SEQUENCE LISTING

<110> Glenmark Pharmaceuticals SA

<120> Expression Cassette

<130> GBR2001/PCT

<150> US 61/567,675
<151> 2011-12-07

<160> 39

<170> PatentIn version 3.3

<210> 1
<211> 39
<212> DNA
<213> Artificial

<220>
<223> Primer 1

<400> 1
attattcgcg atggctcctg gcatctctgg gaccgaggc 39

<210> 2
<211> 39
<212> DNA
<213> Artificial

<220>
<223> Primer 2

<400> 2
atcgtcgcga agcttgagat tgtccaagca ggtagccag 39

<210> 3
<211> 36
<212> DNA
<213> Artificial

<220>
<223> Primer 3

<400> 3

agcaagtact tctgagcctt cagtaatggc tgcctg 36

<210> 4
<211> 39
<212> DNA
<213> Artificial

<220>
<223> Primer 4

<400> 4
tggcagtact aagctggcac cactacttca gagaacaag 39

<210> 5
<211> 3179
<212> DNA
<213> Artificial

<220>
<223> 5' GAPDH fragment

<400> 5
atcgtcgcga agcttgagat tgtccaagca ggtagccaga gagcgccatc agccaagaaa 60

ccatccactg gtacgtaagg cagcctgtgc gggcgagacc agactgggcc ctcccctcct 120

gcagtgattt gtttcttctt ctttttaaa tcacgttttc ctgccttttc taggttctag 180

gtaccagcct ctggcttcta cagcctcaga caatgacttt gtcacaccag agccccgccg 240

tactacccgt cggcatccaa acacccagca gcgagcttcc aaaaagaaac ccaaagttgt 300

cttctcaagt gatgagtcca gtgaggaagg tatgatgctc ccgcctgttc ccggccgaga 360

aggcacacag ctagggtgca gagggctggt ttccatagga cctgctgcgg gggcctgagt 420

gtagatgctc tgccccactg ccgcagaagg gcctctcctg tacagcttgg attttatttc 480

ttctgtgcgg tgtgggattg tctcacttgt tctctgatat ctatttttc accatctttg 540

tgactcagct ttttcttatt cctttaattc tttgcataga tctttcagca gagatgacag 600

aagacgagac acccaagaaa acaactccca ttctcagagc atcggctcgc aggcacagat 660

cctaggaagt ctgttcctgt cctccctgtg cagggtatcc tgtagggtga cctggaattc 720

gaattctgtt tcccttgtaa aatatttgtc tgtctctttt ttttaaaaaa aaaaaaggcc 780

gggcactgtg gctcacgcct gtaatcccag cactttgcga taccaaggcg ggtggataac 840

ctgaggtagg gagttcgaga ccagcctgac caacatggag aaaccccatc tctactaaaa 900

ataaaaaatt agccgggcgt attggcgtgc gcctgtaatc ccagctactc aagaggctga 960

ggcaggagaa tcgcctgaac ccagaggcgg aggttgtagt gagccgaaat cacaccattg 1020

cactccagct tgggcaacaa tagcgaacct ccatctcaaa ttaaaaaaaa aatgcctaca 1080

cgctctttaa aatgcaaggc tttctcttaa attagcctaa ctgaactgcg ttgagctgct 1140

tcaactttgg aatatatgtt tgccaatctc cttgttttct aatgaataaa tgtttttata 1200

tacttttaga catttttttcc taagcttgtc tttgtttcat ctttcacatt agcccagttt 1260

catgcagcag agagagggtt atcagtgcag agagagatga gtgagcccag agtcctaggg 1320

cctgtcccgg gatggcagat gagcttcctg ccccgtcact gccacctttc ccctctcaac 1380

ctctggaccc tgcacagtga ccagacagcc tctctgggga gaattatgca gtgcctaggc 1440

tccagatcag tgcttctgaa ccgggggcaa ttttgtctgc cagaggacat ctgacaacac 1500

ctggggcctg ttttgttgtc atagcctata ggggaagaat gctaccagca tttgtgggaa 1560

gaggccaggg atgtggctca acatcctgca gtgcacagga tggcccctca acaaagaatc 1620

acacggccca caatgtcaat agcgtcacag ttgagaaaac ctgctctaga ccaagggttg 1680

ctttctgccg tgtgcctcac cccaccccca ctcgtgttcc ctaatcccat ctccaaaggt 1740

tggcagcaga ccggcccagg ctcgtggaag ttcagatcat gatcccctcc agctctgcag 1800

gagacaagac ctgtctccca gcattcctca ttgttcccgg gtctgcagag ggcgtgagct 1860

atgctgcagg cgggctgccc cctgaagcct gcgcacccct ctccagctcc tcaagtcttc 1920

tctgctgagt caccttcgaa ccggaggctg tgagctggct gtcgtgacca cactggtgcc 1980

tctgctgtca tgacaacagc acactacgtc agtagtgctc cctgggcact gagctccctc 2040

tttgcgggga gaagacagta atgaaaaatg acaagcatga ggcagagggg aagatcacgc 2100

ttgggtggtg caggagcatg gaggtgctct taatgctctc aatgagaaag ggttaacggt 2160

cctggttgca ggaatagctg agtcagaggt ggggcttcct ccactccccc accccacccc 2220

tttcaccatt agggaccttc ttgccttgct cttgctactc tgctctgggt ggtcattgtg 2280

aaaagcccgc accaaccatg ccagtggcag ccagacgagg acacagcctg gctctgggtc 2340

ccagcaggaa aggcaatccc agaaaggcag ggtcagggac tggagtcctg tgggtgcttt 2400

ttaagcaaag attatcacca ggcaggctaa acttagcaac cggcttttag ctagaagggc 2460

agggggctgg tgtcaggtta tgctgggcca gcaaagaggc ccgggatccc cctcccatgc 2520

acctgctgat gggccaaggc caccccaccc caccccttc cttacaagtg ttcagcaccc 2580

tcccatccca cactcacaaa cctggccctc tgccctccta ccagaagaat ggatcccctg 2640

tgggaggggg caggggacct gttcccaccg tgtgcccaag acctcttttc ccacttttc 2700

cctcttcttg actcaccctg ccctcaatat cccccggcgc agccagtgaa agggagtccc 2760

tggctcctgg ctcgcctgca cgtcccaggg cggggaggga cttccgccct cacgtcccgc 2820

tcttcgcccc aggctggatg gaatgaaagg cacactgtct ctctccctag gcagcacagc 2880

ccacaggttt ccaggagtgc ctttgtggga ggcctctggg cccccaccag ccatcctgtc 2940

ctccgcctgg ggccccagcc cggagagagc cgctggtgca cacagggccg ggattgtctg 3000

ccctaattat caggtccagg ctacagggct gcaggacatc gtgaccttcc gtgcagaaac 3060

ctccccctcc ccctcaagcc gcctcccgag cctccttcct ctccaggccc ccagtgccca 3120

gtgcccagtg cccagcccag gcctcggtcc cagagatgcc aggagccatc gcgaataat 3179

<210> 6
<211> 3238
<212> DNA
<213> Artificial

<220>
<223> 3'-GAPDH fragment

<400> 6
tggcagtact aagctggcac cactacttca gagaacaagg ccttttcctc tcctcgctcc 60

agtcctaggc tatctgctgt tggccaaaca tggaagaagc tattctgtgg gcagccccag 120

ggaggctgac aggtggagga agtcagggct cgcactgggc tctgacgctg actggttagt 180

ggagctcagc ctggagctga gctgcagcgg gcaattccag cttggcctcc gcagctgtga 240

ggtcttgagc acgtgctcta ttgctttctg tgccctcgtg tcttatctga ggacatcgtg 300

gccagcccct aaggtcttca agcaggattc atctaggtaa accaagtacc taaaaccatg 360

cccaaggcgg taaggactat ataatgttta aaaatcggta aaaatgccca cctcgcatag 420

ttttgaggaa gatgaactga gatgtgtcag ggtgacttat ttccatcatc gtccttaggg 480

gaacttgggt aggggcaagg cgtgtagctg ggacctaggt ccagacccct ggctctgcca 540

ctgaacggct cagttgcttt gggcagttac tcccgggcct cactttgcac gtgtgcttac 600

ctagtggaga caaaagtaca tacctcggta gagcgcgcac gcctgtaacc ccagcacttt 660

gggaggccaa ggtgggtgta tcacctgagg tcaggagttt gagaccagcc tggccaacat 720

ggtgaaactc cgtctctact aaaattacaa aaatcagcca ggcttcatgg cacatgccta 780

tagtcccagc tacaggcatg ctgaagcagg agaatcgctt gcaccccgga ggcagaggct 840

gcagtgagct gagaccacac cactgcactc cagcctaggc aacagagtat gagactccat 900

ctcaaaaaaa aaaaaagtac ctacctcaga gttcaaacta gtgaatatta ggaagtgctt 960

gagacagtga caccaaagtg cacaataaat actcgccagt ttcattatta ttaaagaatc 1020

catttgaatg tcagctcaac acagcctcct ataccgaggc attgtgaacc gcatctcccc 1080

agcttctcca ggcttttcca agaatcaggg acactgtagc ctgttggtct cagtgtatga 1140

cagacacgga ggaagcacat ctttagctga tacttaaaca gagaccctga gcgcacatac 1200

acccgcgcac acatgcatgg agcttcacct tctctgtcat tctgcagtga ccaggagagc 1260

aagagctccc acctcccttc aaaacactgt gcccatcccg ggcactaagg cctctttaaa 1320

gcacggcacc tccacgaggg agggccacag ccacatacac tccacctggc aggtggacag 1380

cgtgagcacg tggaccatag cagggacaag gtgccccggc cagccccaac gccctctgcc 1440

gctgacaggg acagaagccc tctccagctg cgtgtgctgc agaggccatg cgtagcctcc 1500

agctgcattc tattccactc cagtgcctgg gccagttagc accagtgtgg aagacagtga 1560

gctggctccg gacaacaggg atggaggaaa ggtcccacat tcacattcct gatacgtgga 1620

caaggtgagg ggccgcaatc gctctggcag cattttaaag atggggaagt agcagacacc 1680

cacgcgtgaa ggcaggagag ccccaactgt ggtggaaatg gccccagaat ggtagggcca 1740

agcctagctc cagacacccc agagccctgg agaagccaag actgagggag aaagcctgag 1800

ggaggagcgc cccagtcccc agggaccggc ctggtgcaga gctgcagctg atgttcccct 1860

ctgtgcagcc ccaccctctg cctcgctgag ctccctgctg cgagggcctc gggtgcaagg 1920

gggaggcagg tctctatctc atggagctgt cagatgagac atcgcgatcg gagtcctcag 1980

cctcgcttgg cggcggcggc gggtcgctaa gcgggaccgc agtgaaagca ggagactttc 2040

tagaaaaaaa caccagttgt caaccttggg gcaggcagga atcctgaaga cggacggcac 2100

tcctcctcct gctgcctcac cctctggcag cccgtgagaa gtaccggaag cgagggcggg 2160

gccgcgggat ggcgagggag cggcagggac tgaactctct ccaaacccac cctgacaggg 2220

aaatgggccc cgcctgtgtc ttgggaactc agaggctgag gtcaggcatg atggctcacg 2280

cctgtaattc cagcactttg ggaggcagag gcgggtggat cacgacgtca ggagttcaag 2340

gcaagcctgg ccaacatggt gaaaccccat ctctactaaa aatgcaaaaa ttagccaggt 2400

gtggtggcgg gcgccttgga ggctgaggca agataatcac ttgaacctgg gaggcggagg 2460

ttgtagtgag ccaaaaaaaa aaaaaaaaga aatagctgaa gtcacagtag gagagaagct 2520

gctgagcctc cagcaccctg actctagggc cttggcttta tgtctatctg cagtattttt 2580

gtgattttta aaaattcact ttcttgttgc ggtgtaactt acacagggtc aaatgcacaa 2640

atcatggccc tgactttaga taaaaatctg cccccacaac ccttctgttc cttgccagtt 2700

tttaaactgc ctctaaccag gggaaccacc agagctggtg gccttgggag gtttcagccc 2760

tcccgtcatg aatggacata gctcatccaa ctgccaaggg agagagctgt gggtctgggc 2820

cagccccacc aggtaactcc caaagggcag ccccacagca agatgtgacc cagtcattgc 2880

ctgagggtct ctggggctgt gttccaacct ttctccccgc tgtgtccccc tggaaggccc 2940

catgcccagg ggaggcgcct accggtctcc agactgggtg atgagccggc ggcaggtctc 3000

catctgcacg tccaggccgc gcttcatgct gcacatctcc atgtactcgt gcaggtgccg 3060

gttcatgtcg ttcttggccg tggccaactc cagctgtggt ggggcaggca gggccatcgg 3120

ggttaacagg tggcgttcac agcgcctctg ttgcccccgc caggaggcca acacgccaag 3180

agcagtggct gggccggggg cccaggcagc cattactgaa ggctcagaag tacttgct 3238

<210> 7
<211> 3164
<212> DNA
<213> Artificial

<220>
<223> Upstream GAPDH flanking region

<400> 7
cgaagcttga gattgtccaa gcaggtagcc agagagcgcc atcagccaag aaaccatcca 60

ctggtacgta aggcagcctg tgcgggcgag accagactgg gccctcccct cctgcagtga 120

tttgtttctt cttctttttt aaatcacgtt ttcctgcctt ttctaggttc taggtaccag 180

cctctggctt ctacagcctc agacaatgac tttgtcacac cagagccccg ccgtactacc 240

cgtcggcatc caaacaccca gcagcgagct tccaaaaaga aacccaaagt tgtcttctca 300

agtgatgagt ccagtgagga aggtatgatg ctcccgcctg ttcccggccg agaaggcaca 360

cagctagggt gcagagggct ggtttccata ggacctgctg cgggggcctg agtgtagatg 420

ctctgcccca ctgccgcaga agggcctctc ctgtacagct tggattttat ttcttctgtg 480

cggtgtggga ttgtctcact tgttctctga tatctatttt ttcaccatct ttgtgactca 540

gctttttctt attcctttaa ttctttgcat agatctttca gcagagatga cagaagacga 600

gacacccaag aaaacaactc ccattctcag agcatcggct cgcaggcaca gatcctagga 660

agtctgttcc tgtcctccct gtgcagggta tcctgtaggg tgacctggaa ttcgaattct 720

gtttcccttg taaaatattt gtctgtctct ttttttaaa aaaaaaaaag gccgggcact 780

gtggctcacg cctgtaatcc cagcactttg cgataccaag gcgggtggat aacctgaggt 840

agggagttcg agaccagcct gaccaacatg gagaaacccc atctctacta aaaataaaaa 900

attagccggg cgtattggcg tgcgcctgta atcccagcta ctcaagaggc tgaggcagga 960

gaatcgcctg aacccagagg cggaggttgt agtgagccga aatcacacca ttgcactcca 1020

gcttgggcaa caatagcgaa cctccatctc aaattaaaaa aaaaatgcct acacgctctt 1080

taaaatgcaa ggctttctct taaattagcc taactgaact gcgttgagct gcttcaactt 1140

tggaatatat gtttgccaat ctccttgttt tctaatgaat aaatgttttt atatactttt 1200

agacattttt tcctaagctt gtctttgttt catctttcac attagcccag tttcatgcag 1260

cagagagagg gttatcagtg cagagagaga tgagtgagcc cagagtccta gggcctgtcc 1320

cgggatggca gatgagcttc ctgccccgtc actgccacct ttcccctctc aacctctgga 1380

ccctgcacag tgaccagaca gcctctctgg ggagaattat gcagtgccta ggctccagat 1440

cagtgcttct gaaccggggg caattttgtc tgccagagga catctgacaa cacctggggc 1500

ctgttttgtt gtcatagcct ataggggaag aatgctacca gcatttgtgg gaagaggcca 1560

gggatgtggc tcaacatcct gcagtgcaca ggatggcccc tcaacaaaga atcacacggc 1620

ccacaatgtc aatagcgtca cagttgagaa aacctgctct agaccaaggg ttgctttctg 1680

ccgtgtgcct caccccaccc ccactcgtgt tccctaatcc catctccaaa ggttggcagc 1740

agaccggccc aggctcgtgg aagttcagat catgatcccc tccagctctg caggagacaa 1800

gacctgtctc ccagcattcc tcattgttcc cgggtctgca gagggcgtga gctatgctgc 1860

aggcgggctg ccccctgaag cctgcgcacc cctctccagc tcctcaagtc ttctctgctg 1920

agtcaccttc gaaccggagg ctgtgagctg gctgtcgtga ccacactggt gcctctgctg 1980

tcatgacaac agcacactac gtcagtagtg ctccctgggc actgagctcc ctctttgcgg 2040

ggagaagaca gtaatgaaaa atgacaagca tgaggcagag gggaagatca cgcttgggtg 2100

gtgcaggagc atggaggtgc tcttaatgct ctcaatgaga aagggttaac ggtcctggtt 2160

gcaggaatag ctgagtcaga ggtggggctt cctccactcc cccaccccac ccctttcacc 2220

attagggacc ttcttgcctt gctcttgcta ctctgctctg ggtggtcatt gtgaaaagcc 2280

cgcaccaacc atgccagtgg cagccagacg aggacacagc ctggctctgg gtcccagcag 2340

gaaaggcaat cccagaaagg cagggtcagg gactggagtc ctgtgggtgc tttttaagca 2400

aagattatca ccaggcaggc taaacttagc aaccggcttt tagctagaag ggcaggggggc 2460

tggtgtcagg ttatgctggg ccagcaaaga ggcccgggat ccccctccca tgcacctgct 2520

gatgggccaa ggccacccca ccccaccccc ttccttacaa gtgttcagca ccctcccatc 2580

ccacactcac aaacctggcc ctctgccctc ctaccagaag aatggatccc ctgtgggagg 2640

gggcagggga cctgttccca ccgtgtgccc aagacctctt ttcccacttt ttccctcttc 2700

ttgactcacc ctgccctcaa tatcccccgg cgcagccagt gaaagggagt ccctggctcc 2760

tggctcgcct gcacgtccca gggcggggag ggacttccgc cctcacgtcc cgctcttcgc 2820

cccaggctgg atggaatgaa aggcacactg tctctctccc taggcagcac agcccacagg 2880

tttccaggag tgcctttgtg ggaggcctct gggcccccac cagccatcct gtcctccgcc 2940

tggggcccca gcccggagag agccgctggt gcacacaggg ccgggattgt ctgccctaat 3000

tatcaggtcc aggctacagg gctgcaggac atcgtgacct tccgtgcaga aacctccccc 3060

tccccctcaa gccgcctccc gagcctcctt cctctccagg cccccagtgc ccagtgccca 3120

gtgcccagcc caggcctcgg tcccagagat gccaggagcc atcg 3164

<210> 8
<211> 3224
<212> DNA
<213> Artificial

<220>
<223> Downstream GAPDH flanking region

<400> 8
actaagctgg caccactact tcagagaaca aggccttttc ctctcctcgc tccagtccta 60

ggctatctgc tgttggccaa acatggaaga agctattctg tgggcagccc cagggaggct 120

gacaggtgga ggaagtcagg gctcgcactg ggctctgacg ctgactggtt agtggagctc 180

agcctggagc tgagctgcag cgggcaattc cagcttggcc tccgcagctg tgaggtcttg 240

agcacgtgct ctattgcttt ctgtgccctc gtgtcttatc tgaggacatc gtggccagcc 300

cctaaggtct tcaagcagga ttcatctagg taaaccaagt acctaaaacc atgcccaagg 360

cggtaaggac tatataatgt ttaaaaatcg gtaaaaatgc ccacctcgca tagttttgag 420

gaagatgaac tgagatgtgt cagggtgact tatttccatc atcgtcctta ggggaacttg 480

ggtaggggca aggcgtgtag ctgggaccta ggtccagacc cctggctctg ccactgaacg 540

gctcagttgc tttgggcagt tactcccggg cctcactttg cacgtgtgct tacctagtgg 600

agacaaaagt acatacctcg gtagagcgcg cacgcctgta accccagcac tttgggaggc 660

caaggtgggt gtatcacctg aggtcaggag tttgagacca gcctggccaa catggtgaaa 720

ctccgtctct actaaaatta caaaaatcag ccaggcttca tggcacatgc ctatagtccc 780

agctacaggc atgctgaagc aggagaatcg cttgcacccc ggaggcagag gctgcagtga 840

gctgagacca caccactgca ctccagccta ggcaacagag tatgagactc catctcaaaa 900

aaaaaaaaag tacctacctc agagttcaaa ctagtgaata ttaggaagtg cttgagacag 960

tgacaccaaa gtgcacaata aatactcgcc agtttcatta ttattaaaga atccatttga 1020

atgtcagctc aacacagcct cctataccga ggcattgtga accgcatctc cccagcttct 1080

ccaggctttt ccaagaatca gggacactgt agcctgttgg tctcagtgta tgacagacac 1140

ggaggaagca catctttagc tgatacttaa acagagaccc tgagcgcaca tacacccgcg 1200

cacacatgca tggagcttca ccttctctgt cattctgcag tgaccaggag agcaagagct 1260

cccacctccc ttcaaaacac tgtgcccatc ccgggcacta aggcctcttt aaagcacggc 1320

acctccacga gggagggcca cagccacata cactccacct ggcaggtgga cagcgtgagc 1380

acgtggacca tagcagggac aaggtgcccc ggccagcccc aacgccctct gccgctgaca 1440

gggacagaag ccctctccag ctgcgtgtgc tgcagaggcc atgcgtagcc tccagctgca 1500

ttctattcca ctccagtgcc tgggccagtt agcaccagtg tggaagacag tgagctggct 1560

ccggacaaca gggatggagg aaaggtccca cattcacatt cctgatacgt ggacaaggtg 1620

aggggccgca atcgctctgg cagcatttta aagatgggga agtagcagac acccacgcgt 1680

gaaggcagga gagccccaac tgtggtggaa atggccccag aatggtaggg ccaagcctag 1740

ctccagacac cccagagccc tggagaagcc aagactgagg gagaaagcct gagggaggag 1800

cgccccagtc cccagggacc ggcctggtgc agagctgcag ctgatgttcc cctctgtgca 1860

gccccaccct ctgcctcgct gagctccctg ctgcgagggc ctcgggtgca agggggaggc 1920

aggtctctat ctcatggagc tgtcagatga gacatcgcga tcggagtcct cagcctcgct 1980

tggcggcggc ggcgggtcgc taagcgggac cgcagtgaaa gcaggagact ttctagaaaa 2040

aaacaccagt tgtcaacctt ggggcaggca ggaatcctga agacggacgg cactcctcct 2100

cctgctgcct caccctctgg cagcccgtga gaagtaccgg aagcgagggc ggggccgcgg 2160

gatggcgagg gagcggcagg gactgaactc tctccaaacc caccctgaca gggaaatggg 2220

ccccgcctgt gtcttgggaa ctcagaggct gaggtcaggc atgatggctc acgcctgtaa 2280

ttccagcact ttgggaggca gaggcgggtg gatcacgacg tcaggagttc aaggcaagcc 2340

tggccaacat ggtgaaaccc catctctact aaaaatgcaa aaattagcca ggtgtggtgg 2400

cgggcgcctt ggaggctgag gcaagataat cacttgaacc tgggaggcgg aggttgtagt 2460

gagccaaaaa aaaaaaaaaa agaaatagct gaagtcacag taggagagaa gctgctgagc 2520

ctccagcacc ctgactctag ggccttggct ttatgtctat ctgcagtatt tttgtgattt 2580

ttaaaaattc actttcttgt tgcggtgtaa cttacacagg gtcaaatgca caaatcatgg 2640

ccctgacttt agataaaaat ctgcccccac aacccttctg ttccttgcca gtttttaaac 2700

tgcctctaac caggggaacc accagagctg gtggccttgg gaggtttcag ccctcccgtc 2760

atgaatggac atagctcatc caactgccaa gggagagagc tgtgggtctg ggccagcccc 2820

accaggtaac tcccaaaggg cagccccaca gcaagatgtg acccagtcat tgcctgaggg 2880

tctctggggc tgtgttccaa cctttctccc cgctgtgtcc ccctggaagg ccccatgccc 2940

aggggaggcg cctaccggtc tccagactgg gtgatgagcc ggcggcaggt ctccatctgc 3000

acgtccaggc cgcgcttcat gctgcacatc tccatgtact cgtgcaggtg ccggttcatg 3060

tcgttcttgg ccgtggccaa ctccagctgt ggtggggcag gcagggccat cggggttaac 3120

aggtggcgtt cacagcgcct ctgttgcccc cgccaggagg ccaacacgcc aagagcagtg 3180

gctgggccgg gggcccaggc agccattact gaaggctcag aagt 3224

<210> 9
<211> 511
<212> DNA
<213> Artificial

<220>
<223> Fragment 1

<400> 9
cgaagcttga gattgtccaa gcaggtagcc agagagcgcc atcagccaag aaaccatcca 60

ctggtacgta aggcagcctg tgcgggcgag accagactgg gccctcccct cctgcagtga 120

tttgtttctt cttctttttt aaatcacgtt ttcctgcctt ttctaggttc taggtaccag 180

cctctggctt ctacagcctc agacaatgac tttgtcacac cagagccccg ccgtactacc 240

cgtcggcatc caaacaccca gcagcgagct tccaaaaaga aacccaaagt tgtcttctca 300

agtgatgagt ccagtgagga aggtatgatg ctcccgcctg ttcccggccg agaaggcaca 360

cagctagggt gcagagggct ggtttccata ggacctgctg cgggggcctg agtgtagatg 420

ctctgcccca ctgccgcaga agggcctctc ctgtacagct tggattttat ttcttctgtg 480

cggtgtggga ttgtctcact tgttctctga t 511

<210> 10
<211> 2653
<212> DNA
<213> Artificial

<220>
<223> Fragment 2

<400> 10
atctattttt tcaccatctt tgtgactcag ctttttctta ttcctttaat tctttgcata 60

gatctttcag cagagatgac agaagacgag acacccaaga aaacaactcc cattctcaga 120

gcatcggctc gcaggcacag atcctaggaa gtctgttcct gtcctccctg tgcagggtat 180

cctgtagggt gacctggaat tcgaattctg tttcccttgt aaaatatttg tctgtctctt 240

```
tttttttaaaa aaaaaaaagg ccgggcactg tggctcacgc ctgtaatccc agcactttgc    300

gataccaagg cgggtggata acctgaggta gggagttcga gaccagcctg accaacatgg    360

agaaacccca tctctactaa aaataaaaaa ttagccgggc gtattggcgt gcgcctgtaa    420

tcccagctac tcaagaggct gaggcaggag aatcgcctga acccagaggc ggaggttgta    480

gtgagccgaa atcacaccat tgcactccag cttgggcaac aatagcgaac ctccatctca    540

aattaaaaaa aaaatgccta cacgctcttt aaaatgcaag gctttctctt aaattagcct    600

aactgaactg cgttgagctg cttcaacttt ggaatatatg tttgccaatc tccttgtttt    660

ctaatgaata aatgttttta tatactttta gacatttttt cctaagcttg tctttgtttc    720

atctttcaca ttagcccagt ttcatgcagc agagagaggg ttatcagtgc agagagagat    780

gagtgagccc agagtcctag ggcctgtccc gggatggcag atgagcttcc tgccccgtca    840

ctgccacctt tcccctctca acctctggac cctgcacagt gaccagacag cctctctggg    900

gagaattatg cagtgcctag gctccagatc agtgcttctg aaccgggggc aattttgtct    960

gccagaggac atctgacaac acctggggcc tgttttgttg tcatagccta taggggaaga   1020

atgctaccag catttgtggg aagaggccag ggatgtggct caacatcctg cagtgcacag   1080

gatggcccct caacaaagaa tcacacggcc cacaatgtca atagcgtcac agttgagaaa   1140

acctgctcta gaccaagggt tgctttctgc cgtgtgcctc accccacccc cactcgtgtt   1200

ccctaatccc atctccaaag gttggcagca gaccggccca ggctcgtgga agttcagatc   1260

atgatcccct ccagctctgc aggagacaag acctgtctcc cagcattcct cattgttccc   1320

gggtctgcag agggcgtgag ctatgctgca ggcgggctgc cccctgaagc ctgcgcaccc   1380

ctctccagct cctcaagtct tctctgctga gtcaccttcg aaccggaggc tgtgagctgg   1440

ctgtcgtgac cacactggtg cctctgctgt catgacaaca gcacactacg tcagtagtgc   1500

tccctgggca ctgagctccc tctttgcggg gagaagacag taatgaaaaa tgacaagcat   1560

gaggcagagg ggaagatcac gcttgggtgg tgcaggagca tggaggtgct cttaatgctc   1620

tcaatgagaa agggttaacg gtcctggttg caggaatagc tgagtcagag gtggggcttc   1680
```

