

1900A-WO\_SEQ\_ST25  
SEQUENCE LISTING

<110> REGENERON PHARMACEUTICALS, INC.  
McWhirter, John  
Macdonald, Lynn  
Martin, Joel  
Murphy, Andrew J.

<120> Non-Human Animals Expressing pH-Sensitive Immunoglobulin Sequences

<130> 1900A-WO

<150> 61/611,950  
<151> 2012-03-16

<150> 61/613,352  
<151> 2012-03-20

<150> 61/736,930  
<151> 2012-12-13

<150> 61/612,126  
<151> 2012-03-16

<160> 405

<170> PatentIn version 3.5

<210> 1  
<211> 9586  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)..(9586)  
<223> HD 1.1-6.6

```
<400> 1
tccccgttga agctgacctg cccagagggg cctgggcca cccacacac cggggcgga      60
tgtgtacagg ccccggtctc tgtgggtgtt ccgctaactg gggctcccag tgctcacc      120
acaactaaag cgagccccag cctccagagc ccccgaagga gatgccgcc acaagcccag      180
cccccatcca ggaggcccca gagctcaggg cgccggggca gattctgaac agccccgagt      240
cacggtgggt accactggca cgaccaccgt gagaaaaact gtgtccaaa ctgtctcctg      300
gcccctgctg gaggccgcgc cagagagggg agcagccgcc ccgaacctag gtcctgctca      360
gctcacacga ccccgagcac ccagagcaca acggagtccc cattgaatgg tgaggacggg      420
gaccagggct ccaggggggtc atggaagggg ctggaccca tcctactgct atgggtccag      480
tgctcctggc cagaactgac cctaccaccg acaagagtcc ctgaggaaa cgggggtcac      540
tggcacctcc cagcatcaac cccaggcagc acaggcataa accccacatc cagagccgac      600
tccaggagca gagacacccc agtaccctgg gggacaccga ccctgatgac tccccactgg      660
aatccacccc agagtccacc aggaccaaag accccgcccc tgtctctgtc cctcactcag      720
gacctgctgc ggggcgggcc atgagaccag actcgggctt agggaacacc actgtggccc      780
caacctcgac caggccacag gcccttcctt cctgccctgc ggcagcacag actttgggg      840
```

## 1900A-WO\_SEQ\_ST25

|                                                                     |      |
|---------------------------------------------------------------------|------|
| ctgtgcagag aggaatcaca gaggccccag gctgaggtgg tgggggtgga agacccccag   | 900  |
| gaggtggccc acttccttc ctcccagctg gaaccaccca tgaccttctt aagatagggg    | 960  |
| tgtcatccga ggcaggtcct ccatggagct cccttcaggc tcctccccgg tcctcactag   | 1020 |
| gcctcagtcc cggctgctgg aatgcagcca ccacaggcac accaggcagc ccagaccag    | 1080 |
| ccagcctgca gtgccaagc ccacattctg gagcagagca ggctgtgtct gggagagtct    | 1140 |
| gggtcccca ccgcccccc gcacaccca cccaccctg tccaggccct atgcaggagg       | 1200 |
| gtcagagccc ccatgggggt atggacttag ggtctcactc acgtggctcc cctcctgggt   | 1260 |
| gaaggggtct catgcccaga tccccacagc agagctggtc aaaggtggag gcagtggccc   | 1320 |
| cagggccacc ctgacctgga cctcagggt cctctagccc tggctgccct gctgtccctg    | 1380 |
| ggaggcctgg actccaccag accacagggtc cagggcaccg cccatagggtg ctgcccacac | 1440 |
| tcagttcaca ggaagaagat aagctccaga ccccaagac tgggacctgc cttcctgcca    | 1500 |
| ccgctttag ctccagacct ccgtgcctcc cccgaccact tacacacggg ccagggagct    | 1560 |
| gttccacaaa gatcaacccc aaaccgggac cgctggcac tcgggccgct gccacttccc    | 1620 |
| tctccatttg tcccagcac ctctgtgtc cctccctcct cctccttca ggggaacagc      | 1680 |
| ctgtgcagcc cctccctgca cccacacccc tggggaggcc caaccctgcc tccagccctt   | 1740 |
| tctccccgc tgctcttct gcccatccag acaaccctgg ggtcccatcc ctgcagccta     | 1800 |
| caccctggtc tccaccaga cccctgtctc tccctcaga caccctccc aggccaaccc      | 1860 |
| tgcacatgca ggccctcccc ttttctgctg ccagagcctc agtttctacc ctctgtgcct   | 1920 |
| acccctgcc tcctcctgcc cacaactcga gctcttctc tcctggggcc cctgagccat     | 1980 |
| ggcactgacc gtgcactccc acccccacac tgcccatgcc ctacacttcc tcctggacac   | 2040 |
| tctgaccccg ctccctctt ggaccagcc ctggtatttc caggacaaag gctcacccaa     | 2100 |
| gtcttcccca tgcaggccct tgccctcact gcccggttac acggcagcct cctgtgcaca   | 2160 |
| gaagcaggga gctcagccct tccacaggca gaaggcactg aaagaaatcg gcctccagca   | 2220 |
| ccctgatgca cgtccgctg tgtctctcac tgcccgacc tgcagggagg ctcggcactc     | 2280 |
| cctgtaaaga cgagggatcc aggcagcaac atcatgggag aatgcagggc tcccagacag   | 2340 |
| cccagccctc tcgaggcct ctctgggaa gagacctgca gccaccactg aacagccacg     | 2400 |
| gagcccgtg gatagtaact gagtcagtga ccgacctgga gggcagggga gcagtgaacc    | 2460 |
| ggagcccaga ccatagggac agagaccagc cgctgacatc ccgagcccct cactggcggc   | 2520 |
| cccagaacac cgctggaaa cagaacagac ccacattccc acctggaaca gggcagacac    | 2580 |
| tgctgagccc ccagcaccag ccctgagaaa caccaggcaa cggcatcaga gggggctcct   | 2640 |
| gagaaagaaa ggaggggagg tctccttcac cagcaagtac ttcccttgac caaaaacagg   | 2700 |
| gtccacgcaa ctccccagg acaaaggagg agccccctgt acagcactgg gctcagagtc    | 2760 |
| ctctcccaca caccctgagt ttcagacaaa aacccttg aaatcatagt atcagcagga     | 2820 |
| gaactagcca gagacagcaa gaggggactc agtgactccc gcggggacag gaggattttg   | 2880 |

## 1900A-WO\_SEQ\_ST25

|             |             |            |             |            |             |      |
|-------------|-------------|------------|-------------|------------|-------------|------|
| tgggggctcg  | tgtcactgtg  | aggacattgt | agtcatacca  | gctgccatac | ccacagtgac  | 2940 |
| acagccccat  | tcccaaagcc  | ctgctgtaaa | cgcttccact  | tctggagctg | aggggctggg  | 3000 |
| gggagcgtct  | gggaagtagg  | gcctaggggt | ggccatcaat  | gccccaaacg | caccagactc  | 3060 |
| ccccccagac  | atcaccccac  | tggccagtga | gcagagtaaa  | cagaaaatga | gaagcagctg  | 3120 |
| ggaagcttgc  | acaggcccca  | aggaaagagc | tttggcgggt  | gtgcaagagg | ggatgcgggc  | 3180 |
| agagcctgag  | cagggccttt  | tgtgttttct | gctttcctgt  | gcagatagtt | ccataaactg  | 3240 |
| gtgttcaaga  | tcgatggctg  | ggagttagcc | caggaggaca  | gtgtgggaag | ggcacagggg  | 3300 |
| aggagaagca  | gccgctatcc  | tacactgtca | tctttcaaga  | gtttgccctg | tgccacaat   | 3360 |
| gctgcatcat  | gggatgctta  | acagctgatg | tagacacagc  | taaagagaga | atcagtgaaa  | 3420 |
| tggatttgca  | gcacagatct  | gaataaatc  | tccagaatgt  | ggagccacac | agaagcaagc  | 3480 |
| acaaggaaag  | tgcctgatgc  | aagggcaaag | tacagtgtgt  | accttcaggc | tgggcacaga  | 3540 |
| cactctgaaa  | agccttgga   | ggaactccct | gcaacaagc   | agagccctgc | aggcaatgcc  | 3600 |
| agctccagag  | ccctccctga  | gagcctcatg | ggcaaagatg  | tgcacaacag | gtgtttctca  | 3660 |
| tagcccaaaa  | ctgagaatga  | agcaaacagc | catctgaagg  | aaaacaggca | aataaacgat  | 3720 |
| ggcaggttca  | tgaaatgcaa  | accagacag  | ccagaaggac  | aacagtgagg | gttacagggtg | 3780 |
| actctgtggt  | tgagttcatg  | acaatgctga | gtaattggag  | taacaaagga | aagtccaaaa  | 3840 |
| aatactttca  | atgtgatttc  | ttctaaataa | aattttacagc | cggcaaaatg | aactatcttc  | 3900 |
| ttaagggata  | aactttccac  | taggaaaact | ataaggaaaa  | tcaagaaaag | gatgatcaca  | 3960 |
| taaacacagt  | ggtcgttact  | tctactgggg | aaggaagagg  | gtatgaactg | agacacacag  | 4020 |
| ggttggaag   | tctcctaaca  | agaacagaac | aaatacatta  | cagtaccttg | aaaacagcag  | 4080 |
| ttaaaattct  | aaattgcaag  | aagaggaaaa | tgcacacagc  | tgtgtttaga | aaattctcag  | 4140 |
| tccagcactg  | ttcataatag  | caaagacatt | aaccaggtt   | ggataaataa | acgatgacac  | 4200 |
| aggcaattgc  | acaatgatac  | agacatacat | tcagtatatg  | agacattgat | gatgtatccc  | 4260 |
| caaagaaatg  | actttaaaga  | gaaaaggcct | gatatgtggt  | ggcactcacc | tccttgggca  | 4320 |
| tccccggaca  | ggctgcaggc  | acactgtgtg | gcagggcagg  | ctggtacctg | ctggcagctc  | 4380 |
| ctggggcctg  | atgtggagca  | ggcacagagc | cgtatcccc   | cgaggacata | tacccccaaag | 4440 |
| gacggcacag  | ttggtacatt  | ccggagacaa | gcaactcagc  | cacactccca | ggccagagcc  | 4500 |
| cgagaggggac | gcccattgcac | agggaggcag | agcccagctc  | ctccacagcc | agcagcacc   | 4560 |
| gtgcaggggc  | cgccattctg  | caggcacaga | gcatgggctg  | ggaggagggg | cagggacacc  | 4620 |
| aggcaggggt  | ggcaccaact  | gaaaattaca | gaagtctcat  | acatctacct | cagccttgcc  | 4680 |
| tgacctgggc  | ctcacctgac  | ctggacctca | cctggccttg  | acctcacctg | gcctagacct  | 4740 |
| cacctctggg  | cttcacctga  | gctcggcctc | acctgacttg  | gaccttgcc  | gtcctgagct  | 4800 |
| cacatgatct  | gggcctcacc  | tgacctgggt | ttcacctgac  | ctgggcttca | cctgacctgg  | 4860 |
| gcctcatctg  | acctgggcct  | cactggcctg | gacctcacct  | ggcctgggct | tcacctggcc  | 4920 |

## 1900A-WO\_SEQ\_ST25

|                                                                                                        |      |
|--------------------------------------------------------------------------------------------------------|------|
| tcaggcctca tctgcacctg ctccaggtct tgctggaacc tcagtagcac tgaggctgca                                      | 4980 |
| ggggctcatc cagggttgca gaatgactct agaacctccc acatctcagc tttctgggtg                                      | 5040 |
| gaggcacctg gtggcccagg gaatataaaa agcctgaatg atgcctgcgt gatttggggg                                      | 5100 |
| caatttataa acccaaaagg acatggccat gcagcgggta gggacaatac agacagatat                                      | 5160 |
| cagcctgaaa tggagcctca gggcacaggt gggcacggac actgtccacc taagccaggg                                      | 5220 |
| gcagaccgca gtgtccccgc agtagacctg agagcgctgg gccacagcc tcccctcgg                                        | 5280 |
| gccctgctac ctctcaggt cagccctgga catcccggtt tccccaggc ctggcggtag                                        | 5340 |
| gtttggggtg aggtctgtgt cactgtggta tcaccatttt tggagtggtc attataccca                                      | 5400 |
| cagtgtcaca gagtccatca aaaacctatc cctgggaacc ttctgccaca gccctccctg                                      | 5460 |
| tggggcaccg ccgcgtgcc a t g t t a g g a t t t t g a c t g a g g a c a c a g c a c c a t g g g t a t g g | 5520 |
| tggctaccgc agcagtgcag cccgtgaccc aaacacacag ggcagcaggc acaacagaca                                      | 5580 |
| agcccacaag tgaccacct gagctcctgc ctgccagccc tggagaccat gaaacagatg                                       | 5640 |
| gccaggatta tcccataggt cagccagacc tcagtccaac aggtctgcat cgctgctgcc                                      | 5700 |
| ctccaatacc agtccggatg gggacagggc tggcccacat taccatttgc tgccatccgg                                      | 5760 |
| ccaacagtcc cagaagcccc tccctcaagg ctgggccaca tgtgtggacc ctgagagccc                                      | 5820 |
| cccatgtctg agtaggggca ccaggaagggt ggggctggcc ctgtgcaactg tccctgcccc                                    | 5880 |
| tgtggctcctt ggcctgcctg gccctgacac ctgggcctct cctgggtcat ttccaagaca                                     | 5940 |
| gaagacattc ccaggacagc tggagctggg agtccatcat cctgcctggc cgtcctgagt                                      | 6000 |
| cctgcgcctt tccaaacctc acccggaag ccaacagagg aatcacctcc cacaggcaga                                       | 6060 |
| gacaaagacc ttccagaaat ctctgtctct ctccccagtg ggcacctct tccagggcag                                       | 6120 |
| tcctcagtga tatcacagt ggaaccacaca tctggatcgg gactgcccc agaacacaag                                       | 6180 |
| atggcccaca gggacagccc cacagcccag cccttcccag acccctaaaa ggcgtccac                                       | 6240 |
| cccctgcatc tgccccagg ctcaaactcc agggaggactg actcctgcac accctcctgc                                      | 6300 |
| cagacatcac ctacagccct cctggaagg acaggagcgc gcaagggatga gtcagacct                                       | 6360 |
| cctgccctcg atggcaggcg gagaagattc agaaaggctc gagatcccca ggacgcagca                                      | 6420 |
| ccactgtcaa tgggggcccc agacgcctgg accagggcct gcgtgggaaa ggcctctggg                                      | 6480 |
| cacactcagg ggctttttgt gaagggtcct cctactgtgt gaccacagtc actaccacag                                      | 6540 |
| tgatgaaccc agcagcaaaa actgaccgga ctccaagggt ttatgcacac ttctccgctc                                      | 6600 |
| agagctctcc aggatcagaa gagccgggcc caagggtttc tgcccagacc ctcggcctct                                      | 6660 |
| agggacatct tggccatgac agcccatggg ctggtgcccc acacatcgtc tgccttcaaa                                      | 6720 |
| caagggcttc agagggctct gaggtgacct cactgatgac cacagggtgcc ctggcccctt                                     | 6780 |
| ccccaccagc tgcaccagac cccgtcatga cagatgcccc gattccaaca gccaatcct                                       | 6840 |
| ggggccagga atcgctgtag acaccagcct ccttccaaca cctcctgcca attgcctgga                                      | 6900 |
| ttcccatccc ggttggaatc aagaggacag catccccag gctccaaca ggcaggactc                                        | 6960 |

1900A-WO\_SEQ\_ST25

|             |            |             |             |             |             |      |
|-------------|------------|-------------|-------------|-------------|-------------|------|
| ccacaccctc  | ctctgagagg | ccgctgtggt  | ccgtagggcc  | aggctgcaga  | cagtccccct  | 7020 |
| cacctgccac  | tagacaaatg | cctgctgtag  | atgtccccac  | ctggaaaata  | ccactcatgg  | 7080 |
| agcccccagc  | cccaggtaca | gctgtagaga  | gagtctctga  | ggccccctaa  | aagtagccat  | 7140 |
| gcccagttct  | gccgggaccc | tcggccaggc  | tgacaggagt  | ggacgctgga  | gctgggcccc  | 7200 |
| tactgggcca  | cataggagct | caccagtgag  | ggcaggagag  | cacatgccgg  | ggagcaccca  | 7260 |
| gcctcctgct  | gaccagaggc | ccgtcccaga  | gcccaggagg  | ctgcagaggc  | ctctccaggg  | 7320 |
| ggacactgtg  | catgtctggt | ccctgagcag  | ccccccacgt  | ccccagtcct  | ggggggcccc  | 7380 |
| ggcacagctg  | tctggaccct | ctctattccc  | tgggaagctc  | ctcctgacag  | ccccgcctcc  | 7440 |
| agttccaggt  | gtggttattg | tcaggggggtg | tcagactgtg  | gtggacacag  | ccatggttac  | 7500 |
| cacagtgggtg | ctgcccatag | cagcaaccag  | gccaagtaga  | caggccccctg | ctgtgcagcc  | 7560 |
| ccaggcctcc  | agctcacctg | cttctcctgg  | ggctctcaag  | gctgctgttt  | tctgcactct  | 7620 |
| cccctctgtg  | gggaggggtc | cctcagtggg  | agatctgttc  | tcaacatccc  | acggcctcat  | 7680 |
| tcctgcaagg  | aaggccaatg | gatgggcaac  | ctcacatgcc  | gcggctaaga  | taggggtgggc | 7740 |
| agcctggcgg  | ggacaggaca | tcctgctggg  | gtatctgtca  | ctgtgcctag  | tggggcactg  | 7800 |
| gctcccaaac  | aacgcagtcc | ttgccaaaat  | ccccacggcc  | tccccgcta   | ggggctggcc  | 7860 |
| tgatctcctg  | cagtcctagg | aggctgctga  | cctccagaat  | ggctccgtcc  | ccagttccag  | 7920 |
| ggcgagagca  | gatcccaggc | cggctgcaga  | ctgggaggcc  | acccccctct  | tcccagggtt  | 7980 |
| cactgcaggt  | gaccagggca | ggaaatggcc  | tgaacacagg  | gataaccggg  | ccatccccca  | 8040 |
| acagagtcca  | ccccctcctg | ctctgtaccc  | cgcaccccc   | aggccagccc  | atgacatccg  | 8100 |
| acaaccccc   | accagagtca | ctgcccgggtg | ctgccctagg  | gaggaccctt  | cagccccac   | 8160 |
| cctgtctaga  | ggactgggga | ggacaggaca  | cgccctctcc  | ttatgggtcc  | cccacctggc  | 8220 |
| tctggctggg  | acccttgggg | tgtggacaga  | aaggacgctt  | gcctgattgg  | cccccaggag  | 8280 |
| cccagaactt  | ctctccaggg | accccagccc  | gagcaccccc  | ttaccagga   | cccagccctg  | 8340 |
| cccctcctcc  | cctctgtctt | cctctcatca  | ccccatggga  | atccagaatc  | cccaggaagc  | 8400 |
| catcaggaag  | ggctgagggg | ggaagtgggg  | ccactgcacc  | accaggcagg  | aggctctgtc  | 8460 |
| tttgtgaacc  | cagggaggtg | ccagcctcct  | agaggggtatg | gtccaccctg  | cctatggctc  | 8520 |
| ccacagtggc  | aggctgcagg | gaaggaccag  | ggacgggtgtg | ggggagggct  | cagggccccg  | 8580 |
| cgggtgctcc  | atcttgatg  | agcctatctc  | tctcaccac   | ggactcgccc  | acctcctctt  | 8640 |
| caccctggcc  | acacgtcgtc | cacaccatcc  | taagtcccac  | ctacaccaga  | gccggcacag  | 8700 |
| ccagtgcaga  | cagaggctgg | ggtgcagggg  | ggccgactgg  | gcagcttcgg  | ggagggagga  | 8760 |
| atggaggaag  | gggagttcag | tgaagaggcc  | ccccctccc   | gggtccagga  | tcctcctctg  | 8820 |
| ggaccccccg  | atcccatccc | ctccaggctc  | tgggaggaga  | agcaggatgg  | gagaatctgt  | 8880 |
| gcgggaccct  | ctcacagtgg | aatacctcca  | cagcggctca  | ggccagatac  | aaaagcccct  | 8940 |
| cagtgcagccc | tccactgcag | tgctgggcct  | gggggcagcc  | gctcccacac  | aggatgaacc  | 9000 |

## 1900A-WO\_SEQ\_ST25

|             |            |            |            |            |            |      |
|-------------|------------|------------|------------|------------|------------|------|
| cagcaccctcg | aggatgtcct | gccaggggga | gctcagagcc | atgaaggagc | aggatatggg | 9060 |
| acccccgata  | caggcacaga | cctcagctcc | attcaggact | gccacgtcct | gccctgggag | 9120 |
| gaaccccttt  | ctctagtccc | tgcaggccag | gaggcagctg | actcctgact | tggacgccta | 9180 |
| ttccagacac  | cagacagagg | ggcaggcccc | ccagaaccag | ggatgaggac | gccccgtcaa | 9240 |
| ggccagaaaa  | gaccaagttg | cgctgagccc | agcaagggaa | ggccccaaa  | caaaccagga | 9300 |
| agtttctgaa  | ggtgtctgtg | tcacagtggg | gcatagccac | tcgtcccaca | gtgacactcg | 9360 |
| ccaggccaga  | aaccccatcc | caagtcagcg | gaatgcagag | agagcaggga | ggacatgttt | 9420 |
| aggatctgag  | gccgcacctg | acaccagggc | cagcagacgt | ctcctgtcca | cggcaccctg | 9480 |
| ccatgtcctg  | catttctgga | agaacaaggg | caggctgaag | ggggtccagg | accaggagat | 9540 |
| gggtccgctc  | taccagaga  | aggagccagg | caggacacaa | gcccc      |            | 9586 |

