAPATVCGPKKSTHLVVNKCVNFNFNGLTG TGVLTSSTKKFLPFQQFGRDVADTTNAVRDPQTLEVL
77	SARS-相关冠状病毒刺突糖蛋白 (Genbank: ABD72984)	MFIFILFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
78	SARS 冠状病毒 wtic-MB 刺突糖蛋白前体 (Genbank: ACZ72093)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFFGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW

		FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
79	SARS冠状病毒上海LY刺突糖蛋白(Genbank:AAP82968)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIISNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGSLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTGNIDATSTGNYDYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLPFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAGIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
80	SARS冠状病毒HKU-39849刺突糖蛋白前体(Genbank:ADC35483)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGIATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
81	SARS-相关冠状病毒刺突糖蛋白(Genbank:ABD72982)	MLIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE

[0127]

[0128]

		LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
82	SARS 冠状病毒 Tor2 刺突糖蛋白前体 (Genbank: AFR58672)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCXFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
83	SARS 冠状病毒 Tor2 刺突糖蛋白前体 (Genbank: AFR58714)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLXHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCXFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF

[0129]

		CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
84	SARS冠状病毒Tor2刺突糖蛋白(Genbank:YP_-009825051)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYP DEIFRSDTLYLTQDLFLPFYSNVTGFHTINHTFGNPV IPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSVIIINNSTNVV IRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCT FEYISDAFSLDVSEKSGNFKHLREFVFKNKDGFLYVYKGYQPI DVVRDLPSGFNTLKPIFKLPLGINITNFRAILTAFSP AQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPL AELKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNIT NLCPFGEVFNATKFPSVYAWERKKISNCVADYSVLYNSTFFST FKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAPG QTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRY LRHGKLRPFERDISNVPFSPDGKPCTPPALNCYWPLND YGFYTTTGIGYQPYRVVVLSFELLNAPATVCGPKLSTDLIKNQC VNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTD SVRDPKTSEILDISPCAFGGVSVITPGTNASSEVAVLYQDVNCT DVSTAIHADQLTPAWRIYSTGNNVFQTQAGCLIGAE HVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDC NMYICGDSTECANLLLQYGSFCTQLNRALSGIAAEQDRNTREV FAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRSFI EDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVL PPLLTDDMIAAYTAALVSGTATAGWTFGAGAALQIPF AMQMAYRFNGIGVTQNVLYENQKQIANQFNKAISQIQESLTTT STALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLN DILSRLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASAN LAATKMSECVLGQSKRVDFCGKGYHLMSFPQAAPH GVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTS WFITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVY DPLQPELDSFKEELDKYFKNHTSPDVDLGDISGINASVVNIQKE IDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYVWL GFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSE PVLKGVKLHYT
85	SARS冠状病毒上海QXC1刺突(Genbank:AAR86788)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCAFGGVSVITPGTNASSEVAVLYQDVNCTNVSAAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY

[0130]

		TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKGELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
86	SARS冠状病毒CDC#200301157 s蛋白(Genbank:AAU81608)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPVGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
87	SARS冠状病毒P2刺突糖蛋白前体(Genbank:ACQ82725)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQGVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPVGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
88	SARS冠状病	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD

[0131]

	毒AS刺突蛋白S (Genbank: AAQ94060)	LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
89	SARS冠状病毒ExoN1刺突糖蛋白前体 (Genbank: AFM43867)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEYVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISIATEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
90	SARS冠状病毒ExoN1刺突糖蛋白 (Genbank: AGT21078)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRSLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP

[0132]

		KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEYVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISIATEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTVTAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
91	SARS冠状病毒法兰克福1刺突蛋白S(Genbank:AAP33697)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDFGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
92	SARS冠状病毒法兰克福1-v01刺突糖蛋白(Genbank:BAF42873)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEYVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLSDAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSFNFGAISSVLNDILSRLDKVE

[0133]

		AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDFGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
93	SARS冠状病毒法兰克福1刺突蛋白(Genbank:BAE93401)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRCLRHGKLRPFERDIS NVPFSPDGKPCTPPAFNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEFAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEYVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKSTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDFGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
94	SARS相关冠状病毒刺突糖蛋白(Genbank:ABD72969)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYVDSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
95	SARS冠状病毒 BJ182-12刺突糖蛋白S	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD

[0134]

	(Genbank: ACB69905)	VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFDGFNFSQILPDPLKPIKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINAPVVNIQKEIDRLNEVAKNLNESLIDLRELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
96	SARS 冠状病毒 BJ182a 刺突糖蛋白 S (Genbank: ACB69860)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPIIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFDGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWAFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLRELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
97	SARS 冠状病毒BJ182-8刺突糖蛋白 S (Genbank: ACB69894)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN

[0135]

		VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFDGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLRELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
98	SARS冠状病毒BJ182-4刺突糖蛋白S(Genbank:ACB69883)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTLGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFDGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLRELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
99	SARS冠状病毒 Sinol-11刺突蛋白(Genbank:AAR23250)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRSLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW

		FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
100	SARS冠状病毒ExoN1刺突糖蛋白前体(Genbank:ACZ71797)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSVDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN AFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMTKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINTSVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
101	SARS冠状病毒ExoN1刺突糖蛋白前体(Genbank:ACZ72020)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFPPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMTKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
102	SARS冠状病毒ExoN1刺突糖蛋白前体(Genbank:ACZ71976)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE

[0136]

[0137]

		LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMTKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKXFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEIAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
103	SARS冠状病毒ExoN1刺突糖蛋白前体(Genbank:ACZ71961)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMTKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESFTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELNSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
104	SARS冠状病毒ExoN1刺突糖蛋白前体(Genbank:ACZ72195)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEXISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMTKTSVDCNMYICGDSTECANLLLQYGSF

[0138]

		CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
105	SARS冠状病毒ExoN1刺突糖蛋白前体(Genbank:ACZ72108)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVVYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMTKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
106	SARS冠状病毒ExoN1刺突糖蛋白前体(Genbank:ACZ71826)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMTKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV

[0139]

		WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
107	SARS冠状病毒ExoN1刺突糖蛋白前体(Genbank:ACZ72254)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMTKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKIH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
108	SARS-相关冠状病毒刺突糖蛋白(Genbank:ABD72972)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPNGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
109	SARS冠状病毒MA15 ExoN1刺突糖蛋白前体(Genbank:ACZ71991)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP

[0140]

		GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNHNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQMLPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
110	SARS 冠状病毒 MA15 ExoN1 刺突糖蛋白前体 (Genbank: ACZ72122)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNHNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQMLPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
111	SARS 冠状病毒 MA15 ExoN1 刺突糖蛋白前体 (Genbank: AEA10443)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNHNYKYRYLXHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY

[0141]

		TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
112	SARS冠状病毒MA15刺突糖蛋白前体(Genbank:ACZ72035)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNHNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
113	SARS冠状病毒MA15 ExoN1刺突糖蛋白前体(Genbank:AEA10473)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNHNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKXSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
114	SARS-相关冠	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD

[0142]

	状病毒刺突糖蛋白(Genbank:ABD73001)	LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFIAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIVIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
115	SARS-相关冠状病毒刺突糖蛋白(Genbank:ABD72970)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIVIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
116	SARS-相关冠状病毒刺突糖蛋白(Genbank:ABD72988)	MFIFLLFLTLTNGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP

[0143]

		KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIVIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
117	SARS-相关冠状病毒刺突糖蛋白(Genbank:ABD72985)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFIAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
118	SARS-相关冠状病毒刺突糖蛋白(Genbank:ABD72977)	MFIFLLFLTLTRGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFIAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE

[0144]

		AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
119	SARS-相关冠状病毒刺突糖蛋白(Genbank:ABD72979)	MFIFLLFLTLTRGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
120	SARS-相关冠状病毒刺突糖蛋白(Genbank:ABD72995)	MFIFLLFLTLTRGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVVDYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
121	SARS冠状病毒BJ302刺突糖蛋白	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD

[0145]

	(Genbank: AAR07630)	VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
122	SARS 冠状病毒TJF刺突糖蛋白 (Genbank: AAT76147)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRNTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGKCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
123	SARS 冠状病毒 NS-1 刺突糖蛋白 S (Genbank: AAR91586)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN

[0146]

		VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIMASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
124	SARS冠状病毒BJ01刺突糖蛋白S(Genbank:AAP30030)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
125	SARS冠状病毒HHS-2004刺突蛋白(Genbank:AAT74874)	MAIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLKHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDVLSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW

		FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
126	SARS冠状病毒WH20刺突糖蛋白S (Genbank: AAX16192)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLMAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
127	SARS冠状病毒BJ302刺突糖蛋白 (Genbank: AAR07624)	MFIFLLFFTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVGFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
128	SARS冠状病毒BJ302刺突糖蛋白 (Genbank: AAR07626)	MFIFLLFFTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE

[0147]

[0148]

		LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLSDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPRSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVGFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
129	SARS冠状病毒BJ302刺突糖蛋白(Genbank:AAR07629)	MFIFLLFFTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLSDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTVDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVGFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
130	SARS冠状病毒BJ302刺突糖蛋白(Genbank:AAR07625)	MFIFLLFFTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLSDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPRSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF

[0149]

		CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTVDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVGFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
131	SARS冠状病毒BJ302刺突糖蛋白(Genbank:AAR07627)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLSDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPRSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTVDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVGFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
132	SARS冠状病毒BJ302刺突糖蛋白(Genbank:AAR07628)	MFIFLLFFTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACIFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLSDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPRSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTVDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVGFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV

[0150]

		WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
133	SARS冠状病毒BJ302刺突糖蛋白(Genbank:AAR07631)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACIFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLSDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPRSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTVDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVGFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVIVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
134	SARS冠状病毒CS21刺突糖蛋白(Genbank:ABF68958)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLNGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
135	SARS冠状病毒ES260刺突糖蛋白(Genbank:ABF68957)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP

[0151]

		GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLNGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCVTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
136	SARS 冠状病毒 CS24 刺突糖蛋白 (Genbank: ABF68959)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLNDYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCAFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCVTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
137	SARS 冠状病毒 ES191 刺突糖蛋白 (Genbank: ABF68956)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLRGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSIGITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY

[0152]

		TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCVTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
138	SARS冠状病毒WF188刺突糖蛋白(Genbank:ABF68955)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFPYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFKIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLRGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDTPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCVTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
139	SARS冠状病毒PC4-137刺突糖蛋白(Genbank:AAV49720)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTRTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLKGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
140	SARS冠状病	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD

[0153]

	毒PC4-199刺突糖蛋白(Genbank:AAV49722)	LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTRTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLRGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
141	SARS冠状病毒PC4-241刺突糖蛋白(Genbank:AAV49723)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTRTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLNGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
142	SARS冠状病毒PC4-115刺突糖蛋白(Genbank:AAV497419)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTRTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLNGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP

[0154]

		KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
143	SARS冠状病毒GD03T0013刺突糖蛋白(Genbank:AAS10463)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDDPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTRTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLNGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
144	SARS冠状病毒B012刺突糖蛋白(Genbank:AAV97989)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTRTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLNGYGFYTTSGIGYQPYRWVLSFELLNAPATVCGPK LSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEIL DISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNNV FQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGADS SIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSFC RQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRSF IEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNALTVLTPLLTDDMIAAYT AALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKAI SQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVEA

[0155]

		EVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGKG YHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSWF ITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNHT SPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYVW LGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
145	SARS冠状病毒果子狸020刺突糖蛋白(Genbank:AAU04664)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTRTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLRGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
146	SARS冠状病毒B033刺突糖蛋白(Genbank:AAV97992)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTRTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKHRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLRGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
147	SARS冠状病毒PC4-205刺突糖蛋白	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQTV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTRTHTMIFDNAFNCTFEYISDAFSLD