ctccactccc ccaccccacc cctttcacca ttagggacct tcttgccttg ctcttgctac 1740

tctgctctgg gtggtcattg tgaaaagccc gcaccaacca tgccagtggc agccagacga 1800

ggacacagcc tggctctggg tcccagcagg aaaggcaatc ccagaaaggc agggtcaggg 1860

actggagtcc tgtgggtgct ttttaagcaa agattatcac caggcaggct aaacttagca 1920

accggctttt agctagaagg gcagggggct ggtgtcaggt tatgctgggc cagcaaagag 1980

gcccgggatc cccctcccat gcacctgctg atgggccaag gccaccccac cccacccct 2040

tccttacaag tgttcagcac cctcccatcc cacactcaca aacctggccc tctgccctcc 2100

taccagaaga atggatcccc tgtgggaggg ggcaggggac ctgttcccac cgtgtgccca 2160

agacctcttt tcccactttt tccctcttct tgactcaccc tgccctcaat atcccccggc 2220

gcagccagtg aaagggagtc cctggctcct ggctcgcctg cacgtcccag ggcggggagg 2280

gacttccgcc ctcacgtccc gctcttcgcc ccaggctgga tggaatgaaa ggcacactgt 2340

ctctctccct aggcagcaca gcccacaggt ttccaggagt gcctttgtgg gaggcctctg 2400

ggcccccacc agccatcctg tcctccgcct ggggccccag cccggagaga gccgctggtg 2460

cacacagggc cgggattgtc tgccctaatt atcaggtcca ggctacaggg ctgcaggaca 2520

tcgtgacctt ccgtgcagaa acctcccccc ccccctcaag ccgcctcccg agcctccttc 2580

ctctccaggc ccccagtgcc cagtgcccag tgcccagccc aggcctcggt cccagagatg 2640

ccaggagcca tcg 2653

<210> 11
<211> 1966
<212> DNA
<213> Artificial

<220>
<223> Fragment 3

<400> 11
cgaagcttga gattgtccaa gcaggtagcc agagagcgcc atcagccaag aaaccatcca 60

ctggtacgta aggcagcctg tgcgggcgag accagactgg gccctcccct cctgcagtga 120

tttgtttctt cttctttttt aaatcacgtt ttcctgcctt ttctaggttc taggtaccag 180

cctctggctt ctacagcctc agacaatgac tttgtcacac cagagccccg ccgtactacc 240

cgtcggcatc caaacaccca gcagcgagct tccaaaaaga aacccaaagt tgtcttctca 300

agtgatgagt ccagtgagga aggtatgatg ctcccgcctg ttcccggccg agaaggcaca 360

cagctagggt gcagagggct ggtttccata ggacctgctg cgggggcctg agtgtagatg 420

ctctgcccca ctgccgcaga agggcctctc ctgtacagct tggattttat ttcttctgtg 480

cggtgtggga ttgtctcact tgttctctga tatctatttt ttcaccatct ttgtgactca 540

gctttttctt attcctttaa ttctttgcat agatctttca gcagagatga cagaagacga 600

gacacccaag aaaacaactc ccattctcag agcatcggct cgcaggcaca gatcctagga 660

agtctgttcc tgtcctccct gtgcagggta tcctgtaggg tgacctggaa ttcgaattct 720

gtttcccttg taaaatattt gtctgtctct ttttttaaa aaaaaaaaag gccgggcact 780

gtggctcacg cctgtaatcc cagcactttg cgataccaag gcgggtggat aacctgaggt 840

agggagttcg agaccagcct gaccaacatg gagaaacccc atctctacta aaaataaaaa 900

attagccggg cgtattggcg tgcgcctgta atcccagcta ctcaagaggc tgaggcagga 960

gaatcgcctg aacccagagg cggaggttgt agtgagccga aatcacacca ttgcactcca 1020

gcttgggcaa caatagcgaa cctccatctc aaattaaaaa aaaaatgcct acacgctctt 1080

taaaatgcaa ggctttctct taaattagcc taactgaact gcgttgagct gcttcaactt 1140

tggaatatat gtttgccaat ctccttgttt tctaatgaat aaatgttttt atatactttt 1200

agacattttt tcctaagctt gtctttgttt catctttcac attagcccag tttcatgcag 1260

cagagagagg gttatcagtg cagagagaga tgagtgagcc cagagtccta gggcctgtcc 1320

cgggatggca gatgagcttc ctgccccgtc actgccacct ttcccctctc aacctctgga 1380

ccctgcacag tgaccagaca gcctctctgg ggagaattat gcagtgccta ggctccagat 1440

cagtgcttct gaaccggggg caattttgtc tgccagagga catctgacaa cacctggggc 1500

ctgttttgtt gtcatagcct ataggggaag aatgctacca gcatttgtgg gaagaggcca 1560

gggatgtggc tcaacatcct gcagtgcaca ggatggcccc tcaacaaaga atcacacggc 1620

ccacaatgtc aatagcgtca cagttgagaa aacctgctct agaccaaggg ttgctttctg 1680

ccgtgtgcct cacccccaccc ccactcgtgt tccctaatcc catctccaaa ggttggcagc 1740

agaccggccc aggctcgtgg aagttcagat catgatcccc tccagctctg caggagacaa 1800

gacctgtctc ccagcattcc tcattgttcc cgggtctgca gagggcgtga gctatgctgc 1860

aggcgggctg ccccctgaag cctgcgcacc cctctccagc tcctcaagtc ttctctgctg 1920

agtcaccttc gaaccggagg ctgtgagctg gctgtcgtga ccacac 1966

<210> 12
<211> 1198
<212> DNA
<213> Artificial

<220>
<223> Fragment 4

<400> 12
tggtgcctct gctgtcatga caacagcaca ctacgtcagt agtgctccct gggcactgag 60

ctccctcttt gcggggagaa gacagtaatg aaaaatgaca agcatgaggc agaggggaag 120

atcacgcttg ggtggtgcag gagcatggag gtgctcttaa tgctctcaat gagaaagggt 180

taacggtcct ggttgcagga atagctgagt cagaggtggg gcttcctcca ctcccccacc 240

ccaccccttt caccattagg gaccttcttg ccttgctctt gctactctgc tctgggtggt 300

cattgtgaaa agcccgcacc aaccatgcca gtggcagcca gacgaggaca cagcctggct 360

ctgggtccca gcaggaaagg caatcccaga aaggcagggt cagggactgg agtcctgtgg 420

gtgcttttta agcaaagatt atcaccaggc aggctaaact tagcaaccgg cttttagcta 480

gaagggcagg gggctggtgt caggttatgc tgggccagca aagaggcccg ggatcccccc 540

cccatgcacc tgctgatggg ccaaggccac cccaccccac ccccttcctt acaagtgttc 600

agcaccctcc catcccacac tcacaaacct ggccctctgc cctcctacca gaagaatgga 660

tcccctgtgg gagggggcag gggacctgtt cccaccgtgt gcccaagacc tcttttccca 720

cttttttccct cttcttgact caccctgccc tcaatatccc ccggcgcagc cagtgaaagg 780

gagtccctgg ctcctggctc gcctgcacgt cccagggcgg ggagggactt ccgccctcac 840

gtcccgctct tcgccccagg ctggatggaa tgaaaggcac actgtctctc tccctaggca 900

gcacagccca caggtttcca ggagtgcctt tgtgggaggc ctctgggccc ccaccagcca 960

tcctgtcctc cgcctggggc cccagcccgg agagagccgc tggtgcacac agggccggga 1020

ttgtctgccc taattatcag gtccaggcta cagggctgca ggacatcgtg accttccgtg 1080

cagaaacctc cccctccccc tcaagccgcc tcccgagcct ccttcctctc caggccccca 1140

gtgcccagtg cccagtgccc agcccaggcc tcggtcccag agatgccagg agccatcg 1198

<210> 13
<211> 259
<212> DNA
<213> Artificial

<220>
<223> Fragment 8

<400> 13
cctctgggcc cccaccagcc atcctgtcct ccgcctgggg ccccagcccg gagagagccg 60

ctggtgcaca cagggccggg attgtctgcc ctaattatca ggtccaggct acagggctgc 120

aggacatcgt gaccttccgt gcagaaacct ccccctcccc ctcaagccgc ctcccgagcc 180

tccttcctct ccaggccccc agtgcccagt gcccagtgcc cagcccaggc ctcggtccca 240

gagatgccag gagccatcg 259

<210> 14
<211> 1947
<212> DNA
<213> Artificial

<220>
<223> Fragment 9

<400> 14
cgaagcttga gattgtccaa gcaggtagcc agagagcgcc atcagccaag aaaccatcca 60

ctggtacgta aggcagcctg tgcgggcgag accagactgg gccctcccct cctgcagtga 120

tttgtttctt cttctttttt aaatcacgtt ttcctgcctt ttctaggttc taggtaccag 180

cctctggctt ctacagcctc agacaatgac tttgtcacac cagagccccg ccgtactacc 240

cgtcggcatc caaacaccca gcagcgagct tccaaaaaga aacccaaagt tgtcttctca 300

agtgatgagt ccagtgagga aggtatgatg ctcccgcctg ttcccggccg agaaggcaca 360

cagctagggt gcagagggct ggtttccata ggacctgctg cgggggcctg agtgtagatg 420

ctctgcccca ctgccgcaga agggcctctc ctgtacagct tggattttat ttcttctgtg 480

cggtgtggga ttgtctcact tgttctctga tatctatttt ttcaccatct ttgtgactca 540

gctttttctt attcctttaa ttctttgcat agatctttca gcagagatga cagaagacga 600

gacacccaag aaaacaactc ccattctcag agcatcggct cgcaggcaca gatcctagga 660

agtctgttcc tgtcctccct gtgcagggta tcctgtaggg tgacctggaa ttcgaaccgg 720

aggctgtgag ctggctgtcg tgaccacact ggtgcctctg ctgtcatgac aacagcacac 780

tacgtcagta gtgctccctg ggcactgagc tccctctttg cggggagaag acagtaatga 840

aaaatgacaa gcatgaggca gaggggaaga tcacgcttgg gtggtgcagg agcatggagg 900

tgctcttaat gctctcaatg agaaagggtt aacggtcctg gttgcaggaa tagctgagtc 960

agaggtgggg cttcctccac tcccccaccc cacccctttc accattaggg accttcttgc 1020

cttgctcttg ctactctgct ctgggtggtc attgtgaaaa gcccgcacca accatgccag 1080

tggcagccag acgaggacac agcctggctc tgggtcccag caggaaaggc aatcccagaa 1140

aggcagggtc agggactgga gtcctgtggg tgctttttaa gcaaagatta tcaccaggca 1200

ggctaaactt agcaaccggc ttttagctag aagggcaggg ggctggtgtc aggttatgct 1260

gggccagcaa agaggcccgg gatccccctc ccatgcacct gctgatgggc caaggccacc 1320

ccaccccacc cccttcctta caagtgttca gcaccctccc atcccacact cacaaacctg 1380

gccctctgcc ctcctaccag aagaatggat cccctgtggg agggggcagg ggacctgttc 1440

ccaccgtgtg cccaagacct cttttcccac tttttccctc ttcttgactc accctgccct 1500

caatatcccc cggcgcagcc agtgaaaggg agtccctggc tcctggctcg cctgcacgtc 1560

ccagggcggg gagggacttc cgccctcacg tcccgctctt cgccccaggc tggatggaat 1620

gaaaggcaca ctgtctctct ccctaggcag cacagcccac aggtttccag gagtgccttt 1680

gtgggaggcc tctgggcccc caccagccat cctgtcctcc gcctggggcc ccagcccgga 1740

gagagccgct ggtgcacaca gggccgggat tgtctgccct aattatcagg tccaggctac 1800

agggctgcag gacatcgtga ccttccgtgc agaaacctcc ccctcccccc caagccgcct 1860

cccgagcctc cttcctctcc aggcccccag tgcccagtgc ccagtgccca gcccaggcct 1920

cggtcccaga gatgccagga gccatcg 1947

<210> 15
<211> 1436
<212> DNA
<213> Artificial

<220>
<223> Fragment 11

<400> 15
atctattttt tcaccatctt tgtgactcag ctttttctta ttcctttaat tctttgcata 60

gatctttcag cagagatgac agaagacgag acacccaaga aaacaactcc cattctcaga 120

gcatcggctc gcaggcacag atcctaggaa gtctgttcct gtcctccctg tgcagggtat 180

cctgtagggt gacctggaat tcgaaccgga ggctgtgagc tggctgtcgt gaccacactg 240

gtgcctctgc tgtcatgaca acagcacact acgtcagtag tgctccctgg gcactgagct 300

ccctctttgc ggggagaaga cagtaatgaa aaatgacaag catgaggcag aggggaagat 360

cacgcttggg tggtgcagga gcatggaggt gctcttaatg ctctcaatga gaaagggtta 420

acggtcctgg ttgcaggaat agctgagtca gaggtggggc ttcctccact cccccacccc 480

acccctttca ccattaggga ccttcttgcc ttgctcttgc tactctgctc tgggtggtca 540

ttgtgaaaag cccgcaccaa ccatgccagt ggcagccaga cgaggacaca gcctggctct 600

gggtcccagc aggaaaggca atcccagaaa ggcagggtca gggactggag tcctgtgggt 660

gctttttaag caaagattat caccaggcag gctaaactta gcaaccggct tttagctaga 720

agggcagggg gctggtgtca ggttatgctg ggccagcaaa gaggcccggg atccccctcc 780

catgcacctg ctgatgggcc aaggccaccc caccccaccc ccttccttac aagtgttcag 840

caccctccca tcccacactc acaaacctgg ccctctgccc tcctaccaga agaatggatc 900

ccctgtggga gggggcaggg gacctgttcc caccgtgtgc ccaagacctc ttttcccact 960

ttttccctct tcttgactca ccctgccctc aatatccccc ggcgcagcca gtgaaaggga 1020

gtccctggct cctggctcgc ctgcacgtcc cagggcgggg agggacttcc gccctcacgt 1080

cccgctcttc gccccaggct ggatggaatg aaaggcacac tgtctctctc cctaggcagc 1140

acagcccaca ggtttccagg agtgcctttg tgggaggcct ctgggccccc accagccatc 1200

ctgtcctccg cctggggccc cagcccggag agagccgctg gtgcacacag ggccgggatt 1260

gtctgcccta attatcaggt ccaggctaca gggctgcagg acatcgtgac cttccgtgca 1320

gaaacctccc cctccccctc aagccgcctc ccgagcctcc ttcctctcca ggcccccagt 1380

gcccagtgcc cagtgcccag cccaggcctc ggtcccagag atgccaggag ccatcg 1436

<210> 16
<211> 1177
<212> DNA
<213> Artificial

<220>
<223> Fragment 17

<400> 16
atctattttt tcaccatctt tgtgactcag ctttttctta ttcctttaat tctttgcata 60

gatctttcag cagagatgac agaagacgag acacccaaga aaacaactcc cattctcaga 120

gcatcggctc gcaggcacag atcctaggaa gtctgttcct gtcctccctg tgcagggtat 180

cctgtagggt gacctggaat tcgaaccgga ggctgtgagc tggctgtcgt gaccacactg 240

gtgcctctgc tgtcatgaca acagcacact acgtcagtag tgctccctgg gcactgagct 300

ccctctttgc ggggagaaga cagtaatgaa aaatgacaag catgaggcag aggggaagat 360

cacgcttggg tggtgcagga gcatggaggt gctcttaatg ctctcaatga gaaagggtta 420

acggtcctgg ttgcaggaat agctgagtca gaggtggggc ttcctccact cccccacccc 480

acccctttca ccattaggga ccttcttgcc ttgctcttgc tactctgctc tgggtggtca 540

ttgtgaaaag cccgcaccaa ccatgccagt ggcagccaga cgaggacaca gcctggctct 600

gggtcccagc aggaaaggca atcccagaaa ggcagggtca gggactggag tcctgtgggt 660

gctttttaag caaagattat caccaggcag gctaaactta gcaaccggct tttagctaga 720

agggcagggg gctggtgtca ggttatgctg ggccagcaaa gaggcccggg atccccctcc 780

catgcacctg ctgatgggcc aaggccaccc caccccaccc ccttccttac aagtgttcag 840

caccctccca tcccacactc acaaacctgg ccctctgccc tcctaccaga agaatggatc 900

ccctgtggga gggggcaggg gacctgttcc caccgtgtgc ccaagacctc ttttcccact 960

ttttccctct tcttgactca ccctgccctc aatatccccc ggcgcagcca gtgaaaggga 1020

gtccctggct cctggctcgc ctgcacgtcc cagggcgggg agggacttcc gccctcacgt 1080

cccgctcttc gccccaggct ggatggaatg aaaggcacac tgtctctctc cctaggcagc 1140

acagcccaca ggtttccagg agtgcctttg tgggagg 1177

<210> 17
<211> 18106
<212> DNA
<213> Homo sapiens

<400> 17
gtgagcagca caggacactt caatgcctgt tgggttctgg gctggctaag acatctgccg 60

gccctgggca gcatacggct cttgcagtca ccttcccgtc ctccttatcc ccagctgggt 120

tgcaaccaaa ttgccagagt gacctaagac cagatctttg tctccagttc ttttttatt 180

actccaaaaa cacaaccaaa gcagcatctc atccaattct tgtttgtttg tttttaatag 240

tttttatttt tcagagcagt tttaggttca aagcaaaatt gagcagaaag tacagggagt 300

tcccttctac cccttgcccc tacacatcac agccttcccc accttcaaca tcctgcacca 360

gggtggcaca tttgttacag ctgaacctac acttacacat catctcctaa agtcatggtt 420

taccttggag ttcactgcac gtaatgacat gtacccacca ttgcagtatc atacagaaga 480

gtttcactgc cttacaaatc ccctgcactc cacctattta tccctctctc cccacaaccc 540

ctgatctttt tactgttgcc atcactttgt cttttccaga atgtatcatt ggaatgatcc 600

ggtatggagc cttctcacct tggcttctta gtaatgtgcg tttaaggcct ccatgtcttc 660

catggccttg tttcttttta atcagaagta actgttttca ggcctgctct gaatctcctt 720

ttctccctcc aggctataat agatgaattt gagcagaagc ttcgggcctg tcataccaga 780

ggtttggatg gaatcaagga gcttgagatt ggccaagcag gtagccagag agcgccatca 840

gccaagaaac catccactgg tacgtaaggc agcctgtgcg ggcgagacca gactgggccc 900

tcccctcctg cagtgatttg tttcttcttc ttttttaaat cacgttttcc tgccttttct 960

aggttctagg taccagcctc tggcttctac agcctcagac aatgactttg tcacaccaga 1020

gccccgccgt actacccgtc ggcatccaaa cacccagcag cgagcttcca aaaagaaacc 1080

caaagttgtc ttctcaagtg atgagtccag tgaggaaggt atgatgctcc cgcctgttcc 1140

cggccgagaa ggcacacagc tagggtgcag agggctggtt tccataggac ctgctgcggg 1200

ggcctgagtg tagatgctct gccccactgc cgcagaaggg cctctcctgt acagcttgga 1260

ttttatttct tctgtgcggt gtgggattgt ctcacttgtt ctctgatatc tatttttca 1320

ccatctttgt gactcagctt tttcttattc ctttaattct ttgcatagat ctttcagcag 1380

agatgacaga agacgagaca cccaagaaaa caactcccat tctcagagca tcggctcgca 1440

ggcacagatc ctaggaagtc tgttcctgtc ctccctgtgc agggtatcct gtagggtgac 1500

ctggaattcg aattctgttt cccttgtaaa atatttgtct gtctcttttt tttaaaaaaa 1560

aaaaaggccg ggcactgtgg ctcacgcctg taatcccagc actttgcgat accaaggcgg 1620

gtggataacc tgaggtaggg agttcgagac cagcctgacc aacatggaga aaccccatct 1680

ctactaaaaa taaaaaatta gccgggcgta ttggcgtgcg cctgtaatcc cagctactca 1740

agaggctgag gcaggagaat cgcctgaacc cagaggcgga ggttgtagtg agccgaaatc 1800

acaccattgc actccagctt gggcaacaat agcgaacctc catctcaaat taaaaaaaaa 1860

atgcctacac gctctttaaa atgcaaggct ttctcttaaa ttagcctaac tgaactgcgt 1920

tgagctgctt caactttgga atatatgttt gccaatctcc ttgttttcta atgaataaat 1980

gtttttatat acttttagac atttttttcct aagcttgtct ttgtttcatc tttcacatta 2040

gcccagtttc atgcagcaga gagagggtta tcagtgcaga gagagatgag tgagcccaga 2100

gtcctagggc ctgtcccggg atggcagatg agcttcctgc cccgtcactg ccacctttcc 2160

cctctcaacc tctggaccct gcacagtgac cagacagcct ctctggggag aattatgcag 2220

tgcctaggct ccagatcagt gcttctgaac cgggggcaat tttgtctgcc agaggacatc 2280

tgacaacacc tggggcctgt tttgttgtca tagcctatag gggaagaatg ctaccagcat 2340

ttgtgggaag aggccaggga tgtggctcaa catcctgcag tgcacaggat ggcccctcaa 2400

caaagaatca cacggcccac aatgtcaata gcgtcacagt tgagaaaacc tgctctagac 2460

caagggttgc tttctgccgt gtgcctcacc ccacccccac tcgtgttccc taatcccatc 2520

tccaaaggtt ggcagcagac cggcccaggc tcgtggaagt tcagatcatg atcccctcca 2580

gctctgcagg agacaagacc tgtctcccag cattcctcat tgttcccggg tctgcagagg 2640

gcgtgagcta tgctgcaggc gggctgcccc ctgaagcctg cgcacccctc tccagctcct 2700

caagtcttct ctgctgagtc accttcgaac cggaggctgt gagctggctg tcgtgaccac 2760

actggtgcct ctgctgtcat gacaacagca cactacgtca gtagtgctcc ctgggcactg 2820

agctccctct ttgcggggag aagacagtaa tgaaaaatga caagcatgag gcagagggga 2880

agatcacgct tgggtggtgc aggagcatgg aggtgctctt aatgctctca atgagaaagg 2940

gttaacggtc ctggttgcag gaatagctga gtcagaggtg gggcttcctc cactccccca 3000

ccccacccct ttcaccatta gggaccttct tgccttgctc ttgctactct gctctgggtg 3060

gtcattgtga aaagcccgca ccaaccatgc cagtggcagc cagacgagga cacagcctgg 3120

ctctgggtcc cagcaggaaa ggcaatccca gaaaggcagg gtcagggact ggagtcctgt 3180

gggtgctttt taagcaaaga ttatcaccag gcaggctaaa cttagcaacc ggcttttagc 3240

tagaagggca gggggctggt gtcaggttat gctgggccag caaagaggcc cgggatcccc 3300

ctcccatgca cctgctgatg ggccaaggcc accccacccc acccccttcc ttacaagtgt 3360

tcagcaccct cccatcccac actcacaaac ctggccctct gccctcctac cagaagaatg 3420

gatcccctgt gggaggggggc aggggacctg ttcccaccgt gtgcccaaga cctcttttcc 3480

cacttttttcc ctcttcttga ctcaccctgc cctcaatatc ccccggcgca gccagtgaaa 3540

gggagtccct ggctcctggc tcgcctgcac gtcccagggc ggggagggac ttccgccctc 3600

acgtcccgct cttcgcccca ggctggatgg aatgaaaggc acactgtctc tctccctagg 3660

cagcacagcc cacaggtttc caggagtgcc tttgtgggag gcctctgggc ccccaccagc 3720

catcctgtcc tccgcctggg gccccagccc ggagagagcc gctggtgcac acagggccgg 3780

gattgtctgc cctaattatc aggtccaggc tacagggctg caggacatcg tgaccttccg 3840

tgcagaaacc tccccctccc cctcaagccg cctcccgagc ctccttcctc tccaggcccc 3900

cagtgcccag tgcccagtgc ccagcccagg cctcggtccc agagatgcca ggagccagga 3960

gatggggagg gggaagtggg ggctgggaag gaaccacggg cccccgcccg aggcccatgg 4020

gcccctccta ggcctttgcc tgagcagtcc ggtgtcacta ccgcagagcc tcgaggagaa 4080

gttccccaac tttcccgcct ctcagccttt gaaagaaaga aaggggaggg ggcaggccgc 4140

gtgcagccgc gagcggtgct gggctccggc tccaattccc catctcagtc gttcccaaag 4200

tcctcctgtt tcatccaagc gtgtaagggt ccccgtcctt gactccctag tgtcctgctg 4260

cccacagtcc agtcctggga accagcaccg atcacctccc atcgggccaa tctcagtccc 4320

ttccccccta cgtcggggcc cacacgctcg gtgcgtgccc agttgaacca ggcggctgcg 4380

gaaaaaaaaa agcggggaga aagtagggcc cggctactag cggttttacg ggcgcacgta 4440

