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(71) 가

가 169854, 18, ,

(72) ,
가 266914, ,14,
가 080104 22 - 104, 104

(74)

:

(54)

B , B
 B , 가 .
 B

[illegible]

on) . " a" (epitope region) .

HBV (intervention) 가 (inte
 rventionist therapy) HBV (overlapping genomic structure) , HBV
 . HBV (selective pressure)

HBsAg

가 .

HBV
 (immuno - detectable viral marker) HBV (HBV
 nucleic acid sequence) (single - step nucleic acid amplifi
 cation assay)

HBV (sensitive assay) .
 HBV (immunoglobulin)(, IgG)

가 .

, " " " "

.

HBV (HBV - derived nucleic acid target sequence)
 가 (single stranded form)
 (denaturing condition) ,

(primer) (,
 가 가 ,
 가 가 (extension product) , 3' (3' termini) 가),

(HBV)

HBV (HBV - derived nucleic acid target sequence)
 가 (single stranded form)
 (denaturing condition) ,

(, 가
 가 ,
 가 (extension product) , 3' 가 , HBsAg

(nucleotide sequence)
) ,

,

(, HBV)

.

HBV DNA , HB
가 cDNA

V mRNA ,

,

가 DNA ,

(,

가 DNA 가 ,

가 ,

3' , 가),

,

(, HBV DNA)

.

HBV DNA , HB
가 cDNA (reverse tran

V mRNA ,

scription conditions) ,

가 DNA ,

(,

가 DNA 가 ,

가 ,

3' , 가 ,

(reporter molecule) (label) ,

(capturable moiety) ,

가 ,

가 (solid support) 가

,

가 ,

가 ,

가 (, HBV - D

NA) .

3 (bp) .

2 (< 400> 1 < 400> 2) ,
 HBsAg , HBc HBs
 PCR HBV (electrophoresis pattern) . (10
 0 bp (ladder), MBI (fermentas)) (immigration position) 4 . 1
 1 1 2 1a 1f 2 6 9
 1 3 4 (viral marker)(HBsAg
 HBc HBs) 3, 5, 7
 9 .

HBV

, HBV

" (amplification mixture)" (re
 agent) (aqueous) 가 . , (aqueous buffer), (salt),
 (target nucleic acid) (deoxynucleoside triphosphates) .

" (amplification system)" (nucleic acid) (copy)
 (in vitro means) 가 .

" (amplification reagent)" (buffer), (enzyme),
 (primer) (deoxynucleoside triphosphates) 가 .

" (nucleic acid)" 가 (ribonucleotide)
 (deoxyribonucleotide polymer) 가 .

" (polymerase)" (nucleoside triphosphate precursor) DN
 A 가 . PCR
 (template - dependent) (thermostable) , DNA 3' -
 가 .

" (oligonucleotide)'" ((deoxyribonucleotide) 가 .

" (primer)" 가 (primer exten
 sion product) DNA ((oligonucleotide) 가 4
 . 가 .
 (, PCR (PCR cycling condition)
) .

HBV

가

가 (, 가
 가 , 가
 3' , 가),
 ,
 (HBV)
 .
 , HBV , HBsAg HBsAg HBV
 HBV , / 가 , / 가
 HBV , HBsAg HBsAg
 (immunological changes) HBsAg
 HBV , , HBsAg 가
 V (, HBsAg) HB
 HBsAg DNA (overlapping gene)
 .
 " (nucleic acid molecule encoding)" , "
 (nucleotide sequence encoding)" (genetic sequence encoding)"
 " " .
 " " 가 (exon) cDNA .
 " " .
 (i) / / (5' - and 3' - untranslated sequences)) (, (intron), 5' - 3' - (genomic gene),
 (ii) (,) mRNA cRNA 5' - 3' - .
 " " (expression product)
 , " " " .
 HBV ,
 가 ,
 (, 가
 가 , 가
 가 3' , 가 , HBsAg
),

(, HBV)
 .
 a) , HBV , HBV DNA, mRNA (tissue extraction), (excreti
 . 1 RNA
 . (environmental sample) HBV
 .
 HBV " HBsAg 가 HBV , HBV
 HBV (escape)" , HBsAg HBV
 (recombinant peptide) .
 HBV HBV " HBV "
 HBV , 가 DNA , (reverse transcriptase)
 cDNA 가 RNA , HBV
 mRNA (transcript) DNA 가 (reverse trans
 cription) 가 / DNA (complement) . RNA
 / HBV mRNA cDNA .
 (PCR; polymerase chain reaction), (ligation chain reaction),
 (nucleic acid sequence based amplification), Q (Q replicase based amplification),
 가 (strand displacement method), (rolling circle amplification)
 - (recirculating allele - specific primer extension)
 PCR .
 HBV mRNA HBV DNA ,
 가 cDNA ,
 가 DNA ,
 DNA 가 ,
 가 가 3' , 가),
 ,

(, HBV DNA) .