[0156]

	(Genbank: AAU93319)	VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLRGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
148	SARS 冠状病毒 C028 刺突糖蛋白 (Genbank: AAV98001)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTRTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLRGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN VFQTLAGCLIGAEHVDTSYDCDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
149	SARS 冠状病毒 A013 刺突糖蛋白 (Genbank: AAV97985)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTRTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLRGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN

[0157]

		VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYDNQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
150	SARS冠状病毒果子狸014刺突糖蛋白(Genbank:AAU04661)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLKGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
151	SARS冠状病毒A001刺突糖蛋白(Genbank:AAV97984)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKXRYLRHGKLRPFERDIS NVPFSPXGKPCTPPAPNCYWPLRGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW

		FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
152	SARS冠状病毒C013刺突糖蛋白(Genbank:AAV97995)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKFRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLRGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
153	SARS冠状病毒C029刺突糖蛋白(Genbank:AAV98002)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMDNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLRGYGFYTTSGIGYQPYRWVLSFELLNAPATVCGPK LSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEIL DISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNNV FQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGADS SIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSFC RQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRSF IEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAYT AALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKAI SQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVEA EVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGKG YHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSWF ITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNHT SPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYVW LGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
154	SARS冠状病毒果子狸019刺突糖蛋白(Genbank:AAU04662)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE

[0158]

[0159]

		LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSSDGKPCTPPAPNCYWPLRGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFSGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
155	SARS 冠状病毒 A021 刺突糖蛋白 (Genbank: AAV97986)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQGTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLNGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTVIHAEQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFSGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
156	SARS 冠状病毒 C018 刺突糖蛋白 (Genbank: AAV97998)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTRTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQGTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLRGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF

[0160]

		CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPFQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
157	SARS 冠状病毒 B024 刺突糖蛋白 (Genbank: AAV97990)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGIKI TNFRAILTAFSPAQGTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLNGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPFQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
158	SARS 冠状病毒 C025 刺突糖蛋白 (Genbank: AAV98000)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGIKI TNFRAILTAFSPAQGTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPAPNCYWPLRGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDSSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV

		WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
159	SARS冠状病毒果子狸010刺突糖蛋白(Genbank:AAU04649)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGIKI TNFRAILTAFSPAQGTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSSDGKPCTPPAPNCYWPLRGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
160	果子狸SARS CoV 007/2004刺突糖蛋白(Genbank:AAU04646)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGIKI TNFRAILTAFSPAQGTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSSDGKPCTPPAPNCYWPLRGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFSGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
161	SARS冠状病毒A022刺突糖蛋白(Genbank:AAV91631)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFVVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGIKI TNFRAILTAFSPAQGTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP

[0161]

[0162]

		GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSSDGKPCTPPAPNCYWPLRGYGFYTTSGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTLIHAEQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CRQLNRALSGIAAEQDRNTREVFVQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGQCLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFSGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
162	SARS 冠状病毒 GD01 刺突糖蛋白 S (Genbank: AAP51227)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFLPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSRDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSYELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKDFGGFNFSQILPDPLKSTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
163	SARS 冠状病毒 GZ02 刺突糖蛋白 (Genbank: AAS00003)	MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFLPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSRDVVRFPNITNLCPFGEVFNATKFPSVYAWER KRISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY

[0163]

		TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDWNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDKVE AEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGK GYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTSW FITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKNH TSPDVDLGDISGINASVVNIQEEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYV WLGFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT
164	含折叠子和连接子的SARS-CoV刺突蛋白	MFIFLFFLTLVSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQD LFLPFYSNVTGFHTINHTFDNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSV IIINNSTNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLD VSEKSGNFKHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINI TNFRAILTAFSPAQDTWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWER KKISNCVADYSVLYNSTFFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDIS NVPFSPDGKPCTPPALNCYWPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSLLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDPP EAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCG KGYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTS WFITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKN HTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPLV PRGSGYIPEAPRDGQAYVRKDGEWVLLSTFLLEHHHHHHHHHH
165	含折叠子和连接子的人工沙贝病毒刺突共有4	MFIFLFFLTLVSGSTIEKCTTFDDVQPPNYTQFLSSHRGVYYPDDIFRSDVLHLTQD HFLPFDSNVTGFITFGLNFDNPIIPFKDGIYFAATEKSNVIRGWVFGSTMNNKSQSV IIMNNSTNVVIRACNFELCDNPFFAVSKPNNTQIPSYIFNNAFNCTFEYVSDDFNLD VGEKPGNFKHLREFVFKNKDGFLYVYSGYQPIDVASGLPSGFNALKPIFKLPLGINI TNFRTLLTAFPPRPDYWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAE LKCSVKSFEIDKGIYQTSNFRVAPSKEVVRFPNITNLCPFGEVFNATTFPSVYAWER KRISNCVADYSVLYNSTSFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAP GQTGVIADYNYKLPDDFMGCVLAWNTRNIDATSTGNYNYKYRSLRHGKLRPFERDIS NVPFSPDGKPCTPPAFNCYWPLNDYGFFTTNGIGYQPYRVVVLSFELLNAPATVCGP KLSTDLIKNQCVNFNFNGLTGTGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEI LDISPCSFGGVSVITPGTNTSSEVAVLYQDVNCTDVPVAIHADQLTPAWRVYSTGNN VFQTQAGCLIGAEHVDTSYECDIPIGAGICASYHTVSSLRSTSQKSIVAYTMSLGAD SSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDCNMYICGDSTECANLLLQYGSF CTQLNRALSGIAVEQDRNTREVFAQVKQMYKTPTLKDFGGFNFSQILPDPLKPTKRS FIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGLTVLPPLLTDDMIAAY TAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQIANQFNKA ISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDPP EAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCG KGYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFNGTS WFITQRNFFSPQIITTDNTFVSGSCDVVIGIINNTVYDPLQPELDSFKEELDKYFKN HTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPLV PRGSGYIPEAPRDGQAYVRKDGEWVLLSTFLLEHHHHHHHHHH

[0164] 图2显示了由上述各种序列形成的多个共有序列。

[0165] 在各种实施方式中,所述共有序列包括SEQ ID NO:4所示的氨基酸序列。

[0166] 在各种实施方式中,所述共有序列包括SEQ ID NO:77-163所示的氨基酸序列。

[0167] 在各种实施方式中,所述共有序列包括SEQ ID NO:77-163所示氨基酸序列的氨基酸303至571。

[0168] 在各种实施方式中,所述共有序列包括SEQ ID NO:4和SEQ ID NO:53-62所示的氨基酸序列或其任何组合。

[0169] 在各种实施方式中,所述共有序列包括SEQ ID NO:4和SEQ ID NO:53-62所示的氨基酸序列或其任何组合。

[0170] 在各种实施方式中,所述共有序列包括SEQ ID NO:4、SEQ ID NO:53-62和SEQ ID NO:63-65所示的氨基酸序列或其任何组合。

[0171] 在各种实施方式中,所述共有序列包括SEQ ID NO:7和SEQ ID NO:66-74所示的氨基酸序列或其任何组合。

[0172] 在各种实施方式中,所述共有序列包括SEQ ID NO:7所示的氨基酸序列。

[0173] 在各种实施方式中,所述共有序列包括SEQ ID NO:7、SEQ ID NO:66-74和SEQ ID NO:75-76所示的氨基酸序列或其任何组合。

[0174] 在各种实施方式中,所述共有序列包括SEQ ID NO:4、SEQ ID NO:53-62、SEQ ID NO:63-65、SEQ ID NO:7、SEQ ID NO:66-74和SEQ ID NO:75-76所示的氨基酸序列或其任何组合。

[0175] 在各种实施方式中,所述共有序列包括SEQ ID NO:1和SEQ ID NO:23-35所示的氨基酸序列或其任何组合。

[0176] 在各种实施方式中,所述共有序列包括SEQ ID NO:1、SEQ ID NO:23-35和SEQ ID NO:36-38所示的氨基酸序列或其任何组合。

[0177] 在各种实施方式中,所述共有序列包括SEQ ID NO:2和SEQ ID NO:39-50所示的氨基酸序列或其任何组合。

[0178] 在各种实施方式中,所述共有序列包括SEQ ID NO:2、SEQ ID NO:39-50和SEQ ID NO:51-52所示的氨基酸序列或其任何组合。

[0179] 在各种实施方式中,所述共有序列包括SEQ ID NO:1、SEQ ID NO:2、SEQ ID NO:23-35、SEQ ID NO:36-38、SEQ ID NO:39-50和SEQ ID NO:51-52所示的氨基酸序列或其任何组合。

[0180] 在各种实施方式中,所述沙贝病毒选自:SARS-CoV、SARS-CoV-2、SARS-CoV-2 B.1.1.7、SARS-CoV-2 B.1.351、SC2r-CoV RaTG13、SC2r-CoV GX-P5L和关注的SARS-CoV组合变异株(VOC)。

[0181] 图3显示了用于生成共有序列的方法。

[0182] 应当理解的是,术语SARS1r hACE2/batACE2刺突、SARS1r hACE2刺突、SARS2r hACE2刺突、SARS2r-hACE2/batACE2刺突、SARS1r/SARS2r-hACE2刺突或SARS1r/SARS2r hACE2/batACE 2刺突参考SEQ ID NO.23-52。

[0183] 应当理解的是,术语SARS1r hACE RBD、SARS1r hACE2/batACE2 RBD、SARS2r hACE2 RBD、SARS2r hACE/batACE2 RBD、SARS1r/SARS2r hACE2 RBD或SARS1r/SARS2r hACE2/batACE2 RBD参考SEQ ID NO.53-76。

[0184] 应当理解的是,术语SARS-CoV VOC或SARS-CoV-2VOC参考SEQ ID NO.77-163。

[0185] 从沙贝病毒基因型生成共有序列的方法包括:a)直接从NCBI蛋白数据库获取沙贝

病毒刺突蛋白序列(除了人SARS-CoV2),并用R(v4.0.2)过滤完整的蛋白序列,或利用基因组数据库(如GISAID基因组)确定相应的核酸;b)在R(v4.0.2)中检索和处理GISAID SARS-CoV2刺突病毒蛋白突变报告,使用内部脚本,使用微处理器计算每个位置的最高频率突变;c)生成SARS-CoV2参考序列和相关变异体(VOC)组合序列(例如SARS-CoV-2 B.1.1.7,和/或SARS-CoV-2 B.1.351);d)使用CD-hit(v4.8.1)去除冗余后,将163个独特的刺突序列和81个独特的RBD序列导入微处理器,如Geneious Prime(v2021.0)作进一步分析;d)采用MAFFT作蛋白比对,并采用PhyML绘制系统发生树;e)从RBD系统发生树推断人ACE2、蝙蝠ACE2和非ACE2谱系,并通过实验证据和文献检索进行验证;和f)根据谱系中每个氨基酸位置的最高频率为RBD和非RBD区域生成共有序列,并将初始序列合并以建立8个共有序列。

[0186] 应该理解的是,利用Pfizer-BioNTech mRNA SARS-CoV-2疫苗BNT162b2给SARS幸存者接种的效果与使用本公开内容中产生的共有序列相似。因此,以下实施例的目的是提供了氨基酸构建体如何发挥作用的示例。

[0187] 实施例1:进行人血清组研究。

[0188] 本研究包括的四种血清样本描述如下。(1)SARS患者(n=11):这是2021年2月疫苗接种计划开始之前,在不同时间点(2003年、2012年和2020年)从新加坡SARS幸存者采集的血清;(2)COVID-19患者(n=40):这组血清在2020年收集,是国家纵向研究的一部分[19]。(3)健康疫苗接种者(n=20):在第二剂Pfizer-BioNTech BNT162b2 mRNA疫苗接种后第14天(或第一剂疫苗接种后第35天)采集的血清。(4)SARS疫苗接种者(n=9):取自首次接种后21-62天的SARS幸存者的血清。