gctcaggcct caagaccttg ggctgggact ggctgagcct ggcgggaggc ggggtccgag 4500

tcaccgcctg ccgccgcgcc cccggtttct ataaattgag cccgcagcct cccgcttcgc 4560

tctctgctcc tcctgttcga cagtcagccg catcttcttt tgcgtcgcca ggtgaagacg 4620

ggcggagaga aacccgggag gctagggacg gcctgaaggc ggcaggggcg ggcgcaggcc 4680

ggatgtgttc gcgccgctgc ggggtgggcc cgggcggcct ccgcattgca ggggcgggcg 4740

gaggacgtga tgcggcgcgg gctgggcatg gaggcctggt gggggagggg aggggaggcg 4800

tgtgtgtcgg ccggggccac taggcgctca ctgttctctc cctccgcgca gccgagccac 4860

atcgctcaga caccatgggg aaggtgaagg tcggagtcaa cgggtgagtt cgcgggtggc 4920

tgggggggccc tgggctgcga ccgcccccga accgcgtcta cgagccttgc gggctccggg 4980

tctttgcagt cgtatggggg cagggtagct gttccccgca aggagagctc aaggtcagcg 5040

ctcggacctg gcggagcccc gcacccaggc tgtggcgccc tgtgcagctc cgcccttgcg 5100

gcgccatctg cccggagcct ccttccccta gtccccagaa acaggaggtc cctactcccg 5160

cccgagatcc cgacccggac ccctaggtgg gggacgcttt ctttcctttc gcgctctgcg 5220

gggtcacgtg tcgcagagga gcccctcccc cacggcctcc ggcaccgcag gccccgggat 5280

gctagtgcgc agcgggtgca tccctgtccg gatgctgcgc ctgcggtaga gcggccgcca 5340

tgttgcaacc gggaaggaaa tgaatgggca gccgttagga aagcctgccg gtgactaacc 5400

ctgcgctcct gcctcgatgg gtggagtcgc gtgtggcggg gaagtcaggt ggagcgaggc 5460

tagctggccc gatttctcct ccgggtgatg cttttcctag attattctct ggtaaatcaa 5520

agaagtgggt ttatggaggt cctcttgtgt cccctccccg cagaggtgtg gtggctgtgg 5580

catggtgcca agccgggaga agctgagtca tgggtagttg gaaaaggaca tttccaccgc 5640

aaaatggccc ctctggtggt ggccccttcc tgcagcgccg gctcacctca cggccccgcc 5700

cttcccctgc cagcctagcg ttgacccgac cccaaaggcc aggctgtaaa tgtcaccggg 5760

aggattgggt gtctgggcgc ctcggggaac ctgcccttct ccccattccg tcttccggaa 5820

accagatctc ccaccgcacc ctggtctgag gttaaatata gctgctgacc tttctgtagc 5880

tgggggcctg ggctggggct ctctcccatc ccttctcccc acacacatgc acttacctgt 5940

gctcccactc ctgatttctg gaaaagagct aggaaggaca ggcaacttgg caaatcaaag 6000

ccctgggact agggggttaa aatacagctt cccctcttcc cacccgcccc agtctctgtc 6060

ccttttgtag gagggactta gagaaggggt gggcttgccc tgtccagtta atttctgacc 6120

tttactcctg ccctttgagt ttgatgatgc tgagtgtaca agcgttttct ccctaaaggg 6180

tgcagctgag ctaggcagca gcaagcattc ctggggtggc atagtggggt ggtgaatacc 6240

atgtacaaag cttgtgccca gactgtgggt ggcagtgccc cacatggccg cttctcctgg 6300

aagggcttcg tatgactggg ggtgttgggc agccctggag ccttcagttg cagccatgcc 6360

ttaagccagg ccagcctggc agggaagctc aagggagata aaattcaacc tcttgggccc 6420

tcctgggggt aaggagatgc tgcattcgcc ctcttaatgg ggaggtggcc tagggctgct 6480

cacatattct ggaggagcct cccctcctca tgccttcttg cctcttgtct cttagatttg 6540

gtcgtattgg gcgcctggtc accagggctg cttttaactc tggtaaagtg gatattgttg 6600

ccatcaatga ccccttcatt gacctcaact acatggtgag tgctacatgg tgagccccaa 6660

agctggtgtg ggaggagcca cctggctgat gggcagcccc ttcataccct cacgtattcc 6720

cccaggttta catgttccaa tatgattcca cccatggcaa attccatggc accgtcaagg 6780

ctgagaacgg gaagcttgtc atcaatggaa atcccatcac catcttccag gagtgagtgg 6840

aagacagaat ggaagaaatg tgctttgggg aggcaactag gatggtgtgg ctcccttggg 6900

tatatggtaa ccttgtgtcc ctcaatatgg tcctgtcccc atctcccccc cacccccata 6960

ggcgagatcc ctccaaaatc aagtggggcg atgctggcgc tgagtacgtc gtggagtcca 7020

ctggcgtctt caccaccatg gagaaggctg gggtgagtgc aggagggccc gcgggagggg 7080

aagctgactc agccctgcaa aggcaggacc cgggttcata actgtctgct tctctgctgt 7140

aggctcattt gcaggggggа gccaaaaggg tcatcatctc tgccccctct gctgatgccc 7200

ccatgttcgt catgggtgtg aaccatgaga agtatgacaa cagcctcaag atcatcaggt 7260

gaggaaggca gggcccgtgg agaagcggcc agcctggcac cctatggaca cgctcccctg 7320

acttgcgccc cgctccctct ttctttgcag caatgcctcc tgcaccacca actgcttagc 7380

acccctggcc aaggtcatcc atgacaactt tggtatcgtg gaaggactca tggtatgaga 7440

gctggggaat gggactgagg ctcccacctt tctcatccaa gactggctcc tccctgccgg 7500

ggctgcgtgc aaccctgggg ttgggggttc tggggactgg ctttcccata atttcctttc 7560

aaggtgggga gggaggtaga ggggtgatgt ggggagtacg ctgcagggcc tcactccttt 7620

tgcagaccac agtccatgcc atcactgcca cccagaagac tgtggatggc ccctccggga 7680

aactgtggcg tgatggccgc ggggctctcc agaacatcat ccctgcctct actggcgctg 7740

ccaaggctgt gggcaaggtc atccctgagc tgaacgggaa gctcactggc atggccttcc 7800

gtgtccccac tgccaacgtg tcagtggtgg acctgacctg ccgtctagaa aaacctgcca 7860

aatatgatga catcaagaag gtggtgaagc aggcgtcgga gggccccctc aagggcatcc 7920

tgggctacac tgagcaccag gtggtctcct ctgacttcaa cagcgacacc cactcctcca 7980

cctttgacgc tggggctggc attgccctca acgaccactt tgtcaagctc atttcctggt 8040

atgtggctgg ggccagagac tggctcttaa aaagtgcagg gtctggcgcc ctctggtggc 8100

tggctcagaa aaagggccct gacaactctt ttcatcttct aggtatgaca acgaatttgg 8160

ctacagcaac agggtggtgg acctcatggc ccacatggcc tccaaggagt aagacccctg 8220

gaccaccagc cccagcaaga gcacaagagg aagagagaga ccctcactgc tggggagtcc 8280

ctgccacact cagtccccca ccacactgaa tctcccctcc tcacagttgc catgtagacc 8340

ccttgaagag gggaggggcc tagggagccg caccttgtca tgtaccatca ataaagtacc 8400

ctgtgctcaa ccagttactt gtcctgtctt attctagggt ctggggcaga ggggagggaa 8460

gctgggcttg tgtcaaggtg agacattctt gctggggagg gacctggtat gttctcctca 8520

gactgagggt agggcctcca aacagccttg cttgcttcga gaaccatttg cttcccgctc 8580

agacgtcttg agtgctacag gaagctggca ccactacttc agagaacaag gccttttcct 8640

ctcctcgctc cagtcctagg ctatctgctg ttggccaaac atggaagaag ctattctgtg 8700

ggcagcccca gggaggctga caggtggagg aagtcagggc tcgcactggg ctctgacgct 8760

gactggttag tggagctcag cctggagctg agctgcagcg ggcaattcca gcttggcctc 8820

cgcagctgtg aggtcttgag cacgtgctct attgctttct gtgccctcgt gtcttatctg 8880

aggacatcgt ggccagcccc taaggtcttc aagcaggatt catctaggta aaccaagtac 8940

ctaaaaccat gcccaaggcg gtaaggacta tataatgttt aaaaatcggt aaaaatgccc 9000

acctcgcata gttttgagga agatgaactg agatgtgtca gggtgactta tttccatcat 9060

cgtccttagg ggaacttggg taggggcaag gcgtgtagct gggacctagg tccagacccc 9120

tggctctgcc actgaacggc tcagttgctt tgggcagtta ctcccgggcc tcactttgca 9180

cgtgtgctta cctagtggag acaaaagtac atacctcggt agagcgcgca cgcctgtaac 9240

cccagcactt tgggaggcca aggtgggtgt atcacctgag gtcaggagtt tgagaccagc 9300

ctggccaaca tggtgaaact ccgtctctac taaaattaca aaaatcagcc aggcttcatg 9360

gcacatgcct atagtcccag ctacaggcat gctgaagcag gagaatcgct tgcaccccgg 9420

aggcagaggc tgcagtgagc tgagaccaca ccactgcact ccagcctagg caacagagta 9480

tgagactcca tctcaaaaaa aaaaaaagta cctacctcag agttcaaact agtgaatatt 9540

aggaagtgct tgagacagtg acaccaaagt gcacaataaa tactcgccag tttcattatt 9600

attaaagaat ccatttgaat gtcagctcaa cacagcctcc tataccgagg cattgtgaac 9660

cgcatctccc cagcttctcc aggcttttcc aagaatcagg gacactgtag cctgttggtc 9720

tcagtgtatg acagacacgg aggaagcaca tctttagctg atacttaaac agagaccctg 9780

agcgcacata cacccgcgca cacatgcatg gagcttcacc ttctctgtca ttctgcagtg 9840

accaggagag caagagctcc cacctccctt caaaacactg tgcccatccc gggcactaag 9900

gcctctttaa agcacggcac ctccacgagg gagggccaca gccacataca ctccacctgg 9960

caggtggaca gcgtgagcac gtggaccata gcagggacaa ggtgccccgg ccagccccaa 10020

cgccctctgc cgctgacagg gacagaagcc ctctccagct gcgtgtgctg cagaggccat 10080

gcgtagcctc cagctgcatt ctattccact ccagtgcctg ggccagttag caccagtgtg 10140

gaagacagtg agctggctcc ggacaacagg gatggaggaa aggtcccaca ttcacattcc 10200

tgatacgtgg acaaggtgag gggccgcaat cgctctggca gcattttaaa gatggggaag 10260

tagcagacac ccacgcgtga aggcaggaga gccccaactg tggtggaaat ggccccagaa 10320

tggtagggcc aagcctagct ccagacaccc cagagccctg gagaagccaa gactgaggga 10380

gaaagcctga gggaggagcg ccccagtccc cagggaccgg cctggtgcag agctgcagct 10440

gatgttcccc tctgtgcagc cccaccctct gcctcgctga gctccctgct gcgagggcct 10500

cgggtgcaag ggggaggcag gtctctatct catggagctg tcagatgaga catcgcgatc 10560

ggagtcctca gcctcgcttg gcggcggcgg cgggtcgcta agcgggaccg cagtgaaagc 10620

aggagacttt ctagaaaaaa acaccagttg tcaaccttgg ggcaggcagg aatcctgaag 10680

acggacggca ctcctcctcc tgctgcctca ccctctggca gcccgtgaga agtaccggaa 10740

gcgagggcgg ggccgcggga tggcgaggga gcggcaggga ctgaactctc tccaaaccca 10800

ccctgacagg gaaatgggcc ccgcctgtgt cttgggaact cagaggctga ggtcaggcat 10860

gatggctcac gcctgtaatt ccagcacttt gggaggcaga ggcgggtgga tcacgacgtc 10920

aggagttcaa ggcaagcctg gccaacatgg tgaaacccca tctctactaa aaatgcaaaa 10980

attagccagg tgtggtggcg ggcgccttgg aggctgaggc aagataatca cttgaacctg 11040

ggaggcggag gttgtagtga gccaaaaaaa aaaaaaaaag aaatagctga agtcacagta 11100

ggagagaagc tgctgagcct ccagcaccct gactctaggg ccttggcttt atgtctatct 11160

gcagtatttt tgtgattttt aaaaattcac tttcttgttg cggtgtaact tacacagggt 11220

caaatgcaca aatcatggcc ctgactttag ataaaaatct gcccccacaa cccttctgtt 11280

ccttgccagt ttttaaactg cctctaacca ggggaaccac cagagctggt ggccttggga 11340

ggtttcagcc ctcccgtcat gaatggacat agctcatcca actgccaagg gagagagctg 11400

tgggtctggg ccagccccac caggtaactc ccaaagggca gccccacagc aagatgtgac 11460

ccagtcattg cctgagggtc tctggggctg tgttccaacc tttctccccg ctgtgtcccc 11520

ctggaaggcc ccatgcccag gggaggcgcc taccggtctc cagactgggt gatgagccgg 11580

cggcaggtct ccatctgcac gtccaggccg cgcttcatgc tgcacatctc catgtactcg 11640

tgcaggtgcc ggttcatgtc gttcttggcc gtggccaact ccagctgtgg tggggcaggc 11700

agggccatcg gggttaacag gtggcgttca cagcgcctct gttgcccccg ccaggaggcc 11760

aacacgccaa gagcagtggc tgggccgggg gcccaggcag ccattactga aggctcagat 11820

tttaaaataa accagaccaa ggcagaaggc agcgaataca ccattgtttc ctctgctttt 11880

cctggaaatc tttgcctatg gaggaatgca aaggtactgc tgcaggctgt gttcttttaa 11940

gactgataag agtggtgagg aaagtcagtg tgggcgggat ggagcagatc cacaggctcc 12000

cagggccaca caggttccta tggggcccgg ctcacccctc atcccctgta ctgcgctggt 12060

cctgggctgt cccctcactg cactgtgagc tcccgtaagg gttagcgaca ggttttcctc 12120

atcctggcag acccagacct cgaagggaat taactctctc tgtgacccgt ggcatacaag 12180

cctggctaac tgctgaaagg ggcccaatcc tcttaccatt ctctccttat cactttattt 12240

tctcacctaa aagccatttt cagacactaa aaggaagact cccatattgg aggtgccatt 12300

gattctgaga cctgtcctga tttcagaaat gtcacacgtg gaaaacacgg ggctcagaat 12360

caaagaaatc cggtctccct ccccgggccc attctgcagc ccacactctg aggcaggcgg 12420

agaggcaggg cccaggcagc acaaactcag tgccagggac agtcgactgc ctctctttgt 12480

tttgggtaca aagggcaggg gccgcaaggg gaagcaaaat gaaacttcct ggagatgacg 12540

ttcgtgactg cctgagtgaa gagaacgggg aggataccag ctgccataat gtggattgga 12600

cagagagggt gggaacttag agaaagaagg aaacaggtta cagggccaga cagcagagat 12660

ggtcaggaca gtgacatttg gggtgagatg gcggctggct gggtgagaag ccctagtggg 12720

gacagcttcc ctggcaggct tggatccaca gctggggccc cacagtagtg ggaggagcag 12780

gacacggtga ctgttcaacc caggggggaaa atacagtgcc accagccctt gttcagatca 12840

gctgcctaca ccccaatttc tccaccttgg aagaaccgga gtgcagggag ctgggttctg 12900

gaaccatcac tcagggagac tgggaagaag gaaatgaacc aaatatattc tactgaaata 12960

caaggctagt actgccacca gtagtctctg catatgtcta tgtccccact taattcacaa 13020

atttacagca ggaacaaggt caggaggtga acgtgcatgt caggagatgt ccttgacaag 13080

ccaccttgaa aactgcaggc tcgctgtgtg aacagacttg ggggtgggac gggaggagac 13140

agagagaggt gaggagcggt ggggaagaac tgcctcccgc ccaccactct gggccttggc 13200

tttaccttgc tccatcttag tgaccctgag agatcaaagg tcacaaagat aaaggcacct 13260

tgggtactcc tgaggtcagc aagtcctcct aacggttccc ctaatgcaga agtccccaaa 13320

ccccaggcca cggaccagta cctgtctgtg gcctgttagg aaccaggcca aatagcagga 13380

ggtgagcagt gggcaagtga gtgaagcttc atctgtattt acagctgctc cccatcactg 13440

gcattacagc ctgagctcca cctcctgtca gatccgcggc ggcattagat tctcacagga 13500

tcctgaaccc taccttacgt gaactgtgca tgcgagggat ctaggctgtg tgctccttat 13560

gagaatctaa tgcctgatga tctgtcacta tctcccatca cccccagatg ggaccgtcta 13620

gttgcggaaa acaagttcat ggctcccact gattctacat tatggtgaga tgtataatta 13680

tttcattata tattataatg taataataat agaaataaag tgcacaggcc gggtgcggtg 13740

gctcatgcct gtaatcccag cactttggga ggccgaggtg gtggatcacc tgaggtcggg 13800

agttcgagac cagcttgacc aacatggaga aaccccatct ctactaaaaa tacaaaatta 13860

gccaggcgtg gtggcacatg cccgtaatcc cagctacttg ggaggctgag gcaggagaat 13920

tgcttgagcc cgggaggcgg aggctgcagt gagccaagat tgcgccattg cactccagcc 13980

tgggcaacaa gagcaaaact ctgtctctaa aaataataat aataattttt aaaaatagta 14040

ataaagtaca caataaatgt aatgtttgaa tcatctcaaa atcatttccc ccgggtcagt 14100

ggaaaaactg tcttccacaa accagtccct ggtaccaaaa aggttgggga ctgctgccta 14160

aagtcattgc actgggagag aggaggagtc agatgatttg aaaatacttt ttttttttt 14220

tttcctgaga tggaatcttg ctctgtcacc caggctgtgg tgcagtggca caatctcagc 14280

tcactgcagc ctccacctcc cagattccag caattctcct gcctcagcct cccaagtagc 14340

tgggattaca ggtgcccacc acaatgcctg gctacttttt gtatttttag tagagacggg 14400

gtttcacatg ttggtggcca ggctggtctc acactcctga cctcaagtga tctgcccgcg 14460

ttggcctccc aaagtgctgg gattacaggc gagagccacc acgcccagcc aaaaatagct 14520

taaaaggcat gattccattt aagatattat tttcgttctt tcagatcatg ttttacactg 14580

ggcacttgag gtccagggaa gactagggag agatggcagc ccgagatctc ttctcacgaa 14640

gatggccgca caaaggcccc tagttggttg aaggcacagt gaaaacacaa accttaaatc 14700

caccatccaa aagagggaga caagaatcag gtcaggcagg aggaggaaac agtgagccgc 14760

ggtagacggg agggtgggga gtactggttt cccttgccat gtctttagct agcagcacaa 14820

atccaggaaa cctcatctac ctggccaaga aaaccaggtt tgatgcagga gcaggacagt 14880

ttgatgtgtg ttgggagaat gagtatatag gaaaataatt tctcgacttc cttctcaaac 14940

acctccaatg tgacagcaat aagaataaag tcaaggccgg gcgcggtggc tcacgcctgt 15000

aatcccagca ctttggaagg ccgaggcggg tggatcacga ggtcaggaga tcgagaccat 15060

cctggctaac atggtgaaac cccgtctcta ctaaaaaata caaaaaatta gccgggcgta 15120

gtggcaggcg cctgtagtcc cagctactct ggaggctgag gcaggagaat ggcgtgaacc 15180

tgggaggtgg agcttgcagt gagctgagat cgcgccactg cactccagcc tgggcgacac 15240

agcgagacta cgtctcaaaa aaataaataa ataaataaat aaatgaaaag aataaagtca 15300

ctctctcctt atccactggt ttcactttcc acggcttcag gtacccaagg tgaaccttga 15360

tctgaaaata ttaaatgaaa tattccagaa ataaacaatt cctaagtttt aaattgcacg 15420

ctgttctgag tggcctgata aaatctcact ctctctgccg ggcgcggtgg ctcacgccta 15480

taatcccagc actttgggag gccgaggtgg gcggatcatg aggtcaggag atcgagatca 15540

tcctggctaa cacggtgaaa ccccatctct actaaaaaat acaaaagaaa ttagccgggc 15600

gtgatggcgg gcgcctgtag tcccagctac tcaggaggct gaggcaggag aatggcgtga 15660

acccaggagg tggagcttgc agtgagccga gttcaagcca ctgcactcca gcctgggtga 15720

cacagcgaga ctccgtctcg gaaaaaaaaa aaaaaacctc actctatcca gaccaggaca 15780

tgaaccctcc ctctgtccca aggatccaca ctgtctatac tgcctgccca ttagttactt 15840

aggagccatc tcagtgatga gattgactgt cgtggtatgg cagtgcccgt gttcaaggaa 15900

cccttatttt tacttcataa tggccccaaa gcacaagagt agtgatgctg gcaatttgga 15960

tatgtgaaag agaagccaaa atatgctccc tttaagtgaa aaggtaaaag ttttcaactt 16020

aataagaaaa agaatccgat gctgaggttg gtaagctcta cagtaagaat gaatcttcta 16080

tccgtgaaat tgtaaagaag gaaaaagaaa tttgtgccag ttttgctgtc acacctcgaa 16140

ctgcaaaagg taccgccaca gcgcacgcta agtgcttagt taagatagaa aaggcattga 16200

atgtgtgggt gggagacatg aacagaaaca cgttccagtt gacagcaact ggacccaagc 16260

tatcaggagg tcagtgctat ctttggtttc aggcatccac tgtgggtctt ggaacacatg 16320

ccctgaagat aaggggggac tacgtatgaa tctcccatgt gggcctgaag agaggctgag 16380

acgcagagaa ggctccatgc ctctcccaaa gtcagagcgt cgggaaagga ccacctcacc 16440

aggccaggag agctcacggg ggtcccgtcc atccctcctc ccacagcaac agcaacctcc 16500

attctgtggt tccacaaatc cttcttcctt tgtttgtatt tttgagacgg agtcttgctc 16560

tgtcgcccag gctggagtgc agtggtgcga tctcggctca ctgcaagctc cgcctcccgg 16620

gttcacgcca ttctcctgcc tcagcctccc gagtagctgg gactacaggt gcctgccacc 16680

acggccagct aatttttttt ttttgtattt ttcgtagaga cggggtttca ccgtgttagc 16740

caggatggtc tcgatctcct gacctcgtga tcttcccgcc tcggcctccc aaagtgctgg 16800

gattacaggc gtgagccacc gcgcccggcc tccacaaatc cttcttgcag ctcctaaagc 16860

ctagagtttg agctaaagca ccagctccac ttgcctctag gtacctctag aaggtacttc 16920

aaggcttggg aaaaagcatg gagatttctc tgttatctca aaggctgagt ggaagaaaca 16980

ggaaagtccc agtccatctc tgagtgccat ggcactgata gtgttaataa taataaaaca 17040

gtccccacta tgctacactc gctatgagcc agacactgcc ctaagctcta tatatgcatt 17100

atttcatctg atcttctaaa caaccctata ggtgaggtat tattaaattc ctcattttac 17160

aaataaaaag gcccggcaca gtggctcatg cctgtaatcc caacactttg tggggccgag 17220

ttaggaggac tgcttgaatc cagaagtttg agggcagcct ggaaaacata gtgacaccct 17280

gttctctgta aaaaaaatca aaaaattagc cgggcgtggt agcacacgcc tgtggtccca 17340

gctacttggg aggctgaggt aggaggattg cttggatcca gaagatcacg gctgcagtgg 17400

gcctggagtg acagagcaag accctgtctc aaaaaaagaa agaaagaaag aaagaaagaa 17460

aaagaaacag gtgtagggct ggacacatgg ctcatgtctc taattctagt actttgggag 17520

gccgaggcag gaggatcact taagcccaag agtttaagac ctgcctggga aacacaggga 17580

gacaccatct ctacaaaaaa atacaaataa aaattagctg ggtatggtgg cacacacctg 17640

tgggcccagc tactcagaag gctggggtgg gaggatcact ccagcctagg caacagagtg 17700

aaacagagtg agaccttgtc tcaaaaaaga aaggacagaa agacaaggga gagagggagg 17760

gagggataga gggggagggg aagagagaga gagagagaaa ggaaggaagg aaggaaggaa 17820

agaaaggaaa ggaaaggaaa ggaaaggagg ggctcagagg gaacaagtaa cttattacaa 17880

gttcagggtg gttgtaagta acagagctga gatttgaacc gatatctgtc tgtttccaga 17940

gcctgaggtc ttcagagccc accaggagga ctatagctga gagatcactc ctcctcccaa 18000

gaccttggtc tctagggtcc tgcagcaggg atgaggccac tgcgcctgca gccccactca 18060

aaaccctctg ggacaccacg cccctggctt ccgctcctgc ccttac 18106

<210> 18
<211> 16312
<212> DNA
<213> Mus sp.