, HBsAg . 가
 < 400> 1[(sense primer)] < 400> 2[] .
 < 400> 1 < 400> 2 (stringency condition)
 < 400> 1 < 400> 2 70% (s
 imilarity)

" " (identity)
 (non - identity) , " " , ,
 / , .

"
 (reference sequence)" , " (comparison window)" , (sequence similarity)" , "
 (sequence identity)" , " " , " " " "
 . " " , 30 (monomer unit) ,
 12 15 18, 가 25 .
 (1) (,
) (2) (divergent sequence) , ("
) "
 (comparison window)" " "
 12 (contiguous residue) (conceptual segment) 가
 . (가)
 20 % 가 (, (gap)) .
 (GAP, BESTFIT, FASTA and TFASTA in the Wisconsin Genetics Software Package Release 7.0, genetics Computer Group, 575 Science Drive Madison, WI, USA)

(,
 (homology)) Altschul et al.(8) BLAST
 (BLASTfamily) . Ausubel et al.(9) 19.3 .

" " " " (n
 ucleotide - by - nucleotide)

" "
 (, A, T, C, G, I) (matched position)
 , (window size)
 100
 " " (standard default) DN
 ASIS (Version 2.5 for windows; available from Hitachi Software engineering Co., Ltd. South
 San Francisco, California, USA) " (matching percentage)"

(low stringency) 0 15% v/v (formamide)
 1M 2M , 1M 2M
 (stringency condition)
 5M 0.9M 16%v/v 30%v/v 0.9M 0.
 (medium stringency) 0.5 M 31%v/v 50%v/v
 0.01M 0.15M 0.01M
 (stringency condition)
 $T_m = 69.3 + 0.41(G+C)\%$ (10). 가 DNA T_m
 (mismatch base pairs) 1% 가 1 (11).
 (stringency) 6 x SSC (buffer), 25 - 42 0.1% w/v SDS , 2 x SSC , 20 -
 65 0.1% w/v SDS , 0.1 x SSC , 65 0.1% w/v S
 DS .
 " (primer)" , (amplification m
 olecule) (probe) .
 , " (nucleic acid primer)" 3
 가 3 100
 5 50 , 5 25
 . 50 " .
 가 (stepwise addition)
 (fragment), (part), (portion), (extension product) " .
 " 가 DNA DNA
 3' (free 3' hydroxyl group) . DNA
 가 가 .
 " (amplification)" .
 120 , 2 70 , 10, 15, 20, 25 30
 5 40 .
 ((amplimer))
 (electrophoresis) , (ethidium bromide st
 aining) (ultraviolet) 가 . HPLC
 (chromatography) MALDI - TOF (mass spectrometry)
 (resolved) . (reporter molecule)
 (solid support) , (reporter signal)
 ng moiety) (anchor amplimer) (capturi
 2 (n
 ested set)
 (single step amplification assay) .

, HBV mRNA , HBV 가 DNA 가 cDNA ,
 ,
 가 DNA ,
 (,
 DNA 가 ,
 가 가 , 가 가 ,
 3' , 가 , 가 ,
 , 가 ,
 가 가 가 ,
 ,
 가 ,
 가 (, HBV D
 NA) .
 ,
 가 (microtitre well) .
 (capturabl
 e moiety) DNA (DNA binding protein) .
 가 .
 (solid phase) 가 (microtitre
 well) (dipstick) (planar material) .
 (solid support) (cellulose), (cer
 amic material), (nitrocellulose), (polyacrylamide), (nylon),
 (polystyrene) (derivative), (polyvinylidene difluoride) (PVDF),
 (methacrylate) (derivative), (polyvinyl chloride)
 (polypropylene) (polymer) .
 (nitrocellulose film) (hybrid)
 .
 (membrane) (tube), (bead), (disk), (microplate),
 (dipstick), 가 (microtitre tray well)
 .
 , , 가 .