<210> 2  
 <211> 9268  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)..(9268)  
 <223> HD 1.7-6.13

|            |            |             |             |            |            |      |
|------------|------------|-------------|-------------|------------|------------|------|
| <400> 2    |            |             |             |            |            |      |
| tccccattga | ggctgacctg | cccagagggg  | cctgggcca   | ccaacacac  | cggggcgga  | 60   |
| tgtgtgcagg | cctcggcttc | tgtgggtgtt  | ccgctagctg  | gggctcacag | tgctcacc   | 120  |
| acacctaaaa | cgagccacag | cctccggagc  | ccctgaagga  | gaccccgccc | acaagcccag | 180  |
| ccccaccca  | ggaggcccca | gagcacagg   | cgccccgtcg  | gattctgaac | agccccgagt | 240  |
| cacagtgggt | atcactggca | ctaccactgt  | gagaaaagct  | tcgtccaaaa | cggtctcctg | 300  |
| gccacagtcg | gaggccccgc | cagagagggg  | agcagccacc  | caaaccat   | gttctgccg  | 360  |
| ctcccatgac | cccgtgcacc | tggagcccca  | cggtgtcccc  | actggatggg | aggacaaggg | 420  |
| ccgggggctc | cggcggtcg  | gggcaggggc  | ttgatggctt  | ccttctgccg | tggccccatt | 480  |
| gcccctggct | ggagttgacc | cttctgacaa  | gtgtcctcag  | agagtcagg  | atcagtggca | 540  |
| cctcccaaca | tcaacccac  | gcagcccagg  | cacaaacccc  | acatccagg  | ccaactccag | 600  |
| gaacagagac | acccaatac  | cctgggggac  | cccgaccctg  | atgactccg  | tcccatctct | 660  |
| gtccctcact | tggggcctgc | tgcggggcga  | gcacttgagg  | gcaaactcag | gcttagggga | 720  |
| caccactgtg | ggcctgacct | cgagcaggcc  | acagaccctt  | ccctcctgcc | ctggtgcagc | 780  |
| acagactttg | gggtctgggc | agggaggaac  | ttctggcagg  | tcaccaagca | cagagcccc  | 840  |
| aggctgaggt | ggccccagg  | ggaacccag   | cagggtggccc | actacccttc | ctcccagctg | 900  |
| gaccccatgt | cttccccaag | ataggggtgc  | catccaaggc  | aggtcctcca | tggagcccc  | 960  |
| ttcaggctcc | tctccagacc | ccactgggccc | tcagtcccca  | ctctaggaat | gcagccacca | 1020 |

1900A-WO\_SEQ\_ST25

|            |            |            |             |            |            |      |
|------------|------------|------------|-------------|------------|------------|------|
| cgggcacacc | aggcagccca | ggcccagcca | ccctgcagtg  | cccaagccca | caccctggag | 1080 |
| gagagcaggg | tgcgtctggg | aggggctggg | ctccccaccc  | ccacccccac | ctgcacaccc | 1140 |
| caccaccctt | tgcccgggcc | ccctgcagga | gggtcagagc  | ccccatggga | tatggactta | 1200 |
| gggtctcact | cacgcacctc | ccctcctggg | agaaggggtc  | tcatgcccag | atccccccag | 1260 |
| cagcgctggg | cacaggtaga | ggcagtggcc | ccagggccac  | cctgacctgg | cccctcaggc | 1320 |
| tcctctagcc | ctggctgccc | tgtgtgccct | gggaggcctg  | ggctccacca | gaccacaggt | 1380 |
| ctagggcacc | gcccacactg | gggccgcccc | cacacagctc  | acaggaagaa | gataagctcc | 1440 |
| agacccccag | gcccgggacc | tgccttgctg | ctacgacttc  | ctgccccaga | cctcgttgcc | 1500 |
| ctcccccgtc | cacttacaca | caggccagga | agctgttccc  | acacagacca | accccagacg | 1560 |
| gggaccacct | ggcactcagg | tacttgccat | tctcttctcc  | attcacttcc | aatgcctctg | 1620 |
| tgtttcctcc | ctcctccttc | cttcggggga | gcaccctgtg  | cagctcctcc | ctgcagtcca | 1680 |
| caccctgggg | agacccgacc | ctgcagcccc | caccctgggg  | agacctgacc | ctcctccagc | 1740 |
| cctttctccc | ccgctgctct | tgccacccac | caagacagcc  | ctggggtcct | gtccctacag | 1800 |
| ccccaccca  | gttctctacc | tagaccgctc | tctctccctc  | taaacacctc | tcccaggcca | 1860 |
| accttacacc | tgcaggccct | cccctccact | gccaaagacc  | ctcagtttct | cctgcctgtg | 1920 |
| cccacccccg | tgtcctcctt | gcccacagct | cgagctcttc  | ctctcctagg | gcccctgagg | 1980 |
| gatggcattg | accgtgccct | cgcaccacac | cactgcccac  | gccctcacat | tcctcctggc | 2040 |
| cactccagcc | ccactcccct | ctcaggcctg | gctctgggat  | ttctgggaca | aagccttacc | 2100 |
| caagtctttc | ccatgcaggc | ctgggccctt | accctcactg  | cccggttaca | gggcagcctc | 2160 |
| ctgtgcacag | aagcagggag | ctcagccctt | ccacaggcag  | aaggcactga | aagaaatcgg | 2220 |
| cctccagcgc | cttgacacac | gtctgcctgt | gtctctcact  | gcccgcacct | gcagggaggg | 2280 |
| tcggcactcc | ctctaaagac | gagggatcca | ggcagcagca  | tcacaggaga | atgcagggct | 2340 |
| accagacatc | ccagtcctct | cacaggcctc | tcctgggaag  | agacctgaag | acgcccagtc | 2400 |
| aacggagtct | aacaccaaac | ctccctggag | gccgatgggt  | agtaacggag | tcattgccag | 2460 |
| acctggaggc | aggggagcag | tgagcccag  | cccacaccat  | agggccagag | gacagccact | 2520 |
| gacatcccaa | gccactcact | ggtggtccca | caacacccca  | tggaaagagg | acagaccac  | 2580 |
| agtcccacct | ggaccagggc | agagactgct | gagaccagc   | accagaacca | accaagaaac | 2640 |
| accaggcaac | agcatcagag | ggggctctgg | cagaacagag  | gaggggaggt | ctccttcacc | 2700 |
| agcaggcgct | tcccttgacc | gaagacagga | tccatgcaac  | tccccagga  | caaaggagga | 2760 |
| gccccctgtt | cagcactggg | ctcagagtcc | tctccaagac  | accagagtt  | tcagacaaaa | 2820 |
| acccccctga | atgcacagtc | tcagcaggag | agccagccag  | agccagcaag | atggggctca | 2880 |
| gtgacacccg | cagggacagg | aggattttgt | gggggctcgt  | gtcactgtga | ggacattgta | 2940 |
| ctcatggtgt | atgccatacc | cacagtgaca | cagccccatt  | cccaaagccc | tactgcaaac | 3000 |
| gcattccact | tctggggctg | aggggctggg | ggagcgctctg | ggaaataggg | ctcaggggtg | 3060 |

1900A-WO\_SEQ\_ST25

|            |             |            |            |             |             |      |
|------------|-------------|------------|------------|-------------|-------------|------|
| tccatcaatg | cccaaaacgc  | accagactcc | cctccataca | tcacaccac   | cagccagcga  | 3120 |
| gcagagtaaa | cagaaaatga  | gaagcaagct | ggggaagctt | gcacaggccc  | caaggaaaga  | 3180 |
| gctttggcgg | gtgtgtaaga  | ggggatgcgg | gcagagcctg | agcagggcct  | tttgctgttt  | 3240 |
| ctgctttcct | gtgcagagag  | ttccataaac | tggtgttcga | gatcaatggc  | tgggagtga   | 3300 |
| cccaggagga | cagcgtggga  | agagcacagg | gaaggaggag | cagccgctat  | cctacactgt  | 3360 |
| catctttcga | aagtttgcc   | tgtgcccaca | ctgctgcata | atgggatgct  | taacagctga  | 3420 |
| tgtagacaca | gctaaagaga  | gaatcagtga | gatggatttg | cagcacagat  | ctgaataaat  | 3480 |
| tctccagaat | gtggagcagc  | acagaagcaa | gcacacagaa | agtgcctgat  | gcaaggacaa  | 3540 |
| agttcagtgg | gcaccttcag  | gcattgctgc | tgggcacaga | cactctgaaa  | agccctggca  | 3600 |
| ggaactccct | gtgacaaagc  | agaaccctca | ggcaatgcc  | gccccagagc  | cctccctgag  | 3660 |
| agcctcatgg | gcaaagatgt  | gcacaacagg | tgtttctcat | agcccaaac   | tgagagcaaa  | 3720 |
| gcaaacgtcc | atctgaagga  | gaacaggcaa | ataaacgatg | gcaggttcat  | gaaatgcaaa  | 3780 |
| cccagacagc | cacaagcaca  | aaagtacagg | gttataagcg | actctggttg  | agttcatgac  | 3840 |
| aatgctgagt | aattggagta  | acaaagtaaa | ctccaaaaaa | tactttcaat  | gtgatttctt  | 3900 |
| ctaaataaaa | tttacaccct  | gcaaaatgaa | ctgtcttctt | aagggaataca | tttcccagtt  | 3960 |
| agaaaacat  | aaagaaaacc  | aagaaaagga | tgatcacata | aacacagtgg  | tggttacttc  | 4020 |
| tgctggggaa | ggaagagggg  | atgaactgag | atacacaggg | tgggcaagtc  | tcctaacaag  | 4080 |
| aacagaacga | atacattaca  | gtaccttgaa | aacagcagtt | aaacttctaa  | attgcaagaa  | 4140 |
| gaggaaaatg | cacacagttg  | tgtttagaaa | attctcagtc | cagcactgtt  | cataatagca  | 4200 |
| aagacattaa | cccaggtcgg  | ataaataagc | gatgacacag | gcaattgcac  | aatgatacag  | 4260 |
| acatatat   | agtatatgag  | acatcgatga | tgtatcccca | aataaacgac  | tttaaagaga  | 4320 |
| taaagggctg | atgtgtgggtg | gcattcacct | ccctgggatc | cccggacagg  | ttgcaggctc  | 4380 |
| actgtgcagc | agggcaggcg  | ggtacctgct | ggcagttcct | ggggcctgat  | gtggagcaag  | 4440 |
| cgcagggcc  | tatatcccg   | aggacggcac | agtcagtga  | ttccagagag  | aagcaactca  | 4500 |
| gccacactcc | ccaggcagag  | cccagagagg | acgcccacgc | acagggaggc  | agagcccagc  | 4560 |
| acctccgcag | ccagcaccac  | ctgcgcacgg | gccaccacct | tgcaggcaca  | gagtgggtgc  | 4620 |
| tgagaggagg | ggcaggggaca | ccaggcagg  | tgagcaccca | gagaaaactg  | cagacgcctc  | 4680 |
| acacatccac | ctcagcctcc  | cctgacctgg | acctcactgg | cctgggcctc  | acttaacctg  | 4740 |
| ggcttcacct | gaccttgcc   | tcacctgact | tggacctgc  | ctgtcccaag  | ctttacctga  | 4800 |
| cctgggcctc | aactcacctg  | aacgtctcct | gacctgggtt | taacctgtcc  | tggaaactcac | 4860 |
| ctggccttgg | cttcccctga  | cctggacctc | atctggcctg | ggcttcacct  | ggcctgggcc  | 4920 |
| tcacctgacc | tggacctcat  | ctggcctgga | cctcacctgg | cctggacttc  | acctggcctg  | 4980 |
| ggcttcacct | gacctggacc  | tcacctggcc | tcgggcctca | cctgcacctg  | ctccagggtct | 5040 |
| tgctggagcc | tgagtagcac  | tgagggtgca | gaagctcatc | cagggttggg  | gaatgactct  | 5100 |

| 1900A-WO_SEQ_ST25 |             |             |             |             |            |      |
|-------------------|-------------|-------------|-------------|-------------|------------|------|
| agaagtctcc        | cacatctgac  | ctttctgggt  | ggaggcagct  | ggtggccctg  | ggaatataaa | 5160 |
| aatctccaga        | atgatgactc  | tgtgatttgt  | gggcaactta  | tgaacccgaa  | aggacatggc | 5220 |
| catggggttg        | gtagggacat  | agggacagat  | gccagcctga  | ggtggagcct  | caggacacag | 5280 |
| gtgggcacgg        | acactatcca  | cataagcgag  | ggatagaccc  | gagtgtcccc  | acagcagacc | 5340 |
| tgagagcgct        | gggcccacag  | cctccccctca | gagccctgct  | gcctcctccg  | gtcagccctg | 5400 |
| gacatcccag        | gtttccccag  | gcctggcggt  | aggttttagaa | tgaggctctgt | gtcactgtgg | 5460 |
| tatcaccata        | ttttgactgg  | tcattataac  | cacagtgtca  | cagagtccat  | caaaaaccca | 5520 |
| tgcttgaag         | cttcccgcca  | cagccctccc  | catggggccc  | tgctgcctcc  | tcaggtcagc | 5580 |
| cccggacatc        | ccgggttttc  | ccaggctggg  | cggtaggttt  | ggggtgaggt  | ctgtgtcact | 5640 |
| gtggtatcac        | catggttcgg  | ggagtcatta  | taaccacagt  | gtcacagagt  | ccatcaaaaa | 5700 |
| cccatccctg        | ggagcctccc  | gccacagccc  | tccctgcagg  | ggaccggtac  | gtgccatgtt | 5760 |
| aggattttga        | tcgaggagac  | agcaccatgg  | gtatggtggc  | taccacagca  | gtgcagcctg | 5820 |
| tgacccaaac        | ccgcagggca  | gcaggcacga  | tggacaggcc  | cgtgactgac  | cacgctgggc | 5880 |
| tccagcctgc        | cagccctgga  | gatcatgaaa  | cagatggcca  | aggtcaccct  | acaggtcatc | 5940 |
| cagatctggc        | tccgaggggt  | ctgcatcgct  | gctgccctcc  | caacgccagt  | ccaaatggga | 6000 |
| cagggacggc        | ctcacagcac  | catctgctgc  | catcaggcca  | gcgatcccag  | aagcccctcc | 6060 |
| ctcaaggctg        | ggcacatgtg  | tggacactga  | gagccctcat  | atctgagtag  | gggcaccagg | 6120 |
| agggaggggc        | tggccctgtg  | actgtccct   | gcccctgtgg  | tccctggcct  | gcctggccct | 6180 |
| gacacctgag        | cctctcctgg  | gtcatttcca  | agacagaaga  | cattcctggg  | gacagccgga | 6240 |
| gctgggcgtc        | gctcatcctg  | cccggccgtc  | ctgagtcctg  | ctcatttcca  | gacctcaccg | 6300 |
| gggaagccaa        | cagaggactc  | gcctcccaca  | ttcagagaca  | aagaaccttc  | cagaaatccc | 6360 |
| tgcctctctc        | cccagtggac  | accctcttcc  | aggacagtcc  | tcagtggcat  | cacagcggcc | 6420 |
| tgagatcccc        | aggacgcagc  | accgtgtca   | ataggggccc  | caaatgcctg  | gaccagggcc | 6480 |
| tgcgtgggaa        | aggcctctgg  | ccacactcgg  | gctttttgtg  | aaggggcctc  | ctgctgtgtg | 6540 |
| accacagtca        | ctaccatagt  | gatgaaccca  | gtggcaaaaa  | ctggctggaa  | acccaggggc | 6600 |
| tgtgtgcacg        | cctcagcttg  | gagctctcca  | ggagcacaag  | agccgggccc  | aaggatttgt | 6660 |
| gcccagaccc        | tcagcctcta  | gggacacctg  | ggtcatctca  | gcctgggctg  | gtgccctgca | 6720 |
| caccatcttc        | ctccaaatag  | gggcttcaga  | gggctctgag  | gtgacctcac  | tcatgaccac | 6780 |
| aggtgacctg        | gcccttccct  | gccagctata  | ccagaccctg  | tcttgacaga  | tgccccgatt | 6840 |
| ccaacagcca        | attcctggga  | ccctgaatag  | ctgtagacac  | cagcctcatt  | ccagtacctc | 6900 |
| ctgccaattg        | cctggattcc  | catcctggct  | ggaatcaaga  | aggcagcatc  | cgccaggctc | 6960 |
| ccaacaggca        | ggactcccgc  | acaccctcct  | ctgagaggcc  | gctgtgttcc  | gcagggccag | 7020 |
| gccctggaca        | gttccccctca | cctgccacta  | gagaaacacc  | tgccattgtc  | gtccccacct | 7080 |
| ggaaaagacc        | actcgtggag  | ccccagccc   | caggtacagc  | tgtagagaca  | gtcctcgagg | 7140 |

1900A-WO\_SEQ\_ST25

|            |            |             |            |            |            |      |
|------------|------------|-------------|------------|------------|------------|------|
| cccctaagaa | ggagccatgc | ccagttctgc  | cgggaccctc | ggccaggccg | acaggagtgg | 7200 |
| acgctggagc | tgggccca   | ctgggccaca  | taggagctca | ccagtgaggg | caggagagca | 7260 |
| catgccgggg | agcaccacg  | ctcctgctga  | ccagaggccc | gtcccagagc | ccaggaggct | 7320 |
| gcagaggcct | ctccaggag  | acactgtgca  | tgtctggtac | ctaagcagcc | ccccacgtcc | 7380 |
| ccagtcctgg | gggcccctgg | ctcagctgtc  | tgggccctcc | ctgctccctg | ggaagctcct | 7440 |
| cctgacagcc | ccgcctccag | ttccagggtg  | ggttattgtc | aggcgatgtc | agactgtggt | 7500 |
| ggacatagtg | gccaccatta | ccacagtggg  | gccgcccata | gcagcaacca | ggccaagtag | 7560 |
| acaggcccct | gctgcgcagc | cccaggcatc  | cacttcacct | gcttctcctg | gggctctcaa | 7620 |
| ggctgctgtc | tgtcctctgg | ccctctgtgg  | ggagggttcc | ctcagtggga | ggtctgtgct | 7680 |
| ccagggcagg | gatgattgag | atagaaatca  | aaggctggca | gggaaaggca | gcttcccgcc | 7740 |
| ctgagaggtg | caggcagcac | cacggagcca  | cggagtcaca | gagccacgga | gccccattg  | 7800 |
| tgggcatttg | agagtgtgt  | gccccggca   | ggcccagccc | tgatggggaa | gcctgtccca | 7860 |
| tcccacagcc | cgggtccac  | gggcagcggg  | cacagaagct | gccaggttgt | cctctatgat | 7920 |
| cctcatccct | ccagcagcat | cccctccaca  | gtggggaaac | tgaggcttgg | agcaccaccc | 7980 |
| ggccccctgg | aaatgaggct | gtgagcccag  | acagtggggc | cagagcactg | tgagtacccc | 8040 |
| ggcagtacct | ggctgcaggg | atcagccaga  | gatgccaaac | cctgagtgtg | cagcctacag | 8100 |
| gaggatccgg | ccccaccag  | gccactcgat  | taatgtcaa  | ccccctgccc | tggagacctc | 8160 |
| ttccagtacc | accagcagct | cagcttctca  | gggcctcatc | cctgcaagga | aggtcaaggg | 8220 |
| ctgggcctgc | cagaaacaca | gcaccctccc  | tagccctggc | taagacaggg | tgggcagacg | 8280 |
| gctgtggacg | ggacatattg | ctggggcatt  | tctactgtc  | acttctgggt | ggtagctctg | 8340 |
| acaaaaacgc | agaccctgcc | aaaatcccca  | ctgcctcccg | ctaggggctg | gcctggaatc | 8400 |
| ctgctgtcct | aggaggctgc | tgacctccag  | gatggctccg | tcccagttc  | cagggcgaga | 8460 |
| gcagatccca | ggcaggctgt | aggctgggag  | gccacccttg | cccttgccgg | ggttgaatgc | 8520 |
| aggtgcccac | ggcaggaaat | ggcatgagca  | cagggatgac | cgggacatgc | cccaccagag | 8580 |
| tgccccctt  | cctgctctgc | accctgcacc  | ccccaggcca | gcccacgacg | tccaacaact | 8640 |
| gggcctgggt | ggcagcccca | cccagacagg  | acagaccag  | caccctgagg | aggtcctgcc | 8700 |
| agggggagct | aagagccatg | aaggagcaag  | atatggggcc | cccgatacag | gcacagatgt | 8760 |
| cagctccatc | caggaccacc | cagcccacac  | cctgagagga | acgtctgtct | ccagcctctg | 8820 |
| caggtcggga | ggcagctgac | ccctgacttg  | gacccttatt | ccagacacca | gacagaggcg | 8880 |
| caggcccccc | agaaccaggg | ttgaggggacg | ccccgtcaaa | gccagacaaa | accaaggggt | 8940 |
| gttgagccca | gcaagggaag | gccccaaac   | agaccaggag | gtttctgaag | gtgtctgtgt | 9000 |
| cacagtgggg | catagccaca | gctggtacca  | cagtgcact  | caccagcca  | gaaaccccat | 9060 |
| tccaagtcag | cggaagcaga | gagagcaggg  | aggacacgtt | taggatctga | gactgcacct | 9120 |
| gacaccagc  | ccagcagacg | tctcccctcc  | agggcacccc | accctgtcct | gcatttctgc | 9180 |

