

GH009P 20100722 _Sequence Listing ST25 1.txt
SEQUENCE LISTING

<110> AVIR GREEN HILLS BIOTECHNOLOGY RESEARCH DEVELOPMENT TRADE
AG

<120> Novel influenza virus

<130> GH009P

<160> 4

<170> PatentIn version 3.3

<210> 1

<211> 2341

<212> DNA

<213> Influenza virus

<400> 1

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| ccagcgcaaa atgccataag caccacattc ctttatactg gagatcctcc atacagccat | 120 |
| ggaacaggaa caggatacac catggacaca gttaacagaa cacatcaata ttcagaaaaa | 180 |
| gggaaatgga caacaaacac agaaactggg gcgccccaac ttaacccgat tgatggacca | 240 |
| ctacctgagg ataatgagcc aagtggatat gcacaaacag actgtgtcct ggaagctatg | 300 |
| gctttccttg aggaatccca cccagggatc tttgaaaact cgtgccttga aacaatggaa | 360 |
| gtcgttcaac aaacaagagt ggacagactg acccaaggtc gtcagaccta tgattggaca | 420 |
| ttaaacagaa atcaaccagc cgcaactgca ttagccaaca ctatagaagt tttcagatcg | 480 |
| aatggtctaa cagctaata gtcgggaagg ctaatagatt tcctcaagga tgtgatggaa | 540 |
| tcaatggata aagaggaaat agagataaca acacacttcc aaagaaaaag aagagtaaga | 600 |
| gacaacatga ccaagaaaat ggtcacacaa agaacaatag gaaagaaaaa gcagagagtg | 660 |
| aacaagagaa gctatctaata aagagcatta actttgaaca caatgaccaa agatgcagaa | 720 |
| agaggtaaata taaagagaag agctattgca acacccggga tgcaaatcag aggggttcgtg | 780 |
| tactttgttg aaactctagc taggagcatt tgtgagaagc ttgaacagtc tggacttcca | 840 |
| gtaggaggta atgaaaagaa ggccaaactg gcaaatgttg tgagaaagat gatgactaat | 900 |
| tcacaagaca cagagctttc tttcacaatt actggagaca atactaagtg gaatgaaaat | 960 |
| caaaatcctc gaatgttcct ggcgatgatt acatatatca caaaaaatca acctgaatgg | 1020 |
| ttcagaaaca tcctgagcat cgcacccata atgttctcaa acaaaatggc gagactaggg | 1080 |
| aaaggataca tgttcgaaag taagagaatg aagctccgaa cacaaatacc agcagaaatg | 1140 |
| ctagcaagca ttgacctaaa gtatttcaat gaatcaacaa gaaagaaaat tgagaaaata | 1200 |
| aggcctcttc taatagatgg cacagcgtca ttgagccctg gaatgatgat gggcatgttc | 1260 |
| aacatgctaa gtacggtttt aggagtctca atactgaatc ttgggcaaaa gaaatacacc | 1320 |
| aaaacaacat actggtggga tgggcttcaa tcctctgatg attttgctct catagtgaat | 1380 |
| gcaccaaatac atgagggaat acaagcagga gtggatagat tctacagaac ctgcaagcta | 1440 |
| gtcggaatca atatgagcaa gaagaagtcc tatataaata ggacaggaac atttgaattc | 1500 |

GH009P 20100722 _Sequence Listing ST25 1.txt

| | |
|--------------------------------------------------------------------|------|
| acaagctttt tttatcgcta tggatttgtg gccaatTTTA gcatggagct gcccagtttt | 1560 |
| ggagtgtctg ggattaatga atcagctgat atgagcattg gagtaacagt gataaagaac | 1620 |
| aacatgataa acaatgacct tggaccagca acagcccaga tggctcttca actgtttcatc | 1680 |
| aaggactaca gatatacata tcggtgccac agaggagaca cacaaattca gacgaggaga | 1740 |
| tcatttgagc taaagaagct gtgggagcaa acccgatcaa aggcaggact attggtttca | 1800 |
| gatggaggac cgaacttata caatatccgg aatcttcaca tccctgaagt ctgcttaaag | 1860 |
| tgggagctaa tggatgaaga ctatcaggga agactttgta atcccctgaa tccatttgtc | 1920 |
| agccataaag agattgagtc tgtaaacaat gctgtggtaa tgccagctca tgggtccagcc | 1980 |
| aagagcatgg aatatgacgc tgttgcaact acacactcct ggattcccaa gaggaaccgc | 2040 |
| tctatttctca acacaagcca aaggggaatt cttgaggatg aacagatgta tcagaagtgc | 2100 |
| tgcaacctgt tcgagaaatt tttccccagt agttcataca ggagaccggt tggaatttcc | 2160 |
| agcatggtgg aggccatggt gtctagggcc cggattgatg ccagaattga cttcgagtct | 2220 |
| ggacggatta agaaagaaga gttctccgag atcatgaaga tctgttccac cattgaagag | 2280 |
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| t | 2341 |