(amid linkage), (amino group) (amidate linkage), (thioether linkage),
587[WO 93/09250] PCT/AU92/00

" " (" generic" primer)가

가 (label)가

(chromogen), (catalyst), (enzyme), (fluorophore), (luminescent mole
cule), (chemiluminescent molecule), (EU ³⁴) (lanthanide ion),
(radiorisotope) (direct visual label)

가 (colloidal metallic) (non - metallic particular),
(dye particle), (enzyme or substrate), (organic polymer), (latex
particle), (liposome), (vesicle)

4,366,241, 4,843,000 4,849,338
(alkaline phosphatase), (horserad
ish peroxidase), (luciferase), - (- galactosidase), (glucose o
xidase), (lysozyme), (malate dehydrogenase)

2
(fluorophore) (fluorescein), (rhodamine),
(Texas red), (lucifer yellow), R - (R - phycoerythrin)

가

가 (amplifier)

HBV DNA
2

(, HBV , 가 , HBV
DNA primer) 가 , (solution phase

가 (, HBV DNA)

HBV
, HBV가 " " (typed) 가 HBV
가 , HBV (variable region)
mer) (microchip), (reaction vessel wall), (dipstick), (multiple pri
(slide)
(coordinate)

" "

2 가 HBV
가
HBV (type)

DNA HBV 가 (strain) 가 HBV DNA HBV
(, 가
HBV DNA ,
가 가) . 가

< 400> 1 < 400> 2 &
It; 400> 1 < 400> 2 < 400> 1 < 400&
gt; 2 70% (complement)
ent) (restriction fragm
HBV (strain) HBsAg
(sequence alignment)
20 , HBV
(primer candidates)

HBV DNA
50 HBsAg 10
, 가
(biochip) (micro - matrix), 가
가

HBV
(i) 가
1 가 가
(ii) 가

$a_1, a_2, \dots, a_n$, $(x_1 y_1), (x_2 y_2) \dots (x_n y_n)$
 $(x_1 y_1), (x_2 y_2) \dots (x_n y_n)$ 가 $a_1 b_1, a_2 b_2 \dots a_n b_n$ HBV DNA HBV $b_1 b_2 \dots b_n$ 가
 , DNA HBsAg HBV DNA HBV
 HBV).
 가 HBV PCR .
 , PCR
 가 .
 HBV , 가 .
 PCR HBV .
 (12).
 PCR 1 95 가 HBV 가 (HBV
 nucleic acid duplex) . 가 PCR 가
 가 . PCR , 가, (denatur
 ation), (hybridization) (extension) 120 35
 PCR .
 PCR (template - dependent extension) (salts), (met
 al cation) pH (deoxyribonucleoside triphosphates) (dATP, dGTP, dCTP dTTP)
 (polymerizing agent) . DNA (template - dependent DNA
 synthesis) . Taq (Taq polymerase), *Thermus aquaticus*
 DNA (heat - stable DNA polymerase) Pfu (high fidelity Pfu
 polymerase) . (high precision amplification) . PCR
 (thermostable)
 (denaturing phase), (primer annealing phase) (extension re
 action phase) .
 PCR .
 , pH ,
 (dATP, dGTP, dCTP dTTP) ,
 260nm 5 UV , 가
 , 가 DNA , 가
 (reaction mixture intact) .
 ,
 (current immuno - based diagnostic assay)

HBV

HBV

HBV

HBV

가

(

1 가

가
가

가

3'

),

(

HBV

)

HBV

(peptide),

(polypeptide)

(immunological marke

r)

(expression product)

/

(immunoglobulins)

HBV

(recombinant expressio

n system)

(modified)

가

(expression)

HBsAg

HBsAg

가

(prokaryotic)

/

(euk

aryotic host)

(recombinant expression)

,

HBsAg

(immunogloblin)

HBV

(insect cell line)

(intermediate cloning s

/

tep)

(inducible expression)

(calciumphosphate transfection),

(electroporation),

(liposomes),

(plasmid vector),

(viral vector)

DNA

(viral marker)