1900A-WO\_SEQ\_ST25  
aagatcaggg gcggcctgag ggggggtcta ggggtaggag atgggtcccc tgtacaccaa 9240  
ggaggagtta ggcaggtccc gagcactc 9268

<210> 3  
<211> 9441  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)..(9441)  
<223> HD 1.14-6.19

<400> 3  
tccccattga ggctgacctg cccagagagt cctgggcccc cccacacac cggggcgga 60  
tgtgtgcagg cctcgggtctc tgtgggtgtt ccgctagctg gggctcacag tgctcacccc 120  
acacctaaaa tgagccacag cctccggagc ccccgagga gaccccgccc acaagcccag 180  
ccccaccca ggaggcccca gagctcaggg cgccccgtcg gattccgaac agccccgagt 240  
cacagcgggt ataaccggaa ccaccactgt cagaatagct acgtcaaaaa ctgtccagt 300  
gccactgccg gaggccccgc cagagagggc agcagccact ctgatcccat gtcctgccgg 360  
ctcccatgac cccagcacg cggagcccca cagtgtcccc actggatggg aggacaagag 420  
ctggggattc cggcgggtcg gggcaggggc ttgatcgcat cttctgccg tggctccagt 480  
gccccctggct ggagttgacc cttctgacaa gtgtcctcag agagacaggc atcaccggcg 540  
cctcccaaca tcaaccccag gcagcacagg cacaaacccc acatccagag ccaactccag 600  
gagcagagac accccaatac cctggggggac cccgaccctg atgacttccc actggaattc 660  
gccgtagagt ccaccaggac caaagaccct gcctctgcct ctgtccctca ctcaggacct 720  
gctgccgggc gaggccttgg gagcagactt gggcttaggg gacaccagtg tgaccccgac 780  
cttgaccagg acgcagacct ttccttcctt tcctggggca gcacagactt tggggtctgg 840  
gccaggagga acttctggca ggtcgccaag cacagaggcc acaggctgag gtggccctgg 900  
aaagacctcc aggaggtggc cactccccctt cctcccagct ggaccccatg tcctcccaa 960  
gataaggggtg ccatccaagg cagggtgctc ttggagcccc attcagactc ctccctggac 1020  
ccctactggc ctcagtccca gctctgggga tgaagccacc acaagcacac caggcagccc 1080  
aggcccagcc accctgcagt gcccaagcac acactctgga gcagagcagg gtgcctctgg 1140  
gaggggctga gctccccacc ccacccccac ctgcacaccc caccacccc tgcccagcgg 1200  
ctctgcagga gggtcagagc cccacatggg gtatggactt agggctctac tcacgtggct 1260  
cccatcatga gtgaaggggc ctcaagccca ggttcccaca gcagcgcctg tcgcaagtgg 1320  
aggcagaggc ccgagggcca ccctgacctg gtccctgagg ttctgcagc ccaggctgcc 1380  
ctgctgtccc tgggaggcct gggctccacc agaccacagg tccagggcac cgggtgcagg 1440  
agccaccac acacagctca caggaagaag ataagctcca gacccccagg gccagaacct 1500  
gccttcctgc tactgcttcc tgccccagac ctgggcgccc tccccgtcc acttacacac 1560

1900A-WO\_SEQ\_ST25

|                                                                    |      |
|--------------------------------------------------------------------|------|
| aggccaggaa gctgttccca cacagaacaa ccccaaacca ggaccgcctg gcactcaggt  | 1620 |
| ggctgccatt tcctttctcca ttgtctccca ggcctctgtt cctccctggt tcctccttcg | 1680 |
| ggggaacagc ctgtgcagcc agtccttgca gcccacaccc tggggagacc caaccctgcc  | 1740 |
| tggggccctt ccaaccctgc tgctcttact gcccacccag aaaactctgg ggtcctgtcc  | 1800 |
| ctgcagtccc taccctgggt tccaccaga cccctgtgta tctctccaga caccctccc    | 1860 |
| aggcaaacc tgcacctgca ggccctgtcc tcttctgtcg ctagagcctc agtttctccc   | 1920 |
| ccctgtgccc acaccctacc tcctcctgcc cacaactcta actcttcttc tcctggagcc  | 1980 |
| cctgagccat ggcattgacc ctgccctccc accaccaca gcccatgccc tcaccttctt   | 2040 |
| cctggccact ccgaccccg cccctctcag gccaaagcct ggtatttcca ggacaaaggc   | 2100 |
| tcacccaagt ctttcccagg caggcctggg ctcttgccct cacttcccgg ttacacggga  | 2160 |
| gcctcctgtg cacagaagca gggagctcag cctttccaca ggcagaaggc actgaaagaa  | 2220 |
| atcggcctcc agcaccttga cacacgtccg cccgtgtctc tctctgccc cactgtcagg   | 2280 |
| gaggctccgc actccctcta aagacaaggg atccaggcag cagcatcacg ggagaatgca  | 2340 |
| gggctcccag acatcccagt cctctcacag gcctctcctg ggaagagacc tgcagccacc  | 2400 |
| accaaacagc cacagaggct gctggatagt aactgagtca atgaccgacc tggagggcag  | 2460 |
| gggagcagtg agccggagcc cataccatag ggacagagac cagccgtga catcccgagc   | 2520 |
| tcctcaatgg tggccccata acacacctag gaaacataac acaccacag cccacctgg    | 2580 |
| aacagggcag agactgctga gccccagca ccagcccaa gaaacaccag gcaacagtat    | 2640 |
| cagagggggc tcccgagaaa gagaggaggg gagatctcct tcaccatcaa atgcttccct  | 2700 |
| tgacaaaaa cagggtccac gcaactcccc caggacaaag gaggagcccc ctatacagca   | 2760 |
| ctgggctcag agtcctctct gagacacctt gagtttcaga caacaaccg ctggaatgca   | 2820 |
| cagtctcagc aggagaacag accaaagcca gcaaaaggga cctcgggtgac accagtaggg | 2880 |
| acaggaggat tttgtggggg ctctgtgtcac tgtgaggaca ttgtagtcac ggtagctgcc | 2940 |
| actcccacag tgacacagac ccattcccaa agccctactg caaacacacc cactcctggg  | 3000 |
| gctgaggggc tgggggagcg tctgggaagt aggggtccagg ggtgtctatc aatgtccaaa | 3060 |
| atgcaccaga ctccccgcca aacaccaccc caccagccag cgagcagggt aaacagaaaa  | 3120 |
| tgagaggctc tgggaagctt gcacaggccc caaggaaaga gctttggcgg gtgtgcaaga  | 3180 |
| ggggatgcag gcagagcctg agcagggcct tttgctgttt ctgctttcct gtgcagagag  | 3240 |
| ttccataaac tgggtgttcaa gatcagtggc tgggaatgag cccaggaggg cagtctgtgg | 3300 |
| gaagagcaca gggaaggagg agcagccgct atcctacact gtcattcttc aaaagtgtgc  | 3360 |
| cttgtgacca cactattgca tcatgggatg ctttaagagct gatgtagaca cagctaaaga | 3420 |
| gagaatcagt gagatgaatt tgcagcatag atctgaataa actctccaga atgtggagca  | 3480 |
| gtacagaagc aaacacacag aaagtgcctg atgcaaggac aaagttcagt gggcaccttc  | 3540 |
| aggcattgct gctgggcaca gacactctga aaagccttgg caggatctcc ctgcgacaaa  | 3600 |

## 1900A-WO\_SEQ\_ST25

|                                                                    |      |
|--------------------------------------------------------------------|------|
| gcagaaccct caggcaatgc cagccccaga gccctccctg agagcgtcat ggggaaagat  | 3660 |
| gtgcagaaca gctgattatc atagactcaa actgagaaca gagcaaacgt ccatctgaag  | 3720 |
| aacagtcaaa taagcaatgg taggttcatg caatgcaaac ccagacagcc aggggacaac  | 3780 |
| agtagagggc tacaggcggc tttgcggttg agttcatgac aatgctgagt aattggagta  | 3840 |
| acagaggaaa gcccaaaaaa tacttttaat gtgatttctt ctaaataaaa ttacaccag   | 3900 |
| gcaaaatgaa ctgtcttctt aagggataaa ctttccctg gaaaaactac aaggaaaatt   | 3960 |
| aagaaaacga tgatcacata aacacagttg tggttacttc tactggggaa ggaagaggg   | 4020 |
| atgagctgag acacacagag tcggcaagtc tccaagcaag cacagaacga atacattaca  | 4080 |
| gtaccttgaa tacagcagtt aaacttctaa atcgcaagaa caggaaaatg cacacagctg  | 4140 |
| tgtttagaaa attctcagtc cagcactatt cataatagca aagacattaa cccaggttg   | 4200 |
| ataaataaat gatgacacag gcaattgcac aatgatacag acatacattt agtacatgag  | 4260 |
| acatcgatga tgtatcccca aagaaatgac tttaaagaga aaaggcctga tgtgtggtg   | 4320 |
| cactcacctc cctgggatcc ccggacaggt tgcaggcaca ctgtgtggca gggcaggctg  | 4380 |
| gtacatgctg gcagctcctg gggcctgatg tggagcaagc gcagggtgt ataccccaa    | 4440 |
| ggatggcaca gtcagtgaat tccagagaga agcagctcag ccacactgcc caggcagagc  | 4500 |
| ccgagagggg cgcccacgta caggaggga gagcccagct cctccacagc caccaccacc   | 4560 |
| tgtgcacggg ccaccacctt gcaggcacag agtgggtgct gagaggagg gaggggacac   | 4620 |
| caggcagggg gagcacccag agaaaactgc agaagcctca cacatccacc tcagcctccc  | 4680 |
| ctgacctgga cctcacctgg tctggacctc acctggcctg ggcctcacct gacctggacc  | 4740 |
| tcacctggcc tgggcttcac ctgacctgga cctcacctgg cctccggcct cacctgcacc  | 4800 |
| tgctccaggt cttgctggaa cctgagtagc actgaggctg cagaagctca tccagggttg  | 4860 |
| gggaatgact ctggaactct cccacatctg acctttctgg gtggaggcat ctggtggccc  | 4920 |
| tgggaatata aaaagcccca gaatggtgcc tgcgtgattt gggggcaatt tatgaaccg   | 4980 |
| aaaggacatg gccatggggg gggtagggac atagggacag atgccagcct gaggtggagc  | 5040 |
| ctcaggacac agttggacgc ggacactatc cacataagcg agggacagac ccgagtgttc  | 5100 |
| ctgcagtaga cctgagagcg ctggggccac agcctcccct cggtgccctg ctgcctcctc  | 5160 |
| aggctcagccc tggacatccc gggtttcccc aggccagatg gtaggtttga agtgaggctt | 5220 |
| gtgtcactgt ggtatcatga tcacgtttgg gggagtcac gttataacca cagcatcaca   | 5280 |
| cgggtccatca gaaacccatg ccacagccct ccccgaggg gaccgccgcg tgccatgtta  | 5340 |
| cgattttgat cgaggacaca gcgccatggg tatggtggct accacagcag tgcagcccat  | 5400 |
| gacccaaaca cacagggcag caggcacaat ggacaggcct gtgagtgacc atgctgggct  | 5460 |
| ccagcccgcc agccccggag accatgaaac agatggccaa ggtcaccca cagttcagcc   | 5520 |
| agacatggct ccgtggggtc tgcacgctg ctgccctcta acaccagccc agatggggac   | 5580 |
| aaggccaacc ccacattacc atctcctgct gtccaccag tgggtcccaga agccccctcc  | 5640 |

## 1900A-WO\_SEQ\_ST25

|                                                                    |      |
|--------------------------------------------------------------------|------|
| tcattggtga gccacatgtg tgaaccctga gagcacccca tgtcagagta ggggcagcag  | 5700 |
| aagggcgggg ctggccctgt gcactgtccc tgcacccatg gtccctcgcc tgcctggccc  | 5760 |
| tgacacctga gcctcttctg agtcatttct aagatagaag acattcccgg ggacagccgg  | 5820 |
| agctgggcgt cgctcatccc gccggccgt cctgagtcct gcttgtttcc agacctcacc   | 5880 |
| aggaagcca acagaggact cacctcacac agtcagagac aaagaacctt ccagaaatcc   | 5940 |
| ctgtctcact cccagtggtg caccttcttc caggacattc ctgggtcgca tcacagcagg  | 6000 |
| caccacatc tggatcagga cggccccag aacacaagat ggcccatggg gacagcccca    | 6060 |
| caaccaggc cttccagac ccctaaaagg cgtcccaccc cctgcacctg cccagggct     | 6120 |
| aaaaatccag gaggttgac tcccgcatac cctccagcca gacatcacct cagccccctc   | 6180 |
| ctggagggga caggagcccc ggaggtgag tcagaccac ctgccctcga tggcaggcgg    | 6240 |
| ggaagattca gaaaggcctg agatccccag gacgcagcac cactgtcaat gggggcccca  | 6300 |
| gacgcctgga ccagggcctg cgtgggaaag gccgctgggc acactcaggg gctttttgtg  | 6360 |
| aaggccccctc ctactgtgtg accacggtca ctaccacagt gatgaaacta gcagcaaaaa | 6420 |
| ctggccggac acccaggac catgcacact tctcagcttg gagctctcca ggaccagaag   | 6480 |
| agtcaggctt gagggtttgt agccagacc tcggcctcta gggacaccct ggccatcaca   | 6540 |
| gcggatgggc tggtgcccca catgccatct gctccaaaca ggggcttcag agggctctga  | 6600 |
| ggtgacttca ctcatgacca caggtgccct ggcccccttc ccgccagcta caccgaacct  | 6660 |
| tgccccaaaca gctgccccag ttccaacagc caattcctgg ggcccagaat tgctgtagac | 6720 |
| accagcctcg ttccagcacc tcttgccaat tgccctggatt cacatcctgg ctggaatcaa | 6780 |
| gagggcagca tccgccaggc tccaacagg caggactccc gcacaccctc ctctgagagg   | 6840 |
| ccgtgtgtt ccgcagggcc aggccctgga cagttcccct cacctgccac tagagaaaca   | 6900 |
| cctgccattg tcgtccccac ctggaaaaga cactcgtgg agccccagc cccagggtaca   | 6960 |
| gctgtagaga gactccccga gggatctaag aaggagccat gcgcagttct gccgggacct  | 7020 |
| tcggccaggc cgacaggagt ggacactgga gctgggcca cactgggcca cataggagct   | 7080 |
| caccagttag ggcaggagag cacatgccgg ggagcaccca gcctcctgct gaccagaggc  | 7140 |
| ccgtcccaga gcccaggagg ctgcagagg ctctccaggg ggacactgtg catgtctggt   | 7200 |
| ccctgagcag cccccacgt cccagtcct gggggccccct ggcacagctg tctggacct    | 7260 |
| ccctgttccc tgggaagctc ctctgacag cccgcctcc agttccagggt gtggttattg   | 7320 |
| tcagggggtg tcagactgtg gtggacacag ccatggttac cacagtgggt ctgcccatag  | 7380 |
| cagcaaccag gccaagtaga caggccccctg ctgtgcagcc ccaggcctcc acttcacctg | 7440 |
| cttctcctgg ggctctcaag gtcactgttg tctgtactct gccctctgtg gggagggttc  | 7500 |
| cctcagtggg aggtctgttc tcaacatccc agggcctcat gtctgcacgg aaggccaatg  | 7560 |
| gatgggcaac ctacatgcc gcggctaaga taggggtggc agcctggcgg gggacagtac   | 7620 |
| atactgctgg ggtgtctgtc actgtgccta gtggggcact ggctcccaa caacgcagtc   | 7680 |

## 1900A-WO\_SEQ\_ST25

|            |             |            |             |             |            |      |
|------------|-------------|------------|-------------|-------------|------------|------|
| ctcgccaaaa | tccccacagc  | ctcccctgct | aggggctggc  | ctgatctcct  | gcagtcctag | 7740 |
| gaggctgctg | acctccagaa  | tgtctccgtc | cccagttcca  | gggcgagagc  | agatcccagg | 7800 |
| ccggctgcag | actgggaggc  | caccccctcc | ttcccagggt  | tactggagg   | tgaccaaggt | 7860 |
| aggaaatggc | cttaacacag  | ggatgactgc | gccatcccc   | aacagagtca  | gccccctcct | 7920 |
| gctctgtacc | ccgcaccccc  | caggccagtc | cacgaaaacc  | agggccccac  | atcagagtca | 7980 |
| ctgcctggcc | cggccctggg  | gcggacccct | cagccccccac | cctgtctaga  | ggacttgggg | 8040 |
| ggacaggaca | caggccctct  | ccttatgggt | cccccacctg  | cctccggccg  | ggacccttgg | 8100 |
| ggtgtggaca | gaaaggacac  | ctgcctaatt | ggcccccagg  | aaccagaaac  | ttctctccag | 8160 |
| ggaccccagc | ccgagcaccc  | ccttaccag  | gaccagccc   | tgccccctcct | cccctctgct | 8220 |
| ctcctctcat | caccccatgg  | gaatccggta | tccccaggaa  | gccatcagga  | agggtgaag  | 8280 |
| gaggaagcgg | ggccgtgcac  | caccgggcag | gaggctccgt  | cttcgtgaac  | ccagggaagt | 8340 |
| gccagcctcc | tagaggggat  | ggtccaccct | gcctggggct  | cccaccgtgg  | caggctgcgg | 8400 |
| ggaaggacca | gggacggtgt  | gggggagggc | tcagggccct  | gcgggtgctc  | ctccatcttc | 8460 |
| ggtgagcctc | ccccttcacc  | caccgtccc  | cccacctcct  | ctccaccctg  | gctgcacgtc | 8520 |
| ttccacacca | tcctgagtcc  | tacctacacc | agagccagca  | aagccagtgc  | agacaaaggc | 8580 |
| tggggtgcag | gggggctgcc  | agggcagctt | cggggagggg  | aggatggagg  | gaggggaggt | 8640 |
| cagtgaagag | gcccccttcc  | cctgggtcca | ggatcctcct  | ctgggacccc  | cggatcccat | 8700 |
| cccctcctgg | ctctgggagg  | agaagcagga | tgggagaatc  | tgtgcgggac  | cctctcacag | 8760 |
| tggaatatcc | ccacagcggc  | tcaggccaga | cccaaaagcc  | cctcagttag  | ccctccactg | 8820 |
| cagtcctggg | cctgggtagc  | agccccctcc | acagaggaca  | gaccagcac   | cccgaagaag | 8880 |
| tcctgccagg | gggagctcag  | agccatgaaa | gagcaggata  | tggggtcccc  | gatacaggca | 8940 |
| cagacctcag | ctccatccag  | gcccaccggg | accacccatg  | ggaggaacac  | ctgtctccgg | 9000 |
| gttgtgaggt | agctggcctc  | tgtctcggac | cccactccag  | acaccagaca  | gaggggcagg | 9060 |
| ccccccaaaa | ccagggttga  | gggatgatcc | gtcaaggcag  | acaagaccaa  | ggggcactga | 9120 |
| ccccagcaag | ggaaggctcc  | caaacagacg | aggaggtttc  | tgaagctgtc  | tgtatcacag | 9180 |
| tggggcatag | ccatggctgg  | taccacagtg | acactcgcca  | ggccagaaac  | cccgtcccaa | 9240 |
| gtcagcggaa | gcagagagag  | cagggaggac | acgttttagga | tctgaggccg  | cacctgacac | 9300 |
| ccagggcagc | agacgtctcc  | cctccagggc | accctccacc  | gtcctgcgtt  | tcttcaagaa | 9360 |
| taggggcggc | ctgaggggggt | ccagggccag | gcgataggtc  | ccctctaccc  | caaggaggag | 9420 |
| ccaggcagga | cccagcacc   | g          |             |             |            | 9441 |

