SEQUENCE LISTING

<110> BIOMARIN PHARMACEUTICAL INC.
Bunting, et al.

<120> ADENO-ASSOCIATED VIRUS FACTOR VIII VECTORS, ASSOCIATED VIRAL PARTICLES AND THERAPEUTIC FORMULATIONS COMPRISING THE SAME

<130> 30610/50068

<160> 44

<170> PatentIn version 3.5

<210> 1
<211> 4970
<212> DNA
<213> Adeno-Associated Virus

<400> 1
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgtttg ctgcttgcaa tgtttgccca ttttagggtg 180

gacacaggac gctgtggttt ctgagccagg gggcgactca gatcccagcc agtggactta 240

gcccctgttt gctcctccga taactggggt gaccttggtt aatattcacc agcagcctcc 300

cccgttgccc ctctggatcc actgcttaaa tacggacgag gacagggccc tgtctcctca 360

gcttcaggca ccaccactga cctgggacag tgaatcgcca ccatgcagat tgagctgagc 420

acctgcttct tcctgtgcct gctgaggttc tgcttctctg ccaccaggag atactacctg 480

ggggctgtgg agctgagctg ggactacatg cagtctgacc tgggggagct gcctgtggat 540

gccaggttcc cccccagagt gcccaagagc ttccccttca acacctctgt ggtgtacaag 600

aagaccctgt ttgtggagtt cactgaccac ctgttcaaca ttgccaagcc caggcccccc 660

tggatgggcc tgctgggccc caccatccag gctgaggtgt atgacactgt ggtgatcacc 720

ctgaagaaca tggccagcca ccctgtgagc ctgcatgctg tgggggtgag ctactggaag 780

gcctctgagg gggctgagta tgatgaccag accagccaga gggagaagga ggatgacaag 840

gtgttccctg ggggcagcca cacctatgtg tggcaggtgc tgaaggagaa tggccccatg 900

gcctctgacc ccctgtgcct gacctacagc tacctgagcc atgtggacct ggtgaaggac 960

ctgaactctg gcctgattgg ggccctgctg gtgtgcaggg agggcagcct ggccaaggag 1020

aagacccaga ccctgcacaa gttcatcctg ctgtttgctg tgtttgatga gggcaagagc 1080

tggcactctg aaaccaagaa cagcctgatg caggacaggg atgctgcctc tgccagggcc 1140

tggcccaaga tgcacactgt gaatggctat gtgaacagga gcctgcctgg cctgattggc 1200

tgccacagga agtctgtgta ctggcatgtg attggcatgg gcaccacccc tgaggtgcac 1260

agcatcttcc tggagggcca caccttcctg gtcaggaacc acaggcaggc cagcctggag 1320

atcagcccca tcaccttcct gactgcccag accctgctga tggacctggg ccagttcctg 1380

ctgttctgcc acatcagcag ccaccagcat gatggcatgg aggcctatgt gaaggtggac 1440

agctgccctg aggagcccca gctgaggatg aagaacaatg aggaggctga ggactatgat 1500

gatgacctga ctgactctga gatggatgtg gtgaggtttg atgatgacaa cagccccagc 1560

ttcatccaga tcaggtctgt ggccaagaag caccccaaga cctgggtgca ctacattgct 1620

gctgaggagg aggactggga ctatgccccc ctggtgctgg cccctgatga caggagctac 1680

aagagccagt acctgaacaa tggcccccag aggattggca ggaagtacaa gaaggtcagg 1740

ttcatggcct acactgatga aaccttcaag accagggagg ccatccagca tgagtctggc 1800

atcctgggcc ccctgctgta tggggaggtg ggggacaccc tgctgatcat cttcaagaac 1860

caggccagca ggccctacaa catctacccc catggcatca ctgatgtgag gcccctgtac 1920

agcaggaggc tgcccaaggg ggtgaagcac ctgaaggact tccccatcct gcctggggag 1980

atcttcaagt acaagtggac tgtgactgtg gaggatggcc ccaccaagtc tgaccccagg 2040

tgcctgacca gatactacag cagctttgtg aacatggaga gggacctggc ctctggcctg 2100

attggccccc tgctgatctg ctacaaggag tctgtggacc agaggggcaa ccagatcatg 2160

tctgacaaga ggaatgtgat cctgttctct gtgtttgatg agaacaggag ctggtacctg 2220

actgagaaca tccagaggtt cctgcccaac cctgctgggg tgcagctgga ggaccctgag 2280

ttccaggcca gcaacatcat gcacagcatc aatggctatg tgtttgacag cctgcagctg 2340

tctgtgtgcc tgcatgaggt ggcctactgg tacatcctga gcattggggc ccagactgac 2400

ttcctgtctg tgttcttctc tggctacacc ttcaagcaca agatggtgta tgaggacacc 2460

ctgaccctgt tccccttctc tggggagact gtgttcatga gcatggagaa ccctggcctg 2520

tggattctgg gctgccacaa ctctgacttc aggaacaggg gcatgactgc cctgctgaaa 2580

gtctccagct gtgacaagaa cactggggac tactatgagg acagctatga ggacatctct 2640

gcctacctgc tgagcaagaa caatgccatt gagcccagga gcttcagcca gaacccccca 2700

gtgctgaaga ggcaccagag ggagatcacc aggaccaccc tgcagtctga ccaggaggag 2760

attgactatg atgacaccat ctctgtggag atgaagaagg aggactttga catctacgac 2820

gaggacgaga accagagccc caggagcttc cagaagaaga ccaggcacta cttcattgct 2880

gctgtggaga ggctgtggga ctatggcatg agcagcagcc cccatgtgct gaggaacagg 2940

gcccagtctg gctctgtgcc ccagttcaag aaggtggtgt tccaggagtt cactgatggc 3000

agcttcaccc agcccctgta cagaggggag ctgaatgagc acctgggcct gctgggcccc 3060

tacatcaggg ctgaggtgga ggacaacatc atggtgacct tcaggaacca ggccagcagg 3120

ccctacagct tctacagcag cctgatcagc tatgaggagg accagaggca gggggctgag 3180

cccaggaaga actttgtgaa gcccaatgaa accaagacct acttctggaa ggtgcagcac 3240

cacatggccc ccaccaagga tgagtttgac tgcaaggcct gggcctactt ctctgatgtg 3300

gacctggaga aggatgtgca ctctggcctg attggccccc tgctggtgtg ccacaccaac 3360

accctgaacc ctgcccatgg caggcaggtg actgtgcagg agtttgccct gttcttcacc 3420

atctttgatg aaaccaagag ctggtacttc actgagaaca tggagaggaa ctgcagggcc 3480

ccctgcaaca tccagatgga ggaccccacc ttcaaggaga actacaggtt ccatgccatc 3540

aatggctaca tcatggacac cctgcctggc ctggtgatgg cccaggacca gaggatcagg 3600

tggtacctgc tgagcatggg cagcaatgag aacatccaca gcatccactt ctctggccat 3660

gtgttcactg tgaggaagaa ggaggagtac aagatggccc tgtacaacct gtaccctggg 3720

gtgtttgaga ctgtggagat gctgcccagc aaggctggca tctggagggt ggagtgcctg 3780

attggggagc acctgcatgc tggcatgagc accctgttcc tggtgtacag caacaagtgc 3840

cagacccccc tgggcatggc ctctggccac atcagggact tccagatcac tgcctctggc 3900

cagtatggcc agtgggcccc caagctggcc aggctgcact actctggcag catcaatgcc 3960

tggagcacca aggagccctt cagctggatc aaggtggacc tgctggcccc catgatcatc 4020

catggcatca agacccaggg ggccaggcag aagttcagca gcctgtacat cagccagttc 4080

atcatcatgt acagcctgga tggcaagaag tggcagacct acaggggcaa cagcactggc 4140

accctgatgg tgttctttgg caatgtggac agctctggca tcaagcacaa catcttcaac 4200

ccccccatca ttgccagata catcaggctg caccccaccc actacagcat caggagcacc 4260

ctgaggatgg agctgatggg ctgtgacctg aacagctgca gcatgcccct gggcatggag 4320

agcaaggcca tctctgatgc ccagatcact gccagcagct acttcaccaa catgtttgcc 4380

acctggagcc ccagcaaggc caggctgcac ctgcagggca ggagcaatgc ctggaggccc 4440

caggtcaaca accccaagga gtggctgcag gtggacttcc agaagaccat gaaggtgact 4500

ggggtgacca cccagggggt gaagagcctg ctgaccagca tgtatgtgaa ggagttcctg 4560

atcagcagca gccaggatgg ccaccagtgg accctgttct tccagaatgg caaggtgaag 4620

gtgttccagg gcaaccagga cagcttcacc cctgtggtga acagcctgga ccccccccctg 4680

ctgaccagat acctgaggat tcacccccag agctgggtgc accagattgc cctgaggatg 4740

gaggtgctgg gctgtgaggc ccaggacctg tactgaaata aaagatcttt attttcatta 4800

gatctgtgtg ttggtttttt gtgtgaggaa cccctagtga tggagttggc cactccctct 4860

ctgcgcgctc gctcgctcac tgaggccggg cgaccaaagg tcgcccgacg cccgggcttt 4920

gcccgggcgg cctcagtgag cgagcgagcg cgcagagagg gagtggccaa 4970

<210> 2
<211> 4950
<212> DNA
<213> Adeno-Associated Virus

<400> 2
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactgtttg ctgcttgcaa tgtttgccca ttttagggtg gacacaggac 180