가

(expression vector)
 (eukaryotic transcription unit)
 (vital protein) DNA
 (polyadenylation)
 (expression cassette)
 가 (promoter)
 mRNA
 (E. coli)
 (eukaryotic replicon)
 가
 가
 (episome amplification) 가
 DNA가
 (co - integrated mammalian promoter)
 가
 (size exclusion chromatography),
 (affinity chromatography),
 (ion - exchange chromatography)
 가
 (mimetic)
 가
 HBV
 HBV
 (murine))
 (fragment)
 (preparation)
 (antibody - producing cell)
 (immunoglobulin)
 (viral marker)
 HBV
 가
¹²⁵I ³⁵S
 (non - radioactive label)가
 (ligand molecule)(
 가 가
 (anti - ligand)(
 (streptavidin))
 가
 (phosphatases) tm(peroxidases)

, 2, A G Fc

, 가 (microtitre dish) (polystyrene) (bead)

(lysate)

HBV (immunological reaction) (serum))

HBsAg HBV HBV

(vaccine component)

HBV (diagnostic agent)

HBV (HBV isolate)

, HBV (derivative), (homologues) (analogues) . HBV HBV

E A F(13)

" (derivative)" , 가 /

(part), (portion), (fragment), (section) (region)

, 가 (side chain) (modification)

, NaBH₄ 가 (side chain modification) (modification)

(aldehyde) (reductive alkylation)

(methylacetimidate) (amidination), (acetic anhydride) (acylation), (amino group) (cyanate) (carbamoylation), 2, 4, 6 - (TNBS; trinitrobenzene sulphonic acid) (succinic anhydride) (acylation) NaBH₄ (lysine) - 5 - (pyridoxal - 5 - phosphate) (pyridoxylation)

(arginine residues) (guanidine group) 2,3 - (butanedione), (phenylglyoxal) (glyoxal) (heterocyclic condensation product)

(amide) (derivitisation)가 O - (O - acylisourea) (carbodiimide)

ide); (sulphydryl group) (iodoacetic acid) (iodoacetam
 (cysteic acid) (performic acid oxidation); (thiol compound)
 (disulphides) ; (maleimide) (maleic anhydride)
 (maleimide) ; 4 - (4 - chloromercuribenzoate), 4 -
 (4 - chloromercuriphenylsulphonic acid), (phenylmercury chlo
 ride), 2 - - 4 - (2 - chloromercuri - 4 - nitrophenol) (mercurials);
 pH(alkaline pH) (carbamoylation) .

(tryptophan residue) N - (N - bromosuccinimide)
 (indole ring) 2 - - 5 - (2 - hydroxy - 5 - nitrobenzyl bromide)
 (sulphenyl halides) . (tyrosine residue)
 3 - (3 - nitrotyrosine derivative) (tetranitrometh
 ane) (nitration) . (hystidine residue) (imidazole r
 ing) (iodoacetic acid derivatives) (alkylation)
 (diethylpyrocarbonate) N - (N - carbethoxylation) .

(4 - amino butyric acid), 4 - - 3 - - 5 - , (norleucine), 4 -
 phenylpentanoic acid), 6 - (6 - aminohexanoic acid), T - (4 - amino - 3 - hydroxy - 5 - p
 (norvaline), (phenylglycine), (ornithine), (sarcosine), 4 - - 3 -
 - 6 - (4 - amino - 3 - hydroxy - 6 - methylheptanoic acid), 2 - (2 - thienyl alanine)
 / D - (D - isomers) . 1a
 1f .

종래에 없던 아미노산	코드	종래에 없던 아미노산	코드
α -아미노부티르산	Abu	L-N-메틸알라닌	Nmala
α -아미노-메틸부티르산	Mgab	L-N-메틸아르지닌	Nmarg
아미노사이클로프로판-카르복실레이트	Cpro	L-N-메틸아스파라진	Nmasn
		L-N-메틸 아스파릭산	Nmasp
아미노이소부티르산	Aib	L-N-메틸시스테인	Nmcys
아미노오르보닐-카르복실레이트	Norb	L-N-메틸글루타민	Nmgln
		L-N-메틸글루탐산	Nmglu
사이클로헥실알라닌	Chexa	L-N-메틸히스티딘	Nmhis
사이클로펜틸알라닌	Cpen	L-N-메틸아이소류신	Nmile