<400> 18
gtgagtggtc ctgttaggtt ccggtgcagt aaacttcatc tgcctcccta agtgctctga 60

gactcctgtc tgaactttct gccttgctag cctcactaca gctatggaac cagagtgact 120

aagaccagat cttaattcct ggtccctttt ttaaaggcca ttcatttcct tttttgttaa 180

catgcattgg tattttgcct gtgtatatgt ttgcatgaag gtgccaagtc cccttggaat 240

tggagttaga ctgttgtggg ccctgagaac tgaacacagg tcttttgtaa gagcagccag 300

tgctcctaac cactatgcca ccttcccagc cccagtgaag gccttgagat agggtcttgc 360

tatgtagacc cagctgcctc agactaacag agattcccct gcctctgtct cctggtagta 420

gaggtatgcc gcacatgttt gcactggact gcttctttag agtagtttca tgtttaaagc 480

aaaagtcagt aagtagagct cccatatgct ctgtcccaca cccgcatggc ctccacccca 540

tgaccttctt gtcctggtat acgtggtcct ggatgaagga acgtgattga cagatcagca 600

tccaaagtcc actcactgga cacagtggca catacttacc acttgtgtca tactgggcat 660

tttcaggact ttgaggtcac cttacccccc acccctgtgg tggcatcagt tagttggaat 720

cacagtttca gattggtttc tttagttttc tctcttttca tggctatttc tttttaagca 780

gggagataat gtttccagcc ctgtctttaa ctttctgtcc tccaggctat aatagatgaa 840

tttgagcaga agcttcgtgc ctgtcacacc agaggcatgg atggaataga ggagtttgaa 900

actggccagg gaggcagcca gcgagccctg tctgccaaga aaccctccgc tggtatgaga 960

gggatgcaag cccacatggg gctcctatga gtggtcccca ccctttttt gttcctttgt 1020

ggtttgtttt tggttttgaa atggtcccct tgcctttctt ttctagtctc aaggctacag 1080

cctctgactt ctgtagactc agacaatgac tttgtcacac ctaagccgcg acgtaccaaa 1140

cctggtcgtc cacaaactca gcagcgcaag aagtcccaga ggaaagccaa agttgtcttc 1200

ttgagtgacg agtccagtga ggacggtatg atacaccctc ccaacagatc agctgcctgt 1260

gtggggtctt ccagtggggc ttgcctagct gtggattcat tcttcctggc catgtcttcc 1320

tcactatgca gctcggctga ctttcacagt gtgccgtgtg cgtgtgtgtt tgtgtgtgtg 1380

tttgtgtgtg tgtgtgcaca cgtgtgcgcg tgcgcacgcg cgcatgtgtt tactttgaga 1440

tccattttgc cccatcttta tgactcagct tttgttccta taattctttg aatagaactt 1500

tcagcagaga tgacagaaga agagacaccc aagagaacca cccccatccg cagagcatct 1560

gggcgaagac acaggtccta ggagctgcct ttgcctactc ccgtccctgc cgtgcagggt 1620

atcttactgg atgatcttgg attcagtgcc ccccccccct tgtagaagtg cttgttgtct 1680

gtggttttaa catggaaatg gcctttgcat tgaggtcttt ctcttagagc cctgctgcca 1740

ctttcccttt ctccgagcct gtgccaattg ctgttttcta atgaataaat gtttttatag 1800

acttttaagc atcctgtcct ggctggtctg tcccatcctt agccctgagc tgtgtctgga 1860

tcttcatggc ccctgtggtg cctcatcctt gcacaactga aactctgctg tgcagaatta 1920

tgcggtttct aggttcacgt gaacagttct cagcagtctg gggtactttg caccccagaa 1980

aacattcggt aatacctaga gacttatttc tgtttgcctt gtggggcagg gggctgcagt 2040

gaaagcctta agatgaaggc caccttcatg cacattgtgc cccataacac agcatgtcag 2100

gagtacacaa cttgagaaat gctgctctag acctaaggtt tgtttcctct gtgcgcccca 2160

ccccatcccc cgaagactgg caaatgactc agcctggcta atggcagaga ttatgaaccc 2220

cactcagttc tataggtgac aaggtccatc gccccagagc cagtccttca ctacactaag 2280

gggtctgcag gaggtccagc tgtaagccat gctgtgtgcc caccatcccc aagcccttaa 2340

tctgctgagt cacttggagc aggaggcaca actgctgttt ctgctgccat gacaacagca 2400

cagtgctgct gaagtgctcc ctacctcttg gtgaggggac agtaatgata gatgacaggc 2460

gtgaggcaaa agggaaggtg cacctctgaa acactaggtt agggctgggc tatggaaggg 2520

ctctttgggt aggaaaaggg ttaacgctgt gcatagagcc tcggtaggaa ggcagaaaag 2580

ggactctgaa tctgccatgc ctctcctccc caccactgcg ctggggccac tcccaccctt 2640

cccaccctgt tcatctggcc tgctccccgc tcatgggaag cctgggcacg ggccacacag 2700

ctgtcagtct aacacagcct tggctctggg gccccaagga ggtagggcaa tctggaaggg 2760

caaggagcca agactagatt tggggtgcag cccagcgtgc tccctgcctt ttaagcaaag 2820

gttatcacca ggccagctaa acttagcaat aggctcttga gctagatgag caggggggctg 2880

gtttcatgtt gcactggcct agcaaagagg cgccagagtc cccctgccct gcacctgcta 2940

cagtgctccc aagcccttcc acccttccca gcctccctac ccttcggagt gaagaatccc 3000

ggtctcgaaa agacaaaata aaaccaaaga atgccttttc tcccttccac ttgtggcaag 3060

aggctagggg cttccctgtc ctggctcagg ggtataatat ttcctctcct gtgttctccc 3120

ctcactgatc tcaccctgtg tccacgaggg cagccaaaaa aggagagtcc ctggctccag 3180

ggccagtcag cacgtccctg gatggggagg gacttccgcc ctcacgtccc aactctccac 3240

cctggggcta cagtgggtga aaggggcagt gtctcctagc ctgggcgggg cagctctcag 3300

gttccgagga gggatactat aggaggcctc tgagcctcct ccaattcaac ccttaagagg 3360

gatgctgccc ttaccccggg gtcccagctt aggttcatca ggtaaactca ggagagtgtt 3420

tgtaagtctc aattatcagg tttccaggct gcagggcatc ctgacctatg gcgtagcaat 3480

ctccttttca agcgtcttcc tggccacccc cttgccctca cagcgcggta cacaagccag 3540

gcctctggcc aaagacagaa gccaggaggg gggggggggc agatagggaa atggggctcc 3600

tgagggctcc cgcgggagga aaagtgcccc caccctggca ttttcttcca ctctttttt 3660

tttcgggggg gggggttgct gtgtcactac cgaagaacaa cgaggagaag atcctcaact 3720

tttccgcagc cttttcaata atggggagag gttcgatgat gcagtggcag ggagacccac 3780

acttctccat ttcccctgtt ctcccatttt actcgggaag cagcattcag gtctctgggt 3840

cctggatgtc cttggtgcac actccaagga ctcctcgtcc ttaagttcat agtctgtatt 3900

ccctgagtcc tatcctggga accatcaccc ggtcacctcc tgagcggggc aatctcagct 3960

cccctccccc tatcagttcg gagcccacac gcttggtgcg tgcacatttc aaaaatgagg 4020

cgggtccaaa gagagggagg aggggaaatg agagaggccc agctactcgc ggctttacgg 4080

gtgcacgtag ctcaggcctc tgcgcccttg agctaggact ggataagcag ggcgggaggc 4140

ggggcgcgcg tcatcagctc ccccccacca tccgggttcc tataaatacg gactgcagcc 4200

ctccctggtg ctctctgctc ctccctgttc cagagacggc cgcatcttct tgtgcagtgc 4260

caggtgaaaa tcgcggagtg ggccgcagga ggccggggac agtcggaaac tgggaagggg 4320

agtgggcact gtacgggtct agggatgctg gtgcgaagtg tgcaagccgg acccaggctc 4380

cgcattgcag gggggggatg atggaggacg tgatggggcg cacggcggga atggaggcgg 4440

ggtgggggag gggactgcct ggtgtccttc gggccacgct aatctcattt tcttctcctg 4500

cagcctcgtc ccgtagacaa aatggtgaag gtcggtgtga acgggtgagt tccagggcgg 4560

ggccctgctc cgttgcctac gcaggtcttg ctgacccggg ggctctgcag tactgtgggg 4620

aggtggatga ggtggccgaa gcgcccaagg agacctcaag gtcagcgctc ggacctggcg 4680

atggctcgca cttgcggccc ccagctgctg cacctctggt aactccgcct ttgcggggat 4740

gagcggcccg gagtcttaag tattaggaac aaccccacgc gcccgttcag acccatcccg 4800

taatccccag tccggggctt ctttctttac tttcgcgccc tgaggagtca cgtgccagga 4860

gggaagcccc tcccccatct ccccttcct cggggtcggt ggcatggcgt tgtgaggtgc 4920

ataccttgc gcatcatctc ccaggcttgg gcttccttta gggtaactgg ccgccgccat 4980

gttgcaaacg ggaaggaaat gaatgaaccg ccgttatgaa atcttgctta ggccttcctt 5040

cttcctagct tgtgactaac ctcattcctc tcggctgggt ggagtgtcct ttatcctgta 5100

ggccaggtga tgcaaggctt ccgtgctctc gagagagttc tacctcacaa tctgtctcac 5160

cttattagcc ttaaaagccc ttgagcctta ttgtcctcgg gcataatgcg tattctagat 5220

tattctctga aaatcaaagc ggacttacag aggtccgctt gacctcccaa ccccagaggt 5280

agttatggcg tagtgcagag ccgtgggatg gggagctgag tcatggtggt tctgaaaaga 5340

aattttccac cacaaaatgg ctcctgtagt agcagcccct tccatcccct gcacttccca 5400

tcacagcctc gcactgaccc aggccctata ggccaggatg taaaggtcat taagaggatt 5460

gggtgtccct gcgcctcaga atcctgccct tctccccgtt ccatcctcca gaaaccagat 5520

ctctccactc cgccctgatc tgaggttaaa tttagccgtg tgacctttct ggatctgggg 5580

tctgagcggg ctctccaccc tgctcccccc acacacatct gttgctccgg ctctcatttt 5640

tgcccgagaa gaacaggtgt ttcgcgaacg agccctggga ttagggttgg aaacccccca 5700

catgttttct cagtctttcc ccttagttcg agggacttgg aggacacagg tgggcccgcc 5760

ctgtgctgct cacgctgacc tttagccttg ccctttgagc ttgctgatga atgagttcac 5820

aggtctgccc tgtccagggg gtgtagcctg aagtccagcc atgctggaac aaacttccca 5880

gggcatgagt gatgggggtg atgtgccaag cttgtaccca gactggggca aactgccact 5940

tcttaagaga cttagaatga cttggaggag gtttgctggg caagcaatca cctcttggac 6000

aggaaagaaa cctccacttt ataaccgtgc tataaaagcc ctgccaggcc tcggctgctc 6060

aaagaatata aaattagatc tctttggact ttctagggtg ggaacagtct atatttgggt 6120

tgtacatcca agcattcaac tagctttatt aaagggaatt ctgaacaaaa catgaacttc 6180

ctgatgcata catttctaat gtactgtgtc tgcataaagg cttgtacctt tgttgtggta 6240

cgtgcatagc tgatggctgc aggttctcca cacctatggt gcaacagtat tccactctga 6300

agaacatgag atagcctggg gctcactaca gacccatgag gagttctgat ctcagctccc 6360

ctgtttcttg tctttcagat ttggccgtat tgggcgcctg gtcaccaggg ctgccatttg 6420

cagtggcaaa gtggagattg ttgccatcaa cgacccccttc attgacctca actacatggt 6480

ctacatgttc cagtatgact ccactcacgg caaattcaac ggcacagtca aggccgagaa 6540

tgggaagctt gtcatcaacg ggaagcccat caccatcttc caggagcgag accccactaa 6600

catcaaatgg ggtgaggccg gtgctgagta tgtcgtggag tctactggtg tcttcaccac 6660

catggagaag gccggggtaa gtggccggaa agctgaaggt gacgggcacc cttgatatgg 6720

tgcaacctga aaaccaagaa ctgagtctga aatcaacttc tttcccttaa acaggcccac 6780

ttgaagggtg gagccaaaag ggtcatcatc tccgcccctt ctgccgatgc ccccatgttt 6840

gtgatgggtg tgaaccacga gaaatatgac aactcactca agattgtcag caatgcatcc 6900

tgcaccacca actgcttagc ccccctggcc aaggtcatcc atgacaactt tggcattgtg 6960

gaagggctca tggtatgtag gcagtgggga gacagctcat gcatttctta tcttaccctg 7020

ccatgagtgg acccttcttt gtaggtgtcc cttttgggta gaggggtgcc gtgcaggacc 7080

tcactcattg cccccgtgtt ttctagacca cagtccatgc catcactgcc acccagaaga 7140

ctgtggatgg cccctctgga aagctgtggc gtgatggccg tggggctgcc cagaacatca 7200

tccctgcatc cactggtgct gccaaggctg tgggcaaggt catcccagag ctgaacggga 7260

agctcactgg catggccttc cgtgttccta cccccaatgt gtccgtcgtg gatctgacgt 7320

gccgcctgga gaaacctgta tgtatgggga gagctgggct tgtctctggt gtgacagtga 7380

cttgggacaa ggatagtcat tttggggttt gttcttatca ggccaagtat gatgacatca 7440

agaaggtggt gaagcaggca tctgagggcc cactgaaggg catcttgggc tacactgagg 7500

accaggttgt ctcctgcgac ttcaacagca actcccactc ttccaccttc gatgccgggg 7560

ctggcattgc tctcaatgac aactttgtca agctcatttc ctggtatgtg gggatgggaa 7620

acctgacttt taagagcaac tgggggtttg gtgccctctg gtggctagct cagaaaagaa 7680

acccaaacta acagttgtcc caatttgttc taggtatgac aatgaatacg gctacagcaa 7740

cagggtggtg gacctcatgg cctacatggc ctccaaggag taagaaaccc tggaccaccc 7800

accccagcaa ggacactgag caagagaggc cctatcccaa ctcggccccc aacactgagc 7860

atctccctca caatttccat cccagacccc cataataaca ggaggggcct agggagccct 7920

ccctactctc ttgaatacca tcaataaagt tcgctgcacc cacctctcct tggttttaat 7980

gcggtgttgg gggagggagg gtgtgtatgg ggaggtgaag caggctcaat caacttttgt 8040

gcatgtatct ttattggctc tgacatccag ctgggtgccg gaagtccagg gctacattct 8100

atccaagtcc cagcccaggg cgcctgtcct gaacagctga tatgtctggc aatgcggagg 8160

gtggggcttg acaatgggac aggaaatgca gtctgagact cacttgttgg acagcactga 8220

cttccagagc tcactgctct tgagaaagat cggtgtcctt ttatctgcaa acaaaggtta 8280

attgtaccca gccctcctgc agacagacgt aaaattagat aaaattggaa gggcgcccag 8340

tacagtaaaa cctagtggta tccatgaaga ggggctgtag cactggtcga tgctttggtt 8400

cgtgcgtcac acagtgactc agtgcttggg aagtattcca caccgtcatt gcttttaaag 8460

gttccattcc aatagttcaa catagcgtct cctgggaggt cgtgactgac tccctaggtc 8520

agggacatct taacctttg gttttgtcag tgacagccat ggcggcatac cctcagctgc 8580

tcactggaga aacaggcccc gagcaccagt aacctgcagg ccacacccat gtgcgggcag 8640

cagcttcacc tcctcagccg cgacctgggc ccagcacagg acttcccaaa ggcgagcctg 8700

cacggccatg ttcactgcaa gaggcaagtg aacagctggg agcatgtgga cagagcaccc 8760

cacaccctcc aaagccttac tagggagcaa agccctatcc caaggtacat gatgaatctg 8820

cttcacacga gtgcctaggc aagttagcac cagtacaaaa tccaagatac ccaaggaata 8880

caggcaggtc ccgtgatcac attccttaca aagtggaaaa gggaggctca caagtgtcct 8940

ggcagcattc cgaagatgga gaagtagcag atacccacat gtgaggaagg caggaaggag 9000

tgtcccaatg tcatgggcgt tgtacaggga gggtggggct gagcctagct ccagacaccc 9060

cagaacctgg ggagggacag cccagggcca ggcttcatgc agtggcacag aagacccaca 9120

cccctgcaga cccacacccc tgccccagtg agctctgggg tgccagacac tggtttctat 9180

ctcatggagc tatcagatga gacgtctcga tcggagtcct cagtctcact cggcggtggc 9240

ggcgggtcgc taagcgggac cgcagtgaaa gcaggagact ttctagaaaa aaacaccagc 9300

tgtcaccttg gaccaagcag gaaggctgca gacttctaag cttgctttct catggccttc 9360

tgaggtacag ggggtgccag gcaagggctg gggagggaag aagacacttc ccttttcaac 9420

ttgatgggga gcagtgcctc tcttatcttg gggggctctg agaggctcag agatcagaaa 9480

agtgcgaagt cacagcacgg agatgccccc tgagccacgc tggggcctta gcttcttgtc 9540

cagcagtaat ctggtatggg ggtgggggct gctggacccc aaaactcctg ggtgcaagca 9600

atcctcttgc ctccaaagtg gctggggtgg agccacagat ctcttgtaag catgcacact 9660

atactcagct tgatgtaatt tgggagattg ggttgggttt tttgttgtct ttgagacagg 9720

gcctgtacgc attcctgtct ggcctggaac tctatacaga ggtgaggctg gcctggtact 9780

tggagtacct gcctgttgct tctatgcatt tgaatgacag atatgcgcta gcacacctga 9840

cttactgtag tttcttggat tttgtttgtt gttgctattt ggtttgtttg ggacaaattt 9900

ttgctgctgt cgtccaggac agcctaaaac tcatgacaat ccttctgcct ctgccttcca 9960

agactgaaac tgcagacatg taccactctg cctggtttgc agtaaatttt aaaaaaaatt 10020

tttaatgtgt gtgtgtctgt gtatgtgtat ctgtctgtgt gtctgtgtgt gtatgtgtgt 10080

gtctgtgtgt gtatctgtct gtgtgtgttt atctgtgtgc ctgtatctgt ctgtgtgtat 10140

gtctgtgtgt atctgtgtgt ctgtgtctgt ctgtgtgtgt atctgtgtgt gtgtgtttgt 10200

atctgtgtgt gtgtctgtgt gtctgactgt ctgcctgtct gtctctgtgt gtgtgtgtgt 10260

gtgtacacag ggccccacac aggctaggca agtcctctac cactaagcta tactccgaaa 10320

ccccagattt actcttacac aaggtcaaac acataaaccc gtgatttgga taagatcctg 10380

tccccgtatc tttggtcctt gcctggttta ggttctaaga cactcagagt tgggacactg 10440

gtcagtttca tctgatggcc aaggcaggga gaggaagctt cattctgggc cacacctaca 10500

ggcgactccc aaggacagct ggacataaag atgtgacctg gtccctgccc acagaccatc 10560

ggggcctatt ccagccttcc tccctgggag agagacccag cccgctcggg gcaggccctt 10620

accggtcccc ggactgtgtg atgagccggc ggcaggtctc catctgcacg tccaggcccc 10680

gcttcatgct gcacatctcc atgtactcat gcaggtgtcg gttcatgtcg ttcttggctg 10740

tggccagctc cagctgcagt aaggtggggt cagggaggac cacggttagc aaacccaggc 10800

aaggccctgg gggccaagca gctcaggaga caagtaagct acaactgcct gtttccccca 10860

ggatatggag gaggggtggg gcaactggcg atctgacttc aggccctcac tgtggctagg 10920

caagggctca ggacagtgct ccccgctcgg ccctgtcctg ccaatccact cctactgcca 10980

cccaagaatc aatcagctga tgtctgagtt ctctgtaaga acagcaagag cacacaacac 11040

agtaaggatg gtgcggtgcg gtgcggtgcg gggagcacgc atccctccag cgcttactcg 11100

gctcaggcag cagggtcccg aaggcaaacc taaatataaa acccggtctc aaaaaggggt 11160

aaggaggcca caccaggcgg ctcagtggat aaggctcctg cgcatctggc aatgtgaatt 11220

tgttctctaa cctccacaca tgcaccgtgg catgtggaga gagagagaca cacacacact 11280

aataacaata ataataaaat ttagtatttt gggggctggt gagatggctc agtgggtaag 11340

agcacccgac tgctcttcca aaggtccaga gttcaaatcc cagcaaccac atggtggctc 11400

acaaccatcc gtaacgagat ctgacgccct cttctggtgt gtctgaagac agctacagtg 11460

tacttacata taataaataa ataaatctta aaaaaaaaaa aaaaaattta gtattttgtt 11520

tgtttgtttt tcgaaacagg gtctctccat gtagccctgg ctgtcctgga actcactcta 11580

tagaccaggc tggcctggaa ctcagaaatg cgcctgcctc tgcctcccga gtgttgggat 11640

taaaggtgtg caccaccact cccggcaagg cagcagttct taacctgtga gtctcaatcc 11700

ccttgggggt tgactatcag acactctgca tgtctgtatt tatgttataa ttcgtaacag 11760

tagcaaaatt agttatgaag cagcaatgaa atagtttatg cctggggcca ccacagcgtg 11820

aagcactgtg ttaagggtca cagcgtctgg aaggctgagc accactgctt taaggacaga 11880

cagggccact catctgtcca tctttgccac tgagcctccc ctcaactgaa gctaattcac 11940

tgtgaaatat tccaaagcct cgctgcaatg gagggaacct ggctgcttct gtttatagca 12000

tttcattcca catcatcttc tcccttatat cctgctcgcc cacataagag agagaccttc 12060

ctcctgagtg attacagggt aaatccccaa caaaagaaat gggggggggg agtctctgta 12120

tcaagaaaag tctcccttcc agagctgact ctgcagccag gtttgaaggc agcaaaaaaa 12180

gtaggctgag gcggaaaagt atctaggcca gagacaaact gcggcctctc tttgtttgtg 12240

atacaaaggc caggggccag atagggagaa tcagactgcg gtggggagat ttgcttggct 12300

gcctgagggc aaagacaagg aggccgagtg gccttgaagc atgtggatca gctgtgggaa 12360

gtcacccgaa acaaatgtga actggaccgg gtgggagtgg gccccaggag cagacaaagg 12420

agacagccag gacactggca ttttgggtca tctgctgaac agctgggtgg taagccacag 12480

aggagatggc ttgaaaggca tgcttgttcc cacagcagac tgcaccattt gtgagaaaaa 12540

catgacactg aggatcagag ctcagctgcc acccccccaca gacaaatgca cacagcattc 12600

caggtcagag atcagctgcc acccatgtac atcaacacgc acacacacac acactattac 12660

aggtcagaga gcagctgtca cccatacata ccaacacaca cacacactat tacaggtcag 12720

agagcagctg tcacccatac ataccaacac acacacacac acacacacac acacactatt 12780

acaggtcaga gagcagctgt cacccattca taccaacaca cacacacaca cacacacact 12840

attacaggtc gagagcagct gtcacccata aatacaagca tacccctcac tccctcccct 12900

accccacctc cattatagtc tctcaaagca taaggcagta ctaccagcca tgtctctaag 12960

tgtcatatgt caccctgatt tacacactga aggggaagat gcacattcta gaagatgcct 13020

tcaacaaatc acccccaaat ttcagactca gtgtgggaga ggcaggggta gaggtagata 13080

ggagcgatga aggggcgggg ccatggaaga aaactccacc caccactctg catcaccatt 13140

caataatggg ggctggtcta tctctatgcc aataaccctg agatcaaggg tcatggagat 13200

aaaggtccta cagatgctcc agggagaccc aggagctact ctgctaccaa cgctaccaag 13260

tgagcatcct ttggctttct cctcaactca ttctcccagg agagaacaga agtcatacaa 13320

cttaggaaca gcttcaaaca tgttcccaat ttttttggga gggcaggggg agagtagagg 13380

tttgaagcag ggcttctctg tgcagccctg gccatcctgg aagtagttct gttccccagg 13440

ctgtcctcga actcacagag atcctcctgc ctgttttccc actaccagga ctaaaggtgg 13500

caccaccaca ctccatttta taggtactgg tatcaaacct agggcttcac gcatgaaggt 13560

aggcaggcat tctaccatga gagcacagtc ccagcccagg gtgctcttct ctgtcctacc 13620

acatcatgtt tacacttagt tatttgtggc ctaagggatg aaccacagaa gggcagcagc 13680

tcctgatcac tgtgctaaga ctcctacctg gctgacggta gggaaaaaag gaccaagcct 13740

taaatctacc gtctgtaaga ggtggacaca acccagggag ggggacagga aggaggaagg 13800

agcagtaaga ggagcggaca ggaggagatg ggagatcatt tgtccccagg caaagcttaa 13860

ctggtggcag aacactggct gggtgggaat tctgggttaa aaaccaaaag cactggtttt 13920

cctcagagta gcacggccat ctgacatgtg ctggccactg cagaagagtt acttccaaag 13980

ttccctttca aaatgcaaac agagtgaccc ccatgggcac gggaatgcac cacagggctc 14040

gcagggagcc caatggcatt agtctcctgc ctcatccctg catcagtgtc taagacatag 14100

agccctgttc actgtccaat ggcgaccccc ttcctgcagt ccctgcctgc agtccagcag 14160

gacaatctaa accccagccc caccaccatt catacccgat gccccaaggc tcaaaaaaca 14220

aaagagggag acacctccag gagctccaag gctgagccaa ggagacagga gtccctctgg 14280

gtgctacggc acttagggtg ttcccagtaa taaatgcgca cactaccgca tgtcaacctg 14340

ccagatcctg tcctaagagc cacgcgcgcc tcactctatc tgatcatctt aataaccctg 14400

cctgcctacc agcctgtcgg gagagattat gaacatctct attggacaaa taaagagaca 14460

ggcccaccct tagcagggta gaaaccatct ctaaccctaa caggctgagg caggaggatt 14520

gcctcaagtt tgactggcta cacagaaatc tggtctgggt gggggcttag gatggctcag 14580

tagttaagag catgccctgt tcttgcagag gacccaagtt tattttccag cgcccacatc 14640

aggttcacaa acacctgtga gcgccagctc ctggaaacct gatgcccacc tctgacctcc 14700

aaggagagag ggggagggag ggagggaagg aaggagggag ggagggaggg agggagggag 14760

ggagggaggg agagagagag aaagagagag agagagaaag agagaggaga gatgggggcg 14820

tggatctgcg aggaaggcag gcaggcaaga tgaatgtgtg tgagagccta caacaaaaga 14880

ataaaaagga atgaaggagc tagctgagga acacctcatc agtgggaggc ttactgcaca 14940

gcatgaagac ctgagtttga tcttagaacc catctagaaa ataagctagg gctgaagaga 15000

tggctcagca gttaagagca ctgtgtttgc tcttgcaatt cccagcaacc acatggtagc 15060

tcacaacctg ggacctgatg ccctcttctg gcatgcaggt gtacatacag atagaacact 15120

catatattaa ataaataaat aaataaataa atcttaaaaa aataaaataa actagccata 15180

gtagaacaca cttgcaatcc caaagctaag aatgtacaga cagacagaca gacagacaga 15240

cagacaaaag atgcctaggg ctccctggcc agctcggcct actcagcaag tttcagacca 15300

gtgaaagacc ctgtctcaat taaaaaaaaa aaacaaaaaa cccttaacca cactcaaaga 15360

acactaccca ggtttgtctt ctggcctcca cacttgtatg tgtacacatg tgcgcgtgca 15420

cgcacacaca cacacacaca cacacacaca cacacacaca cacagaggaa aggaggaaga 15480

cccaaggaag gataaaaagc tggtcagtca aagctggctt aaagctcctg ccgtaatcct 15540

atcgcacagg aggcgtgggc agaagcacca ggagcttgag gccaacctag actacaagac 15600

aagatcttga aaagaaacag agaggcaggg gcaggaagga cactcacaag tgcgagagag 15660

cttgcagttg tgatgcacac ttttaatccc aggagaggca cagtaacttc tccagagtga 15720

gttccaggac agccagggct acagagaagc cctgtctgtc agggggaaaa gaaaaaaaaa 15780

agaaaggggg ggacagaaaa gaaaaagata gtctggtggg aaatgattca ccgggtaaag 15840

gcatgagcca ccaagtccaa agacctaaac ttgattgctg tcacccccat ggtaaaagag 15900

aacttcctcc cacacgttgt tctctgacct ctacacatgt gcatggactg cgcatgctct 15960

ctgacactcc atccatccat ccatccatcc atccatccat ccatccagtg tgtgtgtgtg 16020

tgtgtatgtg tgtgtgtgtg tgtgtgtaaa ataaataaaa aggaaggagg gagggacagc 16080

aaaagatttg ttccatgtgg tgacagagcc gggatttgaa cccacatcta tgtgcctcca 16140

gatcctgaag tctcaaggac ctgctacagc taccacaact gagaggatca ctactgacaa 16200

cagatggaag ctcgggccct ggggttcagc gaggaggagg ccagcaacac acctacagcg 16260

tggctcctga gccctggacc tacagcgtgg ctcctgaggc cggcaccctt ac 16312

<210> 19
<211> 11058
<212> DNA
<213> Rattus sp.