<210> 4  
 <211> 11592  
 <212> DNA  
 <213> Homo sapiens

## 1900A-WO\_SEQ\_ST25

<220>  
 <221> misc\_feature  
 <222> (1)..(11592)  
 <223> HD 1.20-6.25, 1.26

<400> 4  
 tccccattga ggctgacctg cccagacggg cctgggcccac cccacacac cggggcgga 60  
 tgtgtgcagg cccagctctc tgtgggtgtt ccgctagctg gggccccag tgctcacccc 120  
 acacctaaag cgagccccag cctccagagc cccctaagca ttccccgcc agcagccccag 180  
 cccctgcccc caccagagag gccccagagc tcagggcgcc tggtcggatt ctgaacagcc 240  
 ccgagtcaca gtgggtatca ctggcacgac caccgtgaga aaaacttgtt ccaaaactga 300  
 ctctggcag cagtcggagg ccccgccaga gaggggagca gccggcctga acccatgtcc 360  
 tgccggttcc catgaccccc agcaccacaga gccccacggg gtccccgttg gataatgagg 420  
 acaagggctg ggggctccgg tggtttgagg cagggacttg atcacatcct tctgctgtgg 480  
 cccatttgcc tctggctgga gttgaccctt ctgacaagtg tcctcagaaa gacagggatc 540  
 accggcacct cccaatatca accccaggca gcacagacac aaaccccaca tccagagcca 600  
 actccaggag cagagacacc ccaacactct gggggacccc aaccgtgata actccccact 660  
 ggaatccgcc ccagagtcta ccaggaccaa aggccctgcc ctgtctctgt ccctcactca 720  
 gggcctcctg cagggcgagc gcttgggagc agactcgggc ttaggggaca cactgtggg 780  
 ccccaacttt gatgaggcca ctgacccttc cttcctttcc tggggcagca cagactttgg 840  
 ggtctgggca gggaagaact actggctggt ggccaatcac agagccccca ggccgagggtg 900  
 gccccaaaga ggccctcagg aggtggccac tccacttcct ccagctgga cccaggtcc 960  
 tccccaaagt aggggtgcca tccaaggcag gtcctccatg gagccccctt cagactcctc 1020  
 ccgggacccc actggacctc agtccttgc ctgggaatgc agccaccaca agcacaccag 1080  
 gaagcccagg cccagccacc ctgcagtggg caagcccaca ctctggagca gagcagggtg 1140  
 cgtctgggag gggctaacct cccaccccc cccccccat ctgcacacag ccacctacca 1200  
 ctgcccagac cctctgcagg agggccaagc caccatgggg tatggactta ggtctcact 1260  
 cacgtgcctc cctcctggg agaaggggcc tcatgcccag atccctgcag cactagacac 1320  
 agctggaggc agtggcccca gggccacct gacctggcat ctaaggctgc tccagcccag 1380  
 acagcactgc cgttcctggg aagcctgggc tccaccagac cacagggtcca gggcacagcc 1440  
 cacaggagcc acccacacac agctcacagg aagaagataa gctccagacc ccaggggcggg 1500  
 acctgccttc ctgccaccac ttacacacag gccagggagc tgttcccaca cagatcaacc 1560  
 ccaaaccggg actgcctggc actaggggtc ctgccatttc cctctccatt ccctcccagt 1620  
 gcctctgtgc tccctccttc tggggaacac cctgtgcagc ccctccctgc agcccacacg 1680  
 ctggggagac cccacctgc ctggggcctt ttctacctgc tgcacttgcc gccacccaa 1740  
 acaaccctgg gtacgtgacc ctgcagtcct caccctgac tgcaaccaga cccctgtccc 1800  
 tccctctaaa caccctccc aggccaactc tgcacctgca ggccctccgc tcttctgcca 1860

1900A-WO\_SEQ\_ST25

|             |             |            |             |             |             |      |
|-------------|-------------|------------|-------------|-------------|-------------|------|
| caagagcctc  | aggttttcct  | acctgtgccc | acccccctaac | ccctcctgcc  | cacaacttga  | 1920 |
| gtttcttcctc | tcctggagcc  | cttgagccat | ggcactgacc  | ctacactccc  | acccacacac  | 1980 |
| tgcccatgcc  | atcaccttcc  | tcctggacac | tctgaccccg  | ctccccctccc | tctcagaccc  | 2040 |
| ggccctggta  | tttccaggac  | aaaggctcac | ccaagtcttc  | cccatgcagg  | cccttgccct  | 2100 |
| cactgcctgg  | ttacacggga  | gcctcctgtg | cgcagaagca  | gggagctcag  | ctctttccaca | 2160 |
| ggcagaaggc  | actgaaagaa  | atcagcctcc | agtgccttga  | cacacgtccg  | cctgtgtctc  | 2220 |
| tcactgcctg  | cacctgcagg  | gaggctccgc | actccctcta  | aagatgaggg  | atccaggcag  | 2280 |
| caacatcacg  | ggagaatgca  | gggctcccag | acagcccagc  | cctctcgag   | gcctctcctg  | 2340 |
| ggaagagacc  | tgcagccacc  | actgaacagc | cacggaggtc  | gctggatagt  | aaccgagtca  | 2400 |
| gtgaccgacc  | tggagggcag  | gggagcagtg | aaccggagcc  | cataccatag  | ggacagagac  | 2460 |
| cagccgctaa  | catcccgagc  | ccctcactgg | cggccccaga  | acaccccg    | gaaagagaac  | 2520 |
| agaccacag   | tcccacctgg  | aacagggcag | acactgctga  | gccccagca   | ccagcccca   | 2580 |
| gaaacactag  | gcaacagcat  | cagagggggc | tcctgagaaa  | gagaggaggg  | gaggtctcct  | 2640 |
| tcaccatcaa  | atgcttccct  | tgacaaaaa  | cagggctccac | gcaactcccc  | caggacaaag  | 2700 |
| gaggagcccc  | ctgtacagca  | ctgggctcag | agtcctctct  | gagacaggct  | cagtttcaga  | 2760 |
| caacaacccg  | ctggaatgca  | cagtctcagc | aggagagcca  | ggccagagcc  | agcaagagga  | 2820 |
| gactcggtga  | caccagtctc  | ctgtagggac | aggaggattt  | tgtgggggtt  | cgtgtcactg  | 2880 |
| tgagcacatt  | gtggtggtca  | ctgccattcc | cacagtgaca  | caacccatt   | cctaaagccc  | 2940 |
| tactgcaaac  | gcacccactc  | ctgggactga | ggggctgggg  | gagcgtctgg  | gaagtatggc  | 3000 |
| ctaggggtgt  | ccatcaatgc  | ccaaaatgca | ccagactctc  | cccaagacat  | cacccacca   | 3060 |
| gccagtgagc  | agagtaaaca  | gaaaatgaga | agcagctggg  | aagcttgac   | aggccccaag  | 3120 |
| gaaagagctt  | tggcaggtgt  | gcaagagggg | atgtgggcag  | agcctcagca  | gggccttttg  | 3180 |
| ctgtttctgc  | tttctgtgc   | agagagttcc | ataaactgg   | attcaagatc  | aatggctggg  | 3240 |
| agtgagccca  | ggaggacagt  | gtgggaagag | cacagggaag  | gaggagcagc  | cgctatccta  | 3300 |
| cactgtcatc  | ttttgaaagt  | ttgccctgtg | cccacaatgc  | tgcacatgg   | gatgcttaac  | 3360 |
| agctgatgta  | gacacagcta  | aagagagaat | cagtgaaatg  | gatttgcagc  | acagatctga  | 3420 |
| ataaatcctc  | cagaatgtgg  | agcagcacag | aagcaagcac  | acagaaagt   | cctgatgcca  | 3480 |
| aggcaaagtt  | cagtgggcac  | cttcaggcat | tgctgctggg  | cacagacact  | ctgaaaagca  | 3540 |
| ctggcaggaa  | ctgcctgtga  | caaagcagaa | ccctcaggca  | atgccagccc  | tagagccctt  | 3600 |
| cctgagaacc  | tcattgggcaa | agatgtgcag | aacagctgtt  | tgtcatagcc  | ccaaactatg  | 3660 |
| gggctggaca  | aagcaaactg  | ccatctgaag | gagaacagac  | aaataaacga  | tggcaggttc  | 3720 |
| atgaaatgca  | aactaggaca  | gccagaggac | aacagtagag  | agctacaggc  | ggctttgcgg  | 3780 |
| ttgagttcat  | gacaatgctg  | agtaattgga | gtaacagagg  | aaagcccaaa  | aaatactttt  | 3840 |
| aatgtgattt  | cttctaaata  | aaatttacac | ccggcaaaat  | gaactatctt  | cttaagggat  | 3900 |

| 1900A-WO_SEQ_ST25 |             |             |             |            |             |      |
|-------------------|-------------|-------------|-------------|------------|-------------|------|
| aaactttccc        | ctggaaaaac  | tataaggaaa  | atcaagaaaa  | cgatgatcac | ataaacacag  | 3960 |
| tgggtggttac       | ttctactggg  | gaaggaagag  | ggtatgagct  | gagacacaca | gagtcggcaa  | 4020 |
| gtctcctaac        | aagaacagaa  | caaatacatt  | acagtacctt  | gaaaacagca | gttaaacttc  | 4080 |
| taaatcgcaa        | gaagaggaaa  | atgcacacac  | ctgtgttttag | aaaattctca | gtccagcact  | 4140 |
| gttcataata        | gcaaagacat  | taacccaggt  | tggataaata  | agcgatgaca | caggcaattg  | 4200 |
| cacaatgata        | cagacataca  | ttcagtatat  | gagacatcga  | tgatgtatcc | ccaaagaaat  | 4260 |
| gacttttaaag       | agaaaaggcc  | tgatgtgtgg  | tggcaatcac  | ctccctgggc | atccccggac  | 4320 |
| aggctgcagg        | ctcactgtgt  | ggcagggcag  | gcaggcacct  | gctggcagct | cctggggcct  | 4380 |
| gatgtggagc        | aggcacagag  | ctgtatatcc  | ccaaggaagg  | tacagtcagt | gcattccaga  | 4440 |
| gagaagcaac        | tcagccacac  | tccctggcca  | gaaccacaaga | tgcacacca  | tgcacagggg  | 4500 |
| ggcagagccc        | agcacctccg  | cagccaccac  | cacctgcgca  | ggggccacca | ccttgccaggc | 4560 |
| acagagtggg        | tgctgagagg  | aggggcaggg  | acaccaggca  | gggtgagcac | ccagagaaaa  | 4620 |
| ctgcagaagc        | ctcacacatc  | cctcacctgg  | cctgggcttc  | acctgacctg | gacctcacct  | 4680 |
| ggcctcgggc        | ctcacctgca  | cctgctccag  | gtcttgctgg  | agcctgagta | gcactgaggc  | 4740 |
| tgtagggact        | catccagggt  | tggggaatga  | ctctgcaact  | ctcccacatc | tgacctttct  | 4800 |
| gggttgaggc        | acctggtggc  | ccagggaata  | taaaaagccc  | cagaatgatg | cctgtgtgat  | 4860 |
| ttgggggcaa        | tttatgaacc  | cgaaaaggaca | tggccatggg  | gtgggtaggg | acagtaggga  | 4920 |
| cagatgtcag        | cctgaggtga  | agcctcagga  | cacagggtggg | catggacagt | gtccacctaa  | 4980 |
| gcgagggaca        | gacccgagtg  | tccctgcagt  | agacctgaga  | gcgctggggc | cacagcctcc  | 5040 |
| cctcggggcc        | ctgctgcctc  | ctcaggctcag | ccctggacat  | cccgggtttc | cccaggcctg  | 5100 |
| gcggtagggt        | tgaagtgagg  | tctgtgtcac  | tgtggtatca  | ctatcatagt | agtggtcatt  | 5160 |
| actaccacag        | tgtcacagag  | tccatcaaaa  | actcatgcct  | gggagcctcc | caccacagcc  | 5220 |
| ctccctgcgg        | gggaccgctg  | catgccgtgt  | taggattttg  | atcgaggaca | cggcgccatg  | 5280 |
| ggtatggttg        | ctaccacagc  | agtgcagccc  | atgacccaaa  | cacacggggc | agcagaaaca  | 5340 |
| atggacaggc        | ccacaagtga  | ccatgatggg  | ctccagccca  | ccagccccag | agaccatgaa  | 5400 |
| acagatggcc        | aaggtcaccc  | tacaggctcat | ccagatctgg  | ctccaagggg | tctgcatcgc  | 5460 |
| tgctgccctc        | ccaacgcaa   | accagatgga  | gacagggccg  | gccccatagc | accatctgct  | 5520 |
| gccgtccacc        | cagcagtccc  | ggaagcccct  | ccctgaacgc  | tgggccacgt | gtgtgaaccc  | 5580 |
| tgcgagcccc        | ccatgtcaga  | gtaggggcag  | caggagggcg  | gggctggccc | tgtgcactgt  | 5640 |
| cactgccctc        | gtggctccctg | gcctgcctgg  | ccctgacacc  | tgagcctctc | ctgggtcatt  | 5700 |
| tccaagacat        | tcccagggac  | agccggagct  | gggagtcgct  | catcctgcct | ggctgtcctg  | 5760 |
| agtctctgtc        | atttccagac  | ctcaccaggg  | aagccaacag  | aggactcacc | tcacacagtc  | 5820 |
| agagacaacg        | aaccttccag  | aaatccctgt  | ttctctcccc  | agtgagagaa | accctcttcc  | 5880 |
| agggtttctc        | ttctctccca  | ccctcttcca  | ggacagtcct  | cagcagcatc | acagcgggaa  | 5940 |

## 1900A-WO\_SEQ\_ST25

|                                                                    |      |
|--------------------------------------------------------------------|------|
| cgcacatctg gatcaggacg gccccagaa cacgcatggg cccatgggga cagcccagcc   | 6000 |
| cttcccagac ccctaaaagg tatccccacc ttgcacctgc cccagggtct aaactccagg  | 6060 |
| aggcctgact cctgcacacc ctcttgccag atatcacctc agccccctcc tggaggggac  | 6120 |
| aggagcccgg gagggtgagt cagaccaccc tgccctcaat ggcaggcggg gaagattcag  | 6180 |
| aaaggcctga gatccccagg acgcagcacc actgtcaatg ggggccccag acgcctggac  | 6240 |
| cagggcctgt gtgggaaaagg cctctggcca cactcagggg ctttttgtga agggccctcc | 6300 |
| tgctgtgtga ccacggtggt cactcccaca gtgatgaaac cagcagcaaa aactgaccgg  | 6360 |
| actcgcaggg tttatgcaca cttctcggtc cggagctctc caggagcaca agagccaggc  | 6420 |
| ccgagggttt gtgcccagac cctcggcctc tagggacacc cgggccatct tagccgatgg  | 6480 |
| gctgatgccc tgcacaccgt gtgctgcca acaggggctt cagagggtct tgaggtgact   | 6540 |
| tcactcatga ccacaggtgc cctggtccct tcactgccag ctgcaccaga ccctgttccg  | 6600 |
| agagatgccc cagttccaaa agccaattcc tggggccggg aattactgta gacaccagcc  | 6660 |
| tcattccagt acctcctgcc aattgcctgg attcccatcc tggctggaat caagagggca  | 6720 |
| gcatccgcca ggctcccaac aggagggact cccacacacc ctctctgag aggccgctgt   | 6780 |
| gttccgcagg gccaggccgc agacagttcc cctcacctgc ccatgtagaa acacctgcca  | 6840 |
| ttgtcgtccc cacctggcaa agaccacttg tggagcccc agccccaggt acagctgtag   | 6900 |
| agagagtcct cgaggccccct aagaaggagc catgcccagt tctgccggga ccctcggcca | 6960 |
| ggccgacagg agtgagcgt ggagctgggc ccacactggg ccacatagga gtcaccagt    | 7020 |
| gagggcagga gagcacatgc cggggagcac ccagcctcct gctgaccaga gaccgtccc   | 7080 |
| agagcccagg aggtgcaga ggcctctcca gggggacaca gtgcatgtct ggtccctgag   | 7140 |
| cagccccag gctctctagc actgggggccc cctggcacag ctgtctggac cctccctgtt  | 7200 |
| ccctgggaag ctctcctga cagccccgcc tccagttcca ggtgtggtta ttgtcagggg   | 7260 |
| gtgccaggcc gtggtagaca tggccacat taccacagt gtgccgcca tagcagcaac     | 7320 |
| caggccaagt agacagaccc ctgccacga gcccaggcc tccagctcac ctgcttctcc    | 7380 |
| tggggctctc aaggctgctg tctgccctct ggccctctgt ggggaggggt ccctcagtgg  | 7440 |
| gaggtctgtg ctccagggca gggatgactg agatagaaat caaaggctgg cagggaaagg  | 7500 |
| cagcttcccg ccctgagagg tgcaggcagc accacagagc catggagtca cagagccacg  | 7560 |
| gagccccag tgtgggcgtg tgagggtgct gggctcccgg caggcccagc cctgatgggg   | 7620 |
| aagcctgccc cgtcccacag cccagggtccc caggggcagc aggcacagaa gctgccaagc | 7680 |
| tgtgctctac gatcctcatc cctccagcag catccactcc acagtgggga aactgagcct  | 7740 |
| tggagaacca cccagcccc tggaacaag gcggggagcc cagacagtgg gccagagca     | 7800 |
| ctgtgtgtat cctggcacta ggtgcaggga ccacccggag atccccatca ctgagtggcc  | 7860 |
| agcctgcaga aggacccaac cccaaccagg ccgcttgatt aagctccatc ccctgtcct   | 7920 |
| gggaacctct tcccagcgcc accaacagct cggcttccca ggccctcatc cctccaagga  | 7980 |

| 1900A-WO_SEQ_ST25 |            |            |            |            |            |       |
|-------------------|------------|------------|------------|------------|------------|-------|
| aggccaaagg        | ctgggcctgc | caggggcaca | gtaccctccc | ttgccctggc | taagacaggg | 8040  |
| tgggcagacg        | gctgcagata | ggacatat   | ctggggcatc | ttgctctgtg | actactgggt | 8100  |
| actggctctc        | aacgcagacc | ctaccaa    | ccccactgcc | tcccctgcta | ggggctggcc | 8160  |
| tgggtctctc        | ctgctgtcct | aggaggtgc  | tgacctccag | gatggcttct | gtccccagtt | 8220  |
| ctagggccag        | agcagatccc | aggcaggctg | taggctggga | ggccaccctt | gtccttgccg | 8280  |
| aggttcagt         | caggcaccca | ggacaggaaa | tggcctgaac | acagggatga | ctgtgccatg | 8340  |
| ccctacctaa        | gtccgcccct | ttctactctg | caacccccac | tcccaggtc  | agcccatgac | 8400  |
| gaccaacaac        | ccaacaccag | agtcactgcc | tggccctgcc | ctggggagga | cccctcagcc | 8460  |
| cccaccctgt        | ctagaggagt | tggggggaca | ggacacaggc | tctctcctta | tggttcccc  | 8520  |
| acctggctcc        | tgccgggacc | cttgggggtg | ggacagaaag | gacgcctgcc | taattggccc | 8580  |
| ccaggaaccc        | agaacttctc | tccagggacc | ccagcccgag | cacccctta  | cccaggaccc | 8640  |
| agccctgccc        | ctcctcccct | ctgctctcct | ctcatcactc | catgggaatc | cagaatcccc | 8700  |
| aggaagccat        | caggaagggc | tgaaggagga | agcggggccg | ctgcaccacc | gggcaggagg | 8760  |
| ctccgtcttc        | gtgaaccag  | ggaagtgcc  | gcctcctaga | gggtatgggc | caccctgcct | 8820  |
| ggggctccca        | ccgtggcagg | ctgcggggaa | ggaccaggga | cgggtgtggg | gagggctcag | 8880  |
| ggccctgcag        | gtgtccatc  | ttggatgagc | ccatccctct | caccaccga  | cccgccacc  | 8940  |
| tcctctccac        | cctggccaca | cgtcgtccac | accatcctga | gtcccaccta | caccagagcc | 9000  |
| agcagagcca        | gtgcagacag | aggctgggg  | gcaggggggc | cgccagggca | gctttgggga | 9060  |
| gggaggaatg        | gaggaagggg | aggtcagtga | agaggcccc  | ctcccctggg | tctaggatcc | 9120  |
| acctttggga        | ccccggatc  | ccatcccctc | caggctctgg | gaggagaagc | aggatgggag | 9180  |
| attctgtgca        | ggaccctctc | acagtggaat | acctccacag | cggctcaggc | cagatacaaa | 9240  |
| agcccctcag        | tgagccctcc | actgcagtgc | agggcctggg | ggcagcccct | cccacagagg | 9300  |
| acagaccag         | cacccgaag  | aagtcctgcc | agggggagct | cagagccatg | aaggagcaag | 9360  |
| atatggggac        | ccaatactg  | gcacagacct | cagctccatc | caggcccacc | aggaccacc  | 9420  |
| atgggtggaa        | cacctgtctc | cggcccctgc | tggctgtgag | gcagctggcc | tctgtctcgg | 9480  |
| acccccattc        | cagacaccag | acagagggac | aggcccccca | gaaccagtgt | tgagggacac | 9540  |
| ccctgtccag        | ggcagccaag | tccaagaggc | gcgctgagcc | cagcaaggga | aggccccaa  | 9600  |
| acaaaccagg        | aggtttctga | agctgtctgt | gtcacagtgc | ggcatagcca | cggctaccac | 9660  |
| aatgacactg        | ggcaggacag | aaaccccatc | ccaagtcagc | cgaaggcaga | gagagcaggc | 9720  |
| aggacacatt        | taggatctga | ggccacacct | gacactcaag | ccaacagatg | tctcccctcc | 9780  |
| agggcgccct        | gccctgttca | gtgttcctga | gaaaacaggg | gcagcctgag | gggatccagg | 9840  |
| gccaggagat        | gggtcccctc | taccccgagg | aggagccagg | cgggaatccc | agccccctcc | 9900  |
| ccattgaggc        | catcctgccc | agagggggcc | ggaccacccc | cacacacca  | ggcagaatgt | 9960  |
| gtgcaggcct        | caggctctgt | gggtgccgct | agctggggct | gccagtcctc | acccacacc  | 10020 |