D-알라닌	Dal	L-N-메틸류신	Nmleu
D-아르지닌	Darg	L-N-메틸라이신	Nmlys
D-아스파르트산	Dasp	L-N-메틸메타이오닌	Nmmet
D-시스테인	Dcys	L-N-메틸노르류신	Nmnle
D-글루타민	Dgln	L-N-메틸노르발린	Nmnva
D-글루탐산	Dglu	L-N-메틸오르니틴	Nmorn
D-히스티딘	Dhis	L-N-메틸페닐알라닌	Nmphe
D-아이소류신	Dile	L-N-메틸세린	Nmser
D-라이신	Dlys	L-N-메틸트레오닌	Nmthr
D-메티오닌	Dmet	L-N-메틸트립토판	Nmtrp
D-오르니틴	Dorn	L-N-메틸타이로신	Nmtyr
D-페닐알라닌	Dphe	L-N-메틸발린	Nmval
D-프롤린	Dpro	L-N-메틸에틸글라이신	Nmetg
D-세린	Dser	L-N-메틸-티-부틸글라이신	Nmtbug
D-트레오닌	Dthr	L-노르류신	Nle

D-트립토판	Dtrp	L-노르발린	Nva
D-타이로신	Dtyr	α -메틸-아미노아이소부티레이트	Maib
D-발린	Dval	α -메틸- γ -아미노부티레이트	Mgabv
D- α -메틸알라닌	Dmala	α -메틸사이클로헥실알라닌	Mchexa
D- α -메틸아르지닌	Dmarg	α -메틸사이클로펜틸알라닌	Mcpen
D- α -메틸아스파라진	Dmasn	α -메틸- α -나프틸알라닌	Manap
D- α -메틸아스파르테이트	Dmasp	α -메틸페니실아민	Mpen
D- α -메틸시스테인	Dmcys	N-(4-아미노부틸)글리신	Nglu
D- α -메틸글루타민	Dmgln	N-(2-아미노에틸)글라이신	Naeg
D- α -메틸히스티딘	Dmhis	N-(3-아미노프로필)글라이신	Norn
D- α -메틸아이소류신	Dmile	N-아미노- α -메틸부티레이트	Nmaabu
D- α -메틸류신	Dmleu	α -나프틸알라닌	Anap
D- α -메틸라이신	Dmlys	N-벤질 글라이신	Nphe
D- α -메틸메티오닌	Dmmet	N-(2-카르바미에틸)글라이신	Ngln

D- α -메틸오르니틴	Dmorn	N-(카르바밀에틸)글라이신	Nasn
D- α -메틸페닐알라닌	Dmphe	N-2-(카르복실에틸)글라이신	Nglu
D- α -메틸프롤린	Dmpro	N-(카르복실메틸)글라이신	Nasp
D- α -메틸세린	Dmser	N-사이클로부틸글라이신	Ncbut
D- α -메틸트레오닌	Dmthr	N-사이클로헥실글라이신	Nchep
D- α -메틸트립토판	Dmtrp	N-사이클로헥실글라이신	Nchex
D- α -메틸타이로신	Dmty	N-사이클로데실글라이신	Ncdec
D- α -메틸발린	Dmval	N-사이클로도데실글라이신	Ncdod
D-N-메틸알라닌	Dnmala	N-사이클로옥틸글라이신	Ncoct
D-N-메틸아르지닌	Dnmarg	N-사이클로프로필글라이신	Ncpro
D-N-메틸아스파라진	Dnmasn	N-사이클로운데실글라이신	Ncund
D-N-메틸아스파르테이트	Dnmasp	N-(2,2-디페닐에틸)글라이신	Nbhm
D-N-메틸시스테인	Dnmcys	N-(3,3-디페닐프로필)글라이신	Nbhe
D-N-메틸글루타민	Dnmglu	N-(3-구아니디오프로필)글라이신	Narg
D-N-메틸글루타메이트	Dnmglu	N-(1-하이드록시에틸)글라이신	Nthr
D-N-메틸히스티딘	Dnmhis	N-(하이드록시에틸)글라이신	Nser