<210> 2
 <211> 2341
 <212> DNA
 <213> artificial

<220>
 <223> influenza virus with modified PB1 gene (GHB01 PBdelF2)

| | |
|--------------------------------------------------------------------|-----|
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| ggaacaggaa caggatacac catggacaca gtgaacagaa cacatcaata ttcagaaaaa | 180 |
| gggaaatgga caacaaacac agaaactggg gcgccccaac taaacccgat tgacggacca | 240 |
| ctacctgagg ataacgagcc aagtggatac gcacaaacag actgtgtcct agaagctatg | 300 |
| gctttccttg aggaatccca cccagggatc tttgaaaact cgtgccttga aacaatggaa | 360 |
| gtcgttcaac aaacaagagt ggacagactg acccaaggtc gtcagacctg tgattggaca | 420 |
| ttaaacagaa atcaaccagc cgcaactgca ttagccaaca ctatagaagt tttcagatcg | 480 |
| aatgggtctaa cagctaata gtcgggaagg ctaatagatt tcctcaagga tgtgatggaa | 540 |
| tcaatggata aagaggaaat agagataaca acacacttcc aaagaaaaag aagagtaaga | 600 |
| gacaacatga ccaagaaaat ggtcacacaa agaacaatag gaaagaaaaa gcagagagtg | 660 |
| aacaagagaa gctatctaata aagagcatta actttgaaca caatgaccaa agatgcagaa | 720 |
| agaggtaaata taaagagaag agctattgca acacccggga tgcaaatcag agggttcgtg | 780 |
| tactttgttg aaactctagc taggagcatt tgtgagaagc ttgaacagtc tggacttcca | 840 |
| gtaggaggta atgaaaagaa ggccaaactg gcaaatgttg tgagaaagat gatgactaat | 900 |

GH009P 20100722 _Sequence Listing ST25 1.txt

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aaaggatata tgttcgaaag taagagaatg aagctccgaa cacaaatacc agcagaaatg    1140
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<210> 3
 <211> 90
 <212> PRT
 <213> Influenza Virus

<400> 3

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 1 5 10 15

Asn Ile Gln Lys Lys Gly Asn Gly Gln Gln Thr Gln Lys Leu Gly Arg
 20 25 30

Pro Asn Leu Thr Arg Leu Met Asp His Tyr Leu Arg Ile Met Ser Gln
 35 40 45

GH009P 20100722 _Sequence Listing ST25 1.txt

Val Asp Met His Lys Gln Thr Val Ser Trp Lys Leu Trp Leu Ser Leu
50 55 60

Arg Asn Pro Thr Gln Gly Ser Leu Lys Thr Arg Ala Leu Lys Gln Trp
65 70 75 80

Lys Ser Phe Asn Lys Gln Glu Trp Thr Asp
85 90

<210> 4
<211> 91
<212> PRT
<213> artificial

<220>
<223> mutant PB1F2 protein of influenza virus (GHB01 delF2)

<220>
<221> X
<222> (12)..(12)
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<220>
<221> X
<222> (35)..(35)
<223> X = TAA

<220>
<221> X
<222> (58)..(58)
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<220>
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<222> (91)..(91)
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<400> 4

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1 5 10 15

Asn Ile Gln Lys Lys Gly Asn Gly Gln Gln Thr Gln Lys Leu Gly Arg
20 25 30

Pro Asn Xaa Thr Arg Leu Thr Asp His Tyr Leu Arg Ile Thr Ser Gln
35 40 45

Val Asp Thr His Lys Gln Thr Val Ser Xaa Lys Leu Trp Leu Ser Leu
50 55 60

Arg Asn Pro Thr Gln Gly Ser Leu Lys Thr Arg Ala Leu Lys Gln Trp
65 70 75 80

Lys Ser Phe Asn Lys Gln Glu Trp Thr Asp Xaa
85 90