<400> 19
gtgagtggac ccggatcact ggccctgttg ggttccggtg taggaaacgg aatccgctct 60

ccctaagtgc tcagagatcc ctgtctggac ttgctagcct cactacagcc gtgcaaccga 120

agtgacttaa ggccagacct ttttttttt ttttttctga gctggggacc gaacccaggg 180

ccttgcgctt gctaggcaag tgctctacca ctgagctaaa tccccaaccc caggccagac 240

ctttttaaa ggccattcgt ttcctctttt atttattttt tagtgtgcac tggtattttg 300

cctatgttta tgtctgtgaa ggagcccagt gccctggagt tggagccaca gacagttgtg 360

ggtgctgaga actaaacaca ggtcttaacc actatgccgc ccccccccc cccagcctca 420

gtaaaggcca ttttctactt gcgatagggt cttgctatgt agacccagct ggcctcaaac 480

taacagagat tcccctgcct ctgtctccag tgtgctggta gtaaaggtgt acccccatgt 540

tcggcactag actgcttctt tagagtggtc tcatgtttaa agtaacactg agttcccatc 600

tgcctgtccc acaccctcat ggcctctacc ccatcacctt atcctcggta cgtgatccta 660

caatctacat tgactgggat gaaggaatga gattgacaga tcagcatcca aagtccactc 720

actgaatcca gtggcacatt cttgccacta gtgtcatact gggcattttc aggactgtga 780

ggtcacctca ctccccaccc tgtggtggta tcagtcagtt ggaatcacag tttcagagtt 840

tgtttcttta acttgctgta tctttcatgg ctgcttttta aatagggaga taatgcttcc 900

gaccccgtct ttacctttt ctccaggctg taatagatga atttgagcag aagcttcgtg 960

cctgtcacac cagaggcatg gatggaatag aggagcttga aactggccaa ggaggcagcc 1020

agcgggccct gtctgccaag aaaccctccg ccggtgtgag aggcaagccc acgctgggcc 1080

ccacaggcag tcccctcttt tctttttttt cctttgtggt ttgtttttgg ttttgaaatc 1140

atgtccctct gcatattcca gtctcaaggc aacagcctct gacttctgta gactcagaca 1200

atgactttgt cacacctaag cctcgacgta ccaaaccccg tcgtccacaa actcagcaac 1260

gcaagtccca gaggaaagcc aaagttgtct tctcaagtga cgagtccagt gaagatggta 1320

agatacaccc tcccaacagg acaactgctt gtgtggggtc tccagccggg cttgcctggc 1380

tgtggattca ttctccctgg cagtgtcttc cccactgtgc agctgctggg ctgactttca 1440

ctctgtgtgt gtgtttgtgg tgtgtgtcca gatccgtttt gccccatctt tatgactcag 1500

cgtttgttcc tataattctt tgaatagaac tttcagcgga gatgaccgaa gaagagacac 1560

ccaagaaaac cacccccatc cgcagagcat ctgcgcaaag acacaggtcc taggagctgc 1620

ctttgcctat tcccatccct gctgtgcagg gtatcttact gaatgatcga gaattcaacg 1680

ccccccccc ccttggaaaa tacttgttgc ctccttgttt ttaacatgta aatggtcttt 1740

tcgagcaagg cctttctctt agagcccctg actgctactt tccaagatcc aatcaccatg 1800

ttttctagtg aataaatgtt tttatatact tttaagcatt ctggccggct ggtctgttcc 1860

attattaggc agcagatagc agtccagaga gagaacccca ggcatcctga gccatctctg 1920

gaccttcatg gaccctgtgg tgcttcatct ttgcacaact gctgagattt gctgtagaga 1980

gttctgtggt ttctaggttc acataagcac ttctcagcct gggggtactt tgcaccccag 2040

aacacgtttg gcaatatcta gagaccaggg gtgggagaga tggctcagcg attaggagca 2100

cttactgccc ttccagaggt cctgagttca attcccagca accacatggt ggctcacagc 2160

catctgtaat gagatctggt gccctcttcc ggtgtgtcta aagacagcta tataataaat 2220

aaataaatct ttaaaaaaaa aatctagaga cctatttctt ctgcccacct tgtggggcag 2280

gggctgctgt aggcacccag tcagtcagag cctaaggagg aagactcctt catccatagc 2340

actcccaaca cagcatgtcg ggactgtgca actagaggtg ctgctctaga cctgcggttt 2400

gtttcctgtg tgccacaccc catcccagaa gactggcaaa tgagtcagcc tggctggtgg 2460

cagagatcat gccattagct ctgttggtga caaggtccac ctcccaagag tcagtcctcc 2520

actatgctaa ggggtctctc gctcagctgc aggcccaggc tgtgctatgt gctgcccacc 2580

ttccccaagc ccttaatctg ctgagtcact tggagcagga ggcaggactg ttgtttccgc 2640

tgtcatgaca acagcacagt gcagctgagc ctctccctac ctcttggtat ggaaagagta 2700

atgacaggcg tgaggcagaa gaagatgcac ctcagaaaca ctaggttagg ggtggactgt 2760

ggaagggctc ttgagacctc tgggtaggaa aagggttaac tcggtggata gagcctcagt 2820

aggaagacag aaaagggaca gctgagtctg agatgcctgt ctccccagca ctgcactggg 2880

gccactccta ccctttccac cctgtttttg gcctgctccc tgctcatgaa aagcctaggc 2940

atggaccaca cagctgtcag tctaaacaca gctttggctc tggggcccca aggaggtagg 3000

gcaatcccag aagggcaagg agccaggact agatttgggg tgcagcccag cgtgctccct 3060

gccttttaag caaaggttat caccaggcca gctaaactta gcaataggct cttcagctag 3120

aagtgcaggg ggctggtctc aagttgcact gggctagcaa agaagcccca gagtcccct 3180

ggcccgcacc tgctgatggc ccgcacctcc caatcaaccc cttccaccct ttctagcctc 3240

cctaccctgc aaagcaaaca agtccttttc tccctccact gtgcaaagag gctaggggtt 3300

gcctgttctg gctcgggata cttccccttct gctttcttcc ctttctgatc tcaccctgct 3360

tccacgaggg cagccaagga aagagagtcc ttggctcctg ggccagtcag caggtcgcct 3420

ggatggggag ggacttccgc cctcacgtcc cagctctcca ccctggggct gcggtgggtg 3480

aaagggacag tgtctccaat cctgggcggt acaactcagg ttccggggag ggaaggcctc 3540

tgagcctcct ccaacccaac cctcaacagg gatgcttacc ccggggcccc ggtataggtt 3600

cagcaggtaa actcagggaa gtgttgtctc aatcaggttt ccagactgca ggggatcccc 3660

gacctatggc gtaggaatct ccttttcaag cctctagtca cttccttgct ttcacatcgc 3720

ggtacacaag ccaggactct ggcctaagag atagaagcca ggcggtgggg agagaggaaa 3780

atggggctgc gaagggcccc caccggagga aaagtgcccc ccccgtccct cccccagcct 3840

tttcttctgc tccttttttc ggggcggggg gggcgtgctg tgtcactacc gaagaacaac 3900

gagaagatcc tcaacttctc ctaagccttt tcactaatag ggagaagttc gatggggcag 3960

ccttgggcag acccacactt ctgctccatt tccctggttc ctgcagctct cagattctcc 4020

cattttattc gggaagcagc tttctggttt ctgggtcctg gatgtccttg gtgcacactc 4080

caaggactcc tcgtccttaa tccatagtct gtattccctg agtcctatcc tgggaaccct 4140

catccggtca cttcctcggc gggacaatct cagctcccct ccccctctca ggtcggagcc 4200

cacacgcttg gtgcgtgcac atttcaaaaa cgaggcgggt ccaaaaagag ggagggggggg 4260

aatgagagag gcccagctac tcgcggcttt acgggtgcac gtagctcagg cctctgcgcc 4320

cttgagctgg gactggatga gccgagcggg aggcggggcg cgcgtcatca gctcccccca 4380

ccatccagtt cctataaata cggactgcag ccctccctgg tgctctctgc tcctccctgt 4440

tctagagaca gccgcatctt cttgtgcagt gccaggtgaa aaagaaaaga aaaaaaagga 4500

ctgggccgca ggaggccgga gacgaatgga aattaggaat ggggggaagg acgctgtacg 4560

ggtttagggg cgctggtgcg aggtccggaa gccgagccca ggctccgcat tgcagaggat 4620

ggtagaggac gtgatggggc atgcggcggg aatggaggcg ggtgggggga ggggactggc 4680

cacgctaatc tgactttctt ctcccgcagc ctcgtctcat agacaagatg gtgaaggtcg 4740

gtgtgaacgg gtgagttcca gggcggggcc ccgctccgtt gcgcatgccg gtctggctaa 4800

attcggggct gtgctgtagc gtgcggggag gtggataggg tggccgaagt acccaaggag 4860

acctcaaggt cagcgctcgg acctggggaa ggctcgcact taacgggacc ccagctgttg 4920

ctccccttgt aactccgcct ttgctgggga gcggcccgga gtctaaagta gcaggagcac 4980

ccccgacact ggcgcgcacc cgctcaggat ccgacccgta atccccaggc tggggcttct 5040

ttctttactt tcgcgcccag aggagtcacg tgccagaagg ggagcccctc ccccatcgtc 5100

cccttcctca gggtcggtgg cacgggggtg tgaggtgcat acctttgcgc atcttctaag 5160

ggcttcactt atggtaactg gccgccgcca tgttgcaaac gggaaggaaa tgaatgaacc 5220

accgttaaga aatcttcctt cggccttcct cattcttagc ttgtgactaa ctttctcatt 5280

cctctcagct gggtggagtg tcctttattc tgtaggccag gtgatggatg gcagggtttc 5340

cgtgctctca ttagagctct actatacaat ccgtctctcg tcagccttta taggcctcca 5400

gccttatttc cctcgggcat aacttatatt ctagattgtt ctctggaagt cgaagtgcat 5460

ttacagaggt ctacttggcc tcccagcccc ggaggtgcgg tagcaatggc gtagtgccga 5520

gcccgggggt ggggtgggga gctgagtcat gatggtcctg aaaagaaatt ttctgccaca 5580

aaatggctcc ggtggtagca gccccctccc tccagggcct ccacttccat cccagctcag 5640

cactgaccca aaccctatag gccaggatgt aaaggtcact aagaggattg ggtgtctctg 5700

agcctcagga tcctaccctt ttccccaacc catcctccag aaaccagatc tccccattcc 5760

gccctgatct ggggttaaat ttagctgtct gacctttctg tatctggggt ctgagctggg 5820

ctctctgccc tgttcatccc tccacacatc tgttgctcct gctccgattt ttttttttt 5880

tttttttgg ccgggaaaga caggtgtttt gcaaatgagt cctgggatta gggctggaaa 5940

atcactggtt ttcttgatct ttcccccaga aagggacttg gaggaagcag gtgggctggc 6000

cctgtcctgc tcactctgac ctttagcctt gccctttgag ctgctgatga atgagttctc 6060

tcctgtccgg gagtgtagcc tgaagtccag ccatgctgga accggcttcc caggcctgtg 6120

tggtgggggt gatgaatacc atgtgccaag cttgtaccca gaccggggca aaccgccact 6180

tcttaagaga cttaaaatga ctttggggtg ccgggcaagg ctgtgggcct aatcacctct 6240

tggacaggaa aggaacctcc actttatagc tgctataaaa gtcctgccag ccctgggtgg 6300

ctcaaggaat ataaaattag atctctttgg actttctagg gagggaacat tctatatttg 6360

ggttgtacat ccaagcattc aaccggcttt attaaaggaa attctggaca aaacatgaac 6420

ttcctgctgc ttacgtttct gatgctgtac tgaatcagcg taagaacttg caccttttg 6480

tgatgcgtgt gtagcgggct gctgtaggat ctccacgccc atggtgcagc gatgctttac 6540

tttctgaaga acatgcgttg gcccagggct gactacaaac ccaggagggg ttcactgatc 6600

ccaactaact cgcctatttc ttgcctcaga tttggccgta tcggacgcct ggttaccagg 6660

gctgccttct cttgtgacaa agtggacatt gttgccatca acgacccctt cattgacctc 6720

aactacatgg tctacatgtt ccagtatgac tctacccacg gcaagttcaa cggcacagtc 6780

aaggctgaga atgggaagct ggtcatcaac gggaaaccca tcaccatctt ccaggagtac 6840

gtatggaaac atgcacaggg tacttcgagg agatggtaag gggcggcatt aactctgtcc 6900

tgttccccgc ctgtaggcga gatcccgcta acatcaaatg gggtgatgct ggtgctgagt 6960

atgtcgtgga gtctactggc gtcttcacca ccatggagaa ggctggggta agtggccagg 7020

aagctggagg taaggggaac ccttgatatg ggtgcaacct ccaaactgaa gagctgagtc 7080

tgaaatcaac ttctcctgca caggctcacc tgaagggtgg ggccaaaagg gtcatcatct 7140

ccgccccttc cgctgatgcc cccatgtttg tgatgggtgt gaaccacgag aaatatgaca 7200

actccctcaa gattgtcagc aatgcatcct gcaccaccaa ctgcttagcc cccctggcca 7260

aggtcatcca tgacaacttt ggcatcgtgg aagggctcat ggtatgtagg caatggagac 7320

agctcatgca tgagtggacc tttctttgaa gatgtccctt tgggtaggag ggctgccctg 7380

caagacctca cccattgcct ctatgctttc tagaccacag tccatgccat cactgccact 7440

cagaagactg tggatggccc ctctggaaag ctgtggcgtg atggccgtgg ggcagcccag 7500

aacatcatcc ctgcatccac tggtgctgcc aaggctgtgg gcaaggtcat cccagagctg 7560

aacgggaagc tcactggcat ggccttccgt gttcctaccc ccaatgtatc cgttgtggat 7620

ctgacatgcc gcctggagaa acctgtacgt agggggagag ctgggtttgt tttgtctatg 7680

gtatggtggt gacttggggc aagagcagtc atctttggtt ttgcccttac aaggccaagt 7740

atgatgacat caagaaggtg gtgaagcagg cggccgaggg cccactaaag ggcatcctgg 7800

gctacactga ggaccaggtt gtctcctgtg acttcaacag caactcccat tcttccacct 7860

ttgatgctgg ggctggcatt gctctcaatg acaactttgt gaagctcatt tcctggtatg 7920

tggggaccgc aagcctggct cttgagagta actgaaggtt tggtgccctc tggtggccag 7980

cttagaaaag aagcccaaac taaccgttgt cccaatctgt tctaggtatg acaatgaata 8040

tggctacagc aacagggtgg tggacctcat ggcctacatg gcctccaagg agtaagaaac 8100

cctggaccac ccagcccagc aaggatactg agagcaagag agaggccctc agttgctgag 8160

gagtccccat cccaactcag cccccaacac tgagcatctc cctcacaatt ccatcccaga 8220

ccccataaca acaggagggg cctggggagc cctcccttct ctcgaatacc atcaataaag 8280

ttcgctgcac cctcttcttg tgtgtgaatg cagtgttgtg ggggttatgg gcaggtgaag 8340

gaggctccat tcggttttgt gcacatatct ttattggctc tgccatccag ctgggtgcta 8400

gaggtccagg gctacattct aaccgagtgc cagcccaggc cgcctgtcca gacacctgat 8460

gtgtctggca gtgtggaggg tggggcttga cactggaaca gaaggtgcag tctttgaaca 8520

gcactgactt tcagagcttg ctgctcttga gaaagatctg tgtcctttat ctgcaaacaa 8580

aggttaattg tacccagctc tcaaagtctc cagatgttaa attaggtaaa gttggaaggg 8640

tgcccagtac agtaggacta attgtgtcca tgaagaggga aggtccctgc tgagctgttc 8700

acctgtcttc aggtgtgggc acttgaaggt gctttggttc tggggcagtg actagccagc 8760

gctcactgtt ggttgggaat gaaatgaagg tgcattacac ggtgactcga ctcaacgcct 8820

tcattgcttt caaaggtccc attcaaatgt cagctctgca tagcctctcc tgggagatcc 8880

tagctcccta ggaccaggga cattgtaacc ttttggtttt gtcagtgaca gccatggagg 8940

cattccctca gctggtcact gaggagacac cctgagcacc cctaaccttg tgcaggccac 9000

acccaagtgt ggcagcagct tcatctcagt ggcgacctgg cccaggcact ggacttccca 9060

aaggcacagc catgttcact gcagtgggca ggtgggcagc tagctgtgag catgtgcagt 9120

gtccacgccc tcaaggcctt cctagggagc aaggtcctat ccaaaggtac atgcggaatc 9180

tgtttcacat gagtgcctag gccagttagc accagtacaa aacccaagga aaacaggcag 9240

gtcccataac cacattcctt acaaatggaa aagggaggct ccaagtgtgc tggcagcatt 9300

ccaaagatgg agaagtagca gatacccaca tgtgaggaag gcaggagtgc cccaatgtgt 9360

tgggagttgt acaggggggtg gggccgagcc tagctccaga caccccagaa ccctggagag 9420

gacaagccag ggccaggctt catgcggtgg cacagaagat ggtcctctgc agacccacac 9480

ccctgcccca gagagctctg gggcaccagg ccctggttcc tatctcatgg agctgtcaga 9540

tgagacatct cgatcggagt cctcagtctc gcttggcggc ggcggcgggt cgctaagcgg 9600

gaccgcagtg aaagcaggag actttctaga aagaaatacc agttgtcacc ttggggcaaa 9660

gcaggaaagc tcctgagact tccaaacttg ctttctctgg ccttatcttt tgaggtacag 9720

ggggatgaca ggcaaggacg ggggagggaa ggaaaacttg ttttcaactt gatgggagga 9780

acagtttcgc tctttgggac tcagagatca gaaaagtctg aagtcacagc atggagatgt 9840

tccctgagcc acactaaggc cctagcttct tatccagcaa taattcggtg tgcgggggggc 9900

tgtggggact gtaggaggtg agactggggg agtatggggg tttaggggggc tgtttcactc 9960

tgttgtcact gctgacccca aattcctggg tgcaagcaat cctcttgcct tcagttgatt 10020

ttctttttttt ttttaattta ttttatttat atgagtacac tgtaactgtt ttcagacata 10080

ccagaagagg gcatcagatc ccattacaga tggttgtgag ccaccatgtg gttgctggga 10140

attgaactca ggacctctgg aagagcagtc agtgctctta accgctgagc catctctcca 10200

gcccctcttg ccttcaaagt ggctggggtg gccacaaacc cagttagcgt gctcaccata 10260

caatgcaatt tgggggggtcg ggttgggttg ggtttttttgt tctctttgag atgagtcagt 10320

ttgcattcct gcctggcctt gaactcctca cagaggcgag gctggtctag tacttgtggc 10380

aattcacctg cccgttgctt ctgtgcatct gaatgatagg tatgcgctca taagcctgac 10440

ttaactgcca ttccttggat ttttgtttgt tgttgttgct gtttggtttg tgtgggacaa 10500

ggttttactg ctgtccagaa cagcctaaaa ctcatgacaa tccttctgcc tccgccttcc 10560

aagactgaga ctgcagacat gtaccgctag gcctggttta gagatttcta aaaaaatctt 10620

agtgtgtgtg tgtgtgtctg tgtgtgtgtg tgtgtgtgtc tgtgtgtgtg tgtgtgtgtg 10680

tctgtgtgtg tctgtgtgtg tctgtgtgtg tgctagacag gctagacaag gactctacca 10740

ctgagctata ttccaaaacc ccagatttac tcttaaacaa ggtcaaacag ctaaactgtg 10800

atttggattt ggataatcct gtccctctat ttctttgctc cttgccaggt ttgggctctc 10860

agaccctcag agttgggcac tagtcggttt catctgacgg ccaaggcagg gagaggaagc 10920

ttcattctag gccacaccta cagggactcc caaggacagc tggacataaa gatgtgacct 10980

ggtcactccc acaggccact ggggcctgtc cagccttctt ccctgggaga cagccacgcc 11040

actcagggcg gcccttac   11058

<210> 20
<211> 3158
<212> DNA
<213> Homo sapiens

<400> 20
agcttgagat tgtccaagca ggtagccaga gagcgccatc agccaagaaa ccatccactg   60

gtacgtaagg cagcctgtgc gggcgagacc agactgggcc ctcccctcct gcagtgattt   120

gtttcttctt ctttttaaa tcacgttttc ctgccttttc taggttctag gtaccagcct   180

ctggcttcta cagcctcaga caatgacttt gtcacaccag agccccgccg tactacccgt   240

cggcatccaa acacccagca gcgagcttcc aaaaagaaac ccaaagttgt cttctcaagt   300

gatgagtcca gtgaggaagg tatgatgctc ccgcctgttc ccggccgaga aggcacacag 360

ctagggtgca gagggctggt ttccatagga cctgctgcgg gggcctgagt gtagatgctc 420

tgccccactg ccgcagaagg gcctctcctg tacagcttgg attttatttc ttctgtgcgg 480

tgtgggattg tctcacttgt tctctgatat ctatttttc accatctttg tgactcagct 540

ttttcttatt cctttaattc tttgcataga tctttcagca gagatgacag aagacgagac 600

acccaagaaa acaactccca ttctcagagc atcggctcgc aggcacagat cctaggaagt 660

ctgttcctgt cctccctgtg cagggtatcc tgtagggtga cctggaattc gaattctgtt 720

tcccttgtaa aatatttgtc tgtctctttt ttttaaaaaa aaaaaaggcc gggcactgtg 780

gctcacgcct gtaatcccag cactttgcga taccaaggcg ggtggataac ctgaggtagg 840

gagttcgaga ccagcctgac caacatggag aaaccccatc tctactaaaa ataaaaaatt 900

agccgggcgt attggcgtgc gcctgtaatc ccagctactc aagaggctga ggcaggagaa 960

tcgcctgaac ccagaggcgg aggttgtagt gagccgaaat cacaccattg cactccagct 1020

tgggcaacaa tagcgaacct ccatctcaaa ttaaaaaaaa aatgcctaca cgctctttaa 1080

aatgcaaggc tttctcttaa attagcctaa ctgaactgcg ttgagctgct tcaactttgg 1140

aatatatgtt tgccaatctc cttgttttct aatgaataaa tgtttttata tacttttaga 1200

catttttcc taagcttgtc tttgtttcat ctttcacatt agcccagttt catgcagcag 1260

agagagggtt atcagtgcag agagagatga gtgagcccag agtcctaggg cctgtcccgg 1320

gatggcagat gagcttcctg ccccgtcact gccacctttc ccctctcaac ctctggaccc 1380

tgcacagtga ccagacagcc tctctgggga gaattatgca gtgcctaggc tccagatcag 1440

tgcttctgaa ccgggggcaa ttttgtctgc cagaggacat ctgacaacac ctggggcctg 1500

ttttgttgtc atagcctata ggggaagaat gctaccagca tttgtgggaa gaggccaggg 1560

atgtggctca acatcctgca gtgcacagga tggcccctca acaaagaatc acacggccca 1620

caatgtcaat agcgtcacag ttgagaaaac ctgctctaga ccaagggttg ctttctgccg 1680

tgtgcctcac cccaccccca ctcgtgttcc ctaatcccat ctccaaaggt tggcagcaga 1740

ccggcccagg ctcgtggaag ttcagatcat gatcccctcc agctctgcag gagacaagac 1800

ctgtctccca gcattcctca ttgttcccgg gtctgcagag ggcgtgagct atgctgcagg 1860

cgggctgccc cctgaagcct gcgcacccct ctccagctcc tcaagtcttc tctgctgagt 1920

caccttcgaa ccggaggctg tgagctggct gtcgtgacca cactggtgcc tctgctgtca 1980

tgacaacagc acactacgtc agtagtgctc cctgggcact gagctccctc tttgcgggga 2040

gaagacagta atgaaaaatg acaagcatga ggcagagggg aagatcacgc ttgggtggtg 2100

caggagcatg gaggtgctct taatgctctc aatgagaaag ggttaacggt cctggttgca 2160

ggaatagctg agtcagaggt ggggcttcct ccactccccc accccacccc tttcaccatt 2220

agggaccttc ttgccttgct cttgctactc tgctctgggt ggtcattgtg aaaagcccgc 2280

accaaccatg ccagtggcag ccagacgagg acacagcctg gctctgggtc ccagcaggaa 2340

aggcaatccc agaaaggcag ggtcagggac tggagtcctg tgggtgcttt ttaagcaaag 2400

attatcacca ggcaggctaa acttagcaac cggcttttag ctagaagggc agggggctgg 2460

tgtcaggtta tgctgggcca gcaaagaggc ccgggatccc cctcccatgc acctgctgat 2520

gggccaaggc caccccaccc caccccccttc cttacaagtg ttcagcaccc tcccatccca 2580

cactcacaaa cctggccctc tgccctccta ccagaagaat ggatcccctg tgggaggggg 2640

caggggacct gttcccaccg tgtgcccaag acctcttttc ccacttttttc cctcttcttg 2700

actcaccctg ccctcaatat cccccggcgc agccagtgaa agggagtccc tggctcctgg 2760

ctcgcctgca cgtcccaggg cggggaggga cttccgccct cacgtcccgc tcttcgcccc 2820

aggctggatg gaatgaaagg cacactgtct ctctccctag gcagcacagc ccacaggttt 2880