D-N-메틸아이소류신	Dnmile	N-(이미다졸릴에틸)글라이신	Nhis
D-N-메틸류신	Dnmleu	N-(3-인돌릴에틸)글라이신	Nhtrp
D-N-메틸라이신	Dnmlys	N-메틸- γ -아미노부티레이트	Nmgabu
N-메틸사이클로헥실알라닌	Nmchexa	D-N-메틸메티오닌	Dnmmet
D-N-메틸오르티닌	Dnmorn	N-메틸사이클로펜틸알라닌	Nmcpen
N-메틸글라이신	Nala	D-N-메틸페닐알라닌	Dnmphe
N-메틸아미노이소부티레이트	Nmaib	D-N-메틸프롤린	Dnmpro
N-(1-메틸프로필)글라이신	Nile	D-N-메틸세린	Dnmser
N-(2-메틸프로필)글라이신	Nleu	D-N-메틸트레오닌	Dnmthr
D-N-메틸트립토판	Dnmtrp	N-(1-메틸에틸)글라이신	Nval
D-N-메틸타이로신	Dnmtyr	N-메틸라-나프틸알라닌	Nmanap
D-N-메틸발린	Dnmval	N-메틸페니실라민	Nmpen
γ -아미노부티릭 산	Gabu	N-(p-하이드록시페닐)글라이신	Nhtyr
L-t-부틸글라이신	Tbug	N-(티오메틸)글라이신	Ncys
L-에틸글라이신	Etg	페니실라민	Pen

L-호모페닐알라닌	Hphe	L- α -메틸알라닌	Mala
L- α -메틸아르지닌	Marg	L- α -메틸아스파라진	Masn
L- α -메틸아스파르테이트	Masp	L- α -메틸-t-부틸글라이신	Mtbug
L- α -메틸시스테인	Mcys	L-메틸에틸글라이신	Metg
L- α -메틸글루타민	Mgln	L- α -메틸글루타메이트	Mglu
L- α -메틸히스티딘	Mhis	L- α -메틸호모페닐알라닌	Mhphe
L- α -메틸이소류신	Mile	N-(2-메틸티오에틸)글라이신	Nmet
L- α -메틸류신	Mleu	L- α -메틸라이신	Nlys
L- α -메틸메티오닌	Mmet	L- α -메틸노어류신	Mnle
L- α -메틸노어발린	Mnva	L- α -메틸오르니틴	Morn
L- α -메틸페닐알라닌	Mphe	L- α -메틸프롤린	Mpro
L- α -메틸세린	Mser	L- α -메틸트레오닌	Mthr
L- α -메틸트립토판	Mtrp	L- α -메틸타이로신	Mtyr
L- α -메틸발린	Mval	L-N-메틸호모페닐알라닌	Nmhphe
N-(N-(2,2-디페닐에틸)카르바밀메틸)글라이신	Nnbhm	N-(n-(3,3-디페닐프로필)카르바밀메틸)글라이신	Nnbhe
1-카르복시-1-(2,2-디페닐-에틸아미노)사이클로프로판	Nmbc		

HBV HBV

가 /

가 / (solvent), (dispersion medi
a), (coating), (antibacterial and antifungal agent), (isoton
ic and absorption delaying agent) 가 . (media) (agent)가
 , .
 ,
 molecule) HBV 가 , , (ribozyme) (antisense
 , , (viral, bacterial or euka
 ryotic vector) .
 , (monoclonal)
 (polyclonal) .
 HBV
 - HBV (antibody - HBV complex) HBV
 .
 HBV (Western blotting) ELISA
 4,016,043, 4,424,279 4,018,653 가 .
 (competitive binding assay) (non - competitive typ
 e) " " (single - site and two - site or " sandwich" assay) .
 가 .
 가 , ,
 (forward assay) , ,
 , 가 (reporter molecule)
 2 가 가 , - - (antibody - antigen - labelled antibody)
 가 ,
 가 (qualitative) ,
 (hapten) (control sample) (quantitative)
 (simultaneous assay) ,
 가 가 .
 (cell extract), (tissue biopsy) 가 (serum),
 (saliva), (mucosal secretion), (lymph), (tissue fluid) (respiratory fluid)
 HBV
 (fermentation fluid) (supernatant fluid)
 .
 , HBV

(covalently), (passively), (polymer)

, 가 (cellulose), (polyacrylamide), (nylon),

(polystyrene), (polyvinyl chloride), (polypropylene)

(tube), (bead), (microplate) (disc)

(polymer - antibody complex) (test sample)

(aliquot) (solid phase complex) 가

(2 - 40 가) (subunit) (25 가)

37) (antibody subunit solid phase)

2 2 2

가

1 2 1 - 2 (target - first antibody - se

cond tertiary complex) 1 (target - first antibody complex)