gctgtggttt ctgagccagg gggcgactca gatcccagcc agtggactta gcccctgttt 240

gctcctccga taactggggt gaccttggtt aatattcacc agcagcctcc cccgttgccc 300

ctctggatcc actgcttaaa tacggacgag gacagggccc tgtctcctca gcttcaggca 360

ccaccactga cctgggacag tgaatcgcca ccatgcagat tgagctgagc acctgcttct 420

tcctgtgcct gctgaggttc tgcttctctg ccaccaggag atactacctg ggggctgtgg 480

agctgagctg ggactacatg cagtctgacc tgggggagct gcctgtggat gccaggttcc 540

cccccagagt gcccaagagc ttccccttca acacctctgt ggtgtacaag aagaccctgt 600

ttgtggagtt cactgaccac ctgttcaaca ttgccaagcc caggcccccc tggatgggcc 660

tgctgggccc caccatccag gctgaggtgt atgacactgt ggtgatcacc ctgaagaaca 720

tggccagcca ccctgtgagc ctgcatgctg tgggggtgag ctactggaag gcctctgagg 780

gggctgagta tgatgaccag accagccaga gggagaagga ggatgacaag gtgttccctg 840

ggggcagcca cacctatgtg tggcaggtgc tgaaggagaa tggccccatg gcctctgacc 900

ccctgtgcct gacctacagc tacctgagcc atgtggacct ggtgaaggac ctgaactctg 960

gcctgattgg ggccctgctg gtgtgcaggg agggcagcct ggccaaggag aagacccaga 1020

ccctgcacaa gttcatcctg ctgtttgctg tgtttgatga gggcaagagc tggcactctg 1080

aaaccaagaa cagcctgatg caggacaggg atgctgcctc tgccagggcc tggcccaaga 1140

tgcacactgt gaatggctat gtgaacagga gcctgcctgg cctgattggc tgccacagga 1200

agtctgtgta ctggcatgtg attggcatgg gcaccacccc tgaggtgcac agcatcttcc 1260

tggagggcca caccttcctg gtcaggaacc acaggcaggc cagcctggag atcagcccca 1320

tcaccttcct gactgcccag accctgctga tggacctggg ccagttcctg ctgttctgcc 1380

acatcagcag ccaccagcat gatggcatgg aggcctatgt gaaggtggac agctgccctg 1440

aggagcccca gctgaggatg aagaacaatg aggaggctga ggactatgat gatgacctga 1500

ctgactctga gatggatgtg gtgaggtttg atgatgacaa cagccccagc ttcatccaga 1560

tcaggtctgt ggccaagaag caccccaaga cctgggtgca ctacattgct gctgaggagg 1620

aggactggga ctatgccccc ctggtgctgg cccctgatga caggagctac aagagccagt 1680

acctgaacaa tggcccccag aggattggca ggaagtacaa gaaggtcagg ttcatggcct 1740

acactgatga aaccttcaag accagggagg ccatccagca tgagtctggc atcctgggcc 1800

ccctgctgta tggggaggtg ggggacaccc tgctgatcat cttcaagaac caggccagca 1860

ggccctacaa catctacccc catggcatca ctgatgtgag gcccctgtac agcaggaggc 1920

tgcccaaggg ggtgaagcac ctgaaggact tccccatcct gcctggggag atcttcaagt 1980

acaagtggac tgtgactgtg gaggatggcc ccaccaagtc tgaccccagg tgcctgacca 2040

gatactacag cagctttgtg aacatggaga gggacctggc ctctggcctg attggccccc 2100

tgctgatctg ctacaaggag tctgtggacc agaggggcaa ccagatcatg tctgacaaga 2160

ggaatgtgat cctgttctct gtgtttgatg agaacaggag ctggtacctg actgagaaca 2220

tccagaggtt cctgcccaac cctgctgggg tgcagctgga ggaccctgag ttccaggcca 2280

gcaacatcat gcacagcatc aatggctatg tgtttgacag cctgcagctg tctgtgtgcc 2340

tgcatgaggt ggcctactgg tacatcctga gcattggggc ccagactgac ttcctgtctg 2400

tgttcttctc tggctacacc ttcaagcaca agatggtgta tgaggacacc ctgaccctgt 2460

tcccccttctc tggggagact gtgttcatga gcatggagaa ccctggcctg tggattctgg 2520

gctgccacaa ctctgacttc aggaacaggg gcatgactgc cctgctgaaa gtctccagct 2580

gtgacaagaa cactggggac tactatgagg acagctatga ggacatctct gcctacctgc 2640

tgagcaagaa caatgccatt gagcccagga gcttcagcca gaaccccccа gtgctgaaga 2700

ggcaccagag ggagatcacc aggaccaccc tgcagtctga ccaggaggag attgactatg 2760

atgacaccat ctctgtggag atgaagaagg aggactttga catctacgac gaggacgaga 2820

accagagccc caggagcttc cagaagaaga ccaggcacta cttcattgct gctgtggaga 2880

ggctgtggga ctatggcatg agcagcagcc cccatgtgct gaggaacagg gcccagtctg 2940

gctctgtgcc ccagttcaag aaggtggtgt tccaggagtt cactgatggc agcttcaccc 3000

agcccctgta cagaggggag ctgaatgagc acctgggcct gctgggcccc tacatcaggg 3060

ctgaggtgga ggacaacatc atggtgacct tcaggaacca ggccagcagg ccctacagct 3120

tctacagcag cctgatcagc tatgaggagg accagaggca gggggctgag cccaggaaga 3180

actttgtgaa gcccaatgaa accaagacct acttctggaa ggtgcagcac cacatggccc 3240

ccaccaagga tgagtttgac tgcaaggcct gggcctactt ctctgatgtg gacctggaga 3300

aggatgtgca ctctggcctg attggccccc tgctggtgtg ccacaccaac accctgaacc 3360

ctgcccatgg caggcaggtg actgtgcagg agtttgccct gttcttcacc atctttgatg 3420

aaaccaagag ctggtacttc actgagaaca tggagaggaa ctgcagggcc ccctgcaaca 3480

tccagatgga ggaccccacc ttcaaggaga actacaggtt ccatgccatc aatggctaca 3540

tcatggacac cctgcctggc ctggtgatgg cccaggacca gaggatcagg tggtacctgc 3600

tgagcatggg cagcaatgag aacatccaca gcatccactt ctctggccat gtgttcactg 3660

tgaggaagaa ggaggagtac aagatggccc tgtacaacct gtaccctggg gtgtttgaga 3720

ctgtggagat gctgcccagc aaggctggca tctggagggt ggagtgcctg attggggagc 3780

acctgcatgc tggcatgagc accctgttcc tggtgtacag caacaagtgc cagacccccc 3840

tgggcatggc ctctggccac atcagggact tccagatcac tgcctctggc cagtatggcc 3900

agtgggcccc caagctggcc aggctgcact actctggcag catcaatgcc tggagcacca 3960

aggagccctt cagctggatc aaggtggacc tgctggcccc catgatcatc catggcatca 4020

agacccaggg ggccaggcag aagttcagca gcctgtacat cagccagttc atcatcatgt 4080

acagcctgga tggcaagaag tggcagacct acaggggcaa cagcactggc accctgatgg 4140

tgttctttgg caatgtggac agctctggca tcaagcacaa catcttcaac ccccccatca 4200

ttgccagata catcaggctg caccccaccc actacagcat caggagcacc ctgaggatgg 4260

agctgatggg ctgtgacctg aacagctgca gcatgcccct gggcatggag agcaaggcca 4320

tctctgatgc ccagatcact gccagcagct acttcaccaa catgtttgcc acctggagcc 4380

ccagcaaggc caggctgcac ctgcagggca ggagcaatgc ctggaggccc caggtcaaca 4440

accccaagga gtggctgcag gtggacttcc agaagaccat gaaggtgact ggggtgacca 4500

cccagggggt gaagagcctg ctgaccagca tgtatgtgaa ggagttcctg atcagcagca 4560

gccaggatgg ccaccagtgg accctgttct tccagaatgg caaggtgaag gtgttccagg 4620

gcaaccagga cagcttcacc cctgtggtga acagcctgga ccccccccctg ctgaccagat 4680

acctgaggat tcacccccag agctgggtgc accagattgc cctgaggatg gaggtgctgg 4740

gctgtgaggc ccaggacctg tactgaaata aaagatcttt attttcatta gatctgtgtg 4800

ttggtttttt gtgtgagtga tggagttggc cactccctct ctgcgcgctc gctcgctcac 4860

tgaggccggg cgaccaaagg tcgcccgacg cccgggcttt gcccgggcgg cctcagtgag 4920

cgagcgagcg cgcagagagg gagtggccaa 4950

<210> 3
<211> 4983
<212> DNA
<213> Adeno-Associated Virus

<400> 3
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactgggcg actcagatcc cagccagtgg acttagcccc tgtttgctcc 180

tccgataact ggggtgacct tggttaatat tcaccagcag cctcccccgt tgcccctctg 240

gatccactgc ttaaatacgg acgaggacag ggccctgtct cctcagcttc aggcaccacc 300

actgacctgg gacagtgaat cgccaccatg cagattgagc tgagcacctg cttcttcctg 360

tgcctgctga gattctgctt tagtgccacc agaagatact acctgggtgc agtggaactg 420

tcatgggact atatgcaaag tgatctcggt gagctgcctg tggacgcaag gtaaatgccc 480

taaaatgggc aaacattgca agcagcaaac aacctggctc agaaaccaca gcgtcctgtg 540

tccattctaa tttttccttt cttcacgcag atttcctcct agagtgccaa aatcttttcc 600

attcaacacc tcagtcgtgt acaaaaagac tctgtttgta gaattcacgg atcacctttt 660

caacatcgct aagcccaggc ccccctggat gggcctgctg ggccccacca tccaggctga 720

ggtgtatgac actgtggtga tcaccctgaa gaacatggcc agccaccctg tgagcctgca 780

tgctgtgggg gtgagctact ggaaggcctc tgaggggggct gagtatgatg accagaccag 840

ccagagggag aaggaggatg acaaggtgtt ccctgggggc agccacacct atgtgtggca 900

ggtgctgaag gagaatggcc ccatggcctc tgacccccctg tgcctgacct acagctacct 960

gagccatgtg gacctggtga aggacctgaa ctctggcctg attggggccc tgctggtgtg 1020

cagggagggc agcctggcca aggagaagac ccagaccctg cacaagttca tcctgctgtt 1080

tgctgtgttt gatgagggca agagctggca ctctgaaacc aagaacagcc tgatgcagga 1140

cagggatgct gcctctgcca gggcctggcc caagatgcac actgtgaatg gctatgtgaa 1200

caggagcctg cctggcctga ttggctgcca caggaagtct gtgtactggc atgtgattgg 1260

catgggcacc acccctgagg tgcacagcat cttcctggag ggccacacct tcctggtcag 1320

gaaccacagg caggccagcc tggagatcag ccccatcacc ttcctgactg cccagaccct 1380

gctgatggac ctgggccagt tcctgctgtt ctgccacatc agcagccacc agcatgatgg 1440

catggaggcc tatgtgaagg tggacagctg ccctgaggag ccccagctga ggatgaagaa 1500

caatgaggag gctgaggact atgatgatga cctgactgac tctgagatgg atgtggtgag 1560

gtttgatgat gacaacagcc ccagcttcat ccagatcagg tctgtggcca agaagcaccc 1620

caagacctgg gtgcactaca ttgctgctga ggaggaggac tgggactatg ccccctggt 1680

gctggcccct gatgacagga gctacaagag ccagtacctg aacaatggcc cccagaggat 1740

tggcaggaag tacaagaagg tcaggttcat ggcctacact gatgaaacct tcaagaccag 1800

ggaggccatc cagcatgagt ctggcatcct gggccccctg ctgtatgggg aggtggggga 1860

caccctgctg atcatcttca agaaccaggc cagcaggccc tacaacatct acccccatgg 1920

catcactgat gtgaggcccc tgtacagcag gaggctgccc aaggggtga agcacctgaa 1980

ggacttcccc atcctgcctg gggagatctt caagtacaag tggactgtga ctgtggagga 2040

tggccccacc aagtctgacc ccaggtgcct gaccagatac tacagcagct ttgtgaacat 2100

ggagagggac ctggcctctg gcctgattgg ccccctgctg atctgctaca aggagtctgt 2160

ggaccagagg ggcaaccaga tcatgtctga caagaggaat gtgatcctgt tctctgtgtt 2220

tgatgagaac aggagctggt acctgactga gaacatccag aggttcctgc ccaaccctgc 2280

tggggtgcag ctggaggacc ctgagttcca ggccagcaac atcatgcaca gcatcaatgg 2340

ctatgtgttt gacagcctgc agctgtctgt gtgcctgcat gaggtggcct actggtacat 2400

cctgagcatt ggggcccaga ctgacttcct gtctgtgttc ttctctggct acaccttcaa 2460

gcacaagatg gtgtatgagg acaccctgac cctgttcccc ttctctgggg agactgtgtt 2520

catgagcatg gagaaccctg gcctgtggat tctgggctgc cacaactctg acttcaggaa 2580

caggggcatg actgccctgc tgaaagtctc cagctgtgac aagaacactg gggactacta 2640

tgaggacagc tatgaggaca tctctgccta cctgctgagc aagaacaatg ccattgagcc 2700

caggagcttc agccagaacc ccccagtgct gaagaggcac cagagggaga tcaccaggac 2760

caccctgcag tctgaccagg aggagattga ctatgatgac accatctctg tggagatgaa 2820

gaaggaggac tttgacatct acgacgagga cgagaaccag agccccagga gcttccagaa 2880

gaagaccagg cactacttca ttgctgctgt ggagaggctg tgggactatg gcatgagcag 2940

cagcccccat gtgctgagga acagggccca gtctggctct gtgccccagt tcaagaaggt 3000

ggtgttccag gagttcactg atggcagctt cacccagccc ctgtacagag gggagctgaa 3060

tgagcacctg ggcctgctgg gcccctacat cagggctgag gtggaggaca acatcatggt 3120

gaccttcagg aaccaggcca gcaggcccta cagcttctac agcagcctga tcagctatga 3180

ggaggaccag aggcaggggg ctgagcccag gaagaacttt gtgaagccca atgaaaccaa 3240

gacctacttc tggaaggtgc agcaccacat ggcccccacc aaggatgagt ttgactgcaa 3300

ggcctgggcc tacttctctg atgtggacct ggagaaggat gtgcactctg gcctgattgg 3360

ccccctgctg gtgtgccaca ccaacaccct gaaccctgcc catggcaggc aggtgactgt 3420

gcaggagttt gccctgttct tcaccatctt tgatgaaacc aagagctggt acttcactga 3480

gaacatggag aggaactgca gggccccctg caacatccag atggaggacc ccaccttcaa 3540

ggagaactac aggttccatg ccatcaatgg ctacatcatg gacaccctgc ctggcctggt 3600

gatggcccag gaccagagga tcaggtggta cctgctgagc atgggcagca atgagaacat 3660

ccacagcatc cacttctctg gccatgtgtt cactgtgagg aagaaggagg agtacaagat 3720

ggccctgtac aacctgtacc ctggggtgtt tgagactgtg gagatgctgc ccagcaaggc 3780

tggcatctgg agggtggagt gcctgattgg ggagcacctg catgctggca tgagcaccct 3840

gttcctggtg tacagcaaca agtgccagac ccccctgggc atggcctctg gccacatcag 3900

ggacttccag atcactgcct ctggccagta tggccagtgg gcccccaagc tggccaggct 3960

gcactactct ggcagcatca atgcctggag caccaaggag cccttcagct ggatcaaggt 4020

ggacctgctg gcccccatga tcatccatgg catcaagacc caggggggca ggcagaagtt 4080

cagcagcctg tacatcagcc agttcatcat catgtacagc ctggatggca agaagtggca 4140

gacctacagg ggcaacagca ctggcaccct gatggtgttc tttggcaatg tggacagctc 4200

tggcatcaag cacaacatct tcaacccccc catcattgcc agatacatca ggctgcaccc 4260

cacccactac agcatcagga gcaccctgag gatggagctg atgggctgtg acctgaacag 4320

ctgcagcatg cccctgggca tggagagcaa ggccatctct gatgcccaga tcactgccag 4380

cagctacttc accaacatgt ttgccacctg gagccccagc aaggccaggc tgcacctgca 4440

gggcaggagc aatgcctgga ggccccaggt caacaacccc aaggagtggc tgcaggtgga 4500

cttccagaag accatgaagg tgactggggt gaccacccag ggggtgaaga gcctgctgac 4560

cagcatgtat gtgaaggagt tcctgatcag cagcagccag gatggccacc agtggaccct 4620

gttcttccag aatggcaagg tgaaggtgtt ccagggcaac caggacagct tcacccctgt 4680

ggtgaacagc ctggaccccc ccctgctgac cagatacctg aggattcacc cccagagctg 4740

ggtgcaccag attgccctga ggatggaggt gctgggctgt gaggcccagg acctgtacta 4800

ataaaagatc tttattttca ttagatctgt gtgttggttt tttgtgtgag tgatggagtt 4860

ggccactccc tctctgcgcg ctcgctcgct cactgaggcc gggcgaccaa aggtcgcccg 4920

acgcccgggc tttgcccggg cggcctcagt gagcgagcga gcgcgcagag agggagtggc 4980

caa 4983

<210> 4
<211> 4984
<212> DNA
<213> Adeno-Associated Virus

<400> 4
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactgggcg actcagatcc cagccagtgg acttagcccc tgtttgctcc 180