[0189] 图4显示了代用病毒中和试验(sVNT),该试验可快速、多重测定Nabs。

[0190] 我们从两个方面进一步改进了sVNT:1)我们将病毒RBD固定在固相(磁珠)上,并使用PE-ACE2来测量病毒与受体的结合情况(图5),从而实现了针对不同沙贝病毒的NAbs的多重检测;2)我们将RBD蛋白扩展到六种不同的病毒。如图5所示,在Luminex平台上进行的多重sVNT显示,所有六种RBD蛋白都如预期的以以下顺序(亲和力从高到低)与hACE2受体分子结合:SARS-CoV-2 B.1.351>SARS-CoV-2 B.1.1.7=SC2r-CoV GX-P5L(穿山甲)>SARS-CoV-2>SARS-CoV>SC2r-CoV RaTG13(蝙蝠)。

[0191] 基于六种不同沙贝病毒RBD的多重sVNT。

[0192] 在MagPlex亲和素(Avidin)微球(Luminex)上包被5pg/1百万微球的AviTag生物素化RBD。在多重sVNT中,将涂有RBD的微球(600个微珠/抗原)与血清预孵育1小时,最终浓度为1:20或更高,孵育温度为37℃,搅拌转速为800rpm。孵育1小时后,在孔中加入50pl PE偶联的hACE2(GenScript,1000ng/ml),37℃下搅拌孵育30分钟,然后用PBS-1%BSA洗两次。利用MAGPIX系统获取数据。

[0193] 图6显示了六种不同RBD的多重sVNT(从左到右依次为SARS-CoV-2WT、UK、SA株;蝙蝠病毒RaTG13;穿山甲病毒GX-P5L;SARS-CoV)。A).SARS患者。B)COVID-19患者。C)健康接种者。第二次接种后两周采集血清样本。D)SARS-疫苗接种者。所有血清样本均以1:20的单一稀释度进行检测。根据先前确定设置30%的截断值。

[0194] 交叉NAb数据显示两个非常重要的观察结果:第一个观察结果是接种过疫苗的SARS幸存者对研究的所有病毒都产生了非常高的NAbs(D组),甚至对蝙蝠和穿山甲病毒也是如此;第二个观察结果是,他们对SARS-CoV-2变体的中和效果优于接种正常两剂疫苗的

原初个体(C组)。

[0195] SARS患者在接种疫苗前与其他五种病毒中的任何一种都只有极少量的交叉NAb(A组),而COVID-19患者与其他病毒(都与SARS-CoV-2有关)有交叉NAb,但与SARS-CoV的交叉NAb却很少(B组)。

[0196] 通过系列稀释,接种过SARS疫苗的群体显示最佳泛沙贝病毒交叉中和表现。

[0197] 图7显示了不同组针对六种沙贝病毒的中和抗体水平滴定结果(NT50)。通过4倍连续滴定,以1:20至1:20480的稀释度检测血清样本。SARS疫苗接种者对所有六种沙贝病毒的对数NT50滴度值最高。

[0198] 实施例2:小鼠研究

[0199] 泛沙贝病毒mAb抑制试验

[0200] RBD包被微球(600珠/抗原)与1:100稀释血清在37℃下搅拌预孵育1小时。未结合的抗体通过两次PBS-1％BSA洗涤去除。然后加入泛沙贝病毒mAb(1000ng/ml),37℃搅拌孵育1小时,然后清洗。用PE偶联的抗小鼠IgG抗体检测泛沙贝病毒mAb与RBD的结合情况。利用MAGPIX系统获取数据。

[0201] 如图8A所示,mAb能够中和所有六种病毒,尽管对GX-P5L的效力略低。采用阻断试验(与sVNT原理相同,用mAb代替PE-hACE2),我们确定了四种不同血清组阻断mAb中和能力的能力(图8B)。

[0202] 应该理解的是,SARS疫苗接种组的交叉中和能力是四组中最好的。其次,在自然感染期间(SARS和COVID-19),代表SC2r-CoV和SARS-CoV的两谱系的交叉中和抗体的激活极少。第三,虽然mRNA疫苗接种提高了针对SCr2-CoV的整体中和能力,但对针对SARS-CoV的交叉中和的影响却微乎其微。

[0203] 实施例3:家兔研究

[0204] 利用针对六种不同β冠状病毒RBD的家兔超免疫血清进行多重sVNT分析。

[0205] 家兔抗RBD血清是与GenScript Biotech公司签订商业合同生产的。测试方法与小鼠研究中所述的基本相同。家兔血清从1:20开始作4倍连续稀释。

[0206] 图9显示了靶向不同β冠状病毒RBD蛋白的家兔超免疫血清的中和模式。图9中的数据表明,交叉中和作用只限于五种SC2r-CoV之间的毒株/谱系水平。如图所示,SC2r-CoV和SARS-CoV之间没有交叉中和作用,阴性对照HKU1也没有中和任何病毒/毒株。这些数据证实了利用家兔超免疫血清的靶向特定病毒/毒株的病毒/毒株特异性免疫显性抗体与人血清组和小鼠研究所示的结果相似。

[0207] 应当理解的是,上文和图2中提到的氨基酸构建体可用于形成家兔抗氨基酸构建体血清或家兔抗共有序列血清,以测试抵御上述小鼠研究中使用的六种不同沙贝病毒或上述家兔研究中使用的六种不同的beta冠状病毒。

[0208] 实施例4:用示例性蛋白作疫苗接种

[0209] 利用Sigma佐剂系统(S6322)给予25pg的SEQ ID No.165(SEQ ID No.13的经修饰形式,具有折叠子和连接子)所示的蛋白,2次,给药间隔21天。同时,给予第二剂量方案,即利用Sigma佐剂给予第一剂量的SEQ ID No.165(SEQ ID No.13的经修饰形式,具有折叠子和连接子)所示蛋白,然后单独给予第二剂量Sinovac疫苗。提取这些给药受试者的血清进行RBD攻击。

[0210] 将20种不同沙贝病毒的RBD包被在不同微球上。将20个RBD包被微球(600微球/抗原)分别与1:100稀释血清在37℃下搅拌预孵育1小时。通过两次PBS-1% BSA清洗去除未结合的抗体。然后加入受试者血清(1000ng/ml),在37℃下搅拌孵育1小时,然后清洗。利用PE偶联的抗小鼠IgG抗体检测受试者体内形成的抗体与各种RBD的结合情况。数据利用MAGPIX系统采集。

[0211] 与以下剂量方案,即利用Sigma佐剂给予第一剂量的SEQ ID No.165(SEQ ID No.13的经修饰形式,具有折叠子和连接子)所示蛋白,然后单独给予第二剂量Sinovac疫苗相比,利用Sigma佐剂给予两剂量的SEQ ID No.165(SEQ ID No.13的经修饰形式,具有折叠子和连接子)所示蛋白对所进行的全部20种RBD攻击诱导了较高的滴度(见图10)。

[0212] 利用来自20种不同沙贝病毒和毒株(包括新的变异株)的RBD重复相同的实验。如图11所示,与以下剂量方案,即利用Sigma佐剂给予第一剂量的SEQ ID No.165(SEQ ID No.13的经修饰形式,具有折叠子和连接子)所示蛋白,然后单独给予第二剂量Sinovac疫苗相比,利用Sigma佐剂给予两剂量的SEQ ID No.165(SEQ ID No.13的经修饰形式,具有折叠子和连接子)所示蛋白(25ug)对所测试的全部20种RBD诱导了较高的滴度。

[0213] 实施例5利用示例性蛋白作加强免疫

[0214] 比较了不同的剂量方案:第一种是3剂Pfizer BioNTech疫苗;第二种是2剂Pfizer BioNTech疫苗,随后用Sigma佐剂给予25pg剂量的SEQ ID No.165(SEQ ID No.13的经修饰形式,具有折叠子和连接子)所示蛋白;第三种是2剂Pfizer BioNTech疫苗,随后是1pg剂量的SEQ ID No.165(SEQ ID No.13的经修饰形式,具有折叠子和连接头);第四种是2剂Pfizer BioNTech疫苗,然后是一剂生理盐水;最后是3剂生理盐水。

[0215] 如图12所示,与3剂Pfizer BioNTech疫苗相比,2剂Pfizer BioNTech疫苗,然后在用或不用Sigma佐剂的情况下给予一剂SEQ ID No.165(SEQ ID No.13的经修饰形式,具有折叠子和连接子)所示蛋白,在第三剂接种后的7天和14天对所有分支1沙贝病毒的抑制作用更高。

[0216] 对不同的剂量方案进行比较:第一种方案是3剂Moderna疫苗;第二种方案是2剂Moderna疫苗,然后用Sigma佐剂给予25pg剂量的SEQ ID No.165(SEQ ID No.13的经修饰形式,具有折叠子和连接子)所示蛋白;第三种是2剂Moderna疫苗,随后是1pg剂量的SEQ ID No.165(SEQ ID No.13的经修饰形式,具有折叠子和连接子)所示蛋白;第四种是2剂Moderna疫苗,随后是1剂生理盐水;最后一种是3剂生理盐水。

[0217] 从图13可以看出,与3剂Pfizer BioNTech疫苗相比,2剂Pfizer BioNTech疫苗,然后在用或不用Sigma佐剂的情况下给予一剂SEQ ID No.165(SEQ ID No.13的经修饰形式,具有折叠子和连接子)所示蛋白,在第三剂接种后的7天和14天对所有分支1沙贝病毒的抑制作用更高。

[0218] 对不同的剂量方案进行比较:第一种方案是3剂Sinovac疫苗;第二种方案是2剂Sinovac疫苗,然后用Sigma佐剂给予25pg剂量的SEQ ID No.164(SEQ ID No.1的经修饰形式,具有折叠子和连接子序列)所示蛋白;第三种是2剂Sinovac疫苗,随后是25pg剂量的SEQ ID No.165(SEQ ID No.13的经修饰形式,具有折叠子和连接子序列)所示蛋白;第四种是2剂Sinovac疫苗,然后用Sigma佐剂给予25pg剂量的SEQ ID No.165(SEQ ID No.13的经修饰形式,具有折叠子和连接子序列)所示蛋白;最后一种是3剂生理盐水。

[0219] 从图14可以看出,与3剂Sinovac疫苗相比,2剂Sinovac疫苗,然后在用或不用Sigma佐剂的情况下给予一剂SEQ ID No.165(SEQ ID No.13的经修饰形式,具有折叠子和连接子)所示蛋白,在第三剂接种后的7天和14天对所有分支1沙贝病毒的抑制作用更高。与2剂Sinovac疫苗,然后用Sigma佐剂给予一剂SEQ ID No.164(SEQ ID No.1的经修饰形式,具有折叠子和连接子序列)所示蛋白相比,2剂Sinovac疫苗,然后用Sigma佐剂给予一剂SEQ ID No.165(SEQ ID No.13的经修饰形式,具有折叠子和连接子)所示蛋白,在第三剂接种后的7天和14天对所有分支1和分支2沙贝病毒的抑制作用更高。该结果表明,与SEQ ID No.1所示的天然SARS-CoV-1相比,SEQ ID No.13具有更好的免疫加强作用,因为SEQ ID No.165和SEQ ID No.164作了相同的折叠子和连接子修饰。