1900A-WO\_SEQ\_ST25

|                                                                    |       |
|--------------------------------------------------------------------|-------|
| taaggtgagc cacagccgcc agagcctcca caggagaccc caccagcag cccagcccct   | 10080 |
| acccaggagg cccagagct cagggcgctt ggggtgattc tgaacagccc cgagtcacgg   | 10140 |
| tgggtatcat gggagccact accactgtga gaaaagctat gtccaaaact gtctcccggc  | 10200 |
| cactgctgga ggcccagcca gagaaggac cagccgcccg aacatacgac cttcccagac   | 10260 |
| ctcatgaccc ccagcacttg gagctccaca gtgtcccat tggatggtga ggatgggggc   | 10320 |
| cggggccatc tgcacctccc aacatcaccc ccaggcagca caggcacaaa ccccaaattc  | 10380 |
| agagccgaca ccaggaacac agacacccca ataccctggg ggaccctggc cctggtgact  | 10440 |
| tcccactggg atccaccccc gtgtccacct ggatcaaaga cccaccgct gtctctgtcc   | 10500 |
| ctcactcagg gcctgctgag gggcgggtgc tttggagcag actcaggttt aggggccacc  | 10560 |
| attgtggggc ccaacctga ccaggacaca gatttttctt tcctgccctg gggcaacaca   | 10620 |
| gactttgggg tctgtgcagg gaggaccttc tggaaagtca ccaagcacag agccctgact  | 10680 |
| gagggtgtct caggaagacc cccaggaggg ggcttgtgcc cttcctctc atgtggaccc   | 10740 |
| catgcccccc aagatagggg catcatgcag ggcaggctct ccatgcagcc accactaggc  | 10800 |
| aactccctgg cgccggtccc cactgcgcct ccatcccggc tctggggatg cagccaccat  | 10860 |
| ggccacacca ggcagcccgg gtccagcaac cctgcagtgc ccaagccctt ggcaggattc  | 10920 |
| ccagaggctg gagcccaccc ctctcatcc ccccacacct gcacacacac acctaccccc   | 10980 |
| tgcccagtcc ccctccagga gggttggagc cgcccatagg gtgggggctc cagggtctac  | 11040 |
| tcactcgctt cccttcctgg gcaaaggagc ctctgtgccc ggtccccctt gacggcgctg  | 11100 |
| ggcacagggtg tgggtactgg gccccagggc tcctccagcc ccagctgccc tgctctccct | 11160 |
| gggaggcctg ggcaccacca gaccaccagt ccagggcaca gccccaggga gccgcccact  | 11220 |
| gccagctcac aggaagaaga taagcttcag accctcaggg ccgggagctg ccttcctgcc  | 11280 |
| accccttcct gccccagacc tccatgccct cccccaacca cttacacaca agccagggag  | 11340 |
| ctgtttccac acagttcaac cccaaaccag gacggccttg cactcgggtc actgccattt  | 11400 |
| ctgtctgcat tcgctcccag cgcccctgtg ttccctccct cctccctcct tcctttcttc  | 11460 |
| ctgcattggg ttcatgccgc agagtgccag gtgcaggcca gccctgagct tggggtcacc  | 11520 |
| tcctcactga aggcagcctc aggggtgccc ggggcaggca ggggtgggggt gaggtttcca | 11580 |
| gctccaaccg ct                                                      | 11592 |

<210> 5  
 <211> 689  
 <212> DNA  
 <213> Mus musculus

<220>  
 <221> misc\_feature  
 <222> (1)..(689)  
 <223> Mouse E1 (an intronic enhancer)

<400> 5  
 tctagagagg tctggtggag cctgcaaaag tccagctttc aaaggaacac agaagtatgt

60

1900A-WO\_SEQ\_ST25

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| gtatggaata ttagaagatg ttgcttttac tcttaagttg gttcctagga aaaatagtta | 120 |
| aatactgtga ctttaaaatg tgagaggggtt ttcaagtact cttttttta aatgtccaaa | 180 |
| attcttgtca atcagtttga ggtcttggtt gtgtagaact gatattactt aaagtttaac | 240 |
| cgaggaatgg gagtgaggct ctctcataac ctattcagaa ctgactttta acaataataa | 300 |
| attaagtttc aaatatTTTT aaatgaattg agcaatgttg agttggagtc aagatggccg | 360 |
| atcagaacca gaacacctgc agcagctggc aggaagcagg tcatgtggca aggctatttg | 420 |
| gggaagggaa aataaaacca ctaggtaaac ttgtagctgt ggtttgaaga agtggttttg | 480 |
| aaacactctg tccagcccca ccaaaccgaa agtccaggct gagcaaaaca ccacctgggt | 540 |
| aatttgcatt tctaaaataa gttgaggatt cagccgaaac tggagaggtc ctcttttaac | 600 |
| ttattgagtt caacctttta attttagctt gagtagttct agtttcccca aacttaagtt | 660 |
| tatcgacttc taaaatgtat ttagaattc                                   | 689 |

<210> 6  
 <211> 3518  
 <212> DNA  
 <213> Mus musculus

<220>  
 <221> misc\_feature  
 <222> (1)..(3518)  
 <223> Mouse Switch Region

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| <400> 6                                                            |     |
| acttatttca gttgaacatg ctggttggtg gttgagagga cactcagtca gtcagtgacg  | 60  |
| tgaagggctt ctaagccagt ccacatgctc tgtgtgaact ccctctggcc ctgcttattg  | 120 |
| ttgaatgggc caaaggctctg agaccaggct gctgctgggt aggcctggac tttgggtctc | 180 |
| ccaccagac ctgggaatgt atggttgtgg cttctgccac ccatccacct ggctgctcat   | 240 |
| ggaccagcca gcctcggtag ctttgaagga acaattccac acaaagactc tggacctctc  | 300 |
| cgaaaccagg caccgcaaat ggtaagccag aggcagccac agctgtggct gctgctctta  | 360 |
| aagcttgtaa actgtttctg cttaagaggg actgagtctt cagtcatcgc tttaggggga  | 420 |
| gaaagagaca tttgtgtgtc ttttgagtac cgttgtcttg gtcactcaca ttttaactttc | 480 |
| cttgaaaaac tagtaaaaga aaaatgttgc ctgttaacca ataatcatag agctcatggt  | 540 |
| actttgagga aatcttagaa agcgtgtata caattgtctg gaattatttc agttaagtgt  | 600 |
| attagttgag gtactgatgc tgtctctact tcagttatac atgtgggttt gaattttgaa  | 660 |
| tctattcttg ctcttcttaa gcagaaaatt tagataaaat ggatacctca gtgggttttta | 720 |
| atggtgggtt taatatagaa ggaatttaaa ttggaagcta atttagaatc agtaaggagg  | 780 |
| gaccaggct aagaaggcaa tcctgggatt ctggaagaaa agatgttttt agtttttata   | 840 |
| gaaaacacta ctacattctt gatctacaac tcaatgtggt ttaatgaatt tgaagttgcc  | 900 |
| agtaaatgta cttcttggtt gttaaagaat ggtatcaaag gacagtgcct agatccgagg  | 960 |

| 1900A-WO_SEQ_ST25 |             |             |             |             |             |      |
|-------------------|-------------|-------------|-------------|-------------|-------------|------|
| tgagtgtgag        | aggacagggg  | ctgggggtatg | gatacgcaga  | aggaaggcca  | cagctgtaca  | 1020 |
| gaattgagaa        | agaatagaga  | cctgcagttg  | aggccagcag  | gtcggctgga  | ctaactctcc  | 1080 |
| agccacagta        | atgaccagga  | cagagaaagc  | cagactcata  | aagcttgctg  | agcaaaatta  | 1140 |
| agggacaag         | gttgagagcc  | ctagtaagcg  | aggctctaaa  | aagcacagct  | gagctgagat  | 1200 |
| gggtgggctt        | ctctgagtgc  | ttctaaaatg  | cgctaaactg  | aggtgattac  | tctgaggtaa  | 1260 |
| gcaaagctgg        | gcttgagcca  | aaatgaagta  | gactgtaatg  | aactggaatg  | agctgggccg  | 1320 |
| ctaagctaaa        | ctaggctggc  | ttaaccgaga  | tgagccaaac  | tggaatgaac  | ttcattaatc  | 1380 |
| taggttgaat        | agagctaaac  | tctactgcct  | acactggact  | gttctgagct  | gagatgagct  | 1440 |
| ggggtgagct        | cagctatgct  | acgctgtgtt  | ggggtgagct  | gatctgaaat  | gagatactct  | 1500 |
| ggagtagctg        | agatggggtg  | agatggggtg  | agctgagctg  | ggctgagcta  | gactgagctg  | 1560 |
| agctaggggtg       | agctgagctg  | ggtgagctga  | gctaagctgg  | ggtgagctga  | gctgagcttg  | 1620 |
| gctgagctag        | ggtgagctgg  | gctgagctgg  | ggtgagctga  | gctgagctgg  | ggtaagctgg  | 1680 |
| gatgagctgg        | ggtgagctga  | gctgagctgg  | agtgagctga  | gctgggctga  | gctgggggtga | 1740 |
| gctgggctga        | gctgggctga  | gctgggctga  | gctgggggtga | gctgagctgg  | ggtgagctga  | 1800 |
| gctgagctgg        | ggtgagctga  | gctgagctgg  | ggtgagctgg  | ggtgagctga  | gctgggggtga | 1860 |
| gctgagctga        | gctgggggtga | gctgagctgg  | ggtgagctga  | gctgagctgg  | ggtgagctga  | 1920 |
| gctgagctga        | gctgagctga  | gctgggggtga | gctgagctga  | gctgagctgg  | ggtgagctgg  | 1980 |
| ggtgagctga        | gctgagctgg  | agtgagctga  | gctgggctga  | gctgggggtga | gctgggctga  | 2040 |
| gctgggggtga       | gctgagctga  | gctgagctga  | gctgggggtga | gctgagctga  | gctgggggtga | 2100 |
| gctgagctgg        | ggtgagctgg  | gctgagctga  | gctgagctga  | gctgagctga  | gctgagctga  | 2160 |
| gctgagctga        | gctgagctga  | gctgagctga  | gctgagctga  | gctgagctgg  | ggtgagctga  | 2220 |
| gctgagctgg        | gctgagctgg  | ggtgagctgg  | gctgagctgg  | gctgagctgg  | gctgagctgg  | 2280 |
| ggtgagctga        | gctgggggtga | gctgagctga  | gctgggctga  | gctgagctga  | gctgggggtga | 2340 |
| gctgagctga        | gctgggggtga | gctgagctga  | gctgagctgg  | ggtgagctga  | gctgagctgg  | 2400 |
| gctgagcagg        | gctgagctgg  | ggtgagctga  | gctgagctgg  | ggtgagctgg  | gctgagctgg  | 2460 |
| gctgagctga        | gctgagctgg  | gctgagctgg  | gctgagctgg  | gctgagctgg  | gctgagctgg  | 2520 |
| gctgagctgg        | ggtgagctga  | gctgggggtga | gctgggggtga | gctgagctgg  | ggtgagctga  | 2580 |
| gctgggggtga       | gctgagctga  | gctgggggtga | gctgagctgg  | ggtgagctga  | gctgagctgg  | 2640 |
| ggtgagctga        | gctgagctgg  | ggtgagctga  | gctaggggtga | actgggctgg  | gtgagctgga  | 2700 |
| gtgagctgag        | ctgaggtgaa  | ctgggggtgag | ccgggatgtt  | ttgagttgag  | ctggggtaag  | 2760 |
| atgagctgaa        | ctggggtaaa  | ctgggatgag  | ctgtggtgag  | cggagctgga  | ttgaactgag  | 2820 |
| ctgtgtgagc        | tgagctgggg  | tcagctgagc  | aagagttagt  | agagctggct  | ggccagaacc  | 2880 |
| agaatcaatt        | aggctaagtg  | agccagattg  | tgctgggatc  | agctgtactc  | agatgagctg  | 2940 |
| ggatgaggta        | ggctgggatg  | agctgggcta  | gctgacatgg  | attatgtgag  | gctgagctag  | 3000 |

1900A-WO\_SEQ\_ST25

|                                                                    |      |
|--------------------------------------------------------------------|------|
| catgggctgg cctagctgat gagctaagct tgaatgagcg gggctgagct ggactcagat  | 3060 |
| gtgctagact gagctgtact ggatgatctg gtgtaggggtg atctggactc aactgggctg | 3120 |
| gctgatggga tgcgccaggt tgaactaggc tcagataagt taggctgagt agggcctggg  | 3180 |
| tgagatgggt cgggatgagc tgggaaaaga tggactcgga ccatgaactg ggctgagctg  | 3240 |
| ggttgggaga ccatgaattg agctgaactg agtgcagctg ggataaactg ggttgagcta  | 3300 |
| agaatagact acctgaattg tgccaaactc ggctgggatc aattggaaat taccaggatt  | 3360 |
| tagatgagcc ggactaaact atgctgagct ggactgggtg gatgtgttga actggcctgc  | 3420 |
| tgctgggctg gcatagctga gttgaactta aatgaggaag gctgagcaag gctagcctgc  | 3480 |
| ttgcatagag ctgaacttta gcctagcctg agctggac                          | 3518 |

<210> 7  
 <211> 315  
 <212> DNA  
 <213> Mus musculus

<220>  
 <221> misc\_feature  
 <222> (1)..(315)  
 <223> mouse IgM exon 1

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| <400> 7                                                            |     |
| agagtcagtc cttcccaaact gtcttcccc tcgtctcctg cgagagcccc ctgtctgata  | 60  |
| agaatctggg ggccatgggc tgccctggccc gggacttcct gcccagcacc atttccttca | 120 |
| cctggaacta ccagaacaac actgaagtca tccagggtat cagaaccttc ccaaacactga | 180 |
| ggacaggggg caagtaccta gccacctcgc aggtgttgct gtctcccaag agcatccttg  | 240 |
| aagggttcaga tgaatacctg gtatgcaaaa tccactacgg aggcaaaaac aaagatctgc | 300 |
| atgtgccccat tccag                                                  | 315 |

<210> 8  
 <211> 5  
 <212> PRT  
 <213> Homo sapiens

<400> 8

Val Gln Leu Glu Arg  
 1 5

<210> 9  
 <211> 5  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal

<400> 9

Val Pro Leu Ala Arg  
 1 5

1900A-wo\_SEQ\_ST25

<210> 10  
 <211> 5  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 10

Val Ser Leu Ala Leu  
 1 5

<210> 11  
 <211> 5  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 11

Val Ser Leu Ala Arg  
 1 5

<210> 12  
 <211> 4  
 <212> PRT  
 <213> Homo sapiens

<400> 12

Trp Glu Leu Leu  
 1

<210> 13  
 <211> 6  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 13

Val Ser Trp Glu Pro Leu  
 1 5

<210> 14  
 <211> 5  
 <212> PRT  
 <213> Homo sapiens

<400> 14

Tyr Gln Leu Leu Tyr  
 1 5

<210> 15  
 <211> 6  
 <212> PRT

<213> Unknown

<220>

<223> Mammal

<400> 15

Ser Tyr Gln Leu Pro Tyr  
1 5

<210> 16

<211> 4

<212> PRT

<213> Homo sapiens

<400> 16

Arg Ile Leu Tyr  
1

<210> 17

<211> 5

<212> PRT

<213> Homo sapiens

<400> 17

Trp Cys Met Leu Tyr  
1 5

<210> 18

<211> 10

<212> PRT

<213> Unknown

<220>

<223> Mammal

<400> 18

Arg Thr Leu Tyr Ser Trp Cys Met Pro Tyr  
1 5 10

<210> 19

<211> 5

<212> PRT

<213> Homo sapiens

<400> 19

Ser Ile Leu Trp Trp  
1 5

<210> 20

<211> 9

<212> PRT

<213> Unknown

<220>

<223> Mammal

<400> 20

## 1900A-WO\_SEQ\_ST25

Ser Thr Leu Trp Trp Ser Leu Pro Phe  
1 5

<210> 21  
<211> 10  
<212> PRT  
<213> Homo sapiens

<400> 21

Val Leu Arg Phe Leu Glu Trp Leu Leu Tyr  
1 5 10

<210> 22  
<211> 10  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 22

Val Ser Pro Phe Leu Glu Trp Ser Leu Tyr  
1 5 10

<210> 23  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 23

Val Leu Arg Tyr Phe Asp Trp Leu Leu  
1 5

<210> 24  
<211> 9  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 24

Val Ser Pro Tyr Phe Asp Trp Ser Leu  
1 5

<210> 25  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 25

Val Leu Leu Trp Phe Gly Glu Leu Leu  
1 5

<210> 26  
<211> 9  
<212> PRT

<213> Unknown

<220>

<223> Mammal

<400> 26

Val Ser Pro Trp Phe Gly Glu Ser Leu  
1 5

<210> 27

<211> 9

<212> PRT

<213> Homo sapiens

<400> 27

Leu Arg Leu Gly Glu Leu Ser Leu Tyr  
1 5

<210> 28

<211> 9

<212> PRT

<213> Unknown

<220>

<223> Mammal

<400> 28

Ser Arg Leu Gly Glu Ser Ser Leu Tyr  
1 5

<210> 29

<211> 4

<212> PRT

<213> Homo sapiens

<400> 29

Trp Leu Leu Leu  
1

<210> 30

<211> 4

<212> PRT

<213> Unknown

<220>

<223> Mammal

<400> 30

Val Ser Leu Ser  
1

<210> 31

<211> 4

<212> PRT

<213> Unknown

<220>

<223> Mammal

&lt;400&gt; 31

Trp Ser Leu Leu  
1<210> 32  
<211> 4  
<212> PRT  
<213> Unknown<220>  
<223> Mamma1

&lt;400&gt; 32

Pro Gln Ser Leu  
1<210> 33  
<211> 4  
<212> PRT  
<213> Unknown<220>  
<223> Mamma1

&lt;400&gt; 33

Pro Arg Ser Leu  
1<210> 34  
<211> 5  
<212> PRT  
<213> Unknown<220>  
<223> Mamma1

&lt;400&gt; 34

Pro Arg Trp Ser Leu  
1 5<210> 35  
<211> 6  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 35

Trp Ile Gln Leu Trp Leu  
1 5<210> 36  
<211> 6  
<212> PRT  
<213> Unknown<220>  
<223> Mamma1

<400> 36

Trp Thr Gln Pro Trp Leu  
1 5

<210> 37

<211> 4

<212> PRT

<213> Homo sapiens

<400> 37

Trp Leu Arg Leu  
1

<210> 38

<211> 4

<212> PRT

<213> Unknown

<220>

<223> Mammal

<400> 38

Trp Pro Pro Leu  
1

<210> 39

<211> 5

<212> PRT

<213> Homo sapiens

<400> 39

Arg Trp Leu Gln Leu  
1 5

<210> 40

<211> 5

<212> PRT

<213> Unknown

<220>

<223> Mammal

<400> 40

Thr Trp Pro Pro Leu  
1 5

<210> 41

<211> 4

<212> PRT

<213> Homo sapiens

<400> 41

Gln Gln Leu Val  
1

<210> 42

1900A-WO\_SEQ\_ST25

<211> 4  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal

<400> 42

Pro Gln Leu Val  
 1

<210> 43  
 <211> 4  
 <212> PRT  
 <213> Homo sapiens

<400> 43

Gln Trp Leu Val  
 1

<210> 44  
 <211> 4  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal

<400> 44

Pro Trp Leu Val  
 1

<210> 45  
 <211> 5  
 <212> PRT  
 <213> Homo sapiens

<400> 45

Tyr Asn Trp Asn Asp  
 1 5

<210> 46  
 <211> 5  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal

<400> 46

Tyr His Trp His Asp  
 1 5

<210> 47  
 <211> 5  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 47

Tyr Asn Trp Asn Tyr  
1 5

&lt;210&gt; 48

&lt;211&gt; 5

&lt;212&gt; PRT

&lt;213&gt; Unknown

&lt;220&gt;

&lt;223&gt; Mammal

&lt;400&gt; 48

Tyr His Trp His Tyr  
1 5

&lt;210&gt; 49

&lt;211&gt; 6

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 49

Tyr Ser Gly Ser Tyr Tyr  
1 5

&lt;210&gt; 50

&lt;211&gt; 6

&lt;212&gt; PRT

&lt;213&gt; Unknown

&lt;220&gt;

&lt;223&gt; Mammal

&lt;400&gt; 50

Tyr His Gly Ser His Tyr  
1 5

&lt;210&gt; 51

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 51

Gly Tyr Cys Ser Ser Thr Ser Cys Tyr Thr  
1 5 10

&lt;210&gt; 52

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Unknown

&lt;220&gt;