ccaggagtgc ctttgtggga ggcctctggg cccccaccag ccatcctgtc ctccgcctgg 2940

ggccccagcc cggagagagc cgctggtgca cacagggccg ggattgtctg ccctaattat 3000

caggtccagg ctacagggct gcaggacatc gtgaccttcc gtgcagaaac ctccccctcc 3060

ccctcaagcc gcctcccgag cctccttcct ctccaggccc ccagtgccca gtgcccagtg 3120

cccagcccag gcctcggtcc cagagatgcc aggagcca 3158

<210> 21
<211> 3218
<212> DNA
<213> Homo sapiens

<400> 21
aagctggcac cactacttca gagaacaagg ccttttcctc tcctcgctcc agtcctaggc 60

tatctgctgt tggccaaaca tggaagaagc tattctgtgg gcagccccag ggaggctgac 120

aggtggagga agtcagggct cgcactgggc tctgacgctg actggttagt ggagctcagc 180

ctggagctga gctgcagcgg gcaattccag cttggcctcc gcagctgtga ggtcttgagc 240

acgtgctcta ttgctttctg tgccctcgtg tcttatctga ggacatcgtg gccagcccct 300

aaggtcttca agcaggattc atctaggtaa accaagtacc taaaaccatg cccaaggcgg 360

taaggactat ataatgttta aaaatcggta aaaatgccca cctcgcatag ttttgaggaa 420

gatgaactga gatgtgtcag ggtgacttat ttccatcatc gtccttaggg gaacttgggt 480

aggggcaagg cgtgtagctg ggacctaggt ccagacccct ggctctgcca ctgaacggct 540

cagttgcttt gggcagttac tcccgggcct cactttgcac gtgtgcttac ctagtggaga 600

caaaagtaca tacctcggta gagcgcgcac gcctgtaacc ccagcacttt gggaggccaa 660

ggtgggtgta tcacctgagg tcaggagttt gagaccagcc tggccaacat ggtgaaactc 720

cgtctctact aaaattacaa aaatcagcca ggcttcatgg cacatgccta tagtcccagc 780

tacaggcatg ctgaagcagg agaatcgctt gcaccccgga ggcagaggct gcagtgagct 840

gagaccacac cactgcactc cagcctaggc aacagagtat gagactccat ctcaaaaaaa 900

aaaaaagtac ctacctcaga gttcaaacta gtgaatatta ggaagtgctt gagacagtga 960

caccaaagtg cacaataaat actcgccagt ttcattatta ttaaagaatc catttgaatg 1020

tcagctcaac acagcctcct ataccgaggc attgtgaacc gcatctcccc agcttctcca 1080

ggcttttcca agaatcaggg acactgtagc ctgttggtct cagtgtatga cagacacgga 1140

ggaagcacat ctttagctga tacttaaaca gagaccctga gcgcacatac acccgcgcac 1200

acatgcatgg agcttcacct tctctgtcat tctgcagtga ccaggagagc aagagctccc 1260

acctcccttc aaaacactgt gcccatcccg ggcactaagg cctctttaaa gcacggcacc 1320

tccacgaggg agggccacag ccacatacac tccacctggc aggtggacag cgtgagcacg 1380

tggaccatag cagggacaag gtgccccggc cagccccaac gccctctgcc gctgacaggg 1440

acagaagccc tctccagctg cgtgtgctgc agaggccatg cgtagcctcc agctgcattc 1500

tattccactc cagtgcctgg gccagttagc accagtgtgg aagacagtga gctggctccg 1560

gacaacaggg atggaggaaa ggtcccacat tcacattcct gatacgtgga caaggtgagg 1620

ggccgcaatc gctctggcag cattttaaag atggggaagt agcagacacc cacgcgtgaa 1680

ggcaggagag ccccaactgt ggtggaaatg gccccagaat ggtagggcca agcctagctc 1740

cagacacccc agagccctgg agaagccaag actgagggag aaagcctgag ggaggagcgc 1800

cccagtcccc agggaccggc ctggtgcaga gctgcagctg atgttcccct ctgtgcagcc 1860

ccaccctctg cctcgctgag ctccctgctg cgagggcctc gggtgcaagg gggaggcagg 1920

tctctatctc atggagctgt cagatgagac atcgcgatcg gagtcctcag cctcgcttgg 1980

cggcggcggc gggtcgctaa gcgggaccgc agtgaaagca ggagactttc tagaaaaaaa 2040

caccagttgt caaccttggg gcaggcagga atcctgaaga cggacggcac tcctcctcct 2100

gctgcctcac cctctggcag cccgtgagaa gtaccggaag cgagggcggg gccgcgggat 2160

ggcgagggag cggcagggac tgaactctct ccaaacccac cctgacaggg aaatgggccc 2220

cgcctgtgtc ttgggaactc agaggctgag gtcaggcatg atggctcacg cctgtaattc 2280

cagcactttg ggaggcagag gcgggtggat cacgacgtca ggagttcaag gcaagcctgg 2340

ccaacatggt gaaaccccat ctctactaaa aatgcaaaaa ttagccaggt gtggtggcgg 2400

gcgccttgga ggctgaggca agataatcac ttgaacctgg gaggcggagg ttgtagtgag 2460

ccaaaaaaaa aaaaaaaaga aatagctgaa gtcacagtag gagagaagct gctgagcctc 2520

cagcaccctg actctagggc cttggcttta tgtctatctg cagtattttt gtgattttta 2580

aaaattcact ttcttgttgc ggtgtaactt acacagggtc aaatgcacaa atcatggccc 2640

tgactttaga taaaaatctg cccccacaac ccttctgttc cttgccagtt tttaaactgc 2700

ctctaaccag gggaaccacc agagctggtg gccttgggag gtttcagccc tcccgtcatg 2760

aatggacata gctcatccaa ctgccaaggg agagagctgt gggtctgggc cagccccacc 2820

aggtaactcc caaagggcag ccccacagca agatgtgacc cagtcattgc ctgagggtct 2880

ctggggctgt gttccaacct ttctccccgc tgtgtccccc tggaaggccc catgcccagg 2940

ggaggcgcct accggtctcc agactgggtg atgagccggc ggcaggtctc catctgcacg 3000

tccaggccgc gcttcatgct gcacatctcc atgtactcgt gcaggtgccg gttcatgtcg 3060

ttcttggccg tggccaactc cagctgtggt ggggcaggca gggccatcgg ggttaacagg 3120

tggcgttcac agcgcctctg ttgcccccgc caggaggcca acacgccaag agcagtggct 3180

gggccggggg cccaggcagc cattactgaa ggctcaga 3218

<210> 22
<211> 508
<212> DNA
<213> Homo sapiens

<400> 22
agcttgagat tgtccaagca ggtagccaga gagcgccatc agccaagaaa ccatccactg 60

gtacgtaagg cagcctgtgc gggcgagacc agactgggcc ctcccctcct gcagtgattt 120

gtttcttctt ctttttaaa tcacgttttc ctgccttttc taggttctag gtaccagcct 180

ctggcttcta cagcctcaga caatgacttt gtcacaccag agccccgccg tactacccgt 240

cggcatccaa acacccagca gcgagcttcc aaaaagaaac ccaaagttgt cttctcaagt 300

gatgagtcca gtgaggaagg tatgatgctc ccgcctgttc ccggccgaga aggcacacag 360

ctagggtgca gagggctggt ttccatagga cctgctgcgg gggcctgagt gtagatgctc 420

tgccccactg ccgcagaagg gcctctcctg tacagcttgg attttatttc ttctgtgcgg 480

tgtgggattg tctcacttgt tctctgat 508

<210> 23
<211> 2650
<212> DNA

<213> Homo sapiens

<400> 23

atctattttt tcaccatctt tgtgactcag ctttttctta ttcctttaat tctttgcata 60

gatctttcag cagagatgac agaagacgag acacccaaga aaacaactcc cattctcaga 120

gcatcggctc gcaggcacag atcctaggaa gtctgttcct gtcctccctg tgcagggtat 180

cctgtagggt gacctggaat tcgaattctg tttcccttgt aaaatatttg tctgtctctt 240

ttttttaaaa aaaaaaaagg ccgggcactg tggctcacgc ctgtaatccc agcactttgc 300

gataccaagg cgggtggata acctgaggta gggagttcga gaccagcctg accaacatgg 360

agaaacccca tctctactaa aaataaaaaa ttagccgggc gtattggcgt gcgcctgtaa 420

tcccagctac tcaagaggct gaggcaggag aatcgcctga acccagaggc ggaggttgta 480

gtgagccgaa atcacaccat tgcactccag cttgggcaac aatagcgaac ctccatctca 540

aattaaaaaa aaaatgccta cacgctcttt aaaatgcaag gctttctctt aaattagcct 600

aactgaactg cgttgagctg cttcaacttt ggaatatatg tttgccaatc tccttgtttt 660

ctaatgaata aatgttttta tatactttta gacatttttt cctaagcttg tctttgtttc 720

atctttcaca ttagcccagt ttcatgcagc agagagaggg ttatcagtgc agagagagat 780

gagtgagccc agagtcctag ggcctgtccc gggatggcag atgagcttcc tgccccgtca 840

ctgccacctt tcccctctca acctctggac cctgcacagt gaccagacag cctctctggg 900

gagaattatg cagtgcctag gctccagatc agtgcttctg aaccgggggc aattttgtct 960

gccagaggac atctgacaac acctggggcc tgttttgttg tcatagccta taggggaaga 1020

atgctaccag catttgtggg aagaggccag ggatgtggct caacatcctg cagtgcacag 1080

gatggcccct caacaaagaa tcacacggcc cacaatgtca atagcgtcac agttgagaaa 1140

acctgctcta gaccaagggt tgctttctgc cgtgtgcctc accccacccc cactcgtgtt 1200

ccctaatccc atctccaaag gttggcagca gaccggccca ggctcgtgga agttcagatc 1260

atgatcccct ccagctctgc aggagacaag acctgtctcc cagcattcct cattgttccc 1320

gggtctgcag agggcgtgag ctatgctgca ggcgggctgc cccctgaagc ctgcgcaccc 1380

ctctccagct cctcaagtct tctctgctga gtcaccttcg aaccggaggc tgtgagctgg 1440

ctgtcgtgac cacactggtg cctctgctgt catgacaaca gcacactacg tcagtagtgc 1500

tccctgggca ctgagctccc tctttgcggg gagaagacag taatgaaaaa tgacaagcat 1560

gaggcagagg ggaagatcac gcttgggtgg tgcaggagca tggaggtgct cttaatgctc 1620

tcaatgagaa agggttaacg gtcctggttg caggaatagc tgagtcagag gtggggcttc 1680

ctccactccc ccaccccacc cctttcacca ttagggacct tcttgccttg ctcttgctac 1740

tctgctctgg gtggtcattg tgaaaagccc gcaccaacca tgccagtggc agccagacga 1800

ggacacagcc tggctctggg tcccagcagg aaaggcaatc ccagaaaggc agggtcaggg 1860

actggagtcc tgtgggtgct ttttaagcaa agattatcac caggcaggct aaacttagca 1920

accggctttt agctagaagg gcagggggct ggtgtcaggt tatgctgggc cagcaaagag 1980

gcccgggatc cccctcccat gcacctgctg atgggccaag gccaccccac cccacccccт 2040

tccttacaag tgttcagcac cctcccatcc cacactcaca aacctggccc tctgccctcc 2100

taccagaaga atggatcccc tgtgggaggg ggcaggggac ctgttcccac cgtgtgccca 2160

agacctcttt tcccactttt tccctcttct tgactcaccc tgccctcaat atcccccggc 2220

gcagccagtg aaagggagtc cctggctcct ggctcgcctg cacgtcccag ggcggggagg 2280

gacttccgcc ctcacgtccc gctcttcgcc ccaggctgga tggaatgaaa ggcacactgt 2340

ctctctccct aggcagcaca gcccacaggt ttccaggagt gcctttgtgg gaggcctctg 2400

ggcccccacc agccatcctg tcctccgcct ggggccccag cccggagaga gccgctggtg 2460

cacacagggc cgggattgtc tgccctaatt atcaggtcca ggctacaggg ctgcaggaca 2520

tcgtgacctt ccgtgcagaa acctcccccт cccccтcaag ccgcctcccg agcctccttc 2580

ctctccaggc ccccagtgcc cagtgcccag tgcccagccc aggcctcggt cccagagatg 2640

ccaggagcca 2650

<210> 24
<211> 1963

<212> DNA
<213> Homo sapiens

<400> 24
agcttgagat tgtccaagca ggtagccaga gagcgccatc agccaagaaa ccatccactg 60

gtacgtaagg cagcctgtgc gggcgagacc agactgggcc ctcccctcct gcagtgattt 120

gtttcttctt ctttttaaa tcacgttttc ctgccttttc taggttctag gtaccagcct 180

ctggcttcta cagcctcaga caatgacttt gtcacaccag agccccgccg tactacccgt 240

cggcatccaa acacccagca gcgagcttcc aaaaagaaac ccaaagttgt cttctcaagt 300

gatgagtcca gtgaggaagg tatgatgctc ccgcctgttc ccggccgaga aggcacacag 360

ctagggtgca gagggctggt ttccatagga cctgctgcgg gggcctgagt gtagatgctc 420

tgccccactg ccgcagaagg gcctctcctg tacagcttgg attttatttc ttctgtgcgg 480

tgtgggattg tctcacttgt tctctgatat ctatttttc accatctttg tgactcagct 540

ttttcttatt cctttaattc tttgcataga tctttcagca gagatgacag aagacgagac 600

acccaagaaa acaactccca ttctcagagc atcggctcgc aggcacagat cctaggaagt 660

ctgttcctgt cctccctgtg cagggtatcc tgtagggtga cctggaattc gaattctgtt 720

tcccttgtaa aatatttgtc tgtctctttt ttttaaaaaa aaaaaaggcc gggcactgtg 780

gctcacgcct gtaatcccag cactttgcga taccaaggcg ggtggataac ctgaggtagg 840

gagttcgaga ccagcctgac caacatggag aaaccccatc tctactaaaa ataaaaaatt 900

agccgggcgt attggcgtgc gcctgtaatc ccagctactc aagaggctga ggcaggagaa 960

tcgcctgaac ccagaggcgg aggttgtagt gagccgaaat cacaccattg cactccagct 1020

tgggcaacaa tagcgaacct ccatctcaaa ttaaaaaaaa aatgcctaca cgctctttaa 1080

aatgcaaggc tttctcttaa attagcctaa ctgaactgcg ttgagctgct tcaactttgg 1140

aatatatgtt tgccaatctc cttgttttct aatgaataaa tgtttttata tacttttaga 1200

catttttcc taagcttgtc tttgtttcat ctttcacatt agcccagttt catgcagcag 1260

agagagggtt atcagtgcag agagagatga gtgagcccag agtcctaggg cctgtcccgg 1320

gatggcagat gagcttcctg ccccgtcact gccacctttc ccctctcaac ctctggaccc 1380

tgcacagtga ccagacagcc tctctgggga gaattatgca gtgcctaggc tccagatcag 1440

tgcttctgaa ccgggggcaa ttttgtctgc cagaggacat ctgacaacac ctggggcctg 1500

ttttgttgtc atagcctata ggggaagaat gctaccagca tttgtgggaa gaggccaggg 1560

atgtggctca acatcctgca gtgcacagga tggcccctca acaaagaatc acacggccca 1620

caatgtcaat agcgtcacag ttgagaaaac ctgctctaga ccaagggttg ctttctgccg 1680

tgtgcctcac cccaccccca ctcgtgttcc ctaatcccat ctccaaaggt tggcagcaga 1740

ccggcccagg ctcgtggaag ttcagatcat gatcccctcc agctctgcag gagacaagac 1800

ctgtctccca gcattcctca ttgttcccgg gtctgcagag ggcgtgagct atgctgcagg 1860

cgggctgccc cctgaagcct gcgcacccct ctccagctcc tcaagtcttc tctgctgagt 1920

caccttcgaa ccggaggctg tgagctggct gtcgtgacca cac 1963

<210> 25
<211> 1195
<212> DNA
<213> Homo sapiens

<400> 25
tggtgcctct gctgtcatga caacagcaca ctacgtcagt agtgctccct gggcactgag 60

ctccctcttt gcggggagaa gacagtaatg aaaaatgaca agcatgaggc agaggggaag 120

atcacgcttg ggtggtgcag gagcatggag gtgctcttaa tgctctcaat gagaaagggt 180

taacggtcct ggttgcagga atagctgagt cagaggtggg gcttcctcca ctcccccacc 240

ccaccccttt caccattagg gaccttcttg ccttgctctt gctactctgc tctgggtggt 300

cattgtgaaa agcccgcacc aaccatgcca gtggcagcca gacgaggaca cagcctggct 360

ctgggtccca gcaggaaagg caatcccaga aaggcagggt cagggactgg agtcctgtgg 420

gtgcttttta agcaaagatt atcaccaggc aggctaaact tagcaaccgg cttttagcta 480

gaagggcagg gggctggtgt caggttatgc tgggccagca aagaggcccg ggatcccccc 540

cccatgcacc tgctgatggg ccaaggccac cccaccccac ccccttcctt acaagtgttc 600

agcaccctcc catcccacac tcacaaacct ggccctctgc cctcctacca gaagaatgga 660

tcccctgtgg gagggggcag gggacctgtt cccaccgtgt gcccaagacc tcttttccca 720

ctttttccct cttcttgact caccctgccc tcaatatccc ccggcgcagc cagtgaaagg 780

gagtccctgg ctcctggctc gcctgcacgt cccagggcgg ggagggactt ccgccctcac 840

gtcccgctct tcgccccagg ctggatggaa tgaaaggcac actgtctctc tccctaggca 900

gcacagccca caggtttcca ggagtgcctt tgtgggaggc ctctgggccc ccaccagcca 960

tcctgtcctc cgcctggggc cccagcccgg agagagccgc tggtgcacac agggccggga 1020

ttgtctgccc taattatcag gtccaggcta cagggctgca ggacatcgtg accttccgtg 1080

cagaaacctc cccctccccc tcaagccgcc tcccgagcct ccttcctctc caggccccca 1140

gtgcccagtg cccagtgccc agcccaggcc tcggtcccag agatgccagg agcca 1195

<210> 26
<211> 256
<212> DNA
<213> Homo sapiens

<400> 26
cctctgggcc cccaccagcc atcctgtcct ccgcctgggg ccccagcccg gagagagccg 60

ctggtgcaca cagggccggg attgtctgcc ctaattatca ggtccaggct acagggctgc 120

aggacatcgt gaccttccgt gcagaaacct ccccctcccc ctcaagccgc ctcccgagcc 180

tccttcctct ccaggccccc agtgcccagt gcccagtgcc cagcccaggc ctcggtccca 240

gagatgccag gagcca 256

<210> 27
<211> 1941
<212> DNA
<213> Homo sapiens

<400> 27
agcttgagat tgtccaagca ggtagccaga gagcgccatc agccaagaaa ccatccactg 60

gtacgtaagg cagcctgtgc gggcgagacc agactgggcc ctcccctcct gcagtgattt 120

gtttcttctt ctttttaaa tcacgttttc ctgccttttc taggttctag gtaccagcct 180

ctggcttcta cagcctcaga caatgacttt gtcacaccag agccccgccg tactacccgt 240

cggcatccaa acacccagca gcgagcttcc aaaaagaaac ccaaagttgt cttctcaagt 300

gatgagtcca gtgaggaagg tatgatgctc ccgcctgttc ccggccgaga aggcacacag 360

ctagggtgca gagggctggt ttccatagga cctgctgcgg gggcctgagt gtagatgctc 420

tgccccactg ccgcagaagg gcctctcctg tacagcttgg attttatttc ttctgtgcgg 480

tgtgggattg tctcacttgt tctctgatat ctatttttc accatctttg tgactcagct 540

ttttcttatt cctttaattc tttgcataga tctttcagca gagatgacag aagacgagac 600

acccaagaaa acaactccca ttctcagagc atcggctcgc aggcacagat cctaggaagt 660

ctgttcctgt cctccctgtg cagggtatcc tgtagggtga cctggaattc gaaccggagg 720

ctgtgagctg gctgtcgtga ccacactggt gcctctgctg tcatgacaac agcacactac 780

gtcagtagtg ctccctgggc actgagctcc ctctttgcgg ggagaagaca gtaatgaaaa 840

atgacaagca tgaggcagag gggaagatca cgcttgggtg gtgcaggagc atggaggtgc 900

tcttaatgct ctcaatgaga aagggttaac ggtcctggtt gcaggaatag ctgagtcaga 960

ggtggggctt cctccactcc cccaccccac ccctttcacc attagggacc ttcttgcctt 1020

gctcttgcta ctctgctctg ggtggtcatt gtgaaaagcc cgcaccaacc atgccagtgg 1080

cagccagacg aggacacagc ctggctctgg gtcccagcag gaaaggcaat cccagaaagg 1140

cagggtcagg gactggagtc ctgtgggtgc tttttaagca aagattatca ccaggcaggc 1200

taaacttagc aaccggcttt tagctagaag ggcaggggggc tggtgtcagg ttatgctggg 1260

ccagcaaaga ggcccgggat ccccctccca tgcacctgct gatgggccaa ggccacccca 1320

ccccaccccc ttccttacaa gtgttcagca ccctcccatc ccacactcac aaacctggcc 1380

ctctgccctc ctaccagaag aatggatccc ctgtgggagg gggcagggga cctgttccca 1440

ccgtgtgccc aagacctctt ttcccacttt ttccctcttc ttgactcacc ctgccctcaa 1500

tatcccccgg cgcagccagt gaaagggagt ccctggctcc tggctcgcct gcacgtccca 1560

gggcggggag ggacttccgc cctcacgtcc cgctcttcgc cccaggctgg atggaatgaa 1620

aggcacactg tctctctccc taggcagcac agcccacagg tttccaggag tgcctttgtg 1680

ggaggcctct gggcccccac cagccatcct gtcctccgcc tggggcccca gcccggagag 1740

agccgctggt gcacacaggg ccgggattgt ctgccctaat tatcaggtcc aggctacagg 1800

gctgcaggac atcgtgacct tccgtgcaga aacctccccc tccccctcaa gccgcctccc 1860

gagcctcctt cctctccagg cccccagtgc ccagtgccca gtgcccagcc caggcctcgg 1920

tcccagagat gccaggagcc a 1941

<210> 28
<211> 1433
<212> DNA
<213> Homo sapiens

<400> 28
atctattttt tcaccatctt tgtgactcag ctttttctta ttcctttaat tctttgcata 60

gatctttcag cagagatgac agaagacgag acacccaaga aaacaactcc cattctcaga 120

gcatcggctc gcaggcacag atcctaggaa gtctgttcct gtcctccctg tgcagggtat 180

cctgtagggt gacctggaat tcgaaccgga ggctgtgagc tggctgtcgt gaccacactg 240

gtgcctctgc tgtcatgaca acagcacact acgtcagtag tgctccctgg gcactgagct 300

ccctctttgc ggggagaaga cagtaatgaa aaatgacaag catgaggcag aggggaagat 360

cacgcttggg tggtgcagga gcatggaggt gctcttaatg ctctcaatga gaaagggtta 420

acggtcctgg ttgcaggaat agctgagtca gaggtggggc ttcctccact cccccacccc 480

acccctttca ccattaggga ccttcttgcc ttgctcttgc tactctgctc tgggtggtca 540

ttgtgaaaag cccgcaccaa ccatgccagt ggcagccaga cgaggacaca gcctggctct 600

gggtcccagc aggaaaggca atcccagaaa ggcagggtca gggactggag tcctgtgggt 660

gctttttaag caaagattat caccaggcag gctaaactta gcaaccggct tttagctaga 720

agggcagggg gctggtgtca ggttatgctg ggccagcaaa gaggcccggg atccccctcc 780

catgcacctg ctgatgggcc aaggccaccc caccccaccc ccttccttac aagtgttcag 840

caccctccca tcccacactc acaaacctgg ccctctgccc tcctaccaga agaatggatc 900

ccctgtggga gggggcaggg gacctgttcc caccgtgtgc ccaagacctc ttttcccact 960

ttttccctct tcttgactca ccctgccctc aatatccccc ggcgcagcca gtgaaaggga 1020

gtccctggct cctggctcgc ctgcacgtcc cagggcgggg agggacttcc gccctcacgt 1080

cccgctcttc gccccaggct ggatggaatg aaaggcacac tgtctctctc cctaggcagc 1140

acagcccaca ggtttccagg agtgcctttg tgggaggcct ctgggccccc accagccatc 1200

ctgtcctccg cctggggccc cagcccggag agagccgctg gtgcacacag ggccgggatt 1260

gtctgcccta attatcaggt ccaggctaca gggctgcagg acatcgtgac cttccgtgca 1320

gaaacctccc cctccccctc aagccgcctc ccgagcctcc ttcctctcca ggcccccagt 1380

gcccagtgcc cagtgcccag cccaggcctc ggtcccagag atgccaggag cca 1433

<210> 29
<211> 17130
<212> DNA
<213> Cricetulus griseus

<220>
<221> misc_feature
<222> (4674)..(4912)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (11347)..(13938)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (14757)..(14870)
<223> n is a, c, g, or t