[0220] 本领域技术人员应该理解,上述发明并不局限于所述的实施方式。可以理解的是,可以在不脱离本发明范围的情况下进行修改和改进。

[0221] 本领域技术人员应进一步认识到,上述一种或多种修改或改进(并非相互排斥)可进一步组合形成本发明的更多实施方式。

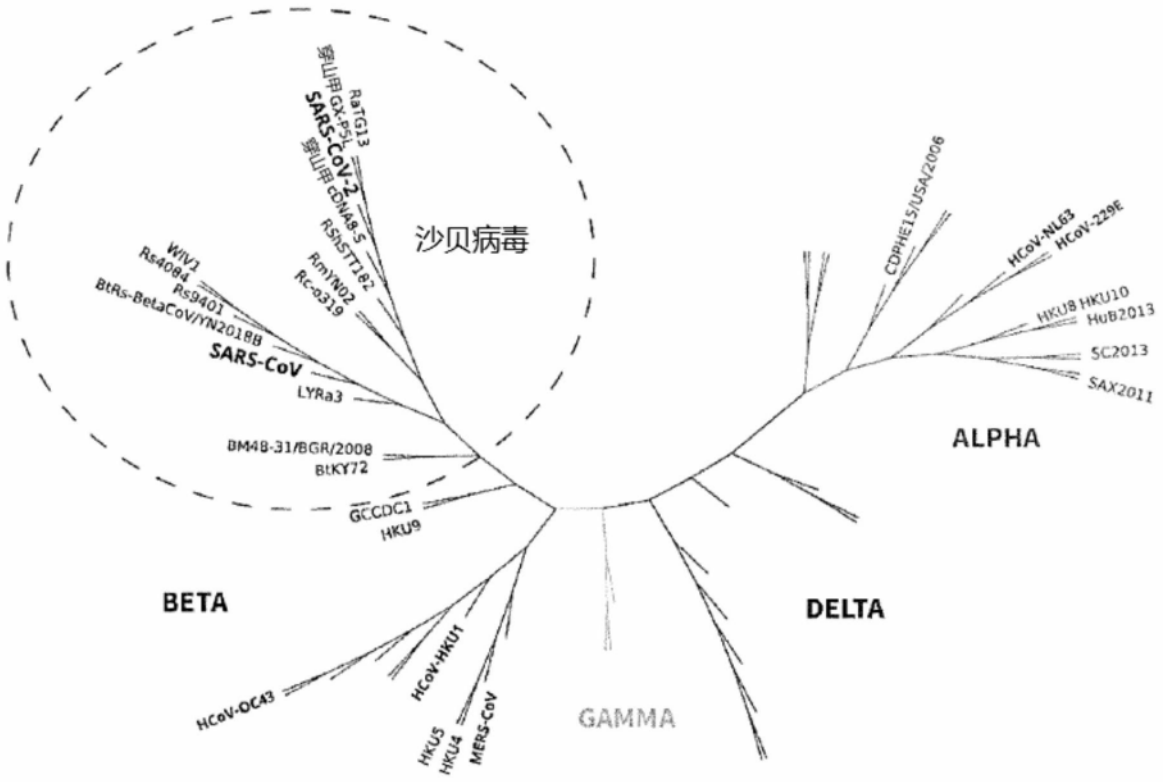

沙贝病毒
穿山甲GX-P5L
RaTG13
SARS-CoV-2
穿山甲cDNA8-S
RsSTT182
RmYN02
RC-o319
WIV1
Rs4084
Rs9401
BtRs-BetaCoV/YN2018B
SARS-CoV
LYRa3
BM48-31/BGR/2008
BtKY72
GCCDC1
HKU9
BETA
HCoV-OC43
HCoV-HKU1
HKU5
HKU4
MERS-CoV
GAMMA
DELTA
CDPHE15/USA/2006
HCoV-NL63
HCoV-229E
HKU8 HKU10
HuB2013
SC2013
SAX2011
ALPHA

图1

	RBD蛋白	刺突蛋白
共识群1	SEQ ID NO:4	SEQ ID NO:1 SEQ ID NOs:23-35
共识群1.1	SEQ ID NOs: 77-163 (303-571 位氨基酸)	SEQ ID NOs: 77-163
共识群1.2	SEQ ID NO:4 SEQ ID NOs: 53-62	SEQ ID NO:1 SEQ ID NOs:23-35
共识群1.25	SEQ ID NO:4 SEQ ID NOs:53-62 SEQ ID NOs:63-65	SEQ ID NO:1 SEQ ID NOs:23-35 SEQ ID NOs:36-38
共识群2	SEQ ID NO:7 SEQ ID NOs:66-74	SEQ ID NO:2 SEQ ID NOs:39-50
共识群2.1	SEQ ID NO:7	SEQ ID NO:2 SEQ ID NOs:39-50
共识群2.5	SEQ ID NO:7 SEQ ID NOs:66-74 SEQ ID NOs:75-76	SEQ ID NO:2 SEQ ID NOs:39-50 SEQ ID NOs:51-52
共识群3.5	SEQ ID NO:4 SEQ ID NOs:53-62 SEQ ID NOs:63-65 SEQ ID NO:7 SEQ ID NOs:66-74 SEQ ID NOs:75-76	SEQ ID NO:1 SEQ ID NOs:23-35 SEQ ID NOs:36-38 SEQ ID NO:2 SEQ ID NOs:39-50 SEQ ID NOs:51-52

图2

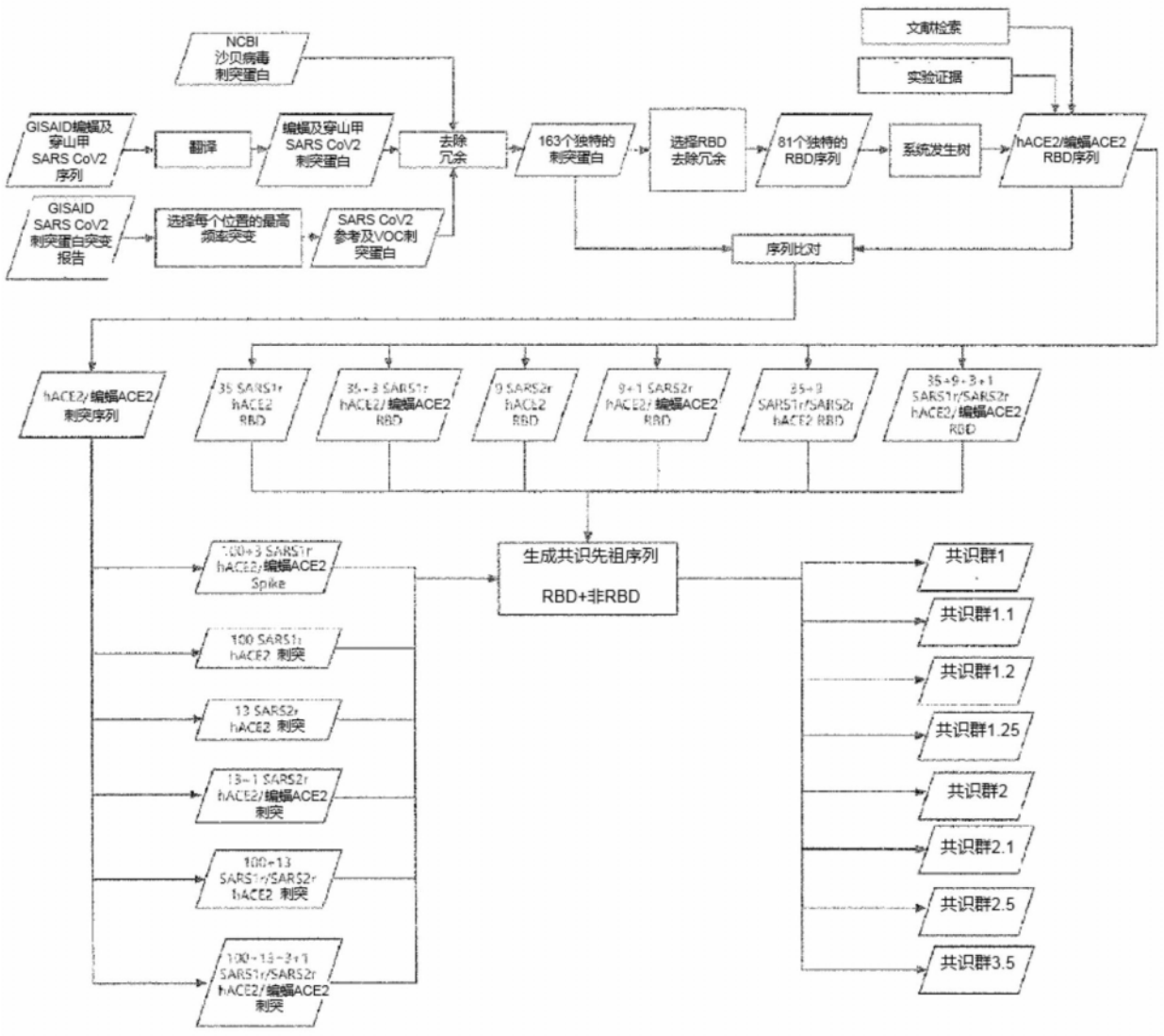

NCBI
沙贝病毒
刺突蛋白
文献检索
实验证据
GISAID蝙蝠及
穿山甲
SARS CoV2
序列
翻译
蝙蝠及穿山甲
SARS CoV2
刺突蛋白
去除
冗余
163个独特的
刺突蛋白
选择RBD
去除冗余
81个独特的
RBD序列
系统发生树
hACE2/蝙蝠ACE2
RBD序列
GISAID
SARS CoV2
刺突蛋白突变
报告
选择每个位置的最高
频率突变
SARS CoV2
参考及VOC刺
突蛋白
序列比对
hACE2/蝙蝠ACE2
刺突序列
35 SARS1r
hACE2
RBD
35+3 SARS1r
hACE2/蝙蝠ACE2
RBD
9 SARS2r
hACE2
RBD
9+1 SARS2r
hACE2/蝙蝠ACE2
RBD
35+9
SARS1r/SARS2r
hACE2 RBD
35+9+3+1
SARS1r/SARS2r
hACE2/蝙蝠ACE2
RBD
100+3 SARS1r
hACE2/蝙蝠ACE2
Spike
100 SARS1r
hACE2 刺突
13 SARS2r
hACE2 刺突
13+1 SARS2r
hACE2/蝙蝠ACE2
刺突
100+13
SARS1r/SARS2r
hACE2 刺突
100+13+2+1
SARS1r/SARS2r
hACE2/蝙蝠ACE2
刺突
生成共识先祖序列
RBD+非RBD
共识群1
共识群1.1
共识群1.2
共识群1.25
共识群2
共识群2.1
共识群2.5
共识群3.5