&lt;223&gt; Mammal

&lt;400&gt; 52

Gly His Cys Ser His Thr Ser Cys His Thr  
1 5 10

1900A-WO\_SEQ\_ST25

<210> 53  
 <211> 10  
 <212> PRT  
 <213> Homo sapiens

<400> 53

Gly Tyr Cys Thr Asn Gly Val Cys Tyr Thr  
 1 5 10

<210> 54  
 <211> 10  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal

<400> 54

Gly His Cys Thr His Gly Val Cys His Thr  
 1 5 10

<210> 55  
 <211> 10  
 <212> PRT  
 <213> Homo sapiens

<400> 55

Gly Tyr Cys Ser Gly Gly Ser Cys Tyr Ser  
 1 5 10

<210> 56  
 <211> 10  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal

<400> 56

Gly His Cys Ser His Gly Ser Cys His Ser  
 1 5 10

<210> 57  
 <211> 9  
 <212> PRT  
 <213> Homo sapiens

<400> 57

Ala Tyr Cys Gly Gly Asp Cys Tyr Ser  
 1 5

<210> 58  
 <211> 9  
 <212> PRT  
 <213> Unknown

1900A-WO\_SEQ\_ST25

<220>

<223> Mammal

<400> 58

Ala His Cys Gly Gly His Cys His Ser  
1 5

<210> 59

<211> 10

<212> PRT

<213> Homo sapiens

<400> 59

Tyr Tyr Asp Phe Trp Ser Gly Tyr Tyr Thr  
1 5 10

<210> 60

<211> 10

<212> PRT

<213> Unknown

<220>

<223> Mammal

<400> 60

Tyr His His Phe Trp Ser Gly His Tyr Thr  
1 5 10

<210> 61

<211> 10

<212> PRT

<213> Homo sapiens

<400> 61

Tyr Tyr Asp Ile Leu Thr Gly Tyr Tyr Asn  
1 5 10

<210> 62

<211> 10

<212> PRT

<213> Unknown

<220>

<223> Mammal

<400> 62

Tyr His His Ile Leu Thr Gly His Tyr Asn  
1 5 10

<210> 63

<211> 10

<212> PRT

<213> Homo sapiens

<400> 63

Tyr Tyr Tyr Gly Ser Gly Ser Tyr Tyr Asn  
1 5 10

1900A-WO\_SEQ\_ST25

<210> 64  
 <211> 10  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal

<400> 64

Tyr His His Gly Ser Gly Ser His Tyr Asn  
 1 5 10

<210> 65  
 <211> 12  
 <212> PRT  
 <213> Homo sapiens

<400> 65

Tyr Tyr Asp Tyr Val Trp Gly Ser Tyr Arg Tyr Thr  
 1 5 10

<210> 66  
 <211> 12  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal

<400> 66

Tyr His Asp His Val Trp Gly Ser His Arg Tyr Thr  
 1 5 10

<210> 67  
 <211> 10  
 <212> PRT  
 <213> Homo sapiens

<400> 67

Tyr Tyr Tyr Asp Ser Ser Gly Tyr Tyr Tyr  
 1 5 10

<210> 68  
 <211> 10  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal

<400> 68

Tyr His Tyr His Ser Ser Gly His Tyr Tyr  
 1 5 10

<210> 69  
 <211> 5

1900A-WO\_SEQ\_ST25

<212> PRT  
<213> Homo sapiens

<400> 69

Asp Tyr Ser Asn Tyr  
1 5

<210> 70  
<211> 4  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 70

Pro Gln Ser Leu  
1

<210> 71  
<211> 5  
<212> PRT  
<213> Homo sapiens

<400> 71

Asp Tyr Gly Asp Tyr  
1 5

<210> 72  
<211> 5  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 72

Asp His Gly His Tyr  
1 5

<210> 73  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 73

Asp Tyr Gly Gly Asn Ser  
1 5

<210> 74  
<211> 6  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 74

1900A-WO\_SEQ\_ST25

Asp His Gly Gly His Ser  
1 5

<210> 75  
<211> 6  
<212> PRT  
<213> Homo sapiens  
<400> 75

Gly Tyr Ser Tyr Gly Tyr  
1 5

<210> 76  
<211> 6  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal  
<400> 76

Gly His Ser His Gly Tyr  
1 5

<210> 77  
<211> 7  
<212> PRT  
<213> Homo sapiens  
<400> 77

Gly Tyr Ser Gly Tyr Asp Tyr  
1 5

<210> 78  
<211> 7  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal  
<400> 78

Gly His Ser Gly His His Tyr  
1 5

<210> 79  
<211> 6  
<212> PRT  
<213> Homo sapiens  
<400> 79

Arg Asp Gly Tyr Asn Tyr  
1 5

<210> 80  
<211> 6

1900A-WO\_SEQ\_ST25

<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 80

Arg His Gly His His Tyr  
1 5

<210> 81  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 81

Glu Tyr Ser Ser Ser Ser  
1 5

<210> 82  
<211> 6  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 82

Glu His Ser His Ser Ser  
1 5

<210> 83  
<211> 7  
<212> PRT  
<213> Homo sapiens

<400> 83

Gly Tyr Ser Ser Ser Trp Tyr  
1 5

<210> 84  
<211> 7  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 84

Gly His Ser His Ser Trp Tyr  
1 5

<210> 85  
<211> 7  
<212> PRT  
<213> Homo sapiens

<400> 85

Gly Tyr Ser Ser Gly Trp Tyr  
1 5

<210> 86  
<211> 7  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 86

Gly His Ser His Gly Trp Tyr  
1 5

<210> 87  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 87

Gly Tyr Ser Ser Gly Tyr  
1 5

<210> 88  
<211> 5  
<212> PRT  
<213> Homo sapiens

<400> 88

Gly Thr Thr Gly Thr  
1 5

<210> 89  
<211> 5  
<212> PRT  
<213> Homo sapiens

<400> 89

Gly Ile Thr Gly Thr  
1 5

<210> 90  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 90

Gly Ile Val Gly Ala Thr  
1 5

<210> 91  
<211> 6  
<212> PRT  
<213> Unknown

1900A-WO\_SEQ\_ST25

<220>

<223> Mammal

<400> 91

Gly Ile Met Gly Ala Thr  
1 5

<210> 92

<211> 9

<212> PRT

<213> Homo sapiens

<400> 92

Asp Ile Val Val Val Pro Ala Ala Ile  
1 5

<210> 93

<211> 9

<212> PRT

<213> Unknown

<220>

<223> Mammal

<400> 93

Asp Ile Val Val Ile Pro Ala Ala Ile  
1 5

<210> 94

<211> 9

<212> PRT

<213> Homo sapiens

<400> 94

Asp Ile Val Leu Met Val Tyr Ala Ile  
1 5

<210> 95

<211> 9

<212> PRT

<213> Homo sapiens

<400> 95

Asp Ile Val Val Val Val Ala Ala Thr  
1 5

<210> 96

<211> 9

<212> PRT

<213> Unknown

<220>

<223> Mammal

<400> 96

Asp Ile Val Val Met Val Ala Ala Thr  
1 5

1900A-WO\_SEQ\_ST25

<210> 97  
 <211> 8  
 <212> PRT  
 <213> Homo sapiens

<400> 97

His Ile Val Val Val Thr Ala Ile  
 1 5

<210> 98  
 <211> 9  
 <212> PRT  
 <213> Homo sapiens

<400> 98

Ile Thr Ile Phe Gly Val Val Ile Ile  
 1 5

<210> 99  
 <211> 4  
 <212> PRT  
 <213> Homo sapiens

<400> 99

Ile Thr Ile Phe  
 1

<210> 100  
 <211> 4  
 <212> PRT  
 <213> Homo sapiens

<400> 100

Leu Val Ile Ile  
 1

<210> 101  
 <211> 9  
 <212> PRT  
 <213> Homo sapiens

<400> 101

Ile Thr Met Val Arg Gly Val Ile Ile  
 1 5

<210> 102  
 <211> 11  
 <212> PRT  
 <213> Homo sapiens

<400> 102

Ile Met Ile Thr Phe Gly Gly Val Ile Val Ile  
 1 5 10

1900A-WO\_SEQ\_ST25

<210> 103  
 <211> 9  
 <212> PRT  
 <213> Homo sapiens

<400> 103

Ile Thr Met Ile Val Val Val Ile Thr  
 1 5

<210> 104  
 <211> 8  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal

<400> 104

Ile Thr Ile Val Val Val Ile Thr  
 1 5

<210> 105  
 <211> 4  
 <212> PRT  
 <213> Homo sapiens

<400> 105

Thr Thr Val Thr  
 1

<210> 106  
 <211> 5  
 <212> PRT  
 <213> Homo sapiens

<400> 106

Thr Thr Val Val Thr  
 1 5

<210> 107  
 <211> 6  
 <212> PRT  
 <213> Homo sapiens

<400> 107

Val Asp Thr Ala Met Val  
 1 5

<210> 108  
 <211> 7  
 <212> PRT  
 <213> Homo sapiens

<400> 108

Val Asp Ile Val Ala Thr Ile  
 1 5

1900A-WO\_SEQ\_ST25

<210> 109  
 <211> 6  
 <212> PRT  
 <213> Homo sapiens

<400> 109

Val Glu Met Ala Thr Ile  
 1 5

<210> 110  
 <211> 6  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal

<400> 110

Val Asp Met Ala Thr Ile  
 1 5

<210> 111  
 <211> 5  
 <212> PRT  
 <213> Homo sapiens

<400> 111

Ser Ile Ala Ala Arg  
 1 5

<210> 112  
 <211> 5  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal

<400> 112

Ser Ile Ala Thr Arg  
 1 5

<210> 113  
 <211> 6  
 <212> PRT  
 <213> Homo sapiens

<400> 113

Gly Ile Ala Ala Ala Gly  
 1 5

<210> 114  
 <211> 6  
 <212> PRT  
 <213> Unknown

<220>

<223> Mammal

<400> 114

Gly Ile Ala Thr Ala Gly  
1 5

<210> 115

<211> 6

<212> PRT

<213> Homo sapiens

<400> 115

Gly Ile Ala Val Ala Gly  
1 5

<210> 116

<211> 6

<212> PRT

<213> Unknown

<220>

<223> Mammal

<400> 116

Gly Ile Ala Met Ala Gly  
1 5

<210> 117

<211> 5

<212> PRT

<213> Homo sapiens

<400> 117

Gly Ile Ala Ala Ala  
1 5

<210> 118

<211> 5

<212> PRT

<213> Unknown

<220>

<223> Mammal

<400> 118

Gly Ile Ala Thr Ala  
1 5

<210> 119

<211> 19

<212> DNA

<213> Unknown

<220>

<223> Mammal

<400> 119

cgggtcactg ccatttctg

1900A-WO\_SEQ\_ST25

|       |                            |    |
|-------|----------------------------|----|
| <210> | 120                        |    |
| <211> | 20                         |    |
| <212> | DNA                        |    |
| <213> | Unknown                    |    |
| <220> |                            |    |
| <223> | Mammal                     |    |
| <400> | 120                        |    |
|       | tctgcattcg ctcccagcgc      | 20 |
| <210> | 121                        |    |
| <211> | 19                         |    |
| <212> | DNA                        |    |
| <213> | Unknown                    |    |
| <220> |                            |    |
| <223> | Mammal                     |    |
| <400> | 121                        |    |
|       | tctgcggcat gaacccaat       | 19 |
| <210> | 122                        |    |
| <211> | 19                         |    |
| <212> | DNA                        |    |
| <213> | Unknown                    |    |
| <220> |                            |    |
| <223> | Mammal                     |    |
| <400> | 122                        |    |
|       | gtgcaggag gaccttctg        | 19 |
| <210> | 123                        |    |
| <211> | 24                         |    |
| <212> | DNA                        |    |
| <213> | Unknown                    |    |
| <220> |                            |    |
| <223> | Mammal                     |    |
| <400> | 123                        |    |
|       | agtcaccaag cacagagccc tgac | 24 |
| <210> | 124                        |    |
| <211> | 19                         |    |
| <212> | DNA                        |    |
| <213> | Unknown                    |    |
| <220> |                            |    |
| <223> | Mammal                     |    |
| <400> | 124                        |    |
|       | gccagggagt tgcctagtg       | 19 |
| <210> | 125                        |    |
| <211> | 19                         |    |
| <212> | DNA                        |    |
| <213> | Unknown                    |    |
| <220> |                            |    |

1900A-WO\_SEQ\_ST25

<223> Mamma1

<400> 125  
gtggcccact tcccttcct 19

<210> 126  
<211> 22  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 126  
cagctggaac ccaccatgac ct 22

<210> 127  
<211> 18  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 127  
gacctgcctc ggatgaca 18

<210> 128  
<211> 19  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 128  
tggccagaac tgaccctac 19

<210> 129  
<211> 20  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 129  
accgacaaga gtccctcagg 20

<210> 130  
<211> 19  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 130  
ggagtcggct ctggatgtg 19

<210> 131  
<211> 17

<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 131  
tgcggccgat cttagcc 17

<210> 132  
<211> 21  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 132  
acgagcgggt tcggcccatt c 21

<210> 133  
<211> 18  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 133  
ttgaccgatt ccttgccg 18

<210> 134  
<211> 19  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 134  
cagtcccgtt gatccagcc 19

<210> 135  
<211> 30  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 135  
cccatcaggg attttgatc tctgtggacg 30

<210> 136  
<211> 21  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 136  
ggatatgcag cactgtgcc a 21

1900A-WO\_SEQ\_ST25

|       |                                |    |
|-------|--------------------------------|----|
| <210> | 137                            |    |
| <211> | 19                             |    |
| <212> | DNA                            |    |
| <213> | Unknown                        |    |
| <220> |                                |    |
| <223> | Mamma1                         |    |
| <400> | 137                            |    |
|       | tcctccaacg acaggtccc           | 19 |
| <210> | 138                            |    |
| <211> | 24                             |    |
| <212> | DNA                            |    |
| <213> | Unknown                        |    |
| <220> |                                |    |
| <223> | Mamma1                         |    |
| <400> | 138                            |    |
|       | tccctggaac tctgccccga caca     | 24 |
| <210> | 139                            |    |
| <211> | 20                             |    |
| <212> | DNA                            |    |
| <213> | Unknown                        |    |
| <220> |                                |    |
| <223> | Mamma1                         |    |
| <400> | 139                            |    |
|       | gatgaactga cgggcacagg          | 20 |
| <210> | 140                            |    |
| <211> | 20                             |    |
| <212> | DNA                            |    |
| <213> | Unknown                        |    |
| <220> |                                |    |
| <223> | Mamma1                         |    |
| <400> | 140                            |    |
|       | atcacactca tcccatcccc          | 20 |
| <210> | 141                            |    |
| <211> | 29                             |    |
| <212> | DNA                            |    |
| <213> | Unknown                        |    |
| <220> |                                |    |
| <223> | Mamma1                         |    |
| <400> | 141                            |    |
|       | cccttccta agtaccacag agtgggctc | 29 |
| <210> | 142                            |    |
| <211> | 20                             |    |
| <212> | DNA                            |    |
| <213> | Unknown                        |    |
| <220> |                                |    |

1900A-WO\_SEQ\_ST25

<223> Mamma1

<400> 142  
cacaggaag caggaactgc 20

<210> 143  
<211> 18  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 143  
ggagccaggc aggacaca 18

<210> 144  
<211> 19  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 144  
tgggctcgta gtttgacgt 19

<210> 145  
<211> 23  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 145  
gggactttct tacccacact tca 23

<210> 146  
<211> 24  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 146  
ggtcccgagc actcttaatt aaac 24

<210> 147  
<211> 16  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 147  
cctcgaatgg aactac 16

<210> 148  
<211> 21

1900A-WO\_SEQ\_ST25

|                           |    |
|---------------------------|----|
| <212> DNA                 |    |
| <213> Unknown             |    |
| <220>                     |    |
| <223> Mamma1              |    |
| <400> 148                 |    |
| gggagagcaa ccattcgttg t   | 21 |
| <210> 149                 |    |
| <211> 19                  |    |
| <212> DNA                 |    |
| <213> Unknown             |    |
| <220>                     |    |
| <223> Mamma1              |    |
| <400> 149                 |    |
| ccgagcaccg atgcatcta      | 19 |
| <210> 150                 |    |
| <211> 16                  |    |
| <212> DNA                 |    |
| <213> Unknown             |    |
| <220>                     |    |
| <223> Mamma1              |    |
| <400> 150                 |    |
| cgcagtcattg taatgc        | 16 |
| <210> 151                 |    |
| <211> 20                  |    |
| <212> DNA                 |    |
| <213> Unknown             |    |
| <220>                     |    |
| <223> Mamma1              |    |
| <400> 151                 |    |
| gggaggcgaa ctgactgtca     | 20 |
| <210> 152                 |    |
| <211> 19                  |    |
| <212> DNA                 |    |
| <213> Unknown             |    |
| <220>                     |    |
| <223> Mamma1              |    |
| <400> 152                 |    |
| ggtggagagg ctattcggc      | 19 |
| <210> 153                 |    |
| <211> 23                  |    |
| <212> DNA                 |    |
| <213> Unknown             |    |
| <220>                     |    |
| <223> Mamma1              |    |
| <400> 153                 |    |
| tgggcacaac agacaatcgg ctg | 23 |