tccgataact ggggtgacct tggttaatat tcaccagcag cctcccccgt tgcccctctg 240

gatccactgc ttaaatacgg acgaggacag ggccctgtct cctcagcttc aggcaccacc 300

actgacctgg gacagtgaat cgccaccatg cagattgagc tgagcacctg cttcttcctg 360

tgcctgctga gattctgctt tagtgccacc agaagatact acctgggtgc agtggaactg 420

tcatgggact atatgcaaag tgatctcggt gagctgcctg tggacgcaag gtaaatgccc 480

taaaatgggc aaacattgca agcagcaaac accctaaaat gggcaaacat tgcaagcagc 540

aaacattcta atttttcctt tcttcacgca gatttcctcc tagagtgcca aaatcttttc 600

cattcaacac ctcagtcgtg tacaaaaaga ctctgtttgt agaattcacg gatcaccttt 660

tcaacatcgc taagcccagg ccccccctgga tgggcctgct gggccccacc atccaggctg 720

aggtgtatga cactgtggtg atcaccctga agaacatggc cagccaccct gtgagcctgc 780

atgctgtggg ggtgagctac tggaaggcct ctgaggggggc tgagtatgat gaccagacca 840

gccagaggga gaaggaggat gacaaggtgt tccctggggg cagccacacc tatgtgtggc 900

aggtgctgaa ggagaatggc cccatggcct ctgaccccct gtgcctgacc tacagctacc 960

tgagccatgt ggacctggtg aaggacctga actctggcct gattggggcc ctgctggtgt 1020

gcagggaggg cagcctggcc aaggagaaga cccagaccct gcacaagttc atcctgctgt 1080

ttgctgtgtt tgatgagggc aagagctggc actctgaaac caagaacagc ctgatgcagg 1140

acagggatgc tgcctctgcc agggcctggc ccaagatgca cactgtgaat ggctatgtga 1200

acaggagcct gcctggcctg attggctgcc acaggaagtc tgtgtactgg catgtgattg 1260

gcatgggcac caccctgag gtgcacagca tcttcctgga gggccacacc ttcctggtca 1320

ggaaccacag gcaggccagc ctggagatca gccccatcac cttcctgact gcccagaccc 1380

tgctgatgga cctgggccag ttcctgctgt tctgccacat cagcagccac cagcatgatg 1440

gcatggaggc ctatgtgaag gtggacagct gccctgagga gccccagctg aggatgaaga 1500

acaatgagga ggctgaggac tatgatgatg acctgactga ctctgagatg gatgtggtga 1560

ggtttgatga tgacaacagc cccagcttca tccagatcag gtctgtggcc aagaagcacc 1620

ccaagacctg ggtgcactac attgctgctg aggaggagga ctgggactat gccccctgg 1680

tgctggcccc tgatgacagg agctacaaga gccagtacct gaacaatggc ccccagagga 1740

ttggcaggaa gtacaagaag gtcaggttca tggcctacac tgatgaaacc ttcaagacca 1800

gggaggccat ccagcatgag tctggcatcc tgggcccccct gctgtatggg gaggtggggg 1860

acaccctgct gatcatcttc aagaaccagg ccagcaggcc ctacaacatc taccccatg 1920

gcatcactga tgtgaggccc ctgtacagca ggaggctgcc caaggggtg aagcacctga 1980

aggacttccc catcctgcct ggggagatct tcaagtacaa gtggactgtg actgtggagg 2040

atggccccac caagtctgac cccaggtgcc tgaccagata ctacagcagc tttgtgaaca 2100

tggagaggga cctggcctct ggcctgattg gccccctgct gatctgctac aaggagtctg 2160

tggaccagag gggcaaccag atcatgtctg acaagaggaa tgtgatcctg ttctctgtgt 2220

ttgatgagaa caggagctgg tacctgactg agaacatcca gaggttcctg cccaaccctg 2280

ctggggtgca gctggaggac cctgagttcc aggccagcaa catcatgcac agcatcaatg 2340

gctatgtgtt tgacagcctg cagctgtctg tgtgcctgca tgaggtggcc tactggtaca 2400

tcctgagcat tggggcccag actgacttcc tgtctgtgtt cttctctggc tacaccttca 2460

agcacaagat ggtgtatgag gacaccctga ccctgttccc cttctctggg gagactgtgt 2520

tcatgagcat ggagaaccct ggcctgtgga ttctgggctg ccacaactct gacttcagga 2580

acaggggcat gactgccctg ctgaaagtct ccagctgtga caagaacact ggggactact 2640

atgaggacag ctatgaggac atctctgcct acctgctgag caagaacaat gccattgagc 2700

ccaggagctt cagccagaac cccccagtgc tgaagaggca ccagagggag atcaccagga 2760

ccaccctgca gtctgaccag gaggagattg actatgatga caccatctct gtggagatga 2820

agaaggagga ctttgacatc tacgacgagg acgagaacca gagccccagg agcttccaga 2880

agaagaccag gcactacttc attgctgctg tggagaggct gtgggactat ggcatgagca 2940

gcagccccca tgtgctgagg aacagggccc agtctggctc tgtgccccag ttcaagaagg 3000

tggtgttcca ggagttcact gatggcagct tcacccagcc cctgtacaga ggggagctga 3060

atgagcacct gggcctgctg ggcccctaca tcagggctga ggtggaggac aacatcatgg 3120

tgaccttcag gaaccaggcc agcaggccct acagcttcta cagcagcctg atcagctatg 3180

aggaggacca gaggcagggg gctgagccca ggaagaactt tgtgaagccc aatgaaacca 3240

agacctactt ctggaaggtg cagcaccaca tggcccccac caaggatgag tttgactgca 3300

aggcctgggc ctacttctct gatgtggacc tggagaagga tgtgcactct ggcctgattg 3360

gcccccctgct ggtgtgccac accaacaccc tgaaccctgc ccatggcagg caggtgactg 3420

tgcaggagtt tgccctgttc ttcaccatct ttgatgaaac caagagctgg tacttcactg 3480

agaacatgga gaggaactgc agggcccccct gcaacatcca gatggaggac cccaccttca 3540

aggagaacta caggttccat gccatcaatg gctacatcat ggacaccctg cctggcctgg 3600

tgatggccca ggaccagagg atcaggtggt acctgctgag catgggcagc aatgagaaca 3660

tccacagcat ccacttctct ggccatgtgt tcactgtgag gaagaaggag gagtacaaga 3720

tggccctgta caacctgtac cctggggtgt ttgagactgt ggagatgctg cccagcaagg 3780

ctggcatctg gagggtggag tgcctgattg gggagcacct gcatgctggc atgagcaccc 3840

tgttcctggt gtacagcaac aagtgccaga ccccccctggg catggcctct ggccacatca 3900

gggacttcca gatcactgcc tctggccagt atggccagtg ggccccaag ctggccaggc 3960

tgcactactc tggcagcatc aatgcctgga gcaccaagga gcccttcagc tggatcaagg 4020

tggacctgct ggcccccatg atcatccatg gcatcaagac ccaggggcc aggcagaagt 4080

tcagcagcct gtacatcagc cagttcatca tcatgtacag cctggatggc aagaagtggc 4140

agacctacag gggcaacagc actggcaccc tgatggtgtt ctttggcaat gtggacagct 4200

ctggcatcaa gcacaacatc ttcaaccccc ccatcattgc cagatacatc aggctgcacc 4260

ccacccacta cagcatcagg agcaccctga ggatggagct gatgggctgt gacctgaaca 4320

gctgcagcat gcccctgggc atggagagca aggccatctc tgatgcccag atcactgcca 4380

gcagctactt caccaacatg tttgccacct ggagccccag caaggccagg ctgcacctgc 4440

agggcaggag caatgcctgg aggccccagg tcaacaaccc caaggagtgg ctgcaggtgg 4500

acttccagaa gaccatgaag gtgactgggg tgaccaccca gggggtgaag agcctgctga 4560

ccagcatgta tgtgaaggag ttcctgatca gcagcagcca ggatggccac cagtggaccc 4620

tgttcttcca gaatggcaag gtgaaggtgt tccagggcaa ccaggacagc ttcacccctg 4680

tggtgaacag cctggacccc cccctgctga ccagatacct gaggattcac ccccagagct 4740

gggtgcacca gattgccctg aggatggagg tgctgggctg tgaggcccag gacctgtact 4800

aataaaagat ctttattttc attagatctg tgtgttggtt ttttgtgtga gtgatggagt 4860

tggccactcc ctctctgcgc gctcgctcgc tcactgaggc cgggcgacca aaggtcgccc 4920

gacgcccggg ctttgcccgg gcggcctcag tgagcgagcg agcgcgcaga gagggagtgg 4980

ccaa 4984

<210> 5
<211> 4805
<212> DNA
<213> Adeno-Associated Virus

<400> 5
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgtttg ctgcttgcaa tgtttgccca ttttagggtg 180

gacacaggac gctgtggttt ctgagccagg gggcgactca gatcccagcc agtggactta 240

gcccctgttt gctcctccga taactggggt gaccttggtt aatattcacc agcagcctcc 300

cccgttgccc ctctggatcc actgcttaaa tacggacgag gacagggccc tgtctcctca 360

gcttcaggca ccaccactga cctgggacag tgaatcgcca ccatgcagat tgagctgagc 420

acctgcttct tcctgtgcct gctgaggttc tgcttctctg ccaccaggag atactacctg 480

ggggctgtgg agctgagctg ggactacatg cagtctgacc tgggggagct gcctgtggat 540

gccaggttcc cccccagagt gcccaagagc ttcccccttca acacctctgt ggtgtacaag 600

aagaccctgt ttgtggagtt cactgaccac ctgttcaaca ttgccaagcc caggcccccc 660

tggatgggcc tgctgggccc caccatccag gctgaggtgt atgacactgt ggtgatcacc 720

ctgaagaaca tggccagcca ccctgtgagc ctgcatgctg tgggggtgag ctactggaag 780

gcctctgagg gggctgagta tgatgaccag accagccaga gggagaagga ggatgacaag 840

gtgttccctg ggggcagcca cacctatgtg tggcaggtgc tgaaggagaa tggccccatg 900

gcctctgacc ccctgtgcct gacctacagc tacctgagcc atgtggacct ggtgaaggac 960

ctgaactctg gcctgattgg ggccctgctg gtgtgcaggg agggcagcct ggccaaggag 1020

aagacccaga ccctgcacaa gttcatcctg ctgtttgctg tgtttgatga gggcaagagc 1080

tggcactctg aaaccaagaa cagcctgatg caggacaggg atgctgcctc tgccagggcc 1140

tggcccaaga tgcacactgt gaatggctat gtgaacagga gcctgcctgg cctgattggc 1200

tgccacagga agtctgtgta ctggcatgtg attggcatgg gcaccacccc tgaggtgcac 1260

agcatcttcc tggagggcca caccttcctg gtcaggaacc acaggcaggc cagcctggag 1320

atcagcccca tcaccttcct gactgcccag accctgctga tggacctggg ccagttcctg 1380

ctgttctgcc acatcagcag ccaccagcat gatggcatgg aggcctatgt gaaggtggac 1440

agctgccctg aggagcccca gctgaggatg aagaacaatg aggaggctga ggactatgat 1500

gatgacctga ctgactctga gatggatgtg gtgaggtttg atgatgacaa cagccccagc 1560

ttcatccaga tcaggtctgt ggccaagaag caccccaaga cctgggtgca ctacattgct 1620

gctgaggagg aggactggga ctatgccccc ctggtgctgg cccctgatga caggagctac 1680

aagagccagt acctgaacaa tggcccccag aggattggca ggaagtacaa gaaggtcagg 1740

ttcatggcct acactgatga aaccttcaag accagggagg ccatccagca tgagtctggc 1800

atcctgggcc ccctgctgta tggggaggtg ggggacaccc tgctgatcat cttcaagaac 1860

caggccagca ggccctacaa catctacccc catggcatca ctgatgtgag gcccctgtac 1920

agcaggaggc tgcccaaggg ggtgaagcac ctgaaggact tccccatcct gcctggggag 1980

atcttcaagt acaagtggac tgtgactgtg gaggatggcc ccaccaagtc tgaccccagg 2040

tgcctgacca gatactacag cagctttgtg aacatggaga gggacctggc ctctggcctg 2100

attggccccc tgctgatctg ctacaaggag tctgtggacc agaggggcaa ccagatcatg 2160

tctgacaaga ggaatgtgat cctgttctct gtgtttgatg agaacaggag ctggtacctg 2220

actgagaaca tccagaggtt cctgcccaac cctgctgggg tgcagctgga ggaccctgag 2280

ttccaggcca gcaacatcat gcacagcatc aatggctatg tgtttgacag cctgcagctg 2340

tctgtgtgcc tgcatgaggt ggcctactgg tacatcctga gcattggggc ccagactgac 2400

ttcctgtctg tgttcttctc tggctacacc ttcaagcaca agatggtgta tgaggacacc 2460

ctgaccctgt tccccttctc tggggagact gtgttcatga gcatggagaa ccctggcctg 2520

tggattctgg gctgccacaa ctctgacttc aggaacaggg gcatgactgc cctgctgaaa 2580

gtctccagct gtgacaagaa cactggggac tactatgagg acagctatga ggacatctct 2640

gcctacctgc tgagcaagaa caatgccatt gagcccagga gcttccagaa gaagaccagg 2700

cactacttca ttgctgctgt ggagaggctg tgggactatg gcatgagcag cagcccccat 2760

gtgctgagga acagggccca gtctggctct gtgccccagt tcaagaaggt ggtgttccag 2820

gagttcactg atggcagctt cacccagccc ctgtacagag gggagctgaa tgagcacctg 2880

ggcctgctgg gcccctacat cagggctgag gtggaggaca acatcatggt gaccttcagg 2940

aaccaggcca gcaggcccta cagcttctac agcagcctga tcagctatga ggaggaccag 3000

aggcaggggg ctgagcccag gaagaacttt gtgaagccca atgaaaccaa gacctacttc 3060

tggaaggtgc agcaccacat ggcccccacc aaggatgagt ttgactgcaa ggcctgggcc 3120

tacttctctg atgtggacct ggagaaggat gtgcactctg gcctgattgg ccccctgctg 3180

gtgtgccaca ccaacaccct gaaccctgcc catggcaggc aggtgactgt gcaggagttt 3240

gccctgttct tcaccatctt tgatgaaacc aagagctggt acttcactga gaacatggag 3300

aggaactgca gggccccctg caacatccag atggaggacc ccaccttcaa ggagaactac 3360

aggttccatg ccatcaatgg ctacatcatg gacaccctgc ctggcctggt gatggcccag 3420

gaccagagga tcaggtggta cctgctgagc atgggcagca atgagaacat ccacagcatc 3480

cacttctctg gccatgtgtt cactgtgagg aagaaggagg agtacaagat ggccctgtac 3540

aacctgtacc ctggggtgtt tgagactgtg gagatgctgc ccagcaaggc tggcatctgg 3600

agggtggagt gcctgattgg ggagcacctg catgctggca tgagcaccct gttcctggtg 3660

tacagcaaca agtgccagac ccccctgggc atggcctctg gccacatcag ggacttccag 3720

atcactgcct ctggccagta tggccagtgg gcccccaagc tggccaggct gcactactct 3780

ggcagcatca atgcctggag caccaaggag cccttcagct ggatcaaggt ggacctgctg 3840

gcccccatga tcatccatgg catcaagacc caggggggca ggcagaagtt cagcagcctg 3900

tacatcagcc agttcatcat catgtacagc ctggatggca agaagtggca gacctacagg 3960

ggcaacagca ctggcaccct gatggtgttc tttggcaatg tggacagctc tggcatcaag 4020

cacaacatct tcaacccccc catcattgcc agatacatca ggctgcaccc cacccactac 4080

agcatcagga gcaccctgag gatggagctg atgggctgtg acctgaacag ctgcagcatg 4140

cccctgggca tggagagcaa ggccatctct gatgcccaga tcactgccag cagctacttc 4200

accaacatgt ttgccacctg gagccccagc aaggccaggc tgcacctgca gggcaggagc 4260

aatgcctgga ggccccaggt caacaacccc aaggagtggc tgcaggtgga cttccagaag 4320

accatgaagg tgactggggt gaccacccag ggggtgaaga gcctgctgac cagcatgtat 4380

gtgaaggagt tcctgatcag cagcagccag gatggccacc agtggaccct gttcttccag 4440

aatggcaagg tgaaggtgtt ccagggcaac caggacagct tcacccctgt ggtgaacagc 4500

ctggaccccc ccctgctgac cagatacctg aggattcacc cccagagctg ggtgcaccag 4560

attgccctga ggatggaggt gctgggctgt gaggcccagg acctgtactg aaataaaaga 4620

tctttatttt cattagatct gtgtgttggt tttttgtgtg aggaacccct agtgatggag 4680

ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgggcgacc aaaggtcgcc 4740

cgacgcccgg gctttgcccg ggcggcctca gtgagcgagc gagcgcgcag agagggagtg 4800

gccaa 4805

<210> 6
<211> 4934
<212> DNA
<213> Adeno-Associated Virus

<400> 6

ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgtttg ctgcttgcaa tgtttgccca ttttagggtg 180