图3

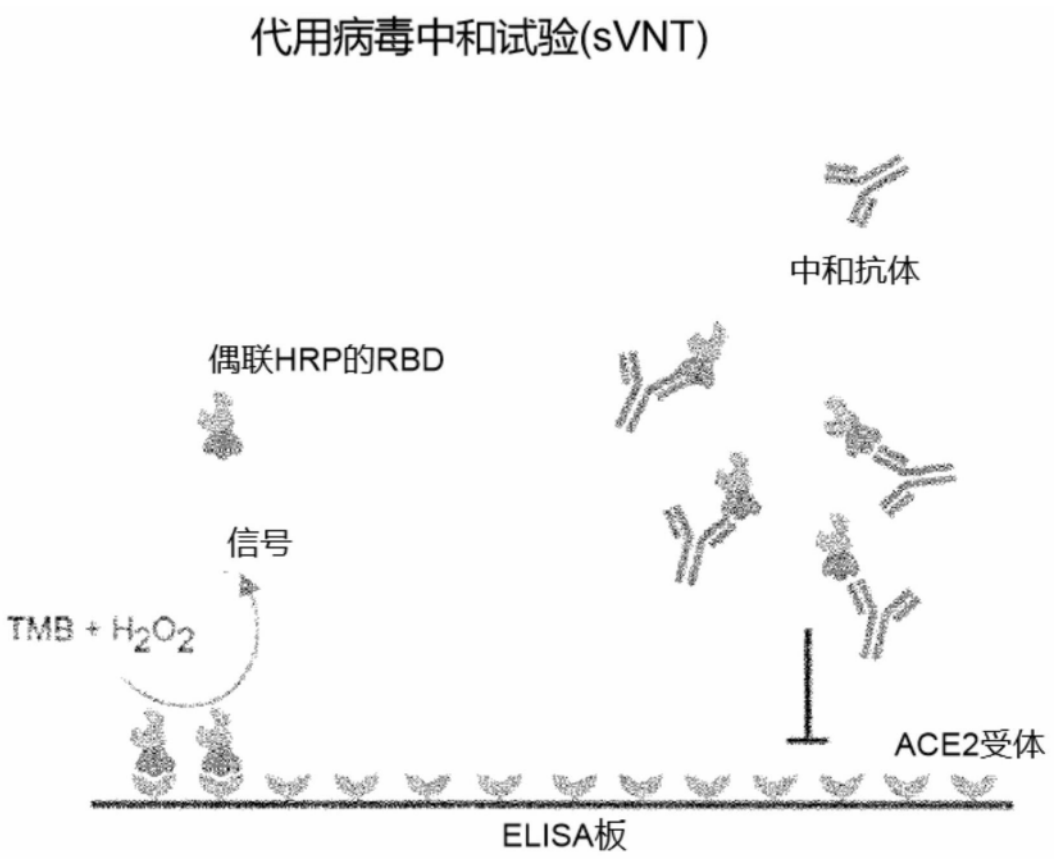


图4

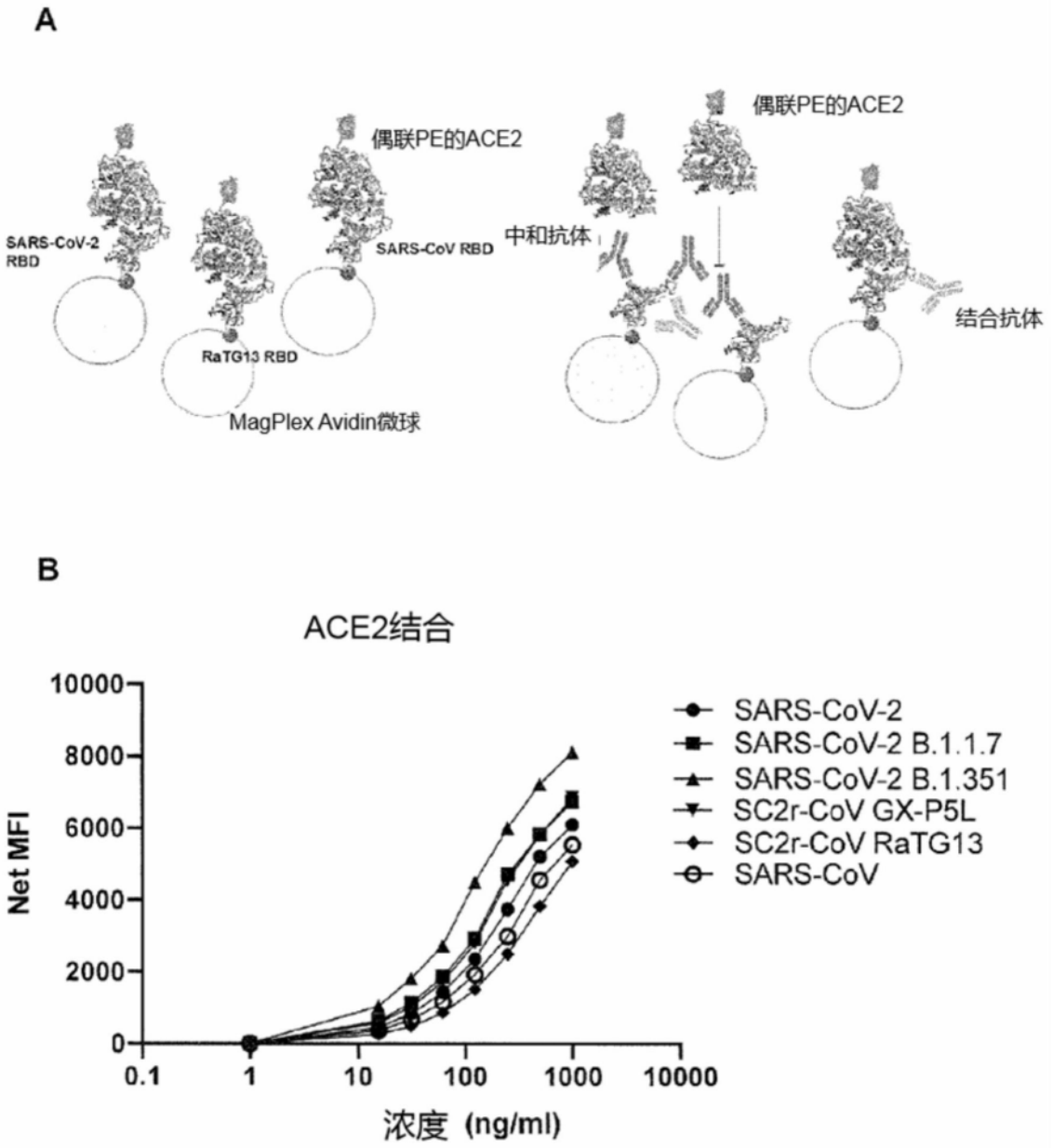

A
偶联PE的ACE2
SARS-CoV-2 RBD
SARS-CoV RBD
RaTG13 RBD
MagPlex Avidin微球
偶联PE的ACE2
中和抗体
结合抗体
B
ACE2结合
Net MFI
10000
8000
6000
4000
2000
0
0.1
1
10
100
1000
10000
浓度 (ng/ml)
SARS-CoV-2
SARS-CoV-2 B.1.1.7
SARS-CoV-2 B.1.351
SC2r-CoV GX-P5L
SC2r-CoV RaTG13
SARS-CoV

图5

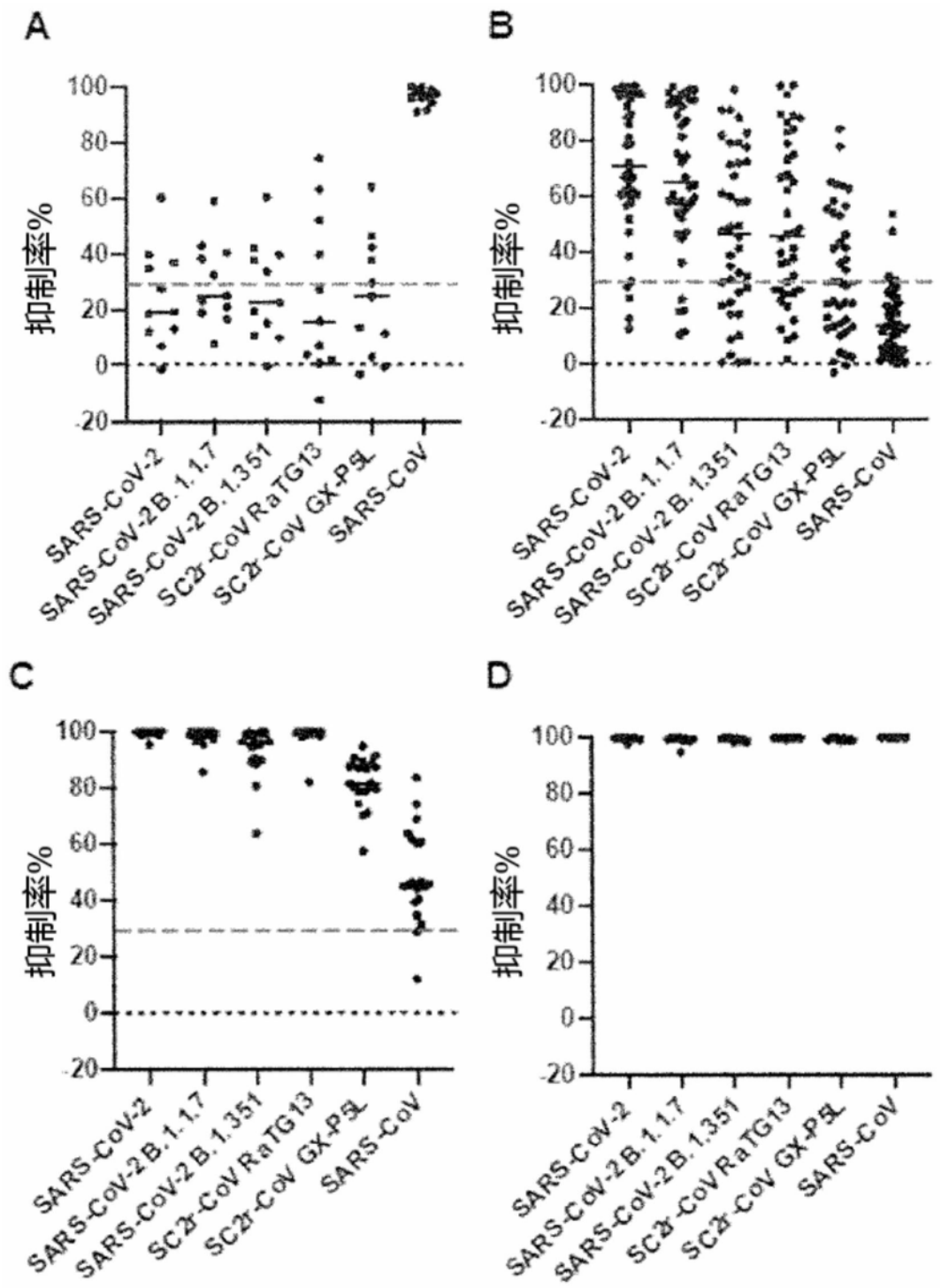

A
B
C
D
抑制率%
100
80
60
40
20
0
-20
SARS-CoV-2
SARS-CoV-2 B.1.1.7
SARS-CoV-2 B.1.351
SC2r-CoV RaTG13
SC2r-CoV GX-P5L
SARS-CoV