<400> 29
gtgagtggtg cagggtgact ggccctattg ggttcctgtt cagtgaacac agtctgttct 60

tcgagtgctg tgggactctt aacttactgc cgtgctggcc tcactacagc catttaacta 120

gagtgacttg agatcacttt ctatgtccac ttcccggtcc taaaaaaaaa atttattttg 180

tatacattag tattttgcct gtgtgtatgt ccatgtgaag gtgccagatc tggaacttga 240

gttacaggca gttgtgagct gccacatggg tgctgggaac tgaacccagg tcttctgcag 300

gagcagcaag tgccatctct ctagccccca gtaaaagccg atttctagtt gagacatggt 360

ctttctgtgt agctctagct ggcttagaat ttgctaccta gaccaggctg gccccaaatt 420

cagattcccc tgcctctgcc tctcatgtgc tggtaggaaa ggcgtgagtc acatgcttgg 480

cactagacta gctttgtgtt tagagcaaaa ctaagtaagt agagttcccg tttgtccctg 540

tcctctgccc catcatcttc atacccttgg gtactgtgat cttacaatct acagtgacct 600

ggatgaatga gtgtgagtga caatgaatga cagagcagta cccagagtcc acagttcaca 660

ctgatactgg gttcactgta cagtggcaca tacttgtcac cacagtgtca tactggacat 720

tttcatgacc ctaaggccac atcacccctg tggtgtcact cagttgtaat ttcaccctat 780

atagtgattt caggttggct ttttacttag aatataacat ttaaattatg tttctttttt 840

ggttttgagt tttgtttttc gagacagggt ttctctgtat tgctttggag gttgtgctgg 900

aacttgctct ggagaccagg ctggcttcga actcacagag atcctcccac ctctgcctcc 960

cgagtgctgg gattaaaggc gtgcgccacc aatgccccag catctttctg tttctctgtt 1020

tttaaagagg gagataatgt ttccagtgct gtttttaact tttttcctgt aggctaccat 1080

agatgaattt gagcagaagc ttcgggcatg tcataccaga ggcatggatg gaatagagga 1140

gcttgaaact ggccaagaag gcagccagca agccctgtct gccaagaaac cctctgctgg 1200

tatgagagac aagcccacac ggactcccca caaatcatcc ctgtcattta ttggtttttg 1260

tttttaaaat cacatctccc tgccatttct agtctcaagg cgacagcctc tgacttctat 1320

agattcagac aatgactttg tcacacctaa gcctcgacgc accaaccgtc atcgtccaaa 1380

cactcagcaa cgaaagtcca agaagaaagc caaagttgtc ttttcaagtg atgagtccag 1440

tgaggatggt atgactcgcc ctcccggcag ctgcttgctt gccttggggt ctccttgggg 1500

cttgcctggt tgtagagtca ttcttcctgg taatgtgttc cccactgtgc acgttggctc 1560

acctttgcag ctctatgttt taagatccac tttacaccat ctttgtgact cagcttttgt 1620

tcctataatt ctttgaacag aactttcagc ggaaatgacg gaagaagaga ctcccaagag 1680

aaccaccccc atccgcagat catctgcccg aagacacagg tcttaggagt tgcctcacct 1740

attcccatcc ctgctgtgca gggtatctta attgattttt aattcatttc ctcccttgta 1800

aaaatgttgc ctccttgttt ttaatatgta aatggtcttt gcattcaagg cctttctcct 1860

agagcccatc tgactgctgc tttcactttc caacaaacac ttaaccaatc accatgtttt 1920

ctaagaataa atgtttttat atacttttat tctttgctgg tctgtttcat cttccacctt 1980

agcccagatt caggcagcaa tagagggtta tcaaaccaga gagaagatac accagcccag 2040

gcatcctgag gctgtctctg ggtcttcatg tttcctcatt gattcatctt gcacaactga 2100

tgagactcca ctgtagagaa ttctcacttc tcagcctggg ggtactttct acccagagac 2160

ctatttctgt catagccttt tgggacacat aaagcttcct tcctgcatag aacaccccac 2220

aacagtgtat caggagtgta caagttgaca aacaatgctc tagacctacg gttttcttcc 2280

tctgtgtgcc tcatcccaga agagatcatg actcccagga gtcagccttt actatggggt 2340

ctgcaggggc gtccagcccc tcagcggcaa gccatgccca ccctccccaa gtccttaatc 2400

tgctgagtca cttggaacag gagacactga ttctgctgtc atgacaacag cacattgcca 2460

tagaaatgct ccctacctct tacgtgtgtg gtgggggaac agtaatgaca aaccataggc 2520

aggaggcaaa agggaagacg gcacctcaga aacatgtgtt aggttagggc agaactatgg 2580

aggggctcct gagactcttt gatgggaaag ggttaatgct gctcctgaaa cctctgttgg 2640

aaggcagaaa agggacaggg ctgagtcccc gcactgggac catttccatc ctctgcatcc 2700

tgcccccggc tcatggaaag cctgggcatg ggccacacag ctgtcagtct tggctctggg 2760

gccccaagga ggtagggcaa tcccagaatg gcaaggagcc aggactggat ttggggtgca 2820

gcccagcctg ctccctgcct tttaagcaaa ggttatcacc aggccagcta aacttagcaa 2880

ttaggctctt cagctaaaag agcaggggggc tggtctcaag ttgcactgac ctagcaaaga 2940

ggccccagga tccccctgcc cagcacctgt ggctgagctc ccaagccctt cccgagagct 3000

caggatccac cctttccacc ctccctactc ttcagaggag gaacccccct tctccttccc 3060

acttgttgga gggggctggg gccaggctgt tctggcttgg ggtataatac cccctacccc 3120

ttctactttc ccctcctctc agacctcacc ctgcctccac gagggcagcc aagaaaggag 3180

agtccctggc tgcagggcca gtaggcacgt cccaggacgg ggagggactt ccgccctcac 3240

gtccagctct ccgccctggg gctgcagtgg gtgaaagggg cagtgtctcc tagcctgggc 3300

ggtgcaaccc tcaggttccg aggaggaacg ctctgggagg cttctttgcc tcctccaacc 3360

caacccacaa ccaggacatt gtcctcaccc cggggcccca acctagacct taactgagga 3420

acacagaggc cagtttgtaa gtctcaatta tgcagggcat cccgacctgt ggcgtaggga 3480

gcgcccctcc aggccgcttc cctagcctcc tcctggccct cacagcccag gcctctggcc 3540

caagaaatgg aagtgggggt gggggatgga actgcgaatg cgaagggccc ccgcaggagg 3600

caaagtgacc cctcccgggc cttttctgct ccgagacttg tttttgcctg tgtcactacc 3660

gaagaaccac gagaagatcc tcaacttttc cacagccttt gcataaaggg gagagggtcg 3720

gcggtgcagc tgtggcacac acgcacttct gctcaacccg ccccccccgg cccccgttcc 3780

tgttccttcc caggttctcc ccattttatc ggggcggcaa cttttaggtc cctgggtcct 3840

ggaagtcctt agtacacact cttcgtcctt aagtccatag tctgtattcc ctcggtccta 3900

tcctgtcccc catcaccggg tcacctcccc agcgaagcaa tctcagttcc cctccccctc 3960

tcagccccga gcccacacgt ttggtgcgtg cacatttcaa aaacgaggcg ggtccaaaga 4020

gagggggtgg ggaggtgccg agtggcccag ctactcgcgg ctttacgggt gcacgtagct 4080

caggcctcag cgcccttgag ctgtgactgg atggatgagc ggggcgggag gcggggcgag 4140

cgtcctcggc gctccccacc accccagttc ctataaatac ggactgcagc cctccccggt 4200

gctctctgct cctccctgtt ctagagacag ccgcatcttt ccgtgcagtg ccaggtgaaa 4260

accgcagagt gggccgcagg tggccgggga cggtcggaaa cggggaaggg gggcgctcag 4320

cccgggactg cgggcgctgg ggcgagctcc actgcccgag cccgggctcc gcattgcaga 4380

ggctggaggg ggaagggatg gggggcgcgg cgggggcac gctgacctct ctttcttctc 4440

tctccctccg cagcctcgct ccggagacgc aatggtgaag gtcggcgtga acgggtgagt 4500

tcgtggctgg gctagggtgg ggctccgggt cccgctccgt cgcgtatgca ggtctacccc 4560

accccggggc tctgcgggag cgtggggtgg ccggtgggtg gccgcagcac ccaaggagac 4620

ctcaaggtca gcgagccacc tcctcccttg cggggatgag cagcgcggag tccnnnnnnn 4680

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4740

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4800

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4860

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnaggtcggt 4920

ggcaccgggc cgtgcggtgc ccgctttagc gcatccatca tctcccaagg gcttccttta 4980

gggtggctgg ccgccgccat gttgcaaacg ggaaggaaat gaatgaacca ccgttaggaa 5040

acctcccttc ggccttcctc cttcctagcc cgtgactaac ctccccactc cctccccggg 5100

tggagtcgcc tctgtactgt aagccaggtg atgcaaggct tccgtgctct cgagagagct 5160

ctacctcgcc agctgtctca tattattagc ctcaaagcag ccctcaagcc tcatttacct 5220

tgagcatatg atatattttg tagattctct gagaatcgaa gcggacttgg agaggtctgc 5280

ttgtccttct cccagcccaa aggtggtagc tatggcgtag cgccggaggg gggagtgggg 5340

ggggagctga gtcatggtgg ttctgaaaag aaaatttcca ccacaaaatg gctccggtgc 5400

tagcatcccc ttccccccat aacctctgct tcccatcaca ccctgaccca aaccctgtag 5460

gccagactgt aaaggtcact aagaggattg agtgtctgag cctcggaacc ctgcccttct 5520

ccccatccca tcctctggaa accagatctc ccccgctcca ccctaatctg aggttatatt 5580

tagccggctg acctttcagt atttggggtc tgggccccta cacacatctg ttgctcctgc 5640

tcctgatttt tagctagcaa attcaagtgc tttgcaaatt agagcccagg gattaggggt 5700

tggaaagctc agtggttttc tcagtctttc cctttagggg gagggacttg gaggaagcag 5760

gtgggccgac ccctgtccta ctcattctga cctttaacct tgccctttga gcttgatgat 5820

gctgagtgca cgagttcttc ctgtccaggg ggtgtagcct gaagccaggc caggctagaa 5880

caaacttccc agggggtggg ggtagtgaat gccttgtgcc cacacagggg cacactgcca 5940

cctcttggag acttgaaatg actggtgggg gggttggaca aggctttgag cccaatcacc 6000

tcttggacag gaaagtaacc cccactttat ggccctgctg taaaagccca gtcaaacctc 6060

atttgtccaa ggaagataga cctcttgggg cttcctaagg ataggggtgt tctatatttg 6120

ggccctgctt ctaagcattc agccagcttt attaaaggaa attcataaca aaacttgaat 6180

ttcctgcttc ttaaatacta atagtgtgct ggatctccat taaaaatgct gtcttgcaca 6240

gtaggctatg gtttctgtgg gctctctaca gctatgggac aactggattc tgttttctga 6300

agggcatgtg tcagctcagt actgactata gacctatgag ttctctgacc ccctaactca 6360

ccttttttt tcttgcctca gatttggccg tattggacgc ctggttacca gggctgcctt 6420

cacttctggc aaagtggaag ttgttgccat caatgacccc ttcattgacc tcaactacat 6480

ggtctacatg ttccagtatg actctaccca tggcaagttc aaaggcacag tcaaggctga 6540

gaatggaaag cttgtcatca acgggaaggc catcaccatc ttccaggagc gagatcccgc 6600

caacatcaaa tggggtgatg ctggcgccga gtatgttgtg gaatctactg gcgtcttcac 6660

caccatggag aaggctgggg cccacttgaa gggcggggcc aagagggtca tcatctccgc 6720

cccttctgct gatgccccca tgtttgtgat gggtgtgaac caagacaagt atgacaactc 6780

cctcaagatt gtcaggtgag gatggcagag ggctgtggca aagtgggcaa gcaggggcaa 6840

ggttacaggt gggcgagcct cctaacctgt ctcttctctt cagcaatgcg tcctgcacca 6900

ccaactgctt agccccccctg gccaaggtca tccatgacaa ctttggcatt gtggaaggac 6960

tcatggtatg tagttcatct gtttcatcct gccagcagtg ggcgctgtgg tgggggccct 7020

gcaagacctc actccctgcc tctgtgtctt tcagaccacg gtccatgcca tcactgccac 7080

ccagaagact gtggatggcc cctccgggaa gctgtggcgt gatggccgtg gggctgccca 7140

gaacatcacc cctgcatcca ctggcgctgc caaggctgtg ggcaaagtca gcccagagct 7200

gaacgggaag ctgactggca tggccttccg tgttcctacc cccaacgtgt ccgttgtgga 7260

tctgacatgt cgcctggaga aacctgtatg tctggggtgg gctgagggtt gtctctagtg 7320

gtgaggttgg ggcttgagta gtcaccttga tttttgccct taataggcca agtatgagga 7380

catcaagaag gtggtgaagc aggcatctga gggcccactg aagggcatcc tgggctacac 7440

cgaggaccag gttgtctcct gcgacttcaa cagtgactcc cactcttcca cctttgatgc 7500

tggggctggc attgctctca atgacaactt tgtaaagctc atttcctggt atgtgggatc 7560

agaaacagtc ttttaaaagt aacttggggt ttgtcacccc ttggtgtcta actcaaaaag 7620

taaacccttc ctaactgccc tcccaatgtg ttctaggtat gacaatgaat ttggctacag 7680

caacagagtg gtggacctca tggcctacat ggcctccaag gagtaagaag cccaccctgg 7740

accatccacc ccagcaagga ctcgagcaag agggaggccc tggctgctga gcagtccctg 7800

tccaataacc cccacaccga tcatctccct cacagtgtcc atcccagacc cccagaataa 7860

ggaggggctt agggagccct actctcttga ataccatcaa taaagttcac tgcacccatc 7920

ttccttggcc tttcaatgta aggttggggg agggaggctg tgacctagca aggttgggaa 7980

tcctctgtgt cacttttcaa acagggcact agccacatgc cagcccaggt ttcctgtcct 8040

gaacagatga aaattcacct aaggtgtctt ggtgctggga ggagtggggg ttgacaatgg 8100

gaccagtagt atggtcttag aggcttgggc tggactgcat caagttccag ggctgtgtgt 8160

gtgttatctg caaacaaagg tcaattgtgt ctggaggcct taggtaaaat tggaaggatg 8220

cccaacatag taaaaatgta tcagccaggg gaagtgacta cactgtatct aacctgaaac 8280

agctgagctg taagccagca gctgtcacta tgttcaggtg tggtccgctg gttctggggt 8340

ggtcacttgt atccagtttg ttaggaagtg ttgtcattgc ttgttaggaa gacaacacat 8400

ctcaggctgg gcagtggtag tgcgtgcctc taatgccagc attcccagca cggaagtggc 8460

agaggcagga ggacagcctg gaataacaac ccagggcaga gcccccatct cggaaaagac 8520

aaaaaccaga aagtgcttaa aacattgaca caaaggtgct caaatattcc ttcattgctt 8580

ttagagattc cactgtcagc ttggcatggc ctctagtgag acatcctgac ttggtcccct 8640

gctttccaag gtcaggagaa tgatagccac agaacgttcc ctcagctgat ggctggagaa 8700

ccggggtccc tgagccccca ccctcacacc catgtgcagg agggagcttc acctttccct 8760

ccgagcagtg tctgccttca ggacaccgct ctcagcccag acactgagtc ttctttgtgt 8820

gcatttcccc ggggaaaagc tacacattcc ctgtacagca ggcaggaggg cagctgtgag 8880

ctcatggaca cgggacagaa ggccaggtac cctgcctccc tgcggtaccc cgcctccctt 8940

cgaggcctta ctaggaagca aagccttctc caggtgtacg tgatgcggaa agtctgcaga 9000

aagtcgggga ctcccagatg agtctgctgc acagtgcctg ggccagttag caccagaaca 9060

aaagtccaag atagccaagg agaacaggca ggtcccacaa tcacattcct tacaaacgga 9120

gaagggagga tcacaagtgt tctggcagcg tttcaaagat agagaagtag caaacagtca 9180

gagtgaagaa ggcaggagtg tcccaatgtc atggggatat ccaggaaggg tggggccaag 9240

cctagctcca gacacccagg gagcccgggc gaggagacag ccccagggcc aggcttcatg 9300

cagtggcaca aaagaccccc accccggcct cggtgagctc cagggagcca ggcactggtc 9360

cctatctcat ggagctatca gatgagacat ggcaatcgga gtcctcagtt tcgcttggcg 9420

ctggcggcgg gtcgctaagc gggaccgcag tgaaagcagg agactttcta gaaaaaaaca 9480

ccagatgtca ccttggggca agcaggaagc ccaagcaggc ctgcatgctc gctctccttt 9540

ccatggcctt atcttctggg gtgcagctgg atgccaggca gggaagtggg tgggaagact 9600

tgtccccatt cacctctatg aggaacagtt cccctcttgg aggctctgag aggctcagag 9660

atcaaaaatg tctcaagtca cagcatggag atgcttcctg agcccacagt gtgctgacac 9720

cagggccagc ttcttgtcca gctgtaaagg gggtggggct gtctcactat gttcccaagg 9780

ctgaccccca acacttggta caaagcaatc ctcttgctcc agagtagctg ggatgacaag 9840

caaaggccac taaacctagt gaacatgctg cacactgtgc ctagcttaat gtaattgggg 9900

gagtgggttg gggttttgtt ttgagacagg gtctcagtat gcattcctgg ctggcctgga 9960

attcacagag gagagaccgg cctggtactt gtggcaatct gtagggagac accgtaacca 10020

cgcctcctaa gagctggctc atcagggtgt ggtcaaggtg atgtcagggt gacatgggag 10080

aggtgtaaag ggataaggaa cgcacatggt agctcttttc cctgctgctt tggcttgctc 10140

tgctttcctg ccggttggct acctaataaa tatatcctga ccatcacggg ctatgtatta 10200

gtaattaatc ctaatagccg gtgtctccct acaacaatcc acctgcctgt gacacctatg 10260

tgcttggatg acagatgtac accaccacac ctggcttact gtggttcctt agattttacc 10320

tgttgttgct ggttgtttta ttttaagaca agtttttgct attgtagtcc aggatagcct 10380

caaactcacg gcagtctttt gcttcagcct cccaaggctg ggcttgcaga catgtaccat 10440

catgcctggg ttacacattt ttaatatata atttattttt attctgtgtt aattggtatt 10500

tgcctgcata tatgtctgtg taaaggtatc agaagccctg gaactggagt tacagacact 10560

cgtgtgggtg ctgggaattg aacccaggcc ctctggaaga gcatccagtg ttcttaacta 10620

atgagccatc tctcagcccc caggtttttt ttttttttt tttactctgt gtgtatgtgt 10680

gtgtgtgcac acgcacgcgc atgctcgaac atacaccagc acacagggtc tcacacaggc 10740

tagacaagta ctctaccact gagctatatt ccccaaaccc aaatttactc ttacacaagg 10800

tcaaatactt aaatcatgac ttagactttg gataaaaacc tgcccctgta tctcttcatt 10860

cctagccagg tttcggctct cagacactgg ggcactggta ggagtcgtct gaccaccagg 10920

gcagggagag gaagctatca atctgggcca cacctatagg tgactccaaa ggacagctcc 10980

acttgcagat gtgacctggt caccggccac tgggctggga cgagggccaa tcagagcagg 11040

tccttaccgg tcccccgact gcgtgatcag ggcaggtcct taccggtccc ccgactgtgt 11100

gatgaggcgg cggcaggtct ccatctgcac gtccaagccc cgtttcatgc tgcacatctc 11160

catgtactcg tgcaggtggc ggttcatgtc attcttggct gtggccagct ccagctgcag 11220

aaaagtaggg cagggcagga tgaggaggtt agcaagccca aggcagacag gggattagag 11280

cccagctggg ccccggaggc caggcagcca tggttaaaag ctcggccttc aaaagaaagc 11340

aagcagnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11400

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11460

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11520

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11580

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11640

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11700

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11760

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11820

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11880

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11940

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12000

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12060

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12120

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12180

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12240

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12300

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12360

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12420

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12480

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12540

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12600

