

PhoenixTemp59764.tmp.txt  
SEQUENCE LISTING

<110> AVIR GREEN HILLS BIOTECHNOLOGY RESEARCH DEVELOPMENT TRADE  
AG

<120> Modified Influenza Virus

<130> FluB/PCT

<160> 18

<170> PatentIn version 3.3

<210> 1

<211> 248

<212> PRT

<213> Influenza B virus

<400> 1

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Asp Gly Glu Gly Lys Ala Glu Leu Ala Glu Lys Leu His Cys Trp Phe  
20 25 30

Gly Gly Lys Glu Phe Asp Leu Asp Ser Ala Leu Glu Trp Ile Lys Asn  
35 40 45

Lys Arg Cys Leu Thr Asp Ile Gln Lys Ala Leu Ile Gly Ala Ser Ile  
50 55 60

Cys Phe Leu Lys Pro Lys Asp Gln Glu Arg Lys Arg Arg Phe Ile Thr  
65 70 75 80

Glu Pro Leu Ser Gly Val Gly Thr Thr Ala Thr Lys Lys Lys Gly Leu  
85 90 95

Ile Leu Ala Glu Arg Lys Met Arg Arg Cys Val Ser Phe His Glu Ala  
100 105 110

Phe Glu Ile Ala Glu Gly His Glu Ser Ser Ala Leu Leu Tyr Cys Leu  
115 120 125

Met Val Met Tyr Leu Asn Pro Gly Asn Tyr Ser Met Gln Val Lys Leu  
130 135 140

Gly Thr Leu Cys Ala Leu Cys Glu Lys Gln Ala Ser His Ser His Arg  
145 150 155 160

Ala His Ser Arg Ala Ala Arg Ser Ser Val Pro Gly Val Arg Arg Glu  
165 170 175

Met Gln Met Val Ser Ala Met Asn Thr Ala Lys Thr Met Asn Gly Met  
180 185 190

Gly Lys Gly Glu Asp Val Gln Lys Leu Ala Glu Glu Leu Gln Ser Asn

195

200

205

Ile Gly Val Leu Arg Ser Leu Gly Ala Ser Gln Lys Asn Gly Glu Gly  
 210 215 220

Ile Ala Lys Asp Val Met Glu Val Leu Lys Gln Ser Ser Met Gly Asn  
 225 230 235 240

Ser Ala Leu Val Lys Lys Tyr Leu  
 245

&lt;210&gt; 2

&lt;211&gt; 248

&lt;212&gt; PRT

&lt;213&gt; Influenza B virus

&lt;400&gt; 2

Met Ser Leu Phe Gly Asp Thr Ile Ala Tyr Leu Leu Ser Leu Thr Glu  
 1 5 10 15

Asp Gly Glu Gly Lys Ala Glu Leu Ala Glu Lys Leu His Cys Trp Phe  
 20 25 30

Gly Gly Lys Glu Phe Asp Leu Asp Ser Ala Leu Glu Trp Ile Lys Asn  
 35 40 45

Lys Arg Cys Leu Thr Asp Ile Gln Lys Ala Leu Ile Gly Ala Ser Ile  
 50 55 60

Cys Phe Leu Lys Pro Lys Asp Gln Glu Arg Lys Arg Arg Phe Ile Thr  
 65 70 75 80

Glu Pro Leu Ser Gly Val Gly Thr Thr Ala Thr Lys Lys Lys Gly Leu  
 85 90 95

Ile Leu Ala Glu Arg Lys Met Arg Lys Cys Val Ser Phe His Glu Ala  
 100 105 110

Phe Glu Ile Ala Glu Gly His Glu Ser Ser Ala Leu Leu Tyr Cys Leu  
 115 120 125

Met Val Met Tyr Leu Asn Pro Gly Asn Tyr Ser Met Gln Val Lys Leu  
 130 135 140

Gly Thr Leu Cys Ala Leu Cys Glu Lys Gln Ala Ser His Ser His Arg  
 145 150 155 160

Ala His Ser Arg Ala Ala Arg Ser Ser Val Pro Gly Val Arg Arg Glu  
 165 170 175

Met Gln Met Val Ser Ala Met Asn Thr Ala Lys Thr Met Asn Gly Met  
 180 185 190

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Gly Lys Gly Glu Asp Val Gln Lys Leu Ala Glu Glu Leu Gln Ser Asn  
195 200 205

Ile Gly Val Leu Arg Ser Leu Gly Ala Ser Gln Lys Asn Gly Glu Gly  
210 215 220

Ile Ala Lys Asp Val Met Glu Val Leu Lys Gln Ser Ser Met Gly Asn  
225 230 235 240

Ser Ala Leu Val Lys Lys Tyr Leu  
245

<210> 3  
<211> 1189  
<212> DNA  
<213> Influenza B virus

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gaaagaaaaa gaagattcat cacagagccc ttatcaggag tgggaacaac agcaacaaaa 300  
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agatagaaga attgcattaa attcaatttt actgtatttc ttactatgca ttttaagcaaa 1140  
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<210> 4  
<211> 1189  
<212> DNA  
<213> Influenza B virus

## PhoenixTemp59764.tmp.txt

&lt;400&gt; 4

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actgatatac aaaaagcact aattggtgcc tctatatgct ttttaaaacc caaagaccag      240
gaaagaaaaa gaagattcat cacagagccc ttatcaggag tgggaacaac agcaacaaaa      300
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tttgaaatag cagaaggcca tgaaagctca gcgctactat actgtctcat ggcatgtac      420
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acataataat tgaggggctt tctgccgaag agataataaa aatgggtgaa acagttttgg     1080
agatagaaga attgcattaa attcaatttt actgtatttc ttactatgca ttttaagcaaa     1140
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&lt;210&gt; 5