图6

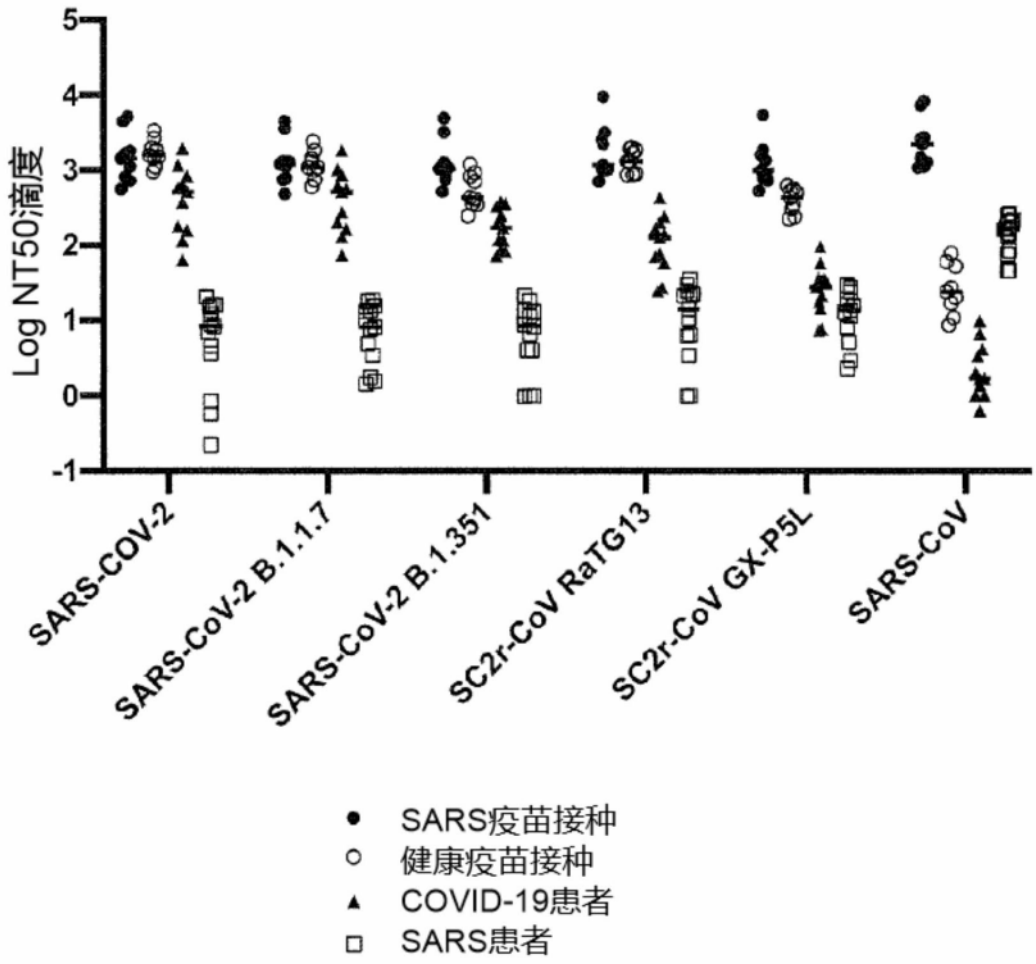

Log NT50滴度
5
4
3
2
1
0
-1
SARS-COV-2
SARS-CoV-2 B.1.1.7
SARS-CoV-2 B.1.351
SC2r-CoV RaTG13
SC2r-CoV GX-P5L
SARS-CoV
SARS疫苗接种
健康疫苗接种
COVID-19患者
SARS患者

图7

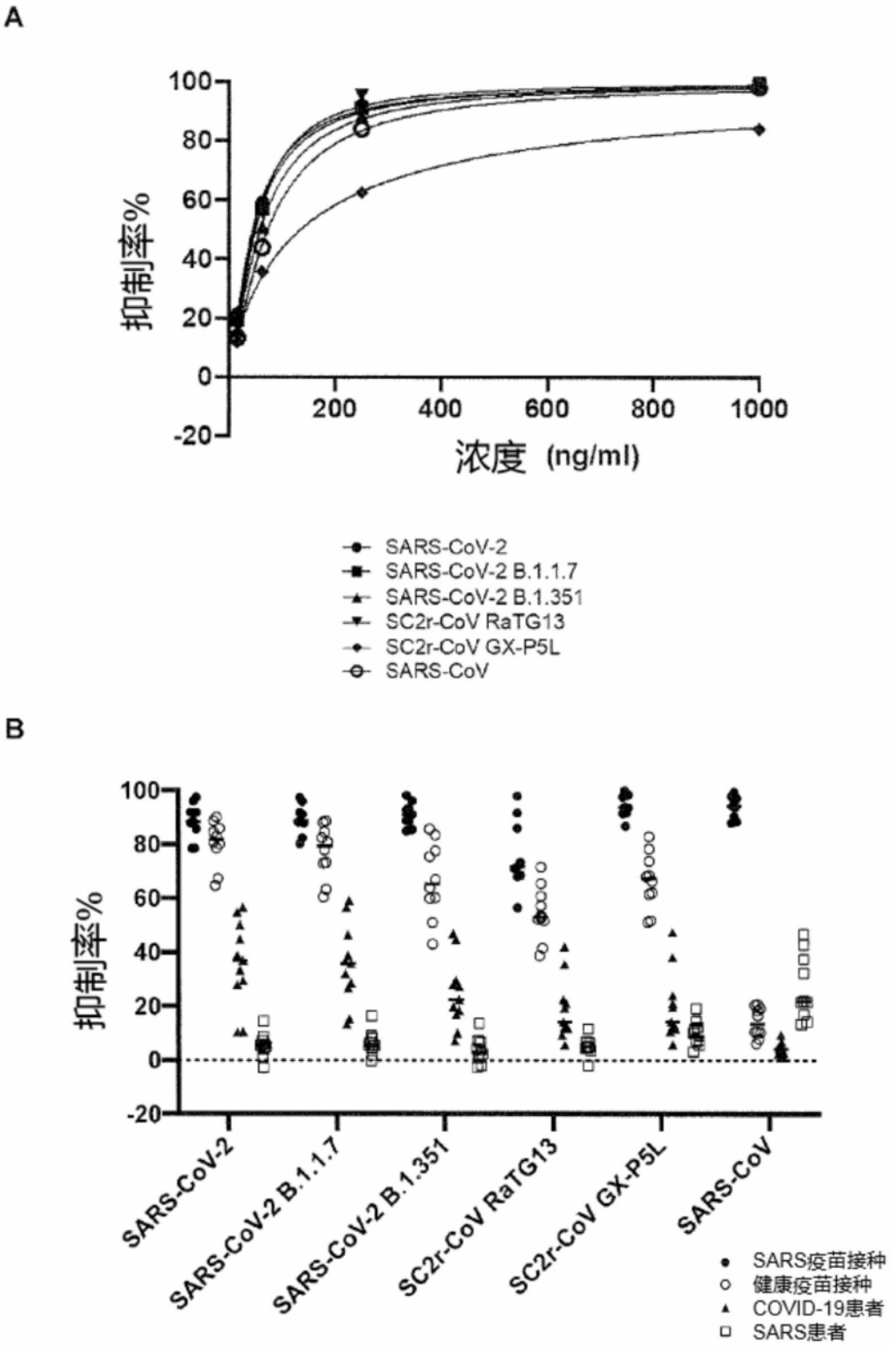

A
100
80
60
40
20
0
-20
抑制率%
200
400
600
800
1000
浓度 (ng/ml)
SARS-CoV-2
SARS-CoV-2 B.1.1.7
SARS-CoV-2 B.1.351
SC2r-CoV RaTG13
SC2r-CoV GX-P5L
SARS-CoV
B
100
80
60
40
20
0
-20
抑制率%
SARS-CoV-2
SARS-CoV-2 B.1.1.7
SARS-CoV-2 B.1.351
SC2r-CoV RaTG13
SC2r-CoV GX-P5L
SARS-CoV
SARS疫苗接种
健康疫苗接种
COVID-19患者
SARS患者