gacacaggac gctgtggttt ctgagccagg gggcgactca gatcccagcc agtggactta 240

gcccctgttt gctcctccga taactggggt gaccttggtt aatattcacc agcagcctcc 300

cccgttgccc ctctggatcc actgcttaaa tacggacgag gacagggccc tgtctcctca 360

gcttcaggca ccaccactga cctgggacag tgaatcgcca ccatgcagat tgagctgagc 420

acctgcttct tcctgtgcct gctgagattc tgctttagtg ccaccagaag atactacctg 480

ggtgcagtgg aactgtcatg ggactatatg caaagtgatc tcggtgagct gcctgtggac 540

gcaaggtaaa ggcatgtcct gtagggtctg atcggggcca ggattgtggg gatgtaagtc 600

tgcttggagg aaggtgcaga catcgggtta ggatggttgt gatgctattc tgacttttc 660

ctttcttcac gcagatttcc tcctagagtg ccaaaatctt ttccattcaa cacctcagtc 720

gtgtacaaaa agactctgtt tgtagaattc acggatcacc ttttcaacat cgctaagccc 780

aggcccccct ggatgggcct gctgggcccc accatccagg ctgaggtgta tgacactgtg 840

gtgatcaccc tgaagaacat ggccagccac cctgtgagcc tgcatgctgt gggggtgagc 900

tactggaagg cctctgaggg ggctgagtat gatgaccaga ccagccagag ggagaaggag 960

gatgacaagg tgttccctgg gggcagccac acctatgtgt ggcaggtgct gaaggagaat 1020

ggccccatgg cctctgaccc cctgtgcctg acctacagct acctgagcca tgtggacctg 1080

gtgaaggacc tgaactctgg cctgattggg gccctgctgg tgtgcaggga gggcagcctg 1140

gccaaggaga agacccagac cctgcacaag ttcatcctgc tgtttgctgt gtttgatgag 1200

ggcaagagct ggcactctga aaccaagaac agcctgatgc aggacaggga tgctgcctct 1260

gccagggcct ggcccaagat gcacactgtg aatggctatg tgaacaggag cctgcctggc 1320

ctgattggct gccacaggaa gtctgtgtac tggcatgtga ttggcatggg caccacccct 1380

gaggtgcaca gcatcttcct ggagggccac accttcctgg tcaggaacca caggcaggcc 1440

agcctggaga tcagccccat caccttcctg actgcccaga ccctgctgat ggacctgggc 1500

cagttcctgc tgttctgcca catcagcagc caccagcatg atggcatgga ggcctatgtg 1560

aaggtggaca gctgccctga ggagccccag ctgaggatga agaacaatga ggaggctgag 1620

gactatgatg atgacctgac tgactctgag atggatgtgg tgaggtttga tgatgacaac 1680

agccccagct tcatccagat caggtctgtg gccaagaagc accccaagac ctgggtgcac 1740

tacattgctg ctgaggagga ggactgggac tatgcccccc tggtgctggc ccctgatgac 1800

aggagctaca agagccagta cctgaacaat ggcccccaga ggattggcag gaagtacaag 1860

aaggtcaggt tcatggccta cactgatgaa accttcaaga ccagggaggc catccagcat 1920

gagtctggca tcctgggccc cctgctgtat ggggaggtgg gggacaccct gctgatcatc 1980

ttcaagaacc aggccagcag gccctacaac atctaccccc atggcatcac tgatgtgagg 2040

ccctgtaca gcaggaggct gcccaagggg gtgaagcacc tgaaggactt ccccatcctg 2100

cctggggaga tcttcaagta caagtggact gtgactgtgg aggatggccc caccaagtct 2160

gaccccaggt gcctgaccag atactacagc agctttgtga acatggagag ggacctggcc 2220

tctggcctga ttggcccccc gctgatctgc tacaaggagt ctgtggacca gaggggcaac 2280

cagatcatgt ctgacaagag gaatgtgatc ctgttctctg tgtttgatga gaacaggagc 2340

tggtacctga ctgagaacat ccagaggttc ctgcccaacc ctgctggggt gcagctggag 2400

gaccctgagt tccaggccag caacatcatg cacagcatca atggctatgt gtttgacagc 2460

ctgcagctgt ctgtgtgcct gcatgaggtg gcctactggt acatcctgag cattggggcc 2520

cagactgact tcctgtctgt gttcttctct ggctacacct tcaagcacaa gatggtgtat 2580

gaggacaccc tgaccctgtt ccccttctct ggggagactg tgttcatgag catggagaac 2640

cctggcctgt ggattctggg ctgccacaac tctgacttca ggaacagggg catgactgcc 2700

ctgctgaaag tctccagctg tgacaagaac actggggact actatgagga cagctatgag 2760

gacatctctg cctacctgct gagcaagaac aatgccattg agcccaggag cttccagaag 2820

aagaccaggc actacttcat tgctgctgtg gagaggctgt gggactatgg catgagcagc 2880

agcccccatg tgctgaggaa cagggcccag tctggctctg tgccccagtt caagaaggtg 2940

gtgttccagg agttcactga tggcagcttc acccagcccc tgtacagagg ggagctgaat 3000

gagcacctgg gcctgctggg cccctacatc agggctgagg tggaggacaa catcatggtg 3060

accttcagga accaggccag caggccctac agcttctaca gcagcctgat cagctatgag 3120

gaggaccaga ggcaggggggc tgagcccagg aagaactttg tgaagcccaa tgaaaccaag 3180

acctacttct ggaaggtgca gcaccacatg gcccccacca aggatgagtt tgactgcaag 3240

gcctgggcct acttctctga tgtggacctg gagaaggatg tgcactctgg cctgattggc 3300

cccctgctgg tgtgccacac caacaccctg aaccctgccc atggcaggca ggtgactgtg 3360

caggagtttg ccctgttctt caccatcttt gatgaaacca agagctggta cttcactgag 3420

aacatggaga ggaactgcag ggccccctgc aacatccaga tggaggaccc caccttcaag 3480

gagaactaca ggttccatgc catcaatggc tacatcatgg acaccctgcc tggcctggtg 3540

atggcccagg accagaggat caggtggtac ctgctgagca tgggcagcaa tgagaacatc 3600

cacagcatcc acttctctgg ccatgtgttc actgtgagga agaaggagga gtacaagatg 3660

gccctgtaca acctgtaccc tggggtgttt gagactgtgg agatgctgcc cagcaaggct 3720

ggcatctgga gggtggagtg cctgattggg gagcacctgc atgctggcat gagcaccctg 3780

ttcctggtgt acagcaacaa gtgccagacc cccctgggca tggcctctgg ccacatcagg 3840

gacttccaga tcactgcctc tggccagtat ggccagtggg cccccaagct ggccaggctg 3900

cactactctg gcagcatcaa tgcctggagc accaaggagc ccttcagctg gatcaaggtg 3960

gacctgctgg cccccatgat catccatggc atcaagaccc agggggccag gcagaagttc 4020

agcagcctgt acatcagcca gttcatcatc atgtacagcc tggatggcaa gaagtggcag 4080

acctacaggg gcaacagcac tggcaccctg atggtgttct ttggcaatgt ggacagctct 4140

ggcatcaagc acaacatctt caaccccccc atcattgcca gatacatcag gctgcacccc 4200

acccactaca gcatcaggag caccctgagg atggagctga tgggctgtga cctgaacagc 4260

tgcagcatgc ccctgggcat ggagagcaag gccatctctg atgcccagat cactgccagc 4320

agctacttca ccaacatgtt tgccacctgg agccccagca aggccaggct gcacctgcag 4380

ggcaggagca atgcctggag gccccaggtc aacaacccca aggagtggct gcaggtggac 4440

ttccagaaga ccatgaaggt gactggggtg accacccagg gggtgaagag cctgctgacc 4500

agcatgtatg tgaaggagtt cctgatcagc agcagccagg atggccacca gtggaccctg 4560

ttcttccaga atggcaaggt gaaggtgttc cagggcaacc aggacagctt cacccctgtg 4620

gtgaacagcc tggacccccc cctgctgacc agatacctga ggattcaccc ccagagctgg 4680

gtgcaccaga ttgccctgag gatggaggtg ctgggctgtg aggcccagga cctgtactga 4740

aataaaagat ctttattttc attagatctg tgtgttggtt ttttgtgtga ggaaccccta 4800

gtgatggagt tggccactcc ctctctgcgc gctcgctcgc tcactgaggc cgggcgacca 4860

aaggtcgccc gacgcccggg ctttgcccgg gcggcctcag tgagcgagcg agcgcgcaga 4920

gagggagtgg ccaa 4934

<210> 7
<211> 4934
<212> DNA
<213> Adeno-Associated Virus

<400> 7
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgtttg ctgcttgcaa tgtttgccca ttttagggtg 180

gacacaggac gctgtggttt ctgagccagg gggcgactca gatcccagcc agtggactta 240

gcccctgttt gctcctccga taactggggt gaccttggtt aatattcacc agcagcctcc 300

cccgttgccc ctctggatcc actgcttaaa tacggacgag gacagggccc tgtctcctca 360

gcttcaggca ccaccactga cctgggacag tgaatcgcca ccatgcagat tgagctgagc 420

acctgcttct tcctgtgcct gctgagattc tgctttagtg ccaccagaag atactacctg 480

ggtgcagtgg aactgtcatg ggactatatg caaagtgatc tcggtgagct gcctgtggac 540

gcaaggtaaa ggctgtttgc tgcttgcaat gtttgcccat tttaggggg gatgtaagtc 600

tgcttggagg aaggtgcaga catcgggtta ggatggttgt gatgctattc tgacttttc 660

ctttcttcac gcagatttcc tcctagagtg ccaaaatctt ttccattcaa cacctcagtc 720

gtgtacaaaa agactctgtt tgtagaattc acggatcacc ttttcaacat cgctaagccc 780

aggcccccct ggatgggcct gctgggcccc accatccagg ctgaggtgta tgacactgtg 840

gtgatcaccc tgaagaacat ggccagccac cctgtgagcc tgcatgctgt gggggtgagc 900

tactggaagg cctctgaggg ggctgagtat gatgaccaga ccagccagag ggagaaggag 960

gatgacaagg tgttccctgg gggcagccac acctatgtgt ggcaggtgct gaaggagaat 1020

ggccccatgg cctctgaccc cctgtgcctg acctacagct acctgagcca tgtggacctg 1080

gtgaaggacc tgaactctgg cctgattggg gccctgctgg tgtgcaggga gggcagcctg 1140

gccaaggaga agacccagac cctgcacaag ttcatcctgc tgtttgctgt gtttgatgag 1200

ggcaagagct ggcactctga aaccaagaac agcctgatgc aggacaggga tgctgcctct 1260

gccagggcct ggcccaagat gcacactgtg aatggctatg tgaacaggag cctgcctggc 1320

ctgattggct gccacaggaa gtctgtgtac tggcatgtga ttggcatggg caccacccct 1380

gaggtgcaca gcatcttcct ggagggccac accttcctgg tcaggaacca caggcaggcc 1440

agcctggaga tcagccccat caccttcctg actgcccaga ccctgctgat ggacctgggc 1500

cagttcctgc tgttctgcca catcagcagc caccagcatg atggcatgga ggcctatgtg 1560

aaggtggaca gctgccctga ggagccccag ctgaggatga agaacaatga ggaggctgag 1620

gactatgatg atgacctgac tgactctgag atggatgtgg tgaggtttga tgatgacaac 1680

agccccagct tcatccagat caggtctgtg gccaagaagc accccaagac ctgggtgcac 1740

tacattgctg ctgaggagga ggactgggac tatgcccccc tggtgctggc ccctgatgac 1800

aggagctaca agagccagta cctgaacaat ggcccccaga ggattggcag gaagtacaag 1860

aaggtcaggt tcatggccta cactgatgaa accttcaaga ccagggaggc catccagcat 1920

gagtctggca tcctgggccc cctgctgtat ggggaggtgg gggacaccct gctgatcatc 1980

ttcaagaacc aggccagcag gccctacaac atctaccccc atggcatcac tgatgtgagg 2040

cccctgtaca gcaggaggct gcccaagggg gtgaagcacc tgaaggactt ccccatcctg 2100

cctggggaga tcttcaagta caagtggact gtgactgtgg aggatggccc caccaagtct 2160

gaccccaggt gcctgaccag atactacagc agctttgtga acatggagag ggacctggcc 2220

tctggcctga ttggcccccc gctgatctgc tacaaggagt ctgtggacca gaggggcaac 2280

cagatcatgt ctgacaagag gaatgtgatc ctgttctctg tgtttgatga gaacaggagc 2340

tggtacctga ctgagaacat ccagaggttc ctgcccaacc ctgctggggt gcagctggag 2400

gaccctgagt tccaggccag caacatcatg cacagcatca atggctatgt gtttgacagc 2460

ctgcagctgt ctgtgtgcct gcatgaggtg gcctactggt acatcctgag cattggggcc 2520

cagactgact tcctgtctgt gttcttctct ggctacacct tcaagcacaa gatggtgtat 2580

gaggacaccc tgaccctgtt ccccttctct ggggagactg tgttcatgag catggagaac 2640

cctggcctgt ggattctggg ctgccacaac tctgacttca ggaacagggg catgactgcc 2700

ctgctgaaag tctccagctg tgacaagaac actggggact actatgagga cagctatgag 2760

gacatctctg cctacctgct gagcaagaac aatgccattg agcccaggag cttccagaag 2820

aagaccaggc actacttcat tgctgctgtg gagaggctgt gggactatgg catgagcagc 2880

agcccccatg tgctgaggaa cagggcccag tctggctctg tgccccagtt caagaaggtg 2940

gtgttccagg agttcactga tggcagcttc acccagcccc tgtacagagg ggagctgaat 3000

gagcacctgg gcctgctggg cccctacatc agggctgagg tggaggacaa catcatggtg 3060

accttcagga accaggccag caggccctac agcttctaca gcagcctgat cagctatgag 3120

gaggaccaga ggcaggggggc tgagcccagg aagaactttg tgaagcccaa tgaaaccaag 3180

acctacttct ggaaggtgca gcaccacatg gcccccacca aggatgagtt tgactgcaag 3240

gcctgggcct acttctctga tgtggacctg gagaaggatg tgcactctgg cctgattggc 3300

cccctgctgg tgtgccacac caacaccctg aaccctgccc atggcaggca ggtgactgtg 3360

caggagtttg ccctgttctt caccatcttt gatgaaacca agagctggta cttcactgag 3420

aacatggaga ggaactgcag ggcccctgc aacatccaga tggaggaccc caccttcaag 3480

gagaactaca ggttccatgc catcaatggc tacatcatgg acaccctgcc tggcctggtg 3540

atggcccagg accagaggat caggtggtac ctgctgagca tgggcagcaa tgagaacatc 3600

cacagcatcc acttctctgg ccatgtgttc actgtgagga agaaggagga gtacaagatg 3660

gccctgtaca acctgtaccc tggggtgttt gagactgtgg agatgctgcc cagcaaggct 3720

ggcatctgga gggtggagtg cctgattggg gagcacctgc atgctggcat gagcaccctg 3780

ttcctggtgt acagcaacaa gtgccagacc cccctgggca tggcctctgg ccacatcagg 3840

gacttccaga tcactgcctc tggccagtat ggccagtggg cccccaagct ggccaggctg 3900

cactactctg gcagcatcaa tgcctggagc accaaggagc ccttcagctg gatcaaggtg 3960

gacctgctgg cccccatgat catccatggc atcaagaccc agggggccag gcagaagttc 4020

agcagcctgt acatcagcca gttcatcatc atgtacagcc tggatggcaa gaagtggcag 4080

acctacaggg gcaacagcac tggcaccctg atggtgttct ttggcaatgt ggacagctct 4140

ggcatcaagc acaacatctt caacccccccc atcattgcca gatacatcag gctgcacccc 4200

acccactaca gcatcaggag caccctgagg atggagctga tgggctgtga cctgaacagc 4260

tgcagcatgc ccctgggcat ggagagcaag gccatctctg atgcccagat cactgccagc 4320

agctacttca ccaacatgtt tgccacctgg agccccagca aggccaggct gcacctgcag 4380

ggcaggagca atgcctggag gccccaggtc aacaacccca aggagtggct gcaggtggac 4440

ttccagaaga ccatgaaggt gactggggtg accacccagg gggtgaagag cctgctgacc 4500

agcatgtatg tgaaggagtt cctgatcagc agcagccagg atggccacca gtggaccctg 4560

ttcttccaga atggcaaggt gaaggtgttc cagggcaacc aggacagctt caccctgtg 4620

gtgaacagcc tggacccccc cctgctgacc agatacctga ggattcaccc ccagagctgg 4680

gtgcaccaga ttgccctgag gatggaggtg ctgggctgtg aggcccagga cctgtactga 4740

aataaaagat ctttattttc attagatctg tgtgttggtt ttttgtgtga ggaaccccta 4800

gtgatggagt tggccactcc ctctctgcgc gctcgctcgc tcactgaggc cgggcgacca 4860

aaggtcgccc gacgcccggg ctttgcccgg gcggcctcag tgagcgagcg agcgcgcaga 4920

gagggagtgg ccaa 4934

<210> 8
<211> 4934
<212> DNA
<213> Adeno-Associated Virus

<400> 8
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgtttg ctgcttgcaa tgtttgccca ttttagggtg 180