" " - (antigen - bound antibody) 가

가

가 (enzyme), (fluorophore)

(radionuclide containing molecule)((radioisotopes))

(chemiluminescent molecules)

(enzyme immunoassay), (glutaraldehyde)

(periodate) 2

xidase), - (horseradish peroxidase), (glucose o

(- galactosidase) (alkaline phosphatase)

(chromogenic substrate) 가 가

가 (fluorescent product)

(first antibody hapten complex) 가 , (enzyme - labelled antibody) 1

(excess reagent)

(antibody - antigen - antibody) 가

2

" (reporter molecule)"

(latex bead) (inhibition of agglutination)

(fluorecein) (rhodamine) (fluorescent compound)

(binding capacity)

(fluorochrome - labelled antibody)
(light microscope)
(fluorescent labelled antibody)
(unbound reagent)
EIA
(first antibody - hapten complex)
(remaining tertiary complex)
EIA (Immunofluorescence and EIA technique)

1

HBs HBV

HBsAg HBV DNA
(PCR amplication)

63 15 (15)
(2), 4 HBsAg
HBV (anti - HBc) (Corzyme, Abbott Laborato
ries, USA). - HBs (Ausab, Abbott Laboratories, USA)(2). 100 μ l
DNA가 K (proteinase K treatment) / (chlorof
orm/phenol extraction) (ethanol precipitation)
Pfu DNA (Stratagene, USA) 35
, 94 (denaturation)(1), 50 (annealing)(2)
73 (extension)(3) 15 (20%) 3 63(13%)
8 HBV DNA가
HBsAg HBsAg HBsAg 가
HBsAg . HBV DNA

DNA 가 MHR (2).
가 가 G145R . 가 T131N
G130D (2) HBsAg T114S - T131N
114 S() 가 T131N (residue)

가

		HBsAg에 대한 통상적인 분석									
환자	성/연 령(년)/ 인종	A	B	C	D	안티- HBc IgG	안티-H Bs	안티- HAV-I gG	안티- HCF	안티- HEV IgG	HBsAg 변이종
1	M/10 개월/ 말레이 시아	-	-	-	-	+	6.0	-	-		G130d, M133T, 145R
2	F/3/중 국	-	-	-	-	+	14.0	-	-		T131N, G145
3	M/9개 월/중 국	-	-	-	-	+	3150.0	-	-		G145
4	F/60/ 중국	-	-	-	-	+	72.0	-	-		T131N

HBsAg-음성/안티-HBc-양성 HBV 싱가포르 성인 및 백신접종된 미성년자들에
있어서 HBsAg종

B , B
B , 가
B

1. Carman et al. Gastroenterology 102: 711 - 719, 1992
2. Carman et al. Lancet 336: 325 - 329, 1990
3. Okamoto et al. Paediatric Research 32: 264 - 268, 1992
4. McMahon et al. Hepatology 15: 757 - 766, 1992

5. Fujii et al. Biochem. Biophys. Res. Commun. 184: 1152 - 1157, 1992
6. Harrison et al. J. Hepato. 13:5105 - 5107, 1991
7. Chen et al. FEBS Lett. 453: 237 - 242, 1999
8. Altschul et al., Nucl. Acids Res. 25: 3389. 1997
9. Ausubel et al., " Current Protocols in Molecular Biology" John Wiley & Sons Inc, 1994 - 1998, Chapter 15.
10. Bonner and Laskey Eur. J. Biochem. 46: 83, 1974.
11. Marmur and Doty J. Mol. Biol. 5: 109, 1962
12. Oon et al. Vaccine 13: 699 - 702, 1999

(57)

1.

HBV

가

(,

가

가

3'

가

),

가

(

HBV

)

2.

1

,

HBsAg

3.

2

,

HBsAg

4.

1

,

2

3

,

HBV

mRNA

가

cDNA

5.

1 , 가 ,

6.

HBV DNA ,

2 , 가 , HBV DNA (, 가 , ,) ,

가 ,

가 (HBV DNA)

7.

HBV 가 HBV DNA

가 HBV DNA (, 가 H BV DNA , 가 HBV 가)

8.

HBV DNA

9.