图8

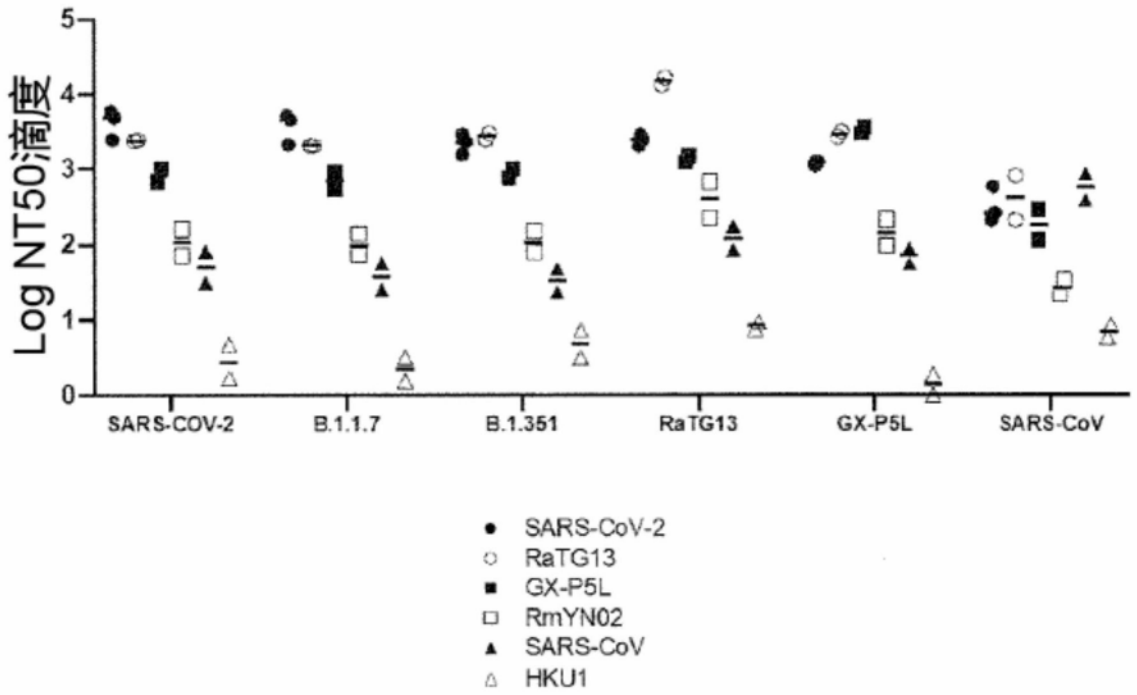

Log NT50滴度
5
4
3
2
1
0
SARS-COV-2
B.1.1.7
B.1.351
RaTG13
GX-P5L
SARS-CoV
SARS-CoV-2
RaTG13
GX-P5L
RmYN02
SARS-CoV
HKU1

图9

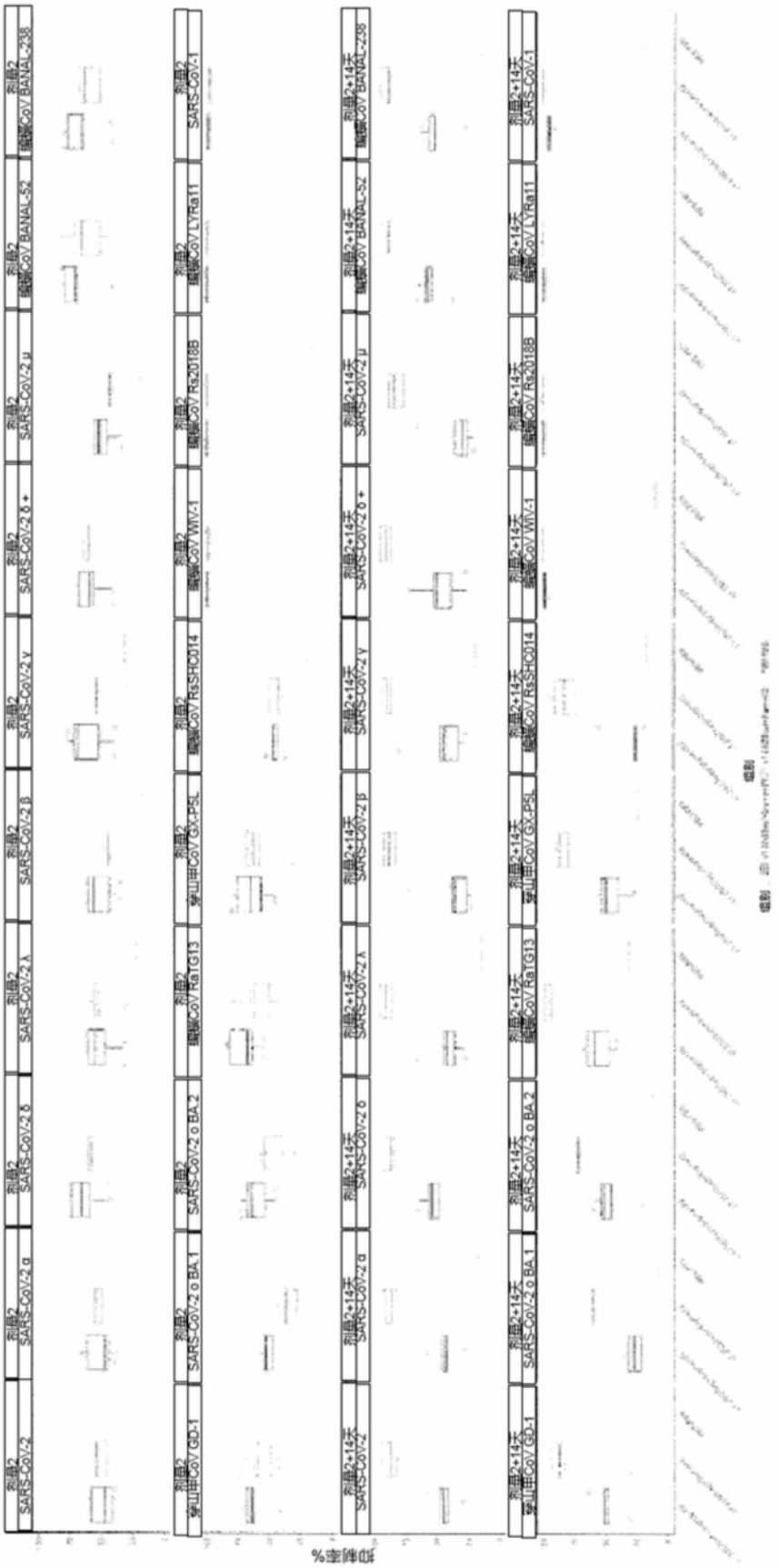


图10

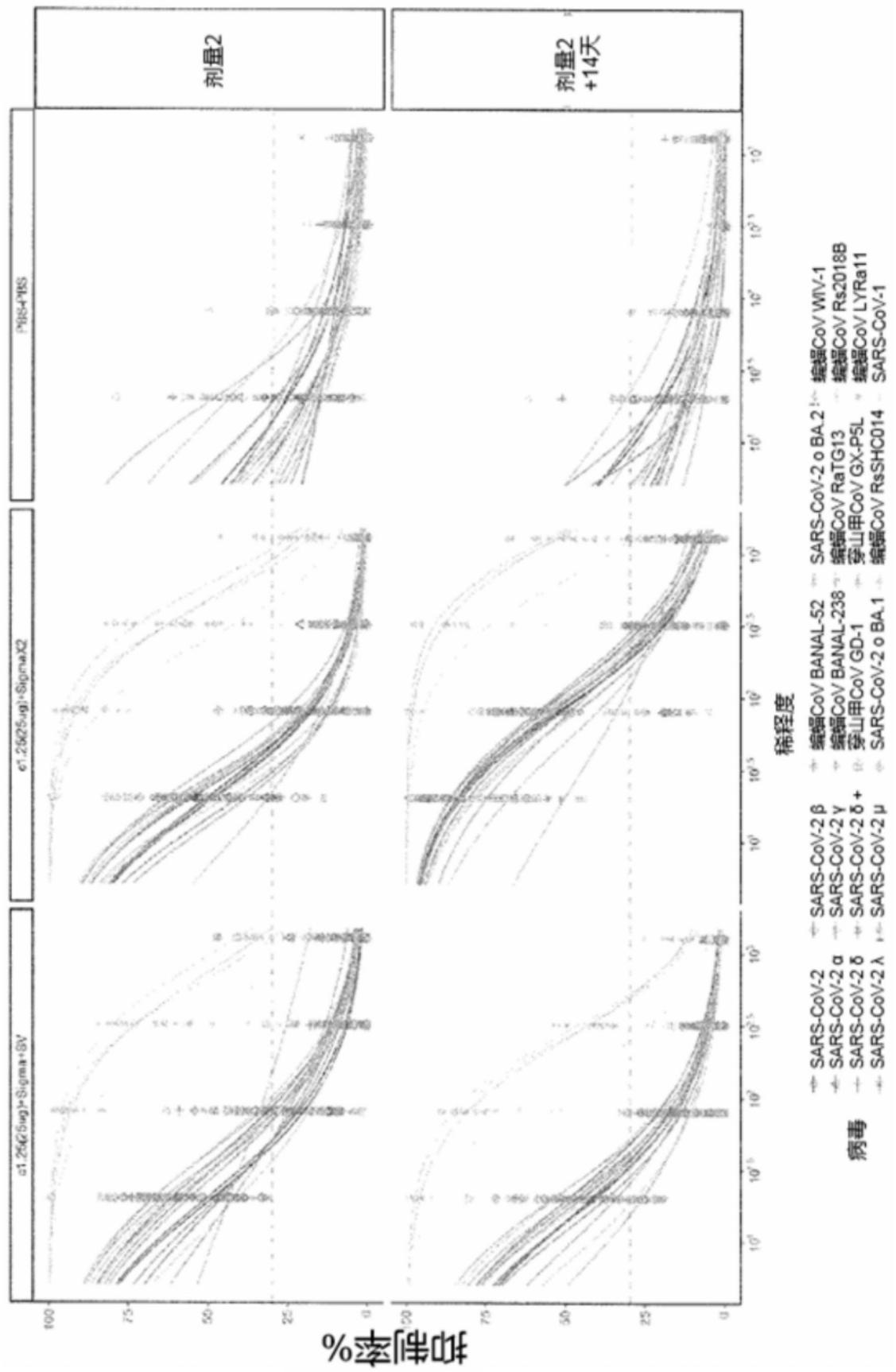

剂量2
剂量2
+14天
抑制率%
稀释度
病毒
SARS-CoV-2
SARS-CoV-2 α
SARS-CoV-2 δ
SARS-CoV-2 λ
SARS-CoV-2 β
SARS-CoV-2 γ
SARS-CoV-2 δ +
SARS-CoV-2 μ
蝙蝠CoV BANAL-52
蝙蝠CoV BANAL-238
穿山甲CoV GD-1
SARS-CoV-2 o BA.1
SARS-CoV-2 o BA.2
蝙蝠CoV RaTG13
穿山甲CoV GX-P5L
蝙蝠CoV RsSHC014
蝙蝠CoV WIV-1
蝙蝠CoV Rs2018B
蝙蝠CoV LYRa11
SARS-CoV-1