&lt;211&gt; 1190

&lt;212&gt; DNA

&lt;213&gt; Influenza B virus

&lt;400&gt; 5

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actgatatac agaaagcact aattggtgcc tctatctgct ttttaaaacc caaagaccag      240
gaaagaaaaa gaagattcat cacagagccc ctatcaggaa tgggaacaac agcaacaaaa      300
aagaagggcc tgattctagc tgagagaaaa atgagaaaat gtgtgagctt ccatgaagca      360
tttgaaatag cagaaggcca tgaaagctca gcgttactat attgtctcat ggcatgtac      420
ctgaatcctg gaaattattc aatgcaagta aaactaggaa cgctctgtgc tttgtgcgaa      480
aaacaagcat cacattcaca cagggtcat agcagagcag cgagatcttc agtgcccgga      540
gtgagacggg aaatgcagat ggtctcagct atgaacacag caaaaacaat gaatggaatg      600
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aggtagaaga	atttcattaa	attcaatttt	tactgtactt	cttactatgc	atttaagcaa	1140
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<210> 6  
 <211> 1190  
 <212> DNA  
 <213> Influenza B virus

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ggtgggaaaag	aatttgacct	agactctgcc	ttggaatgga	taaaaaaca	aagatgctta	180
actgatatac	agaaagcact	aattgggtgcc	tctatctgct	ttttaaaacc	caaagaccag	240
gaaagaaaaa	gaagattcat	cacagagccc	ctatcaggag	tggaacaac	agcaacaaaa	300
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aggtagaaga	atttcattaa	attcaatttt	tactgtactt	cttactatgc	atttaagcaa	1140
attgtaatca	atgtcagcaa	ataaactgga	aaaagtgcgt	tgtttctact		1190

<210> 7  
 <211> 1189

## PhoenixTemp59764.tmp.txt

<212> DNA  
 <213> Influenza B virus

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 caatagggca tttgaatcaa ataaaaagag gaataaacat gaaaatacga ataaaaggctc 900  
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 acataataat tgaggggctt tctgccgaag agataataaa aatgggtgaa acagttttgg 1080  
 agatagaaga attgcattaa attcaatttt actgtatttc ttactatgca ttttaagcaaa 1140  
 ttgtaatcaa tgtcagcaaa taaactggaa aaagtgcgtt gtttctact 1189

<210> 8  
 <211> 558  
 <212> DNA  
 <213> Influenza B virus

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 tgcatagatt gaatgcatat gaccagagtg gaaggcttgt tgctaaactt gttgccactg 180  
 atgatcttac agtggaggat gaagaagatg gccatcggat cctcaactca ctcttcgagc 240  
 gtcttaatga aggacattca aagccaattc gagcagctga aactgcggtg ggagtcttat 300  
 cccaatttgg tcaagagcac cgattatcac cagaagaggg agacaattag actggtcacg 360  
 gaagaacttt atcttttaag taaaagaatt gatgataaca tattattcca caaaacagta 420  
 atagctaaca gctccataat agctgacatg gttgtatcat tatcattatt agaaacattg 480  
 tatgaaatga aggatgtggt tgaagtgtac agcaggcagt gcttgtgaat ttaaaataaa 540

aatcctcttg ttactact

558

<210> 9  
 <211> 630  
 <212> DNA  
 <213> Influenza B virus

<400> 9  
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 gaattctgga gtgctatgaa aggctttcat ggcaaagatg atgaccaat ggatacaagt 180  
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<210> 10  
 <211> 687  
 <212> DNA  
 <213> Influenza B virus

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<210> 11  
 <211> 708  
 <212> DNA  
 <213> Influenza B virus

&lt;400&gt; 11

## PhoenixTemp59764.tmp.txt

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gaattctgga gtgctatgaa aggctttcat ggcaaagagc ccttgactac cctgggtcaag    180
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gttgatcat tatcattatt agaaacattg tatgaaatga aggatgtggt tgaagtgtac    660
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<210> 12
<211> 756
<212> DNA
<213> Influenza B virus

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gaattctgga gtgctatgaa aggctttcat ggcaaagagc ccttgactac cctgggtcaag    180
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agcctgaaag taaaaggatg tcccttgaag agagaaaagc aatttgatga cccaatggat    300
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acaattagac tgggtcacgga agaactttat cttttaagta aaagaattga tgataacata    600
ttattccaca aaacagtaat agctaacagc tccataatag ctgacatggt tgtatcatta    660
tcattattag aaacattgta tgaaatgaag gatgtggttg aagtgtacag caggcagtgc    720
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<210> 13
<211> 443
<212> DNA
<213> Influenza B virus

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```

<400> 13
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cgagcgtctt aatgaaggac attcaaagcc aattcgagca gctgaaactg cggtgggagt    180

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PhoenixTemp59764.tmp.txt

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ataaaaatcc tcttggtact act	443

<210> 14  
 <211> 442  
 <212> DNA  
 <213> Influenza B virus

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gagcgtctta atgaaggaca ttcaaagcca attcgagcag ctgaaactgc ggtgggagtc	180
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<210> 15  
 <211> 1023  
 <212> DNA  
 <213> Influenza B virus

<400> 15 agcagaagca gaggatttgt ttagtcactg gcaaacagga aaaaatggcg aacaacatga	60
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## PhoenixTemp59764.tmp.txt

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 <211> 1149  
 <212> DNA  
 <213> Influenza B virus

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gaattctgga gtgctatgaa aggctttcat ggcaaagagc ccttgactac cctgggtcaag	180
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 <211> 1221  
 <212> DNA  
 <213> Influenza B virus

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 <212> DNA  
 <213> Influenza B virus

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PhoenixTemp59764.tmp.txt

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