8 , $(x_1 y_1), (x_2 y_2) \dots (x_n y_n)$ $a_1, a_2, \dots, a_n$
 (, $a_1 a_2 \dots a_n$ n $(x_1 y_1), (x_2 y_2) \dots (x_n y_n)$,
 $b_1 b_2 \dots b_n$ 가 DNA HBsAg $a_1 b_1, a_2 b_2 \dots a_n b_n$ HBV D
 NA 가 , HBV DNA HBV
 HBV)

10.

1 ,

< 400> 1 < 400> 2, 70%
< 400> 1 < 400> 2 .

11.

HBV

HBV ,

가

,

(, 1 가

가

3' ,

가 , , 가
가 ,),

,

(, HBV HBV),

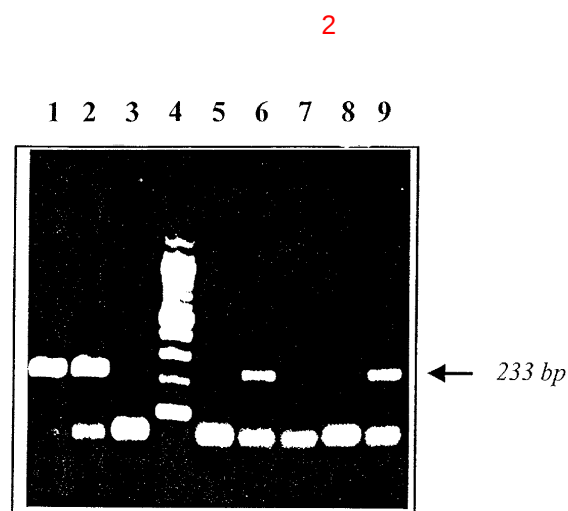
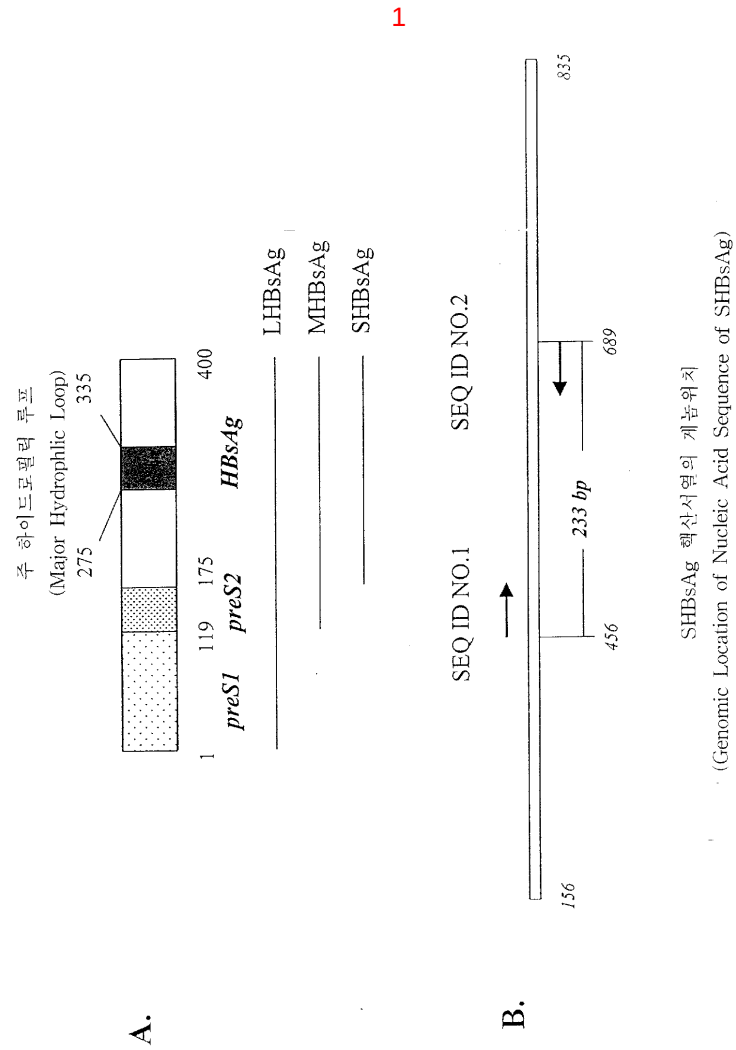
HBV

HBV .

12.

, / , /

.



<110> GOVERNMENT OF THE REPUBLIC OF SINGAPORE
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<220>		
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