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12660

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12720

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12780

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12840

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12900

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12960

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13020

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13080

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13140

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13200

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13260

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13320

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13380

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13440

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13500

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13560

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13620

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13680

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13740

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13800

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13860

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13920

nnnnnnnnnn nnnnnnnnac acacacacac acacacacac acacacttac ttcctgagga 13980

agactgcagg gaacaaggct agatagaacc cattattcca ggagacaaaa gtgaagcaaa 14040

aatggtctct taaagcacaa agcagcacta ccaacagtgg tctcttccag cctatatatc 14100

accctagttt acacattgaa gggaaagatg tacattctag aacattttca acaagtcagc 14160

ccccaaattc cagactcagc atgggagatc agagcagtag aggtagatgg aggagataga 14220

ggggccaggg ccatggagga aaactcccac ctgtcatcag ctttaccatc caataatggg 14280

cagctctacc tcagtaacac tgagagatta agggccatac agacaaaagg aacttttgcc 14340

acaaagctac caagtgaact ttctttacct ttctcctcaa gtcattcttc caggaaggac 14400

agaagtcaca caacttagaa acaactttcc atccatgtgc agtatacata tttttatgtg 14460

tgtggataca gatgtgcatg tgtgtggtta catggggaag cctgatgtcg atgcagggaa 14520

tcttcctagg tggttcttat actctgagtc tgtgtaacgg cattggttgt cctggaactt 14580

gatctgtaga ccagactggc ctcaaactca cagagatcta cctgtctctg cctcccgaat 14640

gctgggatta aaagcgtgtg cctcagccgg acgttggtgg cgcatgcctt taatcccagc 14700

actcgggagg cagaggcagg aggatctctg tgagttctag accagcctgg tctacannnn 14760

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 14820

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn ctagttccag 14880

ggcagcctcc aaagccacag agaaaccctg tctcaaaaaa caaaacaaaa ataaataaat 14940

aaataaataa aatcctgcgc ctccactgcc cggctcagaa tatttttaaa gacaaggatt 15000

atgtagccca ggctggcctc aaacttgtta tgtagctaag atgatggtgg cctctgatcc 15060

tcctgcctct acctcccaag tgttaggact ataggctggc actaccacac ccggtttcat 15120

gtgggctagg atcacactca ggcagggctt catgcacatt gggcaggcat tctaccaact 15180

gagttacaca gtcccagccc aggatgtctc accagatcac ggttacagct aggcacctgt 15240

ggtctgaggt ttgcaccaca tggcagcccc agtcactgag ctaaggtgaa actcatactt 15300

gactaaaggc acggaatctg aaaggggtgg gtacaaccca ggaggaaaat cggcggaagc 15360

aataagaggc gtcaacaggc aatggtcact tttccccaga caagtctcag ctggaagcag 15420

cacacgggct gggtatctga aactcagaag tttcctgggt taaaaacaaa agccctggtt 15480

tttcttagga tagtatgttc atttgatgtg tgctgggaca ctgagaacac aggaaaataa 15540

cttccaaagt ttgttctcaa aatgcagaca gggtgaacct ttacagggct tgcagggagg 15600

ctgatacaag aggtctcctg cctcattcac ccatcagagt ccaagacaca gtcctcacac 15660

agccccaccc aaccaactgt cctccgacgg tgacctcctc cctacaaacc tgcctgcagc 15720

ccagaaggac agtcagagcc ccagctccat agccatttgt aaaggactcc ccaggctcaa 15780

aaacaaaagg gagactcctc caggagctca caggctgagc caaggaggca ggagtgctcc 15840

ggcacttagg gtgtccgggt gataatgcac aatatgtatg atgtgtcaac ctgccagatc 15900

ctgtcctaag cgccacgtgt ctatctgatc atcctaataa cccagcctgc ggggagagac 15960

atgcacatct ccttctgaca aataaagagg caggcccaag cttagcatgg cagtacacat 16020

ctgtaaccca gcactcaaca ggcagagcag gaggattgac tgcctcctat tccaggccag 16080

tttggctaca cagaaagacc ctgtactgat gctaagagag atggctcaga gttaagagca 16140

cttcctgctc ctggagagga cccaggtttg ctttccagca cccatgtcag gctcacagtc 16200

gcctgtgaac accagctcca ggggatctga tgccctcttc tggcctccag gggcacgcgc 16260

gtgtgcgctc acacacacac acacacacac acacacacac acacacacac acacacacac 16320

acagagtgca aagctgaagt gcagctcaca cccataatcc tagcaaatgg agacaaaagg 16380

accaggagtt cgaggccaac ctagactaca agacaagtac ttgtaaataa atacatatat 16440

acgaaaataa acaaaccaaa aataatgaaa caggcactca gatcaaggga gccagtattg 16500

gtggcacacg cctttaatcc cagcactcag gaggcagagg caggtggatc tctgagtttg 16560

aggccagcct agtctacaga atgagatcca ggactacaca gagaaaccct gtctcaccct 16620

cctctcccct aaaaaaaatt aagaaagaaa agaaagagcc aggggctggt aagcaatgga 16680

tcagcaggta aaggcacaag ccaccaagcc caacaaccta aatttgatcc ctgggaccta 16740

catggtagaa ggagagaact cactgcaagc tgtcctctga cctccacaca cacaccatgg 16800

caggcacatg ctctccccgc cacatacata catacataca tacatacata catacataca 16860

tacatacatg taaacagaaa agaaagtagg aagacaaaag gttcattcta agtggtgaca 16920

gagccaagat ttgaacccac atctatctgc gtctagatcc tgaggtctca agggcccatt 16980

agagctacca aaactggggt ggggtgcact cctcctgtca acaggtggaa ggtcctggtc 17040

ttgggctctg gctgggagga ggccagccag cagcacacct ccagcctggt ttgtgagccc 17100

tgggaacaga gcccctgcca aacccccttac 17130

<210> 30
<211> 3020
<212> DNA
<213> Artificial

<220>

<223> amplicon

<400> 30

tacggccggc ttcactgtac agtggcacat acttgtcacc acagtgtcat actggacatt 60

ttcatgaccc taaggccaca tcacccctgt ggtgtcactc agttgtaatt tcaccctata 120

tagtgatttc aggttggctt tttacttaga atataacatt taaattatgt ttctttttg 180

gttttgagtt ttgtttttcg agacagggtt tctctgtatt gctttggagg ttgtgctgga 240

acttgctctg gagaccaggc tggcttcgaa ctcacagaga tcctcccacc tctgcctccc 300

gagtgctggg attaaaggcg tgcgccacca atgccccagc atctttctgt ttctctgttt 360

ttaaagaggg agataatgtt tccagtgctg tttttaactt ttttcctgta ggctaccata 420

gatgaatttg agcagaagct tcgggcatgt cataccagag gcatggatgg aatagaggag 480

cttgaaactg gccaagaagg cagccagcaa gccctgtctg ccaagaaacc ctctgctggt 540

atgagagaca agcccacacg gactccccac aaatcatccc tgtcatttat tggtttttgt 600

ttttaaaatc acatctccct gccatttcta gtctcaaggc gacagcctct gacttctata 660

gattcagaca atgactttgt cacacctaag cctcgacgca ccaaccgtca tcgtccaaac 720

actcagcaac gaaagtccaa gaagaaagcc aaagttgtct tttcaagtga tgagtccagt 780

gaggatggta tgactcgccc tcccggcagc tgcttgcttg ccttggggtc tccttggggc 840

ttgcctggtt gtagagtcat tcttcctggt aatgtgttcc ccactgtgca cgttggctca 900

cctttgcagc tctatgtttt aagatccact ttacaccatc tttgtgactc agcttttgtt 960

cctataattc tttgaacaga actttcagcg gaaatgacgg aagaagagac tcccaagaga 1020

accaccccca tccgcagatc atctgcccga agacacaggt cttaggagtt gcctcaccta 1080

ttcccatccc tgctgtgcag ggtatcttaa ttgattttta attcatttcc tcccttgtaa 1140

aaatgttgcc tccttgtttt taatatgtaa atggtctttg cattcaaggc ctttctccta 1200

gagcccatct gactgctgct ttcactttcc aacaaacact taaccaatca ccatgttttc 1260

taagaataaa tgtttttata tacttttatt ctttgctggt ctgtttcatc ttccacctta 1320

gcccagattc aggcagcaat agagggttat caaaccagag agaagataca ccagcccagg 1380

catcctgagg ctgtctctgg gtcttcatgt ttcctcattg attcatcttg cacaactgat 1440

gagactccac tgtagagaat tctcacttct cagcctgggg gtactttcta cccagagacc 1500

tatttctgtc atagcctttt gggacacata aagcttcctt cctgcataga acaccccaca 1560

acagtgtatc aggagtgtac aagttgacaa acaatgctct agacctacgg ttttcttcct 1620

ctgtgtgcct catcccagaa gagatcatga ctcccaggag tcagccttta ctatggggtc 1680

tgcaggggcg tccagcccct cagcggcaag ccatgcccac cctccccaag tccttaatct 1740

gctgagtcac ttggaacagg agacactgat tctgctgtca tgacaacagc acattgccat 1800

agaaatgctc cctacctctt acgtgtgtgg tgggggaaca gtaatgacaa accataggca 1860

ggaggcaaaa gggaagacgg cacctcagaa acatgtgtta ggttagggca gaactatgga 1920

ggggctcctg agactctttg atgggaaagg gttaatgctg ctcctgaaac ctctgttgga 1980

aggcagaaaa gggacagggc tgagtccccg cactgggacc atttccatcc tctgcatcct 2040

gcccccggct catggaaagc ctgggcatgg gccacacagc tgtcagtctt ggctctgggg 2100

ccccaaggag gtagggcaat cccagaatgg caaggagcca ggactggatt tggggtgcag 2160

cccagcctgc tccctgcctt ttaagcaaag gttatcacca ggccagctaa acttagcaat 2220

taggctcttc agctaaaaga gcaggggggct ggtctcaagt tgcactgacc tagcaaagag 2280

gccccaggat ccccctgccc agcacctgtg gctgagctcc caagcccttc ccgagagctc 2340

aggatccacc ctttccaccc tccctactct tcagaggagg aacccccttt ctccttccca 2400

cttgttggag ggggctgggg ccaggctgtt ctggcttggg gtataatacc ccctaccct 2460

tctactttcc cctcctctca gacctcaccc tgcctccacg agggcagcca agaaaggaga 2520

gtccctggct gcagggccag taggcacgtc ccaggacggg gagggacttc cgccctcacg 2580

tccagctctc cgccctgggg ctgcagtggg tgaaaggggc agtgtctcct agcctgggcg 2640

gtgcaaccct caggttccga ggaggaacgc tctgggaggc ttctttgcct cctccaaccc 2700

aacccacaac caggacattg tcctcacccc ggggccccaa cctagacctt aactgaggaa 2760

cacagaggcc agtttgtaag tctcaattat gcagggcatc ccgacctgtg gcgtagggag 2820

cgcccctcca ggccgcttcc ctagcctcct cctggccctc acagcccagg cctctggccc 2880

aagaaatgga agtgggggtg ggggatggaa ctgcgaatgc gaagggcccc cgcaggaggc 2940

aaagtgaccc ctcccgggcc ttttctgctc cgagacttgt ttttgcctgt gtcactaccg 3000

aagaaccacg gccggcctga 3020

<210> 31
<211> 3537
<212> DNA
<213> Artificial

<220>
<223> amplicon

<400> 31
tactcgcgat tcactgtaca gtggcacata cttgtcacca cagtgtcata ctggacattt 60

tcatgaccct aaggccacat cacccctgtg gtgtcactca gttgtaattt caccctatat 120

agtgatttca ggttggcttt ttacttagaa tataacattt aaattatgtt tctttttgg 180

ttttgagttt tgtttttcga gacagggttt ctctgtattg ctttggaggt tgtgctggaa 240

cttgctctgg agaccaggct ggcttcgaac tcacagagat cctcccacct ctgcctcccg 300

agtgctggga ttaaaggcgt gcgccaccaa tgccccagca tctttctgtt tctctgtttt 360

taaagaggga gataatgttt ccagtgctgt ttttaacttt tttcctgtag gctaccatag 420

atgaatttga gcagaagctt cgggcatgtc ataccagagg catggatgga atagaggagc 480

ttgaaactgg ccaagaaggc agccagcaag ccctgtctgc caagaaaccc tctgctggta 540

tgagagacaa gcccacacgg actccccaca aatcatccct gtcatttatt ggtttttgtt 600

tttaaaatca catctccctg ccatttctag tctcaaggcg acagcctctg acttctatag 660

attcagacaa tgactttgtc acacctaagc ctcgacgcac caaccgtcat cgtccaaaca 720

ctcagcaacg aaagtccaag aagaaagcca aagttgtctt ttcaagtgat gagtccagtg 780

aggatggtat gactcgccct cccggcagct gcttgcttgc cttggggtct ccttggggct 840

tgcctggttg tagagtcatt cttcctggta atgtgttccc cactgtgcac gttggctcac 900

ctttgcagct ctatgtttta agatccactt tacaccatct ttgtgactca gcttttgttc 960

ctataattct ttgaacagaa ctttcagcgg aaatgacgga agaagagact cccaagagaa 1020

ccacccccat ccgcagatca tctgcccgaa gacacaggtc ttaggagttg cctcacctat 1080

tcccatccct gctgtgcagg gtatcttaat tgatttttaa ttcatttcct cccttgtaaa 1140

aatgttgcct ccttgttttt aatatgtaaa tggtctttgc attcaaggcc tttctcctag 1200

agcccatctg actgctgctt tcactttcca acaaacactt aaccaatcac catgttttct 1260

aagaataaat gtttttatat acttttattc tttgctggtc tgtttcatct tccaccttag 1320

cccagattca ggcagcaata gagggttatc aaaccagaga gaagatacac cagcccaggc 1380

atcctgaggc tgtctctggg tcttcatgtt tcctcattga ttcatcttgc acaactgatg 1440

agactccact gtagagaatt ctcacttctc agcctggggg tactttctac ccagagacct 1500

atttctgtca tagccttttg ggacacataa agcttccttc ctgcatagaa caccccacaa 1560

cagtgtatca ggagtgtaca agttgacaaa caatgctcta gacctacggt tttcttcctc 1620

tgtgtgcctc atcccagaag agatcatgac tcccaggagt cagcctttac tatggggtct 1680

gcaggggcgt ccagcccctc agcggcaagc catgcccacc ctccccaagt ccttaatctg 1740

ctgagtcact tggaacagga gacactgatt ctgctgtcat gacaacagca cattgccata 1800

gaaatgctcc ctacctctta cgtgtgtggt gggggaacag taatgacaaa ccataggcag 1860

gaggcaaaag ggaagacggc acctcagaaa catgtgttag gttagggcag aactatggag 1920

gggctcctga gactctttga tgggaaaggg ttaatgctgc tcctgaaacc tctgttggaa 1980

ggcagaaaag ggacagggct gagtccccgc actgggacca tttccatcct ctgcatcctg 2040

cccccggctc atggaaagcc tgggcatggg ccacacagct gtcagtcttg gctctggggc 2100

cccaaggagg tagggcaatc ccagaatggc aaggagccag gactggattt ggggtgcagc 2160

ccagcctgct ccctgccttt taagcaaagg ttatcaccag gccagctaaa cttagcaatt 2220

aggctcttca gctaaaagag caggggggctg gtctcaagtt gcactgacct agcaaagagg 2280

ccccaggatc cccctgccca gcacctgtgg ctgagctccc aagcccttcc cgagagctca 2340

ggatccaccc tttccaccct ccctactctt cagaggagga acccccttc tccttcccac 2400

ttgttggagg gggctggggc caggctgttc tggcttgggg tataataccc cctacccctt 2460

ctactttccc ctcctctcag acctcaccct gcctccacga gggcagccaa gaaaggagag 2520

tccctggctg cagggccagt aggcacgtcc caggacgggg agggacttcc gccctcacgt 2580

ccagctctcc gccctggggc tgcagtgggt gaaaggggca gtgtctccta gcctgggcgg 2640

tgcaaccctc aggttccgag gaggaacgct ctgggaggct tctttgcctc ctccaaccca 2700

acccacaacc aggacattgt cctcaccccg gggccccaac ctagacctta actgaggaac 2760

acagaggcca gtttgtaagt ctcaattatg cagggcatcc cgacctgtgg cgtagggagc 2820

gcccctccag gccgcttccc tagcctcctc ctggccctca cagcccaggc ctctggccca 2880

agaaatggaa gtgggggtgg gggatggaac tgcgaatgcg aagggccccc gcaggaggca 2940

aagtgacccc tcccgggcct tttctgctcc gagacttgtt tttgcctgtg tcactaccga 3000

agaaccacga gaagatcctc aacttttcca cagcctttgc ataaagggga gagggtcggc 3060

ggtgcagctg tggcacacac gcacttctgc tcaacccgcc ccccccgcc cccgttcctg 3120

ttccttccca ggttctcccc attttatcgg ggcggcaact tttaggtccc tgggtcctgg 3180

aagtccttag tacacactct tcgtccttaa gtccatagtc tgtattccct cggtcctatc 3240

ctgtccccca tcaccgggtc acctccccag cgaagcaatc tcagttcccc tccccctctc 3300

agccccgagc ccacacgttt ggtgcgtgca catttcaaaa acgaggcggg tccaaagaga 3360

gggggtgggg aggtgccgag tggcccagct actcgcggct ttacgggtgc acgtagctca 3420

ggcctcagcg cccttgagct gtgactggat ggatgagcgg ggcgggaggc ggggcgagcg 3480

tcctcggcgc tccccaccac cccagttcct ataaatagca gagctcgttt agtgaac 3537

<210> 32
<211> 537
<212> DNA
<213> Artificial

<220>

<223> amplicon

<400> 32
tactcgcgaa gaagatcctc aacttttcca cagcctttgc ataaagggga gagggtcggc 60

ggtgcagctg tggcacacac gcacttctgc tcaacccgcc ccccccccgcc cccgttcctg 120

ttccttccca ggttctcccc attttatcgg ggcggcaact tttaggtccc tgggtcctgg 180

aagtccttag tacacactct tcgtccttaa gtccatagtc tgtattccct cggtcctatc 240

ctgtccccca tcaccgggtc acctccccag cgaagcaatc tcagttcccc tccccctctc 300

agccccgagc ccacacgttt ggtgcgtgca catttcaaaa acgaggcggg tccaaagaga 360

gggggtgggg aggtgccgag tggcccagct actcgcggct ttacgggtgc acgtagctca 420

ggcctcagcg cccttgagct gtgactggat ggatgagcgg ggcgggaggc ggggcgagcg 480

tcctcggcgc tccccaccac cccagttcct ataaatagca gagctcgttt agtgaac 537

<210> 33
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Primer GlnPr1896

<400> 33
tacggccggc ttcactgtac agtggcacat 30

<210> 34
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Primer GlnPr1897

<400> 34
tcaggccggc cgtggttctt cggtagtgac 30

<210> 35
<211> 35

<212> DNA
<213> Artificial

<220>
<223> Primer GlnPr1901

<400> 35
tactcgcgaa gaagatcctc aacttttcca cagcc 35

<210> 36
<211> 40
<212> DNA
<213> Artificial

<220>
<223> Primer GlnPr1902

<400> 36
gttcactaaa cgagctctgc tatttatagg aactggggtg 40

<210> 37
<211> 40
<212> DNA
<213> Artificial

<220>
<223> Primer GLnPr1903

<400> 37
caccccagtt cctataaata gcagagctcg tttagtgaac 40

<210> 38
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Primer GlnPr1904

<400> 38
cgctagcacc ggtcgatcga 20

<210> 39
<211> 31

<212> DNA
<213> Artificial

<220>
<223> Primer GlnPr1905

<400> 39
tactcgcgat tcactgtaca gtggcacata c 31