图11

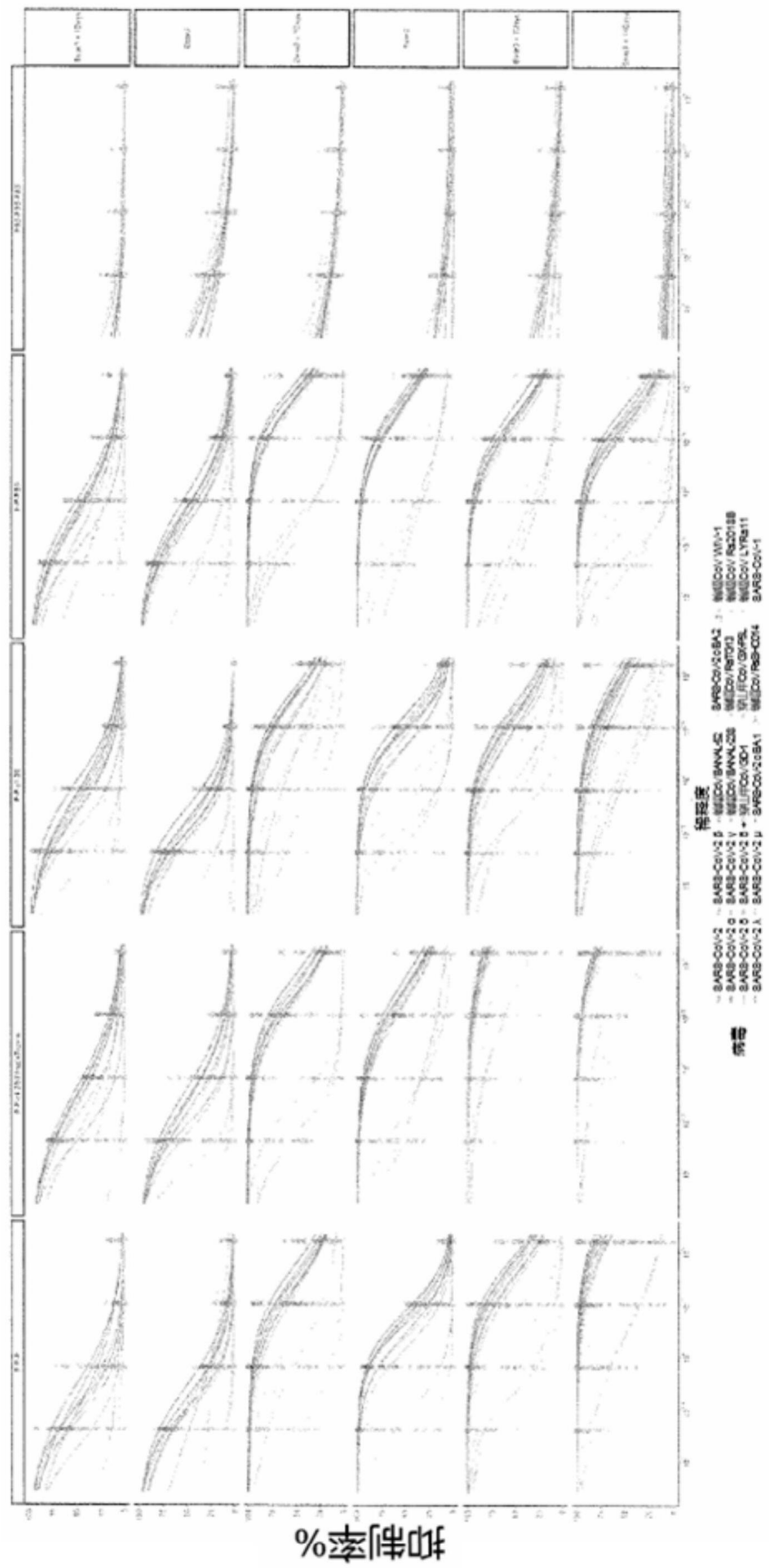


图12

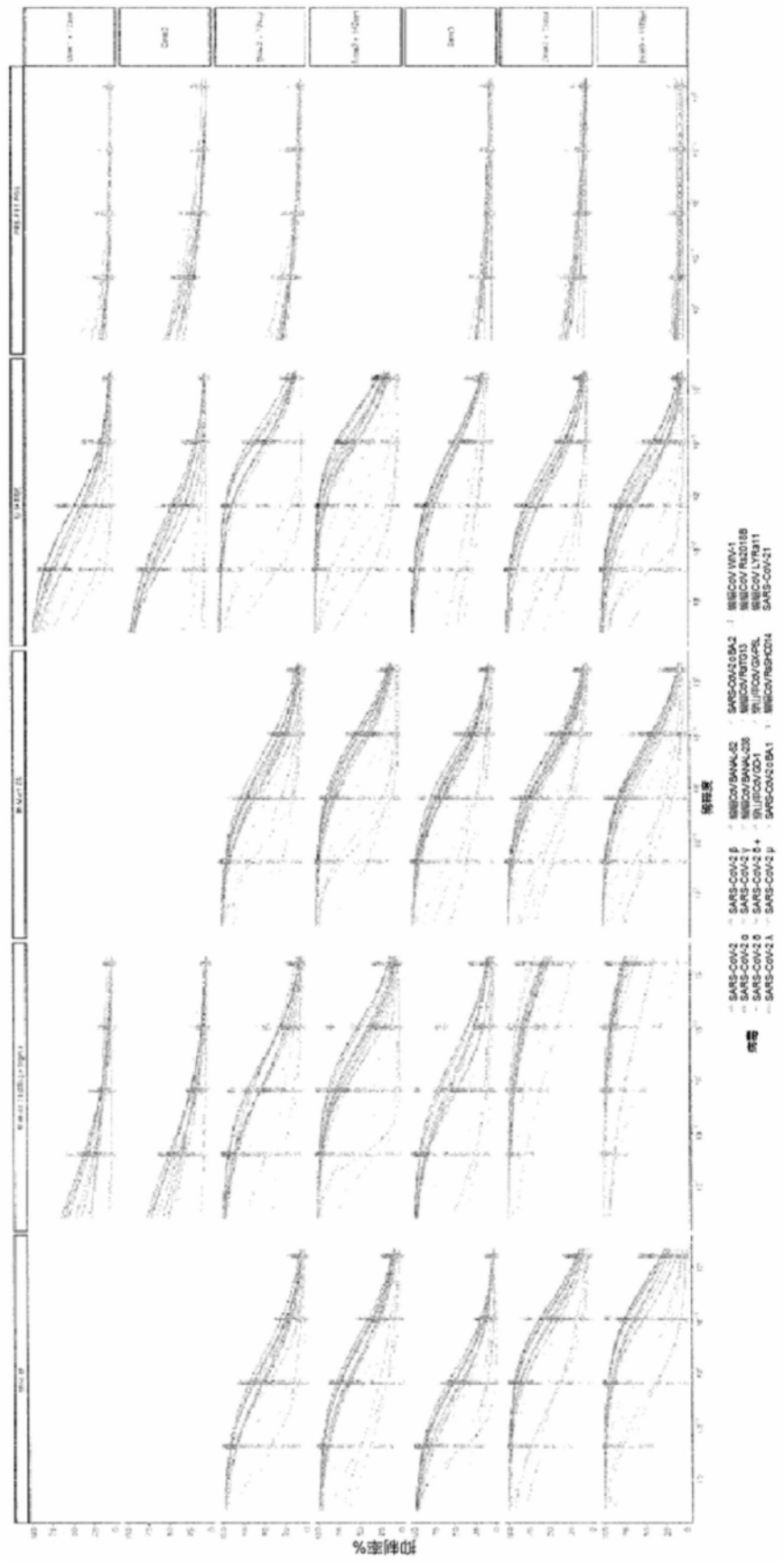

抑制率%
SARS-CoV-2
SARS-CoV-2 α
SARS-CoV-2 β
SARS-CoV-2 γ
SARS-CoV-2 δ
SARS-CoV-2 κ
SARS-CoV-2 μ
SARS-CoV-2 ο
SARS-CoV-2 BA.1
SARS-CoV-2 BA.2
SARS-CoV-2 BA.4/5
SARS-CoV-2 BA.2.75
SARS-CoV-2 BQ.1
SARS-CoV-2 XBB.1
SARS-CoV-2 BF.7
SARS-CoV-2 BA.2.86
SARS-CoV-2 JN.1
SARS-CoV-2 XBB.1.5
SARS-CoV-2 EG.5.1
SARS-CoV-2 HK.3
SARS-CoV-2 JD.1.1
SARS-CoV-2 XBB.1.16
SARS-CoV-2 XDQ
SARS-CoV-2 XBB.1.9.1
SARS-CoV-2 FL.1.5.1
SARS-CoV-2 XBB.1.9.2
SARS-CoV-2 XBB.1.5.70
SARS-CoV-2 XBB.1.5.59
SARS-CoV-2 XBB.1.5.68
SARS-CoV-2 XBB.1.5.72
SARS-CoV-2 XBB.1.5.53
SARS-CoV-2 XBB.1.5.10
SARS-CoV-2 XBB.1.5.7
SARS-CoV-2 XBB.1.5.1
SARS-CoV-2 XBB.1.5
SARS-CoV-2 XBB.1
SARS-CoV-2 BA.5.2.6
SARS-CoV-2 BA.5.2.1
SARS-CoV-2 BA.5.2
SARS-CoV-2 BA.5.1.24
SARS-CoV-2 BA.5.1.17
SARS-CoV-2 BA.5.1
SARS-CoV-2 BA.5
SARS-CoV-2 BA.4.6
SARS-CoV-2 BA.4
SARS-CoV-2 BA.3
SARS-CoV-2 BA.2.75.2
SARS-CoV-2 BA.2.75
SARS-CoV-2 BA.2.12.1
SARS-CoV-2 BA.2.10.1
SARS-CoV-2 BA.2.9.1
SARS-CoV-2 BA.2.3.20
SARS-CoV-2 BA.2.3
SARS-CoV-2 BA.2
SARS-CoV-2 BA.1.1.529
SARS-CoV-2 BA.1
SARS-CoV-2 Alpha
SARS-CoV-2 Beta
SARS-CoV-2 Gamma
SARS-CoV-2 Delta
SARS-CoV-2 Kappa
SARS-CoV-2 Mu
SARS-CoV-2 Omicron
SARS-CoV-2 Omicron BA.1
SARS-CoV-2 Omicron BA.2
SARS-CoV-2 Omicron BA.4/5
SARS-CoV-2 Omicron BA.2.75
SARS-CoV-2 Omicron BQ.1
SARS-CoV-2 Omicron XBB.1
SARS-CoV-2 Omicron BF.7
SARS-CoV-2 Omicron BA.2.86
SARS-CoV-2 Omicron JN.1
SARS-CoV-2 Omicron XBB.1.5
SARS-CoV-2 Omicron EG.5.1
SARS-CoV-2 Omicron HK.3
SARS-CoV-2 Omicron JD.1.1
SARS-CoV-2 Omicron XBB.1.16
SARS-CoV-2 Omicron XDQ
SARS-CoV-2 Omicron XBB.1.9.1
SARS-CoV-2 Omicron FL.1.5.1
SARS-CoV-2 Omicron XBB.1.9.2
SARS-CoV-2 Omicron XBB.1.5.70
SARS-CoV-2 Omicron XBB.1.5.59
SARS-CoV-2 Omicron XBB.1.5.68
SARS-CoV-2 Omicron XBB.1.5.72
SARS-CoV-2 Omicron XBB.1.5.53
SARS-CoV-2 Omicron XBB.1.5.10
SARS-CoV-2 Omicron XBB.1.5.7
SARS-CoV-2 Omicron XBB.1.5.1
SARS-CoV-2 Omicron XBB.1.5
SARS-CoV-2 Omicron XBB.1
SARS-CoV-2 Omicron BA.5.2.6
SARS-CoV-2 Omicron BA.5.2.1
SARS-CoV-2 Omicron BA.5.2
SARS-CoV-2 Omicron BA.5.1.24
SARS-CoV-2 Omicron BA.5.1.17
SARS-CoV-2 Omicron BA.5.1
SARS-CoV-2 Omicron BA.5
SARS-CoV-2 Omicron BA.4.6
SARS-CoV-2 Omicron BA.4
SARS-CoV-2 Omicron BA.3
SARS-CoV-2 Omicron BA.2.75.2
SARS-CoV-2 Omicron BA.2.75
SARS-CoV-2 Omicron BA.2.12.1
SARS-CoV-2 Omicron BA.2.10.1
SARS-CoV-2 Omicron BA.2.9.1
SARS-CoV-2 Omicron BA.2.3.20
SARS-CoV-2 Omicron BA.2.3
SARS-CoV-2 Omicron BA.2
SARS-CoV-2 Omicron BA.1.1.529
SARS-CoV-2 Omicron BA.1
SARS-CoV-2 Omicron Alpha
SARS-CoV-2 Omicron Beta
SARS-CoV-2 Omicron Gamma
SARS-CoV-2 Omicron Delta
SARS-CoV-2 Omicron Kappa
SARS-CoV-2 Omicron Mu
SARS-CoV-2 Omicron Omicron

图13

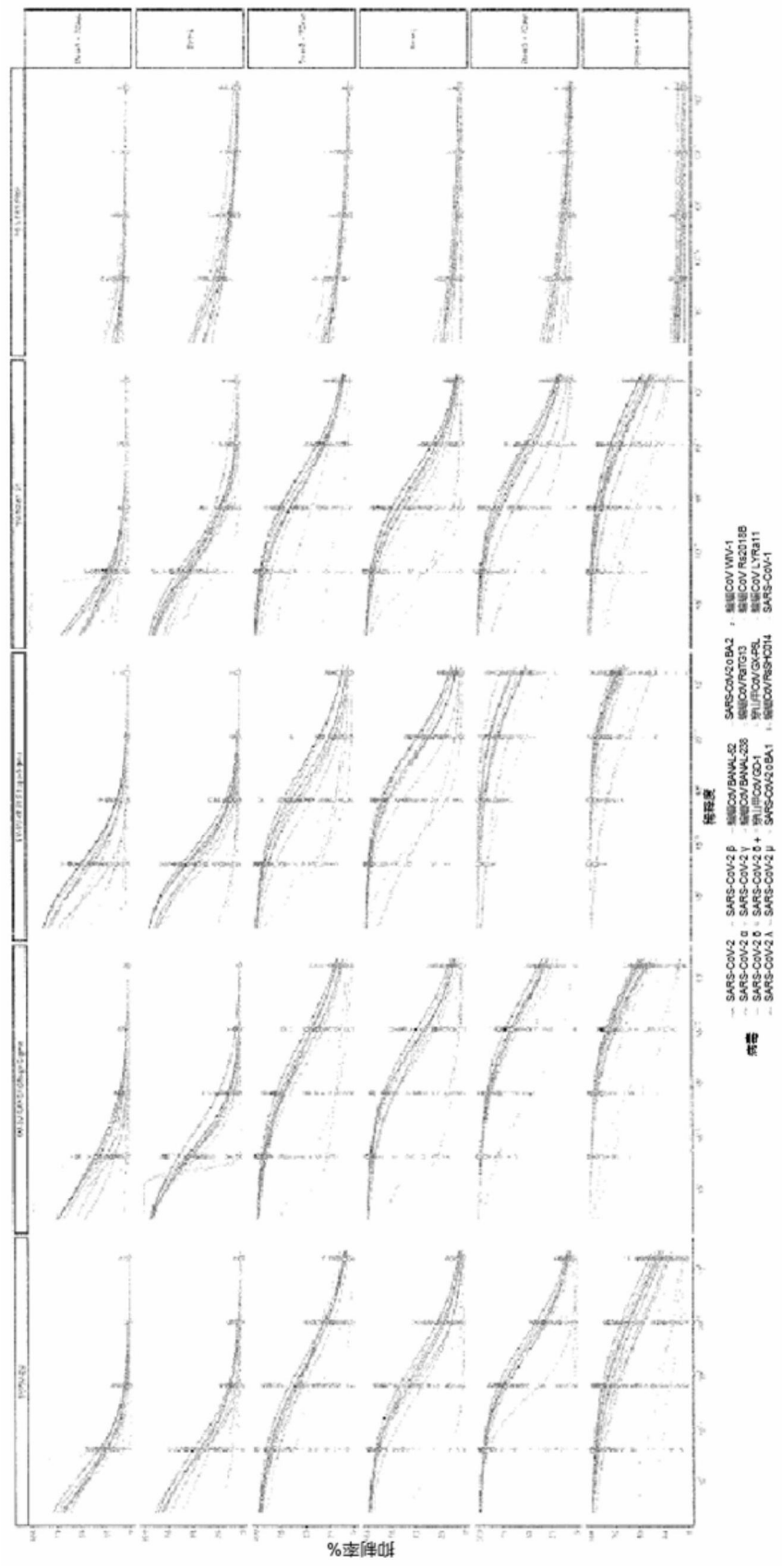

抑制率%
SARS-CoV-2
SARS-CoV-2 α
SARS-CoV-2 β
SARS-CoV-2 δ
SARS-CoV-2 λ
SARS-CoV-2 β
SARS-CoV-2 γ
SARS-CoV-2 δ +
SARS-CoV-2 μ
SARS-CoV-2 BA.1
SARS-CoV-2 BA.2
RsWIV1
Rs2018B
LYRa11
SARS-CoV-1

图14