gacacaggac gctgtggttt ctgagccagg gggcgactca gatcccagcc agtggactta 240

gcccctgttt gctcctccga taactggggt gaccttggtt aatattcacc agcagcctcc 300

cccgttgccc ctctggatcc actgcttaaa tacggacgag gacagggccc tgtctcctca 360

gcttcaggca ccaccactga cctgggacag tgaatcgcca ccatgcagat tgagctgagc 420

acctgcttct tcctgtgcct gctgagattc tgctttagtg ccaccagaag atactacctg 480

ggtgcagtgg aactgtcatg ggactatatg caaagtgatc tcggtgagct gcctgtggac 540

gcaaggtaaa ggcatgtcct gtagggtctg atcggggcca ggattgtggg gatgtaagtc 600

tgcttggagg aagccctaaa atgggcaaac attgcaagca gcaaacattc tgacttttc 660

ctttcttcac gcagatttcc tcctagagtg ccaaaatctt ttccattcaa cacctcagtc 720

gtgtacaaaa agactctgtt tgtagaattc acggatcacc ttttcaacat cgctaagccc 780

aggcccccct ggatgggcct gctgggcccc accatccagg ctgaggtgta tgacactgtg 840

gtgatcaccc tgaagaacat ggccagccac cctgtgagcc tgcatgctgt gggggtgagc 900

tactggaagg cctctgaggg ggctgagtat gatgaccaga ccagccagag ggagaaggag 960

gatgacaagg tgttccctgg gggcagccac acctatgtgt ggcaggtgct gaaggagaat 1020

ggccccatgg cctctgaccc cctgtgcctg acctacagct acctgagcca tgtggacctg 1080

gtgaaggacc tgaactctgg cctgattggg gccctgctgg tgtgcaggga gggcagcctg 1140

gccaaggaga agacccagac cctgcacaag ttcatcctgc tgtttgctgt gtttgatgag 1200

ggcaagagct ggcactctga aaccaagaac agcctgatgc aggacaggga tgctgcctct 1260

gccagggcct ggcccaagat gcacactgtg aatggctatg tgaacaggag cctgcctggc 1320

ctgattggct gccacaggaa gtctgtgtac tggcatgtga ttggcatggg caccacccct 1380

gaggtgcaca gcatcttcct ggagggccac accttcctgg tcaggaacca caggcaggcc 1440

agcctggaga tcagccccat caccttcctg actgcccaga ccctgctgat ggacctgggc 1500

cagttcctgc tgttctgcca catcagcagc caccagcatg atggcatgga ggcctatgtg 1560

aaggtggaca gctgccctga ggagccccag ctgaggatga agaacaatga ggaggctgag 1620

gactatgatg atgacctgac tgactctgag atggatgtgg tgaggtttga tgatgacaac 1680

agccccagct tcatccagat caggtctgtg gccaagaagc accccaagac ctgggtgcac 1740

tacattgctg ctgaggagga ggactgggac tatgcccccc tggtgctggc ccctgatgac 1800

aggagctaca agagccagta cctgaacaat ggcccccaga ggattggcag gaagtacaag 1860

aaggtcaggt tcatggccta cactgatgaa accttcaaga ccagggaggc catccagcat 1920

gagtctggca tcctgggccc cctgctgtat ggggaggtgg gggacaccct gctgatcatc 1980

ttcaagaacc aggccagcag gccctacaac atctaccccc atggcatcac tgatgtgagg 2040

cccctgtaca gcaggaggct gcccaagggg gtgaagcacc tgaaggactt ccccatcctg 2100

cctggggaga tcttcaagta caagtggact gtgactgtgg aggatggccc caccaagtct 2160

gaccccaggt gcctgaccag atactacagc agctttgtga acatggagag ggacctggcc 2220

tctggcctga ttggcccccc gctgatctgc tacaaggagt ctgtggacca gaggggcaac 2280

cagatcatgt ctgacaagag gaatgtgatc ctgttctctg tgtttgatga gaacaggagc 2340

tggtacctga ctgagaacat ccagaggttc ctgcccaacc ctgctggggt gcagctggag 2400

gaccctgagt tccaggccag caacatcatg cacagcatca atggctatgt gtttgacagc 2460

ctgcagctgt ctgtgtgcct gcatgaggtg gcctactggt acatcctgag cattggggcc 2520

cagactgact tcctgtctgt gttcttctct ggctacacct tcaagcacaa gatggtgtat 2580

gaggacaccc tgaccctgtt ccccttctct ggggagactg tgttcatgag catggagaac 2640

cctggcctgt ggattctggg ctgccacaac tctgacttca ggaacagggg catgactgcc 2700

ctgctgaaag tctccagctg tgacaagaac actggggact actatgagga cagctatgag 2760

gacatctctg cctacctgct gagcaagaac aatgccattg agcccaggag cttccagaag 2820

aagaccaggc actacttcat tgctgctgtg gagaggctgt gggactatgg catgagcagc 2880

agcccccatg tgctgaggaa cagggcccag tctggctctg tgccccagtt caagaaggtg 2940

gtgttccagg agttcactga tggcagcttc acccagcccc tgtacagagg ggagctgaat 3000

gagcacctgg gcctgctggg cccctacatc agggctgagg tggaggacaa catcatggtg 3060

accttcagga accaggccag caggccctac agcttctaca gcagcctgat cagctatgag 3120

gaggaccaga ggcaggggggc tgagcccagg aagaactttg tgaagcccaa tgaaaccaag 3180

acctacttct ggaaggtgca gcaccacatg gcccccacca aggatgagtt tgactgcaag 3240

gcctgggcct acttctctga tgtggacctg gagaaggatg tgcactctgg cctgattggc 3300

cccctgctgg tgtgccacac caacaccctg aaccctgccc atggcaggca ggtgactgtg 3360

caggagtttg ccctgttctt caccatcttt gatgaaacca agagctggta cttcactgag 3420

aacatggaga ggaactgcag ggcccctgc aacatccaga tggaggaccc caccttcaag 3480

gagaactaca ggttccatgc catcaatggc tacatcatgg acaccctgcc tggcctggtg 3540

atggcccagg accagaggat caggtggtac ctgctgagca tgggcagcaa tgagaacatc 3600

cacagcatcc acttctctgg ccatgtgttc actgtgagga agaaggagga gtacaagatg 3660

gccctgtaca acctgtaccc tggggtgttt gagactgtgg agatgctgcc cagcaaggct 3720

ggcatctgga gggtggagtg cctgattggg gagcacctgc atgctggcat gagcaccctg 3780

ttcctggtgt acagcaacaa gtgccagacc cccctgggca tggcctctgg ccacatcagg 3840

gacttccaga tcactgcctc tggccagtat ggccagtggg cccccaagct ggccaggctg 3900

cactactctg gcagcatcaa tgcctggagc accaaggagc ccttcagctg gatcaaggtg 3960

gacctgctgg cccccatgat catccatggc atcaagaccc agggggccag gcagaagttc 4020

agcagcctgt acatcagcca gttcatcatc atgtacagcc tggatggcaa gaagtggcag 4080

acctacaggg gcaacagcac tggcaccctg atggtgttct ttggcaatgt ggacagctct 4140

ggcatcaagc acaacatctt caacccccca atcattgcca gatacatcag gctgcacccc 4200

acccactaca gcatcaggag caccctgagg atggagctga tgggctgtga cctgaacagc 4260

tgcagcatgc ccctgggcat ggagagcaag gccatctctg atgcccagat cactgccagc 4320

agctacttca ccaacatgtt tgccacctgg agccccagca aggccaggct gcacctgcag 4380

ggcaggagca atgcctggag gccccaggtc aacaacccca aggagtggct gcaggtggac 4440

ttccagaaga ccatgaaggt gactggggtg accacccagg gggtgaagag cctgctgacc 4500

agcatgtatg tgaaggagtt cctgatcagc agcagccagg atggccacca gtggaccctg 4560

ttcttccaga atggcaaggt gaaggtgttc cagggcaacc aggacagctt cacccctgtg 4620

gtgaacagcc tggacccccc cctgctgacc agatacctga ggattcaccc ccagagctgg 4680

gtgcaccaga ttgccctgag gatggaggtg ctgggctgtg aggcccagga cctgtactga 4740

aataaaagat ctttattttc attagatctg tgtgttggtt ttttgtgtga ggaaccccta 4800

gtgatggagt tggccactcc ctctctgcgc gctcgctcgc tcactgaggc cgggcgacca 4860

aaggtcgccc gacgcccggg ctttgcccgg gcggcctcag tgagcgagcg agcgcgcaga 4920

gagggagtgg ccaa 4934

<210> 9
<211> 5511
<212> DNA
<213> Adeno-Associated Virus 2

<400> 9
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgaccc ctctcacact 180