1900A-WO\_SEQ\_ST25

<210> 154  
 <211> 17  
 <212> DNA  
 <213> Unknown

<220>  
 <223> Mammal

<400> 154  
 gaacacggcg gcatcag 17

<210> 155  
 <211> 17  
 <212> DNA  
 <213> Homo sapiens

<400> 155  
 ggtacaactg gaacgac 17

<210> 156  
 <211> 17  
 <212> DNA  
 <213> Homo sapiens

<400> 156  
 ggtataactg gaactac 17

<210> 157  
 <211> 17  
 <212> DNA  
 <213> Homo sapiens

<400> 157  
 ggtataaccg gaaccac 17

<210> 158  
 <211> 5  
 <212> PRT  
 <213> Homo sapiens

<400> 158  
 Tyr Asn Arg Asn His  
 1 5

<210> 159  
 <211> 17  
 <212> DNA  
 <213> Homo sapiens

<400> 159  
 ggtataactg gaacgac 17

<210> 160  
 <211> 20  
 <212> DNA  
 <213> Homo sapiens

<400> 160  
 ggtatagtgg gagctactac 20

1900A-WO\_SEQ\_ST25

<210> 161  
 <211> 31  
 <212> DNA  
 <213> Homo sapiens

<400> 161  
 aggatattgt agtagtacca gctgctatgc c 31

<210> 162  
 <211> 5  
 <212> PRT  
 <213> Homo sapiens

<400> 162  
 Tyr Gln Leu Leu Cys  
 1 5

<210> 163  
 <211> 10  
 <212> PRT  
 <213> Homo sapiens

<400> 163  
 Gly Tyr Cys Ser Ser Thr Ser Cys Tyr Ala  
 1 5 10

<210> 164  
 <211> 9  
 <212> PRT  
 <213> Homo sapiens

<400> 164  
 Asp Ile Val Val Val Pro Ala Ala Met  
 1 5

<210> 165  
 <211> 31  
 <212> DNA  
 <213> Homo sapiens

<400> 165  
 aggatattgt agtagtacca gctgctatac c 31

<210> 166  
 <211> 31  
 <212> DNA  
 <213> Homo sapiens

<400> 166  
 tggatattgt agtagtacca gctgctatgc c 31

<210> 167  
 <211> 5  
 <212> PRT  
 <213> Homo sapiens

<400> 167

1900A-WO\_SEQ\_ST25

Tyr Gln Leu Leu Cys  
1 5

<210> 168  
<211> 10  
<212> PRT  
<213> Homo sapiens

<400> 168

Gly Tyr Cys Ser Ser Thr Ser Cys Tyr Ala  
1 5 10

<210> 169  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 169

Asp Ile Val Val Val Pro Ala Ala Met  
1 5

<210> 170  
<211> 31  
<212> DNA  
<213> Homo sapiens

<400> 170  
aggatattgt actaatggtg tatgctatac c 31

<210> 171  
<211> 31  
<212> DNA  
<213> Homo sapiens

<400> 171  
aagatattgt actggtggtg tatgctatac c 31

<210> 172  
<211> 10  
<212> PRT  
<213> Homo sapiens

<400> 172

Arg Ile Leu Tyr Trp Trp Cys Met Leu Tyr  
1 5 10

<210> 173  
<211> 10  
<212> PRT  
<213> Homo sapiens

<400> 173

Gly Tyr Cys Thr Gly Gly Val Cys Tyr Thr  
1 5 10

<210> 174

1900A-WO\_SEQ\_ST25

<211> 9  
 <212> PRT  
 <213> Homo sapiens

<400> 174

Asp Ile Val Leu Val Val Tyr Ala Ile  
 1 5

<210> 175  
 <211> 31  
 <212> DNA  
 <213> Homo sapiens

<400> 175  
 aggatattgt agtgggtgga gctgctactc c 31

<210> 176  
 <211> 28  
 <212> DNA  
 <213> Homo sapiens

<400> 176  
 agcatattgt ggtgggtgatt gctattcc 28

<210> 177  
 <211> 8  
 <212> PRT  
 <213> Homo sapiens

<400> 177

His Ile Val Val Val Ile Ala Ile  
 1 5

<210> 178  
 <211> 28  
 <212> DNA  
 <213> Homo sapiens

<400> 178  
 agcatattgt ggtgggtgact gctattcc 28

<210> 179  
 <211> 31  
 <212> DNA  
 <213> Homo sapiens

<400> 179  
 gtattacgat ttttggagtg gttattatac c 31

<210> 180  
 <211> 31  
 <212> DNA  
 <213> Homo sapiens

<400> 180  
 gtattagcat ttttggagtg gttattatac c 31

<210> 181  
 <211> 10

<212> PRT  
 <213> Unknown

<220>  
 <223> Mammal

<400> 181

Val Leu Ala Phe Leu Glu Trp Leu Leu Tyr  
 1 5 10

<210> 182  
 <211> 8  
 <212> PRT  
 <213> Homo sapiens

<400> 182

His Phe Trp Ser Gly Tyr Tyr Thr  
 1 5

<210> 183  
 <211> 9  
 <212> PRT  
 <213> Homo sapiens

<400> 183

Ile Ser Ile Phe Gly Val Val Ile Ile  
 1 5

<210> 184  
 <211> 31  
 <212> DNA  
 <213> Homo sapiens

<400> 184  
 gtattacgat attttgactg gttattataa c 31

<210> 185  
 <211> 31  
 <212> DNA  
 <213> Homo sapiens

<400> 185  
 gtattactat ggttcgggga gttattataa c 31

<210> 186  
 <211> 30  
 <212> DNA  
 <213> Homo sapiens

<400> 186  
 gtattactat gttcggggag ttattataac 30

<210> 187  
 <211> 10  
 <212> PRT  
 <213> Homo sapiens

<400> 187

1900A-WO\_SEQ\_ST25  
 Val Leu Leu Cys Ser Gly Ser Tyr Tyr Asn  
 1 5 10

<210> 188  
 <211> 9  
 <212> PRT  
 <213> Homo sapiens  
 <400> 188

Tyr Tyr Tyr Val Arg Gly Val Ile Ile  
 1 5

<210> 189  
 <211> 8  
 <212> PRT  
 <213> Homo sapiens  
 <400> 189

Ile Thr Met Phe Gly Arg Leu Leu  
 1 5

<210> 190  
 <211> 37  
 <212> DNA  
 <213> Homo sapiens

<400> 190  
 gtattatgat tacgtttggg ggagttatgc ttatacc

37

<210> 191  
 <211> 9  
 <212> PRT  
 <213> Homo sapiens  
 <400> 191

Leu Arg Leu Gly Glu Leu Cys Leu Tyr  
 1 5

<210> 192  
 <211> 12  
 <212> PRT  
 <213> Homo sapiens  
 <400> 192

Tyr Tyr Asp Tyr Val Trp Gly Ser Tyr Ala Tyr Thr  
 1 5 10

<210> 193  
 <211> 11  
 <212> PRT  
 <213> Homo sapiens  
 <400> 193

Ile Met Ile Thr Phe Gly Gly Val Met Leu Ile  
 1 5 10

1900A-WO\_SEQ\_ST25

|                                    |    |
|------------------------------------|----|
| <210> 194                          |    |
| <211> 31                           |    |
| <212> DNA                          |    |
| <213> Homo sapiens                 |    |
| <400> 194                          |    |
| gtattactat gatagtagtg gttattacta c | 31 |
|                                    |    |
| <210> 195                          |    |
| <211> 16                           |    |
| <212> DNA                          |    |
| <213> Homo sapiens                 |    |
| <400> 195                          |    |
| tgactacagt aactac                  | 16 |
|                                    |    |
| <210> 196                          |    |
| <211> 16                           |    |
| <212> DNA                          |    |
| <213> Homo sapiens                 |    |
| <400> 196                          |    |
| tgactacggt gactac                  | 16 |
|                                    |    |
| <210> 197                          |    |
| <211> 19                           |    |
| <212> DNA                          |    |
| <213> Homo sapiens                 |    |
| <400> 197                          |    |
| tgactacggt ggtaactcc               | 19 |
|                                    |    |
| <210> 198                          |    |
| <211> 20                           |    |
| <212> DNA                          |    |
| <213> Homo sapiens                 |    |
| <400> 198                          |    |
| gtggatacag ctatggttac              | 20 |
|                                    |    |
| <210> 199                          |    |
| <211> 23                           |    |
| <212> DNA                          |    |
| <213> Homo sapiens                 |    |
| <400> 199                          |    |
| gtggatatag tggctacgat tac          | 23 |
|                                    |    |
| <210> 200                          |    |
| <211> 20                           |    |
| <212> DNA                          |    |
| <213> Homo sapiens                 |    |
| <400> 200                          |    |
| gtagagatgg ctacaattac              | 20 |
|                                    |    |
| <210> 201                          |    |
| <211> 18                           |    |
| <212> DNA                          |    |
| <213> Homo sapiens                 |    |

## 1900A-WO\_SEQ\_ST25

<400> 201  
 gagtatagca gctcgtcc 18

<210> 202  
 <211> 21  
 <212> DNA  
 <213> Homo sapiens

<400> 202  
 gggatatagca gcagctggta c 21

<210> 203  
 <211> 21  
 <212> DNA  
 <213> Homo sapiens

<400> 203  
 gggatatagca gtggctggta c 21

<210> 204  
 <211> 18  
 <212> DNA  
 <213> Homo sapiens

<400> 204  
 gggatatagca gcggctac 18

<210> 205  
 <211> 11  
 <212> DNA  
 <213> Homo sapiens

<400> 205  
 ctaactgggg a 11

<210> 206  
 <211> 17  
 <212> DNA  
 <213> Unknown

<220>  
 <223> Mammal

<400> 206  
 gtcgttccag ttgtacc 17

<210> 207  
 <211> 5  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal

<400> 207  
 Val Val Pro Val Val  
 1 5

<210> 208  
 <211> 5

1900A-WO\_SEQ\_ST25

<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 208

Ser Phe Gln Leu Tyr  
1 5

<210> 209  
<211> 5  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 209

Arg Ser Ser Cys Thr  
1 5

<210> 210  
<211> 17  
<212> DNA  
<213> Unknown

<220>  
<223> Mammal

<400> 210  
gtagttccag ttatacc

17

<210> 211  
<211> 5  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 211

Val Val Pro Val Ile  
1 5

<210> 212  
<211> 4  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 212

Phe Gln Leu Tyr  
1

<210> 213  
<211> 5

<212> PRT  
<213> Unknown

<220>  
<223> Mamma1

<400> 213

Ser Ser Ser Tyr Thr  
1 5

<210> 214  
<211> 17  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 214  
gtggttccgg ttatacc

17

<210> 215  
<211> 5  
<212> PRT  
<213> Unknown

<220>  
<223> Mamma1

<400> 215

Trp Phe Arg Leu Tyr  
1 5

<210> 216  
<211> 5  
<212> PRT  
<213> Unknown

<220>  
<223> Mamma1

<400> 216

Gly Ser Gly Tyr Thr  
1 5

<210> 217  
<211> 17  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 217  
gtcgttccag ttatacc

17

<210> 218  
<211> 5  
<212> PRT  
<213> Unknown

1900A-WO\_SEQ\_ST25

<220>  
 <223> Mammal  
 <400> 218

Arg Ser Ser Tyr Thr  
 1 5

<210> 219  
 <211> 20  
 <212> DNA  
 <213> Unknown

<220>  
 <223> Mammal

<400> 219  
 gtagtagctc ccactatacc

20

<210> 220  
 <211> 6  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal

<400> 220

Val Val Ala Pro Thr Ile  
 1 5

<210> 221  
 <211> 4  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal

<400> 221

Leu Pro Leu Tyr  
 1

<210> 222  
 <211> 6  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal

<400> 222

Ser Ser Ser His Tyr Thr  
 1 5

<210> 223  
 <211> 31  
 <212> DNA  
 <213> Unknown

1900A-WO\_SEQ\_ST25

<220>  
 <223> Mamma1  
 <400> 223  
 ggcatagcag ctggtactac tacaatatcc t

31

<210> 224  
 <211> 10  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 224

Gly Ile Ala Ala Gly Thr Thr Thr Ile Ser  
 1 5 10

<210> 225  
 <211> 8  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 225

Gln Leu Val Leu Leu Gln Tyr Pro  
 1 5

<210> 226  
 <211> 9  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 226

His Ser Ser Trp Tyr Tyr Tyr Asn Ile  
 1 5

<210> 227  
 <211> 31  
 <212> DNA  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 227  
 ggtatagcag ctggtactac tacaatatcc t

31

<210> 228  
 <211> 31  
 <212> DNA  
 <213> Unknown

<220>

1900A-WO\_SEQ\_ST25

<223> Mamma1

<400> 228  
ggcatagcag ctggtactac tacaatatcc a

31

<210> 229  
<211> 31  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 229  
ggtatagcat acaccattag tacaatatcc t

31

<210> 230  
<211> 10  
<212> PRT  
<213> Unknown

<220>  
<223> Mamma1

<400> 230

Gly Ile Ala Tyr Thr Ile Ser Thr Ile Ser  
1 5 10

<210> 231  
<211> 8  
<212> PRT  
<213> Unknown

<220>  
<223> Mamma1

<400> 231

His Thr Pro Leu Val Gln Tyr Pro  
1 5

<210> 232  
<211> 5  
<212> PRT  
<213> Unknown

<220>  
<223> Mamma1

<400> 232

Tyr Ser Ile His His  
1 5

<210> 233  
<211> 31  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 233  
 ggtatagcat acaccaccag tacaatatct t

31

<210> 234  
 <211> 10  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 234

Gly Ile Ala Tyr Thr Thr Ser Thr Ile Ser  
 1 5 10

<210> 235  
 <211> 8  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 235

His Thr Pro Pro Val Gln Tyr Leu  
 1 5

<210> 236  
 <211> 9  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 236

Tyr Ser Ile His His Gln Tyr Asn Ile  
 1 5

<210> 237  
 <211> 31  
 <212> DNA  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 237  
 ggagtagcag ctaccaccac tacaatatcc t

31

<210> 238  
 <211> 10  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 238

1900A-WO\_SEQ\_ST25  
 Gly Val Ala Ala Thr Thr Thr Thr Ile Ser  
 1 5 10

<210> 239  
 <211> 8  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 239

Gln Leu Pro Pro Leu Gln Tyr Pro  
 1 5

<210> 240  
 <211> 9  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 240

Ser Ser Ser Tyr His His Tyr Asn Ile  
 1 5

<210> 241  
 <211> 28  
 <212> DNA  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 241  
 ggaatagcaa tcaccaccac aatatgct

28

<210> 242  
 <211> 9  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 242

Gly Ile Ala Ile Thr Thr Thr Ile Cys  
 1 5

<210> 243  
 <211> 7  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 243

1900A-WO\_SEQ\_ST25

Gln Ser Pro Pro Gln Tyr Ala  
1 5

<210> 244  
<211> 8  
<212> PRT  
<213> Unknown

<220>  
<223> Mamma1

<400> 244

Asn Ser Asn His His His Asn Met  
1 5

<210> 245  
<211> 28  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 245  
ggaatagcag tcaccaccac aatatgct

28

<210> 246  
<211> 9  
<212> PRT  
<213> Unknown

<220>  
<223> Mamma1

<400> 246

Gly Ile Ala Val Thr Thr Thr Ile Cys  
1 5

<210> 247  
<211> 7  
<212> PRT  
<213> Unknown

<220>  
<223> Mamma1

<400> 247

Gln Ser Pro Pro Gln Tyr Ala  
1 5

<210> 248  
<211> 8  
<212> PRT  
<213> Unknown

<220>  
<223> Mamma1

<400> 248

1900A-WO\_SEQ\_ST25

Asn Ser Ser His His His Asn Met  
1 5

<210> 249  
<211> 31  
<212> DNA  
<213> Unknown

<220>  
<223> Mammal

<400> 249  
ggtataataa ccactccaaa aatcgtaata c

31

<210> 250  
<211> 10  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 250

Gly Ile Ile Thr Thr Pro Lys Ile Val Ile  
1 5 10

<210> 251  
<211> 5  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 251

Pro Leu Gln Lys Ser  
1 5

<210> 252  
<211> 9  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 252

Tyr Asn Asn His Ser Lys Asn Arg Asn  
1 5

<210> 253  
<211> 31  
<212> DNA  
<213> Unknown

<220>  
<223> Mammal

<400> 253  
ggtataataa ccactccaaa aatgctaata c

31

1900A-WO\_SEQ\_ST25

<210> 254  
 <211> 10  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 254

Gly Ile Ile Thr Thr Pro Lys Met Leu Ile  
 1 5 10

<210> 255  
 <211> 5  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 255

Pro Leu Gln Lys Cys  
 1 5

<210> 256  
 <211> 9  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 256

Tyr Asn Asn His Ser Lys Asn Ala Asn  
 1 5

<210> 257  
 <211> 31  
 <212> DNA  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 257  
 gttataataa ccagtcaaaa tatcgtaata c

31

<210> 258  
 <211> 10  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 258

Val Ile Ile Thr Ser Gln Asn Ile Val Ile  
 1 5 10

1900A-WO\_SEQ\_ST25

<210> 259  
 <211> 5  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 259

Pro Val Lys Ile Ser  
 1 5

<210> 260  
 <211> 9  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 260

Tyr Asn Asn Gln Ser Lys Tyr Arg Asn  
 1 5

<210> 261  
 <211> 31  
 <212> DNA  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 261  
 gttataataa ctccccgaac catagtaata c

31

<210> 262  
 <211> 10  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 262

Val Ile Ile Thr Pro Arg Thr Ile Val Ile  
 1 5 10

<210> 263  
 <211> 4  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 263

Leu Pro Glu Pro  
 1

1900A-WO\_SEQ\_ST25

<210> 264  
 <211> 9  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 264

Tyr Asn Asn Ser Pro Asn His Ser Asn  
 1 5

<210> 265  
 <211> 30  
 <212> DNA  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 265  
 gttataataa ctccccgaac atagtaatac

30

<210> 266  
 <211> 7  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 266

Val Ile Ile Thr Pro Arg Thr  
 1 5

<210> 267  
 <211> 6  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 267

Leu Pro Glu His Ser Asn  
 1 5

<210> 268  
 <211> 9  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 268

Tyr Asn Asn Ser Pro Asn Ile Val Ile  
 1 5

1900A-WO\_SEQ\_ST25

<210> 269  
 <211> 37  
 <212> DNA  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 269  
 ggtataagca taactccccc aaacgtaatc ataatac

37

<210> 270  
 <211> 12  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 270

Gly Ile Ser Ile Thr Pro Pro Asn Val Ile Ile Ile  
 1 5 10

<210> 271  
 <211> 4  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 271

Leu Pro Gln Thr  
 1

<210> 272  
 <211> 11  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 272

Tyr Lys His Asn Ser Pro Lys Arg Asn His Asn  
 1 5 10

<210> 273  
 <211> 31  
 <212> DNA  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 273  
 gtagtaataa ccactactat catagtaata c

31

1900A-WO\_SEQ\_ST25

<210> 274  
 <211> 10  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 274

val val ile Thr Thr Thr ile ile val ile  
 1 5 10

<210> 275  
 <211> 4  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 275

Pro Leu Leu Ser  
 1

<210> 276  
 <211> 9  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 276

Ser Asn Asn His Tyr Tyr His Ser Asn  
 1 5

<210> 277  
 <211> 16  
 <212> DNA  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 277  
 gtagttactg tagtca

16

<210> 278  
 <211> 5  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 278

val val Thr val val  
 1 5

1900A-WO\_SEQ\_ST25

<210> 279  
 <211> 4  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 279

Ser Tyr Cys Ser  
 1

<210> 280  
 <211> 16  
 <212> DNA  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 280  
 gtagtcaccg tagtca

16

<210> 281  
 <211> 4  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 281

Ser His Arg Ser  
 1

<210> 282  
 <211> 19  
 <212> DNA  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 282  
 ggagttacca ccgtagtca

19

<210> 283  
 <211> 6  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mamma1

<400> 283

Gly val Thr Thr val val  
 1 5

<210> 284  
 <211> 4

1900A-WO\_SEQ\_ST25

<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 284

Glu Leu Pro Pro  
1

<210> 285  
<211> 5  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 285

Ser Tyr His Arg Ser  
1 5

<210> 286  
<211> 20  
<212> DNA  
<213> Unknown

<220>  
<223> Mammal

<400> 286  
gtaaccatag ctgtatccac

20

<210> 287  
<211> 6  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 287

Val Thr Ile Ala Val Ser  
1 5

<210> 288  
<211> 6  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<400> 288

Asn His Ser Cys Ile His  
1 5

<210> 289  
<211> 23

<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 289  
gtaatcgtag ccactatatac cac

23

<210> 290  
<211> 7  
<212> PRT  
<213> Unknown

<220>  
<223> Mamma1

<400> 290

Val Ile Val Ala Thr Ile Ser  
1 5

<210> 291  
<211> 4  
<212> PRT  
<213> Unknown

<220>  
<223> Mamma1

<400> 291

Pro Leu Tyr Pro  
1

<210> 292  
<211> 7  
<212> PRT  
<213> Unknown

<220>  
<223> Mamma1

<400> 292

Asn Arg Ser His Tyr Ile His  
1 5

<210> 293  
<211> 20  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 293  
gtaattgtag ccattctctac

20

<210> 294  
<211> 6  
<212> PRT  
<213> Unknown

1900A-WO\_SEQ\_ST25

<220>  
 <223> Mammal  
 <400> 294  
 Val Ile Val Ala Ile Ser  
 1 5

<210> 295  
 <211> 6  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal  
 <400> 295  
 Asn Cys Ser His Leu Tyr  
 1 5

<210> 296  
 <211> 18  
 <212> DNA  
 <213> Unknown

<220>  
 <223> Mammal  
 <400> 296  
 ggacgagctg ctatactc

18

<210> 297  
 <211> 6  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal  
 <400> 297  
 Gly Arg Ala Ala Ile Leu  
 1 5

<210> 298  
 <211> 5  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Mammal  
 <400> 298  
 Asp Glu Leu Leu Tyr  
 1 5

<210> 299  
 <211> 5  
 <212> PRT  
 <213> Unknown

<220>  
<223> Mamma1

<400> 299

Thr Ser Cys Tyr Thr  
1 5

<210> 300  
<211> 21  
<212> DNA  
<213> Unknown

<220>  
<223> Mamma1

<400> 300  
gtaccagctg ctgctatacc c

21

<210> 301  
<211> 7  
<212> PRT  
<213> Unknown

<220>  
<223> Mamma1

<400> 301

Val Pro Ala Ala Ala Ile Pro  
1 5

<210> 302  
<211> 6  
<212> PRT  
<213> Unknown

<220>  
<223> Mamma1

<400> 302

Tyr Gln Leu Leu Leu Tyr  
1 5

<210> 303  
<211> 6  
<212> PRT  
<213> Unknown

<220>  
<223> Mamma1

<400> 303

Thr Ser Cys Cys Tyr Thr  
1 5

<210> 304  
<211> 21  
<212> DNA  
<213> Unknown

&lt;220&gt;

&lt;223&gt; Mamma1

&lt;400&gt; 304

gtaccagcca ctgctatacc c

21

&lt;210&gt; 305

&lt;211&gt; 7

&lt;212&gt; PRT

&lt;213&gt; Unknown

&lt;220&gt;

&lt;223&gt; Mamma1'

&lt;400&gt; 305

Val Pro Ala Thr Ala Ile Pro  
1 5

&lt;210&gt; 306

&lt;211&gt; 6

&lt;212&gt; PRT

&lt;213&gt; Unknown

&lt;220&gt;

&lt;223&gt; Mamma1

&lt;400&gt; 306

Tyr Gln Pro Leu Leu Tyr  
1 5

&lt;210&gt; 307

&lt;211&gt; 6

&lt;212&gt; PRT

&lt;213&gt; Unknown

&lt;220&gt;

&lt;223&gt; Mamma1

&lt;400&gt; 307

Thr Ser His Cys Tyr Thr  
1 5

&lt;210&gt; 308

&lt;211&gt; 18

&lt;212&gt; DNA

&lt;213&gt; Unknown

&lt;220&gt;

&lt;223&gt; Mamma1

&lt;400&gt; 308

gtagccgctg ctataccc

18

&lt;210&gt; 309

&lt;211&gt; 6

&lt;212&gt; PRT

&lt;213&gt; Unknown

&lt;220&gt;

## 1900A-WO\_SEQ\_ST25

&lt;223&gt; Mammal

&lt;400&gt; 309

Val Ala Ala Ala Ile Pro  
1 5

&lt;210&gt; 310

&lt;211&gt; 4

&lt;212&gt; PRT

&lt;213&gt; Unknown

&lt;220&gt;

&lt;223&gt; Mammal

&lt;400&gt; 310

Pro Leu Leu Tyr  
1

&lt;210&gt; 311

&lt;211&gt; 5

&lt;212&gt; PRT

&lt;213&gt; Unknown

&lt;220&gt;

&lt;223&gt; Mammal

&lt;400&gt; 311

Ser Arg Cys Tyr Thr  
1 5

&lt;210&gt; 312

&lt;211&gt; 366

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 312

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| cagggtgcagc tacagcagtg gggcgcagga ctgttgaagc cttcggatac cctgtccctc | 60  |
| acctgcgctg tctatggtgg gtccttcagt ggttactact ggagctggat ccgccagccc  | 120 |
| ccaggggaagg ggctggagtg gattggggaa atcaatcata gtggaagcac caactacaac | 180 |
| ccgtccctca agagtcgagt caccatatca gtagacacgt ccaagaacca gttctccctg  | 240 |
| aagctgagct ctgtgaccgc cgcggacacg gctgtgtatt actgtgcggg gcatagccat  | 300 |
| ggctggtact actactacta cggtatggac gtctggggcc aagggaccac ggtcaccgtc  | 360 |
| tcctca                                                             | 366 |

&lt;210&gt; 313

&lt;211&gt; 122

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 313

Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Asp  
1 5 10 15

1900A-WO\_SEQ\_ST25

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr  
20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile  
35 40 45

Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys  
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu  
65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala  
85 90 95

Gly His Ser His Gly Trp Tyr Tyr Tyr Tyr Tyr Gly Met Asp Val Trp  
100 105 110

Gly Gln Gly Thr Thr Val Thr Val Ser Ser  
115 120

<210> 314  
<211> 96  
<212> PRT  
<213> Homo sapiens

<400> 314

Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu  
1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr  
20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile  
35 40 45

Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys  
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu  
65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala  
85 90 95