acctaaacca cgccaggaca acctctgctc ctctccaccg aaattccaag gggtcgagtg 240

gatgttggag gtggcatggg cccagagagg tctctgacct ctgccccagc tccaaggtca 300

gcaggcaggg agggctgtgt gtttgctgtt tgctgcttgc aatgtttgcc cattttaggg 360

acatgagtag gctgaagttt gttcagtgtg gacttcagag gcagcacaca aacagctgct 420

ggaggatggg aactgagggg ttggaagggg gcagggtgag cccagaaact cctgtgtgcc 480

tctgagcctg cagacgcgaa acgtcgactg gacacaggac gctgtggttt ctgagccagg 540

gggcgactca gatcccagcc agtggactta gcccctgttt gctcctccga taactggggt 600

gaccttggtt aatattcacc agcagcctcc cccgttgccc ctctggatcc actgcttaaa 660

tacggacgag gacagggccc tgtctcctca gcttcaggca ccaccactga cctgggacag 720

tgaatcgtaa gtactagcag ctacaatcca gctaccattc tgcttttatt ttatggttgg 780

gataaggctg gattattctg agtccaagct aggccctttt gctaatcatg ttcatacctc 840

ttatcttcct cccacagctc ctgggcaacg tgctggtctg tgtgctggcc catcactttg 900

gcaaagaatt gcgatcgcca ccatgcagat tgagctgagc acctgcttct tcctgtgcct 960

gctgaggttc tgcttctctg ccaccaggag atactacctg ggggctgtgg agctgagctg 1020

ggactacatg cagtctgacc tgggggagct gcctgtggat gccaggttcc cccccagagt 1080

gcccaagagc ttcccccttca acacctctgt ggtgtacaag aagaccctgt ttgtggagtt 1140

cactgaccac ctgttcaaca ttgccaagcc caggcccccc tggatgggcc tgctgggccc 1200

caccatccag gctgaggtgt atgacactgt ggtgatcacc ctgaagaaca tggccagcca 1260

ccctgtgagc ctgcatgctg tgggggtgag ctactggaag gcctctgagg gggctgagta 1320

tgatgaccag accagccaga gggagaagga ggatgacaag gtgttccctg ggggcagcca 1380

cacctatgtg tggcaggtgc tgaaggagaa tggccccatg gcctctgacc ccctgtgcct 1440

gacctacagc tacctgagcc atgtggacct ggtgaaggac ctgaactctg gcctgattgg 1500

ggccctgctg gtgtgcaggg agggcagcct ggccaaggag aagacccaga ccctgcacaa 1560

gttcatcctg ctgtttgctg tgtttgatga gggcaagagc tggcactctg aaaccaagaa 1620

cagcctgatg caggacaggg atgctgcctc tgccagggcc tggcccaaga tgcacactgt 1680

gaatggctat gtgaacagga gcctgcctgg cctgattggc tgccacagga agtctgtgta 1740

ctggcatgtg attggcatgg gcaccacccc tgaggtgcac agcatcttcc tggagggcca 1800

caccttcctg gtcaggaacc acaggcaggc cagcctggag atcagcccca tcaccttcct 1860

gactgcccag accctgctga tggacctggg ccagttcctg ctgttctgcc acatcagcag 1920

ccaccagcat gatggcatgg aggcctatgt gaaggtggac agctgccctg aggagcccca 1980

gctgaggatg aagaacaatg aggaggctga ggactatgat gatgacctga ctgactctga 2040

gatggatgtg gtgaggtttg atgatgacaa cagccccagc ttcatccaga tcaggtctgt 2100

ggccaagaag caccccaaga cctgggtgca ctacattgct gctgaggagg aggactggga 2160

ctatgccccc ctggtgctgg cccctgatga caggagctac aagagccagt acctgaacaa 2220

tggcccccag aggattggca ggaagtacaa gaaggtcagg ttcatggcct acactgatga 2280

aaccttcaag accagggagg ccatccagca tgagtctggc atcctgggcc ccctgctgta 2340

tggggaggtg ggggacaccc tgctgatcat cttcaagaac caggccagca ggccctacaa 2400

catctacccc catggcatca ctgatgtgag gcccctgtac agcaggaggc tgcccaaggg 2460

ggtgaagcac ctgaaggact tccccatcct gcctggggag atcttcaagt acaagtggac 2520

tgtgactgtg gaggatggcc ccaccaagtc tgaccccagg tgcctgacca gatactacag 2580

cagctttgtg aacatggaga gggacctggc ctctggcctg attggccccc tgctgatctg 2640

ctacaaggag tctgtggacc agaggggcaa ccagatcatg tctgacaaga ggaatgtgat 2700

cctgttctct gtgtttgatg agaacaggag ctggtacctg actgagaaca tccagaggtt 2760

cctgcccaac cctgctgggg tgcagctgga ggaccctgag ttccaggcca gcaacatcat 2820

gcacagcatc aatggctatg tgtttgacag cctgcagctg tctgtgtgcc tgcatgaggt 2880

ggcctactgg tacatcctga gcattggggc ccagactgac ttcctgtctg tgttcttctc 2940

tggctacacc ttcaagcaca agatggtgta tgaggacacc ctgaccctgt tccccttctc 3000

tggggagact gtgttcatga gcatggagaa ccctggcctg tggattctgg gctgccacaa 3060

ctctgacttc aggaacaggg gcatgactgc cctgctgaaa gtctccagct gtgacaagaa 3120

cactggggac tactatgagg acagctatga ggacatctct gcctacctgc tgagcaagaa 3180

caatgccatt gagcccagga gcttcagcca gaacccccca gtgctgaaga ggcaccagag 3240

ggagatcacc aggaccaccc tgcagtctga ccaggaggag attgactatg atgacaccat 3300

ctctgtggag atgaagaagg aggactttga catctacgac gaggacgaga accagagccc 3360

caggagcttc cagaagaaga ccaggcacta cttcattgct gctgtggaga ggctgtggga 3420

ctatggcatg agcagcagcc cccatgtgct gaggaacagg gcccagtctg gctctgtgcc 3480

ccagttcaag aaggtggtgt tccaggagtt cactgatggc agcttcaccc agcccctgta 3540

cagaggggag ctgaatgagc acctgggcct gctgggcccc tacatcaggg ctgaggtgga 3600

ggacaacatc atggtgacct tcaggaacca ggccagcagg ccctacagct tctacagcag 3660

cctgatcagc tatgaggagg accagaggca gggggctgag cccaggaaga actttgtgaa 3720

gcccaatgaa accaagacct acttctggaa ggtgcagcac cacatggccc ccaccaagga 3780

tgagtttgac tgcaaggcct gggcctactt ctctgatgtg gacctggaga aggatgtgca 3840

ctctggcctg attggccccc tgctggtgtg ccacaccaac accctgaacc ctgcccatgg 3900

caggcaggtg actgtgcagg agtttgccct gttcttcacc atctttgatg aaaccaagag 3960

ctggtacttc actgagaaca tggagaggaa ctgcagggcc ccctgcaaca tccagatgga 4020

ggaccccacc ttcaaggaga actacaggtt ccatgccatc aatggctaca tcatggacac 4080

cctgcctggc ctggtgatgg cccaggacca gaggatcagg tggtacctgc tgagcatggg 4140

cagcaatgag aacatccaca gcatccactt ctctggccat gtgttcactg tgaggaagaa 4200

ggaggagtac aagatggccc tgtacaacct gtaccctggg gtgtttgaga ctgtggagat 4260

gctgcccagc aaggctggca tctggagggt ggagtgcctg attggggagc acctgcatgc 4320

tggcatgagc accctgttcc tggtgtacag caacaagtgc cagacccccc tgggcatggc 4380

ctctggccac atcagggact tccagatcac tgcctctggc cagtatggcc agtgggcccc 4440

caagctggcc aggctgcact actctggcag catcaatgcc tggagcacca aggagccctt 4500

cagctggatc aaggtggacc tgctggcccc catgatcatc catggcatca agacccaggg 4560

ggccaggcag aagttcagca gcctgtacat cagccagttc atcatcatgt acagcctgga 4620

tggcaagaag tggcagacct acaggggcaa cagcactggc accctgatgg tgttctttgg 4680

caatgtggac agctctggca tcaagcacaa catcttcaac ccccccatca ttgccagata 4740

catcaggctg caccccaccc actacagcat caggagcacc ctgaggatgg agctgatggg 4800

ctgtgacctg aacagctgca gcatgcccct gggcatggag agcaaggcca tctctgatgc 4860

ccagatcact gccagcagct acttcaccaa catgtttgcc acctggagcc ccagcaaggc 4920

caggctgcac ctgcagggca ggagcaatgc ctggaggccc caggtcaaca accccaagga 4980

gtggctgcag gtggacttcc agaagaccat gaaggtgact ggggtgacca cccaggggt 5040

gaagagcctg ctgaccagca tgtatgtgaa ggagttcctg atcagcagca gccaggatgg 5100

ccaccagtgg accctgttct tccagaatgg caaggtgaag gtgttccagg gcaaccagga 5160

cagcttcacc cctgtggtga acagcctgga ccccccccctg ctgaccagat acctgaggat 5220

tcacccccag agctgggtgc accagattgc cctgaggatg gaggtgctgg gctgtgaggc 5280

ccaggacctg tactgacctc gaggaataaa ggaaatttat tttcattgca atagtgtgtt 5340

ggtttttttgt gtcacgtggc ggccgcagga acccctagtg atggagttgg ccactccctc 5400

tctgcgcgct cgctcgctca ctgaggccgg gcgaccaaag gtcgcccgac gcccgggctt 5460

tgcccgggcg gcctcagtga gcgagcgagc gcgcagagag ggagtggcca a 5511

<210> 10
<211> 5688
<212> DNA
<213> Adeno-Associated Virus 2

<400> 10
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgaccc ctctcacact 180

acctaaacca cgccaggaca acctctgctc ctctccaccg aaattccaag gggtcgagtg 240

gatgttggag gtggcatggg cccagagagg tctctgacct ctgccccagc tccaaggtca 300

gcaggcaggg agggctgtgt gtttgctgtt tgctgcttgc aatgtttgcc cattttaggg 360

acatgagtag gctgaagttt gttcagtgtg gacttcagag gcagcacaca aacagctgct 420

ggaggatggg aactgagggg ttggaagggg gcagggtgag cccagaaact cctgtgtgcc 480

tctgagcctg cagacgcgaa acgtcgactg gacacaggac gctgtggttt ctgagccagg 540

gggcgactca gatcccagcc agtggactta gcccctgttt gctcctccga taactggggt 600

gaccttggtt aatattcacc agcagcctcc cccgttgccc ctctggatcc actgcttaaa 660

tacggacgag gacagggccc tgtctcctca gcttcaggca ccaccactga cctgggacag 720

tgaatcgtaa gtactagcag ctacaatcca gctaccattc tgcttttatt ttatggttgg 780

gataaggctg gattattctg agtccaagct aggcccttt gctaatcatg ttcatacctc 840

ttatcttcct cccacagctc ctgggcaacg tgctggtctg tgtgctggcc catcactttg 900

gcaaagaatt gcgatcgcca ccatgcagat tgagctgagc acctgcttct tcctgtgcct 960

gctgaggttc tgcttctctg ccaccaggag atactacctg ggggctgtgg agctgagctg 1020

ggactacatg cagtctgacc tgggggagct gcctgtggat gccaggttcc cccccagagt 1080

gcccaagagc ttcccccttca acacctctgt ggtgtacaag aagaccctgt ttgtggagtt 1140

cactgaccac ctgttcaaca ttgccaagcc caggcccccc tggatgggcc tgctgggccc 1200

caccatccag gctgaggtgt atgacactgt ggtgatcacc ctgaagaaca tggccagcca 1260

ccctgtgagc ctgcatgctg tgggggtgag ctactggaag gcctctgagg gggctgagta 1320

tgatgaccag accagccaga gggagaagga ggatgacaag gtgttccctg ggggcagcca 1380

cacctatgtg tggcaggtgc tgaaggagaa tggccccatg gcctctgacc ccctgtgcct 1440

gacctacagc tacctgagcc atgtggacct ggtgaaggac ctgaactctg gcctgattgg 1500

ggccctgctg gtgtgcaggg agggcagcct ggccaaggag aagacccaga ccctgcacaa 1560

gttcatcctg ctgtttgctg tgtttgatga gggcaagagc tggcactctg aaaccaagaa 1620

cagcctgatg caggacaggg atgctgcctc tgccagggcc tggcccaaga tgcacactgt 1680

gaatggctat gtgaacagga gcctgcctgg cctgattggc tgccacagga agtctgtgta 1740

ctggcatgtg attggcatgg gcaccacccc tgaggtgcac agcatcttcc tggagggcca 1800

caccttcctg gtcaggaacc acaggcaggc cagcctggag atcagcccca tcaccttcct 1860

gactgcccag accctgctga tggacctggg ccagttcctg ctgttctgcc acatcagcag 1920

ccaccagcat gatggcatgg aggcctatgt gaaggtggac agctgccctg aggagcccca 1980

gctgaggatg aagaacaatg aggaggctga ggactatgat gatgacctga ctgactctga 2040

gatggatgtg gtgaggtttg atgatgacaa cagccccagc ttcatccaga tcaggtctgt 2100

ggccaagaag caccccaaga cctgggtgca ctacattgct gctgaggagg aggactggga 2160

ctatgccccc ctggtgctgg cccctgatga caggagctac aagagccagt acctgaacaa 2220

tggcccccag aggattggca ggaagtacaa gaaggtcagg ttcatggcct acactgatga 2280

aaccttcaag accagggagg ccatccagca tgagtctggc atcctgggcc ccctgctgta 2340

tggggaggtg ggggacaccc tgctgatcat cttcaagaac caggccagca ggccctacaa 2400

catctacccc catggcatca ctgatgtgag gcccctgtac agcaggaggc tgcccaaggg 2460

ggtgaagcac ctgaaggact tccccatcct gcctggggag atcttcaagt acaagtggac 2520

tgtgactgtg gaggatggcc ccaccaagtc tgaccccagg tgcctgacca gatactacag 2580

cagctttgtg aacatggaga gggacctggc ctctggcctg attggccccc tgctgatctg 2640

ctacaaggag tctgtggacc agaggggcaa ccagatcatg tctgacaaga ggaatgtgat 2700

cctgttctct gtgtttgatg agaacaggag ctggtacctg actgagaaca tccagaggtt 2760

cctgcccaac cctgctgggg tgcagctgga ggaccctgag ttccaggcca gcaacatcat 2820

gcacagcatc aatggctatg tgtttgacag cctgcagctg tctgtgtgcc tgcatgaggt 2880

ggcctactgg tacatcctga gcattggggc ccagactgac ttcctgtctg tgttcttctc 2940

tggctacacc ttcaagcaca agatggtgta tgaggacacc ctgaccctgt tccccttctc 3000

tggggagact gtgttcatga gcatggagaa ccctggcctg tggattctgg gctgccacaa 3060

ctctgacttc aggaacaggg gcatgactgc cctgctgaaa gtctccagct gtgacaagaa 3120

cactggggac tactatgagg acagctatga ggacatctct gcctacctgc tgagcaagaa 3180

caatgccatt gagcccagga gcttcagcca gaacccccca gtgctgaaga ggcaccagag 3240

ggagatcacc aggaccaccc tgcagtctga ccaggaggag attgactatg atgacaccat 3300

ctctgtggag atgaagaagg aggactttga catctacgac gaggacgaga accagagccc 3360

caggagcttc cagaagaaga ccaggcacta cttcattgct gctgtggaga ggctgtggga 3420

ctatggcatg agcagcagcc cccatgtgct gaggaacagg gcccagtctg gctctgtgcc 3480

ccagttcaag aaggtggtgt tccaggagtt cactgatggc agcttcaccc agcccctgta 3540

cagaggggag ctgaatgagc acctgggcct gctgggcccc tacatcaggg ctgaggtgga 3600

ggacaacatc atggtgacct tcaggaacca ggccagcagg ccctacagct tctacagcag 3660

cctgatcagc tatgaggagg accagaggca gggggctgag cccaggaaga actttgtgaa 3720

gcccaatgaa accaagacct acttctggaa ggtgcagcac cacatggccc ccaccaagga 3780

tgagtttgac tgcaaggcct gggcctactt ctctgatgtg gacctggaga aggatgtgca 3840

ctctggcctg attggccccc tgctggtgtg ccacaccaac accctgaacc ctgcccatgg 3900

caggcaggtg actgtgcagg agtttgccct gttcttcacc atctttgatg aaaccaagag 3960

ctggtacttc actgagaaca tggagaggaa ctgcagggcc ccctgcaaca tccagatgga 4020

ggaccccacc ttcaaggaga actacaggtt ccatgccatc aatggctaca tcatggacac 4080

cctgcctggc ctggtgatgg cccaggacca gaggatcagg tggtacctgc tgagcatggg 4140

cagcaatgag aacatccaca gcatccactt ctctggccat gtgttcactg tgaggaagaa 4200

ggaggagtac aagatggccc tgtacaacct gtaccctggg gtgtttgaga ctgtggagat 4260

gctgcccagc aaggctggca tctggagggt ggagtgcctg attggggagc acctgcatgc 4320

tggcatgagc accctgttcc tggtgtacag caacaagtgc cagacccccc tgggcatggc 4380

ctctggccac atcagggact tccagatcac tgcctctggc cagtatggcc agtgggcccc 4440

caagctggcc aggctgcact actctggcag catcaatgcc tggagcacca aggagccctt 4500

cagctggatc aaggtggacc tgctggcccc catgatcatc catggcatca agacccaggg 4560

ggccaggcag aagttcagca gcctgtacat cagccagttc atcatcatgt acagcctgga 4620

tggcaagaag tggcagacct acaggggcaa cagcactggc accctgatgg tgttctttgg 4680

caatgtggac agctctggca tcaagcacaa catcttcaac ccccccatca ttgccagata 4740

catcaggctg caccccaccc actacagcat caggagcacc ctgaggatgg agctgatggg 4800

ctgtgacctg aacagctgca gcatgcccct gggcatggag agcaaggcca tctctgatgc 4860

ccagatcact gccagcagct acttcaccaa catgtttgcc acctggagcc ccagcaaggc 4920

caggctgcac ctgcagggca ggagcaatgc ctggaggccc caggtcaaca accccaagga 4980

gtggctgcag gtggacttcc agaagaccat gaaggtgact ggggtgacca cccagggggt 5040

gaagagcctg ctgaccagca tgtatgtgaa ggagttcctg atcagcagca gccaggatgg 5100

ccaccagtgg accctgttct tccagaatgg caaggtgaag gtgttccagg gcaaccagga 5160

cagcttcacc cctgtggtga acagcctgga ccccccccctg ctgaccagat acctgaggat 5220

tcacccccag agctgggtgc accagattgc cctgaggatg gaggtgctgg gctgtgaggc 5280

ccaggacctg tactgacctc gaggtgtgcc ttctagttgc cagccatctg ttgtttgccc 5340

ctcccccgtg ccttccttga ccctggaagg tgccactccc actgtccttt cctaataaaa 5400

tgaggaaatt gcatcgcatt gtctgagtag gtgtcattct attctggggg gtggggtggg 5460

gcaggacagc aaggggggagg attgggaaga caatagcagg catgctgggg atgcggtggg 5520

ctctatgggc acgtggcggc cgcaggaacc cctagtgatg gagttggcca ctccctctct 5580

gcgcgctcgc tcgctcactg aggccgggcg accaaaggtc gcccgacgcc cgggctttgc 5640

ccgggcggcc tcagtgagcg agcgagcgcg cagagaggga gtggccaa 5688

<210> 11
<211> 5613
<212> DNA
<213> Adeno-Associated Virus 2

<400> 11
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgaccc ctctcacact 180

acctaaacca cgccaggaca acctctgctc ctctccaccg aaattccaag gggtcgagtg 240

gatgttggag gtggcatggg cccagagagg tctctgacct ctgccccagc tccaaggtca 300

gcaggcaggg agggctgtgt gtttgctgtt tgctgcttgc aatgtttgcc cattttaggg 360

acatgagtag gctgaagttt gttcagtgtg gacttcagag gcagcacaca aacagctgct 420

ggaggatggg aactgagggg ttggaagggg gcagggtgag cccagaaact cctgtgtgcc 480

tctgagcctg cagacgcgaa acgtcgactg gacacaggac gctgtggttt ctgagccagg 540

gggcgactca gatcccagcc agtggactta gcccctgttt gctcctccga taactggggt 600

gaccttggtt aatattcacc agcagcctcc cccgttgccc ctctggatcc actgcttaaa 660

tacggacgag gacagggccc tgtctcctca gcttcaggca ccaccactga cctgggacag 720

tgaatcgtaa gtactagcag ctacaatcca gctaccattc tgcttttatt ttatggttgg 780

gataaggctg gattattctg agtccaagct aggccctttt gctaatcatg ttcatacctc 840

ttatcttcct cccacagctc ctgggcaacg tgctggtctg tgtgctggcc catcactttg 900

gcaaagaatt gcgatcgcca ccatgcagat tgagctgagc acctgcttct tcctgtgcct 960

gctgaggttc tgcttctctg ccaccaggag atactacctg ggggctgtgg agctgagctg 1020

ggactacatg cagtctgacc tgggggagct gcctgtggat gccaggttcc cccccagagt 1080

gcccaagagc ttcccccttca acacctctgt ggtgtacaag aagaccctgt ttgtggagtt 1140

cactgaccac ctgttcaaca ttgccaagcc caggcccccc tggatgggcc tgctgggccc 1200

caccatccag gctgaggtgt atgacactgt ggtgatcacc ctgaagaaca tggccagcca 1260

ccctgtgagc ctgcatgctg tgggggtgag ctactggaag gcctctgagg gggctgagta 1320

tgatgaccag accagccaga gggagaagga ggatgacaag gtgttccctg ggggcagcca 1380

cacctatgtg tggcaggtgc tgaaggagaa tggccccatg gcctctgacc ccctgtgcct 1440

gacctacagc tacctgagcc atgtggacct ggtgaaggac ctgaactctg gcctgattgg 1500

ggccctgctg gtgtgcaggg agggcagcct ggccaaggag aagacccaga ccctgcacaa 1560

gttcatcctg ctgtttgctg tgtttgatga gggcaagagc tggcactctg aaaccaagaa 1620

cagcctgatg caggacaggg atgctgcctc tgccagggcc tggcccaaga tgcacactgt 1680

gaatggctat gtgaacagga gcctgcctgg cctgattggc tgccacagga agtctgtgta 1740

ctggcatgtg attggcatgg gcaccacccc tgaggtgcac agcatcttcc tggagggcca 1800

caccttcctg gtcaggaacc acaggcaggc cagcctggag atcagcccca tcaccttcct 1860

gactgcccag accctgctga tggacctggg ccagttcctg ctgttctgcc acatcagcag 1920

ccaccagcat gatggcatgg aggcctatgt gaaggtggac agctgccctg aggagcccca 1980

gctgaggatg aagaacaatg aggaggctga ggactatgat gatgacctga ctgactctga 2040

gatggatgtg gtgaggtttg atgatgacaa cagccccagc ttcatccaga tcaggtctgt 2100

ggccaagaag caccccaaga cctgggtgca ctacattgct gctgaggagg aggactggga 2160

ctatgccccc ctggtgctgg cccctgatga caggagctac aagagccagt acctgaacaa 2220

tggcccccag aggattggca ggaagtacaa gaaggtcagg ttcatggcct acactgatga 2280

aaccttcaag accagggagg ccatccagca tgagtctggc atcctgggcc ccctgctgta 2340

tggggaggtg ggggacaccc tgctgatcat cttcaagaac caggccagca ggccctacaa 2400

catctacccc catggcatca ctgatgtgag gcccctgtac agcaggaggc tgcccaaggg 2460

ggtgaagcac ctgaaggact tccccatcct gcctggggag atcttcaagt acaagtggac 2520

tgtgactgtg gaggatggcc ccaccaagtc tgaccccagg tgcctgacca gatactacag 2580

cagctttgtg aacatggaga gggacctggc ctctggcctg attggccccc tgctgatctg 2640

ctacaaggag tctgtggacc agaggggcaa ccagatcatg tctgacaaga ggaatgtgat 2700

cctgttctct gtgtttgatg agaacaggag ctggtacctg actgagaaca tccagaggtt 2760

cctgcccaac cctgctgggg tgcagctgga ggaccctgag ttccaggcca gcaacatcat 2820

gcacagcatc aatggctatg tgtttgacag cctgcagctg tctgtgtgcc tgcatgaggt 2880

ggcctactgg tacatcctga gcattggggc ccagactgac ttcctgtctg tgttcttctc 2940

tggctacacc ttcaagcaca agatggtgta tgaggacacc ctgaccctgt tccccttctc 3000

tggggagact gtgttcatga gcatggagaa ccctggcctg tggattctgg gctgccacaa 3060

ctctgacttc aggaacaggg gcatgactgc cctgctgaaa gtctccagct gtgacaagaa 3120

cactggggac tactatgagg acagctatga ggacatctct gcctacctgc tgagcaagaa 3180

caatgccatt gagcccagga gcttcagcca gaaccccca gtgctgaaga ggcaccagag 3240

ggagatcacc aggaccaccc tgcagtctga ccaggaggag attgactatg atgacaccat 3300

ctctgtggag atgaagaagg aggactttga catctacgac gaggacgaga accagagccc 3360

caggagcttc cagaagaaga ccaggcacta cttcattgct gctgtggaga ggctgtggga 3420

ctatggcatg agcagcagcc cccatgtgct gaggaacagg gcccagtctg gctctgtgcc 3480

ccagttcaag aaggtggtgt tccaggagtt cactgatggc agcttcaccc agcccctgta 3540

cagaggggag ctgaatgagc acctgggcct gctgggcccc tacatcaggg ctgaggtgga 3600

ggacaacatc atggtgacct tcaggaacca ggccagcagg ccctacagct tctacagcag 3660

cctgatcagc tatgaggagg accagaggca gggggctgag cccaggaaga actttgtgaa 3720

gcccaatgaa accaagacct acttctggaa ggtgcagcac cacatggccc ccaccaagga 3780

tgagtttgac tgcaaggcct gggcctactt ctctgatgtg gacctggaga aggatgtgca 3840

ctctggcctg attggccccc tgctggtgtg ccacaccaac accctgaacc ctgcccatgg 3900

caggcaggtg actgtgcagg agtttgccct gttcttcacc atctttgatg aaaccaagag 3960

ctggtacttc actgagaaca tggagaggaa ctgcagggcc ccctgcaaca tccagatgga 4020

ggaccccacc ttcaaggaga actacaggtt ccatgccatc aatggctaca tcatggacac 4080

cctgcctggc ctggtgatgg cccaggacca gaggatcagg tggtacctgc tgagcatggg 4140

cagcaatgag aacatccaca gcatccactt ctctggccat gtgttcactg tgaggaagaa 4200

ggaggagtac aagatggccc tgtacaacct gtaccctggg gtgtttgaga ctgtggagat 4260

gctgcccagc aaggctggca tctggagggt ggagtgcctg attggggagc acctgcatgc 4320

tggcatgagc accctgttcc tggtgtacag caacaagtgc cagacccccc tgggcatggc 4380

ctctggccac atcagggact tccagatcac tgcctctggc cagtatggcc agtgggcccc 4440

caagctggcc aggctgcact actctggcag catcaatgcc tggagcacca aggagccctt 4500

cagctggatc aaggtggacc tgctggcccc catgatcatc catggcatca agacccaggg 4560

ggccaggcag aagttcagca gcctgtacat cagccagttc atcatcatgt acagcctgga 4620

tggcaagaag tggcagacct acaggggcaa cagcactggc accctgatgg tgttctttgg 4680

caatgtggac agctctggca tcaagcacaa catcttcaac ccccccatca ttgccagata 4740

catcaggctg caccccaccc actacagcat caggagcacc ctgaggatgg agctgatggg 4800

ctgtgacctg aacagctgca gcatgcccct gggcatggag agcaaggcca tctctgatgc 4860

ccagatcact gccagcagct acttcaccaa catgtttgcc acctggagcc ccagcaaggc 4920

caggctgcac ctgcagggca ggagcaatgc ctggaggccc caggtcaaca accccaagga 4980

gtggctgcag gtggacttcc agaagaccat gaaggtgact ggggtgacca cccaggggt 5040

gaagagcctg ctgaccagca tgtatgtgaa ggagttcctg atcagcagca gccaggatgg 5100

ccaccagtgg accctgttct tccagaatgg caaggtgaag gtgttccagg gcaaccagga 5160

cagcttcacc cctgtggtga acagcctgga ccccccccctg ctgaccagat acctgaggat 5220

tcacccccag agctgggtgc accagattgc cctgaggatg gaggtgctgg gctgtgaggc 5280

ccaggacctg tactgacctc gaggcactgt cctttcctaa taaaatgagg aaattgcatc 5340

gcattgtctg agtaggtgtc attctattct gggggggtggg gtggggcagg acagcaaggg 5400

ggaggattgg gaagacaata gcaggcatgc tggggatgcg gtgggctcta tgggcacgtg 5460

gcggccgcag gaacccctag tgatggagtt ggccactccc tctctgcgcg ctcgctcgct 5520

cactgaggcc gggcgaccaa aggtcgcccg acgcccgggc tttgcccggg cggcctcagt 5580

gagcgagcga gcgcgcagag agggagtggc caa 5613

<210> 12
<211> 5362
<212> DNA
<213> Adeno-Associated Virus 2

<400> 12
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgactg tttgctgttt 180