<210> 315  
<211> 355  
<212> DNA  
<213> Homo sapiens

<400> 315

caggtgcagc tgcaggagtc gggcccagga ctggtgaagc cttcacagac cctgtccctc 60

acctgcactg tctctggtgg ctccatcagc agtggtggtt actactggag ctggatccgc 120

1900A-WO\_SEQ\_ST25

cagcaccag ggaagggcct ggagtggatt gggtagatct attacagtgg gagcacctac 180  
tacaaccggt ccctcaagag tcgagttacc atatcagtag acacgtctaa gaaccagttc 240  
tccctgaagc tgagctctgt gactgccgcg gacacggccg tgtattactg tgcgaggggg 300  
gaccacggtc actacgacta ctggggccag ggaaccctgg tcaccgtctc ctacag 355

<210> 316  
<211> 118  
<212> PRT  
<213> Homo sapiens

<400> 316

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln  
1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Gly  
20 25 30

Gly Tyr Tyr Trp Ser Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu  
35 40 45

Trp Ile Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser  
50 55 60

Leu Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe  
65 70 75 80

Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr  
85 90 95

Cys Ala Arg Gly Asp His Gly His Tyr Asp Tyr Trp Gly Gln Gly Thr  
100 105 110

Leu Val Thr Val Ser Ser  
115

<210> 317  
<211> 98  
<212> PRT  
<213> Homo sapiens

<400> 317

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln  
1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Gly  
20 25 30

Gly Tyr Tyr Trp Ser Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu  
35 40 45

1900A-WO\_SEQ\_ST25

Trp Ile Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser  
 50 55 60

Leu Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe  
 65 70 75 80

Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr  
 85 90 95

Cys Ala

<210> 318  
 <211> 370  
 <212> DNA  
 <213> Homo sapiens

<400> 318  
 cagctgcagc tgcaggagtc gggcccagga ctggtgaagc cttcggagac cctgtccctc 60  
 acctgcactg tctctggtgg ctccatcagc agtagtagtt actactgggg ctggatccgc 120  
 cagccccag ggaaggggct ggagtggatt gggagtatct attatagtgg gagcacctac 180  
 tacaaccctg ccctcaagag tcgagtcacc atatccgtag acacgtccaa gaaccagttc 240  
 tccctgaagc tgagctctgt gaccgccgca gacacggctg tgtattactg tgcgagacat 300  
 gaagggcata gccaccttaa ctggttcgac ccctggggcc aggggggaac cctggtcacc 360  
 gtctcctcag 370

<210> 319  
 <211> 123  
 <212> PRT  
 <213> Homo sapiens

<400> 319  
 Gln Leu Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu  
 1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Ser  
 20 25 30

Ser Tyr Tyr Trp Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu  
 35 40 45

Trp Ile Gly Ser Ile Tyr Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser  
 50 55 60

Leu Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe  
 65 70 75 80

Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr  
 85 90 95

1900A-WO\_SEQ\_ST25  
 Cys Ala Arg His Glu Gly His Ser His Leu Asn Trp Phe Asp Pro Trp  
                   100                  105                  110

Gly Gln Gly Gly Thr Leu Val Thr Val Ser Ser  
           115                  120

<210> 320  
 <211> 99  
 <212> PRT  
 <213> Homo sapiens

<400> 320

Gln Leu Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu  
 1                  5                  10                  15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Ser  
           20                  25                  30

Ser Tyr Tyr Trp Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu  
           35                  40                  45

Trp Ile Gly Ser Ile Tyr Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser  
           50                  55                  60

Leu Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe  
 65                  70                  75                  80

Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr  
           85                  90                  95

Cys Ala Arg

<210> 321  
 <211> 22  
 <212> DNA  
 <213> Unknown

<220>  
 <223> Mammal

<400> 321  
 tcttatcaga cagggggctc tc

22

<210> 322  
 <211> 22  
 <212> DNA  
 <213> Unknown

<220>  
 <223> Mammal

<400> 322  
 ggaagacatt tgggaaggac tg

22

<210> 323

1900A-WO\_SEQ\_ST25

<211> 4  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<220>  
<221> MISC\_FEATURE  
<222> (3)..(3)  
<223> wherein the "Xaa" represents any amino acid

<400> 323

Phe Gly Xaa Gly  
1

<210> 324  
<211> 4  
<212> PRT  
<213> Unknown

<220>  
<223> Mammal

<220>  
<221> MISC\_FEATURE  
<222> (3)..(3)  
<223> wherein the "Xaa" represents any amino acid

<400> 324

Trp Gly Xaa Gly  
1

<210> 325  
<211> 95  
<212> PRT  
<213> Artificial

<220>  
<223> Synthetic

<400> 325

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

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Ser Tyr  
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

1900A-WO\_SEQ\_ST25

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro  
85 90 95

<210> 326  
<211> 21  
<212> DNA  
<213> Artificial

<220>  
<223> Synthetic

<220>  
<221> CDS  
<222> (1)..(21)

<400> 326  
cag cag agc tac agc acc ccc  
Gln Gln Ser Tyr Ser Thr Pro  
1 5

21

<210> 327  
<211> 7  
<212> PRT  
<213> Artificial

<220>  
<223> Synthetic Construct

<400> 327  
Gln Gln Ser Tyr Ser Thr Pro  
1 5

<210> 328  
<211> 21  
<212> DNA  
<213> Artificial

<220>  
<223> Synthetic

<220>  
<221> CDS  
<222> (1)..(21)

<400> 328  
cac cat agc cac agc acc cac  
His His Ser His Ser Thr His  
1 5

21

<210> 329  
<211> 7  
<212> PRT  
<213> Artificial

<220>  
<223> Synthetic Construct

<400> 329  
His His Ser His Ser Thr His

1

5

<210> 330  
 <211> 21  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Synthetic

<220>  
 <221> CDS  
 <222> (1)..(21)

<400> 330  
 cac cag agc tac agc acc ccc  
 His Gln Ser Tyr Ser Thr Pro  
 1 5

21

<210> 331  
 <211> 7  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic Construct

<400> 331  
 His Gln Ser Tyr Ser Thr Pro  
 1 5

<210> 332  
 <211> 21  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Synthetic

<220>  
 <221> CDS  
 <222> (1)..(21)

<400> 332  
 cag cat agc tac agc acc ccc  
 Gln His Ser Tyr Ser Thr Pro  
 1 5

21

<210> 333  
 <211> 7  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic Construct

<400> 333  
 Gln His Ser Tyr Ser Thr Pro  
 1 5

<210> 334  
 <211> 21  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Synthetic

<220>  
 <221> CDS  
 <222> (1)..(21)

<400> 334  
 cag cag agc cac agc acc ccc  
 Gln Gln Ser His Ser Thr Pro  
 1 5

21

<210> 335  
 <211> 7  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic Construct

<400> 335  
 Gln Gln Ser His Ser Thr Pro  
 1 5

<210> 336  
 <211> 21  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Synthetic

<220>  
 <221> CDS  
 <222> (1)..(21)

<400> 336  
 cag cag agc tac agc acc cac  
 Gln Gln Ser Tyr Ser Thr His  
 1 5

21

<210> 337  
 <211> 7  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic Construct

<400> 337  
 Gln Gln Ser Tyr Ser Thr His  
 1 5

<210> 338

<211> 21  
 <212> DNA  
 <213> Artificial

<220>  
 <223> synthetic

<220>  
 <221> CDS  
 <222> (1)..(21)

<400> 338  
 cac cat agc tac agc acc ccc  
 His His Ser Tyr Ser Thr Pro  
 1 5

21

<210> 339  
 <211> 7  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic Construct

<400> 339  
 His His Ser Tyr Ser Thr Pro  
 1 5

<210> 340  
 <211> 21  
 <212> DNA  
 <213> Artificial

<220>  
 <223> synthetic

<220>  
 <221> CDS  
 <222> (1)..(21)

<400> 340  
 cac cag agc cac agc acc ccc  
 His Gln Ser His Ser Thr Pro  
 1 5

21

<210> 341  
 <211> 7  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic Construct

<400> 341  
 His Gln Ser His Ser Thr Pro  
 1 5

<210> 342  
 <211> 21  
 <212> DNA

<213> Artificial

<220>

<223> Synthetic

<220>

<221> CDS

<222> (1)..(21)

<400> 342

cac cag agc tac agc acc cac  
His Gln Ser Tyr Ser Thr His  
1 5

21

<210> 343

<211> 7

<212> PRT

<213> Artificial

<220>

<223> Synthetic Construct

<400> 343

His Gln Ser Tyr Ser Thr His  
1 5

<210> 344

<211> 21

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<220>

<221> CDS

<222> (1)..(21)

<400> 344

cag cat agc cac agc acc ccc  
Gln His Ser His Ser Thr Pro  
1 5

21

<210> 345

<211> 7

<212> PRT

<213> Artificial

<220>

<223> Synthetic Construct

<400> 345

Gln His Ser His Ser Thr Pro  
1 5

<210> 346

<211> 21

<212> DNA

<213> Artificial

<220>  
<223> Synthetic

<220>  
<221> CDS  
<222> (1)..(21)

<400> 346  
cag cat agc tac agc acc cac  
Gln His Ser Tyr Ser Thr His  
1 5

21

<210> 347  
<211> 7  
<212> PRT  
<213> Artificial

<220>  
<223> Synthetic Construct

<400> 347  
Gln His Ser Tyr Ser Thr His  
1 5

<210> 348  
<211> 21  
<212> DNA  
<213> Artificial

<220>  
<223> Synthetic

<220>  
<221> CDS  
<222> (1)..(21)

<400> 348  
cag cag agc cac agc acc cac  
Gln Gln Ser His Ser Thr His  
1 5

21

<210> 349  
<211> 7  
<212> PRT  
<213> Artificial

<220>  
<223> Synthetic Construct

<400> 349  
Gln Gln Ser His Ser Thr His  
1 5

<210> 350  
<211> 21  
<212> DNA  
<213> Artificial

<220>  
<223> Synthetic

1900A-WO\_SEQ\_ST25

<220>  
 <221> CDS  
 <222> (1)..(21)

<400> 350  
 cac cat agc cac agc acc ccc  
 His His Ser His Ser Thr Pro  
 1 5

21

<210> 351  
 <211> 7  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic Construct

<400> 351  
 His His Ser His Ser Thr Pro  
 1 5

<210> 352  
 <211> 21  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Synthetic

<220>  
 <221> CDS  
 <222> (1)..(21)

<400> 352  
 cac cat agc tac agc acc cac  
 His His Ser Tyr Ser Thr His  
 1 5

21

<210> 353  
 <211> 7  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic Construct

<400> 353  
 His His Ser Tyr Ser Thr His  
 1 5

<210> 354  
 <211> 21  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Synthetic

1900A-WO\_SEQ\_ST25

<220>  
<221> CDS  
<222> (1)..(21)

<400> 354  
cac cag agc cac agc acc cac  
His Gln Ser His Ser Thr His  
1 5

21

<210> 355  
<211> 7  
<212> PRT  
<213> Artificial

<220>  
<223> Synthetic Construct

<400> 355  
His Gln Ser His Ser Thr His  
1 5

<210> 356  
<211> 21  
<212> DNA  
<213> Artificial

<220>  
<223> Synthetic

<220>  
<221> CDS  
<222> (1)..(21)

<400> 356  
cag cat agc cac agc acc cac  
Gln His Ser His Ser Thr His  
1 5

21

<210> 357  
<211> 7  
<212> PRT  
<213> Artificial

<220>  
<223> Synthetic Construct

<400> 357  
Gln His Ser His Ser Thr His  
1 5

<210> 358  
<211> 45  
<212> DNA  
<213> Artificial

<220>  
<223> Synthetic

<400> 358  
cttactactg tcaacatagt cacagtaccc atccgatcac cttcg

45

1900A-WO\_SEQ\_ST25

<210> 359  
 <211> 50  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> Synthetic  
  
 <400> 359  
 caacttacta ctgtcaccat agtcacagta cccatccgat caccttcggc 50  
  
 <210> 360  
 <211> 45  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> Synthetic  
  
 <400> 360  
 cgaaggtgat cggatgggta ctgtgactat gttgacagta gtaag 45  
  
 <210> 361  
 <211> 50  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> Synthetic  
  
 <400> 361  
 gccgaaggtg atcggatggg tactgtgact atggtgacag tagtaagttg 50  
  
 <210> 362  
 <211> 23  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> Synthetic  
  
 <400> 362  
 tgggcacaac agacaatcgg ctg 23  
  
 <210> 363  
 <211> 19  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> Synthetic  
  
 <400> 363  
 ggtggagagg ctattcggc 19  
  
 <210> 364  
 <211> 17  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> Synthetic

1900A-WO\_SEQ\_ST25

|                                                        |    |
|--------------------------------------------------------|----|
| <400> 364<br>gaacacggcg gcatcag                        | 17 |
| <210> 365<br><211> 29<br><212> DNA<br><213> Artificial |    |
| <220><br><223> Synthetic                               |    |
| <400> 365<br>ccattatgat gtcctatgcc tctctgttc           | 29 |
| <210> 366<br><211> 28<br><212> DNA<br><213> Artificial |    |
| <220><br><223> Synthetic                               |    |
| <400> 366<br>aggtgagggt acagataagt gttatgag            | 28 |
| <210> 367<br><211> 27<br><212> DNA<br><213> Artificial |    |
| <220><br><223> Synthetic                               |    |
| <400> 367<br>tgacaaatgc cctaattata gtgatca             | 27 |
| <210> 368<br><211> 26<br><212> DNA<br><213> Artificial |    |
| <220><br><223> Synthetic                               |    |
| <400> 368<br>atcagcagaa accaggga gcccct                | 26 |
| <210> 369<br><211> 21<br><212> DNA<br><213> Artificial |    |
| <220><br><223> Synthetic                               |    |
| <400> 369<br>gggcaagtca gagcattagc a                   | 21 |
| <210> 370<br><211> 21<br><212> DNA                     |    |

|                                          |    |
|------------------------------------------|----|
| <213> Artificial                         |    |
| <220>                                    |    |
| <223> Synthetic                          |    |
| <400> 370                                |    |
| tgcaaaactgg atgcagcata g                 | 21 |
| <210> 371                                |    |
| <211> 19                                 |    |
| <212> DNA                                |    |
| <213> Artificial                         |    |
| <220>                                    |    |
| <223> Synthetic                          |    |
| <400> 371                                |    |
| ggccacattc catgggttc                     | 19 |
| <210> 372                                |    |
| <211> 20                                 |    |
| <212> DNA                                |    |
| <213> Artificial                         |    |
| <220>                                    |    |
| <223> Synthetic                          |    |
| <400> 372                                |    |
| gcaaacaata accactggcc                    | 20 |
| <210> 373                                |    |
| <211> 37                                 |    |
| <212> DNA                                |    |
| <213> Artificial                         |    |
| <220>                                    |    |
| <223> Synthetic                          |    |
| <400> 373                                |    |
| ctgttcctct aaaactggac tccacagtaa atggaaa | 37 |
| <210> 374                                |    |
| <211> 22                                 |    |
| <212> DNA                                |    |
| <213> Artificial                         |    |
| <220>                                    |    |
| <223> Synthetic                          |    |
| <400> 374                                |    |
| gggcactgga tacgatgtat gg                 | 22 |
| <210> 375                                |    |
| <211> 19                                 |    |
| <212> DNA                                |    |
| <213> Artificial                         |    |
| <220>                                    |    |
| <223> Synthetic                          |    |
| <400> 375                                |    |
| cacagcttgt gcagcctcc                     | 19 |

1900A-WO\_SEQ\_ST25

<210> 376  
 <211> 37  
 <212> DNA  
 <213> Artificial  
 <220>  
 <223> Synthetic  
 <400> 376  
 agaagaagcc tgtactacag catccgtttt acagtca 37

<210> 377  
 <211> 19  
 <212> DNA  
 <213> Artificial  
 <220>  
 <223> Synthetic  
 <400> 377  
 accatagtca cagtaccca 19

<210> 378  
 <211> 23  
 <212> DNA  
 <213> Artificial  
 <220>  
 <223> Synthetic  
 <400> 378  
 agcagtctgc aacctgaaga ttt 23

<210> 379  
 <211> 18  
 <212> DNA  
 <213> Artificial  
 <220>  
 <223> Synthetic  
 <400> 379  
 cccttggccg aagtgat 18

<210> 380  
 <211> 19  
 <212> DNA  
 <213> Artificial  
 <220>  
 <223> Synthetic  
 <400> 380  
 atagtcacag tacccatcc 19

<210> 381  
 <211> 23  
 <212> DNA  
 <213> Artificial  
 <220>  
 <223> Synthetic

1900A-WO\_SEQ\_ST25

<400> 381  
agtctgcaac ctgaagattt tgc 23

<210> 382  
<211> 18  
<212> DNA  
<213> Artificial

<220>  
<223> Synthetic

<400> 382  
cccttggccg aaggtgat 18

<210> 383  
<211> 108  
<212> PRT  
<213> Artificial

<220>  
<223> Synthetic

<400> 383  
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly  
1 5 10 15  
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Ser  
20 25 30  
Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu  
35 40 45  
Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser  
50 55 60  
Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu  
65 70 75 80  
Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ser Ser Pro  
85 90 95  
Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys  
100 105

<210> 384  
<211> 54  
<212> DNA  
<213> Artificial

<220>  
<223> Synthetic

<400> 384  
gattttgcag tgtattactg tcagcagtat ggtagctcac cttggacgtt cggc 54

<210> 385

1900A-WO\_SEQ\_ST25

<211> 54  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> Synthetic  
  
 <400> 385  
 gattttgcag tgtattactg tcatcaccat ggtcactcac cttggacgtt cggc 54  
  
 <210> 386  
 <211> 54  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> Synthetic  
  
 <400> 386  
 gccgaacgtc caaggtgagt gaccatggtg atgacagtaa tacactgcaa aatc 54  
  
 <210> 387  
 <211> 47  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> Synthetic  
  
 <400> 387  
 gcagtgtatt actgtcatca ctatggtcac tcaccttgga cgttcgg 47  
  
 <210> 388  
 <211> 47  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> Synthetic  
  
 <400> 388  
 ccgaacgtcc aaggtgagt accatagtga tgacagtaat aactgc 47  
  
 <210> 389  
 <211> 24  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> Synthetic  
  
 <400> 389  
 aaagagccac cctctcctgc aggg 24  
  
 <210> 390  
 <211> 19  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> Synthetic  
  
 <400> 390

|                                                                                                                                         |                   |    |    |
|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------|----|----|
| tccaggcacc ctgtctttg                                                                                                                    | 1900A-WO_SEQ_ST25 | 19 |    |
| <210> 391<br><211> 26<br><212> DNA<br><213> Artificial<br><br><220><br><223> Synthetic<br><br><400> 391<br>aagtagctgc tgctaacact ctgact |                   |    | 26 |
| <210> 392<br><211> 15<br><212> DNA<br><213> Artificial<br><br><220><br><223> Synthetic<br><br><400> 392<br>ctgtcatcac catgg             |                   |    | 15 |
| <210> 393<br><211> 23<br><212> DNA<br><213> Artificial<br><br><220><br><223> Synthetic<br><br><400> 393<br>gcagactgga gcctgaagat ttt    |                   |    | 23 |
| <210> 394<br><211> 20<br><212> DNA<br><213> Artificial<br><br><220><br><223> Synthetic<br><br><400> 394<br>ccgaacgtcc aaggtgagtg        |                   |    | 20 |
| <210> 395<br><211> 17<br><212> DNA<br><213> Artificial<br><br><220><br><223> Synthetic<br><br><400> 395<br>tactgtcatc actatgg           |                   |    | 17 |
| <210> 396<br><211> 22<br><212> DNA<br><213> Artificial                                                                                  |                   |    |    |

## 1900A-WO\_SEQ\_ST25

<220>  
 <223> Synthetic  
  
 <400> 396  
 gcagactgga gcctgaagat tt 22

<210> 397  
 <211> 20  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> Synthetic  
  
 <400> 397  
 ccgaacgtcc aagtgagtg 20

<210> 398  
 <211> 21  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> Synthetic  
  
 <220>  
 <221> CDS  
 <222> (1)..(21)  
  
 <400> 398  
 cag cag tat ggt agc tca cct 21  
 Gln Gln Tyr Gly Ser Ser Pro  
 1 5

<210> 399  
 <211> 7  
 <212> PRT  
 <213> Artificial  
  
 <220>  
 <223> Synthetic Construct  
  
 <400> 399  
 Gln Gln Tyr Gly Ser Ser Pro  
 1 5

<210> 400  
 <211> 21  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> Synthetic  
  
 <220>  
 <221> CDS  
 <222> (1)..(21)  
  
 <400> 400  
 cat cac cat ggt cac tca cct 21  
 His His His Gly His Ser Pro

1

5

<210> 401  
 <211> 7  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic Construct

<400> 401

His His His Gly His Ser Pro  
 1 5

<210> 402  
 <211> 21  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Synthetic

<220>  
 <221> CDS  
 <222> (1)..(21)

<400> 402  
 cat cac tat ggt cac tca cct  
 His His Tyr Gly His Ser Pro  
 1 5

21

<210> 403  
 <211> 7  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic Construct

<400> 403

His His Tyr Gly His Ser Pro  
 1 5

<210> 404  
 <211> 108  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic

<400> 404

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

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Ser Tyr  
 20 25 30

1900A-WO\_SEQ\_ST25

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
           35                          40                          45

Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly  
       50                          55                          60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
   65                          70                          75                          80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Pro  
           85                          90                          95

Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys  
           100                          105

<210> 405  
 <211> 50  
 <212> DNA  
 <213> Artificial

<220>  
 <223> synthetic

<400> 405  
 caacttacta ctgtcaacag agttacagta cccctccgat caccttcggc

50