gctgcttgca atgtttgccc attttaggga catgtttgct gtttgctgct tgcaatgttt 240

gcccatttta gggacatgtt tgctgtttgc tgcttgcaat gtttgcccat tttagggaca 300

tgtttgctgt ttgctgcttg caatgtttgc ccattttagg gacaacgcga aacgtcgact 360

ggacacagga cgctgtggtt tctgagccag ggggcgactc agatcccagc cagtggactt 420

agcccctgtt tgctcctccg ataactgggg tgaccttggt taatattcac cagcagcctc 480

ccccgttgcc cctctggatc cactgcttaa atacggacga ggacagggcc ctgtctcctc 540

agcttcaggc accaccactg acctgggaca gtgaatcgta agtactagca gctacaatcc 600

agctaccatt ctgcttttat tttatggttg ggataaggct ggattattct gagtccaagc 660

taggcccttt tgctaatcat gttcatacct cttatcttcc tcccacagct cctgggcaac 720

gtgctggtct gtgtgctggc ccatcacttt ggcaaagaat tgcgatcgcc accatgcaga 780

ttgagctgag cacctgcttc ttcctgtgcc tgctgaggtt ctgcttctct gccaccagga 840

gatactacct gggggctgtg gagctgagct gggactacat gcagtctgac ctgggggagc 900

tgcctgtgga tgccaggttc ccccccagag tgcccaagag cttccccttc aacacctctg 960

tggtgtacaa gaagaccctg tttgtggagt tcactgacca cctgttcaac attgccaagc 1020

ccaggccccc ctggatgggc ctgctgggcc ccaccatcca ggctgaggtg tatgacactg 1080

tggtgatcac cctgaagaac atggccagcc accctgtgag cctgcatgct gtgggggtga 1140

gctactggaa ggcctctgag ggggctgagt atgatgacca gaccagccag agggagaagg 1200

aggatgacaa ggtgttccct gggggcagcc acacctatgt gtggcaggtg ctgaaggaga 1260

atggccccat ggcctctgac cccctgtgcc tgacctacag ctacctgagc catgtggacc 1320

tggtgaagga cctgaactct ggcctgattg gggccctgct ggtgtgcagg gagggcagcc 1380

tggccaagga gaagacccag accctgcaca agttcatcct gctgtttgct gtgtttgatg 1440

agggcaagag ctggcactct gaaaccaaga acagcctgat gcaggacagg gatgctgcct 1500

ctgccagggc ctggcccaag atgcacactg tgaatggcta tgtgaacagg agcctgcctg 1560

gcctgattgg ctgccacagg aagtctgtgt actggcatgt gattggcatg ggcaccaccc 1620

ctgaggtgca cagcatcttc ctggagggcc acaccttcct ggtcaggaac cacaggcagg 1680

ccagcctgga gatcagcccc atcaccttcc tgactgccca gaccctgctg atggacctgg 1740

gccagttcct gctgttctgc cacatcagca gccaccagca tgatggcatg gaggcctatg 1800

tgaaggtgga cagctgccct gaggagcccc agctgaggat gaagaacaat gaggaggctg 1860

aggactatga tgatgacctg actgactctg agatggatgt ggtgaggttt gatgatgaca 1920

acagccccag cttcatccag atcaggtctg tggccaagaa gcaccccaag acctgggtgc 1980

actacattgc tgctgaggag gaggactggg actatgcccc cctggtgctg gcccctgatg 2040

acaggagcta caagagccag tacctgaaca atggccccca gaggattggc aggaagtaca 2100

agaaggtcag gttcatggcc tacactgatg aaaccttcaa gaccagggag gccatccagc 2160

atgagtctgg catcctgggc cccctgctgt atggggaggt gggggacacc ctgctgatca 2220

tcttcaagaa ccaggccagc aggccctaca acatctaccc ccatggcatc actgatgtga 2280

ggcccctgta cagcaggagg ctgcccaagg gggtgaagca cctgaaggac ttccccatcc 2340

tgcctgggga gatcttcaag tacaagtgga ctgtgactgt ggaggatggc cccaccaagt 2400

ctgaccccag gtgcctgacc agatactaca gcagctttgt gaacatggag agggacctgg 2460

cctctggcct gattggcccc ctgctgatct gctacaagga gtctgtggac cagaggggca 2520

accagatcat gtctgacaag aggaatgtga tcctgttctc tgtgtttgat gagaacagga 2580

gctggtacct gactgagaac atccagaggt tcctgcccaa ccctgctggg gtgcagctgg 2640

aggaccctga gttccaggcc agcaacatca tgcacagcat caatggctat gtgtttgaca 2700

gcctgcagct gtctgtgtgc ctgcatgagg tggcctactg gtacatcctg agcattgggg 2760

cccagactga cttcctgtct gtgttcttct ctggctacac cttcaagcac aagatggtgt 2820

atgaggacac cctgaccctg ttccccttct ctggggagac tgtgttcatg agcatggaga 2880

accctggcct gtggattctg ggctgccaca actctgactt caggaacagg ggcatgactg 2940

ccctgctgaa agtctccagc tgtgacaaga acactgggga ctactatgag gacagctatg 3000

aggacatctc tgcctacctg ctgagcaaga acaatgccat tgagcccagg agcttcagcc 3060

agaacccccc agtgctgaag aggcaccaga gggagatcac caggaccacc ctgcagtctg 3120

accaggagga gattgactat gatgacacca tctctgtgga gatgaagaag gaggactttg 3180

acatctacga cgaggacgag aaccagagcc ccaggagctt ccagaagaag accaggcact 3240

acttcattgc tgctgtggag aggctgtggg actatggcat gagcagcagc ccccatgtgc 3300

tgaggaacag ggcccagtct ggctctgtgc cccagttcaa gaaggtggtg ttccaggagt 3360

tcactgatgg cagcttcacc cagcccctgt acagagggga gctgaatgag cacctgggcc 3420

tgctgggccc ctacatcagg gctgaggtgg aggacaacat catggtgacc ttcaggaacc 3480

aggccagcag gccctacagc ttctacagca gcctgatcag ctatgaggag gaccagaggc 3540

aggggggctga gcccaggaag aactttgtga agcccaatga aaccaagacc tacttctgga 3600

aggtgcagca ccacatggcc cccaccaagg atgagtttga ctgcaaggcc tgggcctact 3660

tctctgatgt ggacctggag aaggatgtgc actctggcct gattggcccc ctgctggtgt 3720

gccacaccaa caccctgaac cctgcccatg gcaggcaggt gactgtgcag gagtttgccc 3780

tgttcttcac catctttgat gaaaccaaga gctggtactt cactgagaac atggagagga 3840

actgcagggc cccctgcaac atccagatgg aggaccccac cttcaaggag aactacaggt 3900

tccatgccat caatggctac atcatggaca ccctgcctgg cctggtgatg gcccaggacc 3960

agaggatcag gtggtacctg ctgagcatgg gcagcaatga gaacatccac agcatccact 4020

tctctggcca tgtgttcact gtgaggaaga aggaggagta caagatggcc ctgtacaacc 4080

tgtaccctgg ggtgtttgag actgtggaga tgctgcccag caaggctggc atctggaggg 4140

tggagtgcct gattggggag cacctgcatg ctggcatgag caccctgttc ctggtgtaca 4200

gcaacaagtg ccagaccccc ctgggcatgg cctctggcca catcagggac ttccagatca 4260

ctgcctctgg ccagtatggc cagtgggccc ccaagctggc caggctgcac tactctggca 4320

gcatcaatgc ctggagcacc aaggagccct tcagctggat caaggtggac ctgctggccc 4380

ccatgatcat ccatggcatc aagacccagg gggccaggca gaagttcagc agcctgtaca 4440

tcagccagtt catcatcatg tacagcctgg atggcaagaa gtggcagacc tacaggggca 4500

acagcactgg caccctgatg gtgttctttg gcaatgtgga cagctctggc atcaagcaca 4560

acatcttcaa ccccccccatc attgccagat acatcaggct gcaccccacc cactacagca 4620

tcaggagcac cctgaggatg gagctgatgg gctgtgacct gaacagctgc agcatgcccc 4680

tgggcatgga gagcaaggcc atctctgatg cccagatcac tgccagcagc tacttcacca 4740

acatgtttgc cacctggagc cccagcaagg ccaggctgca cctgcagggc aggagcaatg 4800

cctggaggcc ccaggtcaac aaccccaagg agtggctgca ggtggacttc cagaagacca 4860

tgaaggtgac tggggtgacc acccaggggg tgaagagcct gctgaccagc atgtatgtga 4920

aggagttcct gatcagcagc agccaggatg gccaccagtg gaccctgttc ttccagaatg 4980

gcaaggtgaa ggtgttccag ggcaaccagg acagcttcac ccctgtggtg aacagcctgg 5040

acccccccct gctgaccaga tacctgagga ttcaccccca gagctgggtg caccagattg 5100

ccctgaggat ggaggtgctg ggctgtgagg cccaggacct gtactgacct cgaggaataa 5160

aggaaattta ttttcattgc aatagtgtgt tggtttttg tgtcacgtgg cggccgcagg 5220

aacccctagt gatggagttg gccactccct ctctgcgcgc tcgctcgctc actgaggccg 5280

ggcgaccaaa ggtcgcccga cgcccgggct ttgcccgggc ggcctcagtg agcgagcgag 5340

cgcgcagaga gggagtggcc aa 5362

<210> 13
<211> 5464
<212> DNA
<213> Adeno-Associated Virus 2

<400> 13
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgactg tttgctgttt 180

gctgcttgca atgtttgccc attttaggga catgtttgct gtttgctgct tgcaatgttt 240

gcccatttta gggacatgtt tgctgtttgc tgcttgcaat gtttgcccat tttagggaca 300

tgtttgctgt ttgctgcttg caatgtttgc ccattttagg gacaacgcga aacgtcgact 360

ggacacagga cgctgtggtt tctgagccag ggggcgactc agatcccagc cagtggactt 420

agcccctgtt tgctcctccg ataactgggg tgaccttggt taatattcac cagcagcctc 480

ccccgttgcc cctctggatc cactgcttaa atacggacga ggacagggcc ctgtctcctc 540

agcttcaggc accaccactg acctgggaca gtgaatcgta agtactagca gctacaatcc 600

agctaccatt ctgcttttat tttatggttg ggataaggct ggattattct gagtccaagc 660

taggcccttt tgctaatcat gttcatacct cttatcttcc tcccacagct cctgggcaac 720

gtgctggtct gtgtgctggc ccatcacttt ggcaaagaat tgcgatcgcc accatgcaga 780

ttgagctgag cacctgcttc ttcctgtgcc tgctgaggtt ctgcttctct gccaccagga 840

gatactacct gggggctgtg gagctgagct gggactacat gcagtctgac ctgggggagc 900

tgcctgtgga tgccaggttc ccccccagag tgcccaagag cttccccttc aacacctctg 960

tggtgtacaa gaagaccctg tttgtggagt tcactgacca cctgttcaac attgccaagc 1020

ccaggccccc ctggatgggc ctgctgggcc ccaccatcca ggctgaggtg tatgacactg 1080

tggtgatcac cctgaagaac atggccagcc accctgtgag cctgcatgct gtgggggtga 1140

gctactggaa ggcctctgag ggggctgagt atgatgacca gaccagccag agggagaagg 1200

aggatgacaa ggtgttccct gggggcagcc acacctatgt gtggcaggtg ctgaaggaga 1260

atggccccat ggcctctgac cccctgtgcc tgacctacag ctacctgagc catgtggacc 1320

tggtgaagga cctgaactct ggcctgattg gggccctgct ggtgtgcagg gagggcagcc 1380

tggccaagga gaagacccag accctgcaca agttcatcct gctgtttgct gtgtttgatg 1440

agggcaagag ctggcactct gaaaccaaga acagcctgat gcaggacagg gatgctgcct 1500

ctgccagggc ctggcccaag atgcacactg tgaatggcta tgtgaacagg agcctgcctg 1560

gcctgattgg ctgccacagg aagtctgtgt actggcatgt gattggcatg ggcaccaccc 1620

ctgaggtgca cagcatcttc ctggagggcc acaccttcct ggtcaggaac cacaggcagg 1680

ccagcctgga gatcagcccc atcaccttcc tgactgccca gaccctgctg atggacctgg 1740

gccagttcct gctgttctgc cacatcagca gccaccagca tgatggcatg gaggcctatg 1800

tgaaggtgga cagctgccct gaggagcccc agctgaggat gaagaacaat gaggaggctg 1860

aggactatga tgatgacctg actgactctg agatggatgt ggtgaggttt gatgatgaca 1920

acagccccag cttcatccag atcaggtctg tggccaagaa gcaccccaag acctgggtgc 1980

actacattgc tgctgaggag gaggactggg actatgcccc cctggtgctg gcccctgatg 2040

acaggagcta caagagccag tacctgaaca atggccccca gaggattggc aggaagtaca 2100

agaaggtcag gttcatggcc tacactgatg aaaccttcaa gaccagggag gccatccagc 2160

atgagtctgg catcctgggc cccctgctgt atggggaggt gggggacacc ctgctgatca 2220

tcttcaagaa ccaggccagc aggccctaca acatctaccc ccatggcatc actgatgtga 2280

ggcccctgta cagcaggagg ctgcccaagg gggtgaagca cctgaaggac ttccccatcc 2340

tgcctgggga gatcttcaag tacaagtgga ctgtgactgt ggaggatggc cccaccaagt 2400

ctgaccccag gtgcctgacc agatactaca gcagctttgt gaacatggag agggacctgg 2460

cctctggcct gattggcccc ctgctgatct gctacaagga gtctgtggac cagaggggca 2520

accagatcat gtctgacaag aggaatgtga tcctgttctc tgtgtttgat gagaacagga 2580

gctggtacct gactgagaac atccagaggt tcctgcccaa ccctgctggg gtgcagctgg 2640

aggaccctga gttccaggcc agcaacatca tgcacagcat caatggctat gtgtttgaca 2700

gcctgcagct gtctgtgtgc ctgcatgagg tggcctactg gtacatcctg agcattgggg 2760

cccagactga cttcctgtct gtgttcttct ctggctacac cttcaagcac aagatggtgt 2820

atgaggacac cctgaccctg ttccccttct ctggggagac tgtgttcatg agcatggaga 2880

accctggcct gtggattctg ggctgccaca actctgactt caggaacagg ggcatgactg 2940

ccctgctgaa agtctccagc tgtgacaaga acactgggga ctactatgag gacagctatg 3000

aggacatctc tgcctacctg ctgagcaaga acaatgccat tgagcccagg agcttcagcc 3060

agaacccccc agtgctgaag aggcaccaga gggagatcac caggaccacc ctgcagtctg 3120

accaggagga gattgactat gatgacacca tctctgtgga gatgaagaag gaggactttg 3180

acatctacga cgaggacgag aaccagagcc ccaggagctt ccagaagaag accaggcact 3240

acttcattgc tgctgtggag aggctgtggg actatggcat gagcagcagc ccccatgtgc 3300

tgaggaacag ggcccagtct ggctctgtgc cccagttcaa gaaggtggtg ttccaggagt 3360

tcactgatgg cagcttcacc cagcccctgt acagagggga gctgaatgag cacctgggcc 3420

tgctgggccc ctacatcagg gctgaggtgg aggacaacat catggtgacc ttcaggaacc 3480

aggccagcag gccctacagc ttctacagca gcctgatcag ctatgaggag gaccagaggc 3540

aggggggctga gcccaggaag aactttgtga agcccaatga aaccaagacc tacttctgga 3600

aggtgcagca ccacatggcc cccaccaagg atgagtttga ctgcaaggcc tgggcctact 3660

tctctgatgt ggacctggag aaggatgtgc actctggcct gattggcccc ctgctggtgt 3720

gccacaccaa caccctgaac cctgcccatg gcaggcaggt gactgtgcag gagtttgccc 3780

tgttcttcac catctttgat gaaaccaaga gctggtactt cactgagaac atggagagga 3840

actgcagggc cccctgcaac atccagatgg aggaccccac cttcaaggag aactacaggt 3900

tccatgccat caatggctac atcatggaca ccctgcctgg cctggtgatg gcccaggacc 3960

agaggatcag gtggtacctg ctgagcatgg gcagcaatga gaacatccac agcatccact 4020

tctctggcca tgtgttcact gtgaggaaga aggaggagta caagatggcc ctgtacaacc 4080

tgtaccctgg ggtgtttgag actgtggaga tgctgcccag caaggctggc atctggaggg 4140

tggagtgcct gattggggag cacctgcatg ctggcatgag caccctgttc ctggtgtaca 4200

gcaacaagtg ccagaccccc ctgggcatgg cctctggcca catcagggac ttccagatca 4260

ctgcctctgg ccagtatggc cagtgggccc ccaagctggc caggctgcac tactctggca 4320

gcatcaatgc ctggagcacc aaggagccct tcagctggat caaggtggac ctgctggccc 4380

ccatgatcat ccatggcatc aagacccagg gggccaggca gaagttcagc agcctgtaca 4440

tcagccagtt catcatcatg tacagcctgg atggcaagaa gtggcagacc tacaggggca 4500

acagcactgg caccctgatg gtgttctttg gcaatgtgga cagctctggc atcaagcaca 4560

acatcttcaa ccccccccatc attgccagat acatcaggct gcaccccacc cactacagca 4620

tcaggagcac cctgaggatg gagctgatgg gctgtgacct gaacagctgc agcatgcccc 4680

tgggcatgga gagcaaggcc atctctgatg cccagatcac tgccagcagc tacttcacca 4740

acatgtttgc cacctggagc cccagcaagg ccaggctgca cctgcagggc aggagcaatg 4800

cctggaggcc ccaggtcaac aaccccaagg agtggctgca ggtggacttc cagaagacca 4860

tgaaggtgac tggggtgacc acccaggggg tgaagagcct gctgaccagc atgtatgtga 4920

aggagttcct gatcagcagc agccaggatg gccaccagtg gaccctgttc ttccagaatg 4980

gcaaggtgaa ggtgttccag ggcaaccagg acagcttcac ccctgtggtg aacagcctgg 5040

acccccccct gctgaccaga tacctgagga ttcaccccca gagctgggtg caccagattg 5100

ccctgaggat ggaggtgctg ggctgtgagg cccaggacct gtactgacct cgaggcactg 5160

tcctttccta ataaaatgag gaaattgcat cgcattgtct gagtaggtgt cattctattc 5220

tgggggggtgg ggtggggcag gacagcaagg gggaggattg ggaagacaat agcaggcatg 5280

ctggggatgc ggtgggctct atgggcacgt ggcggccgca ggaaccccta gtgatggagt 5340

tggccactcc ctctctgcgc gctcgctcgc tcactgaggc cgggcgacca aaggtcgccc 5400

gacgcccggg ctttgcccgg gcggcctcag tgagcgagcg agcgcgcaga gagggagtgg 5460

ccaa 5464

<210> 14
<211> 6354
<212> DNA
<213> Adeno-Associated Virus 2

<400> 14
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg tttaaacgtc gacaggttaa 180

tttttaaaaa gcagtcaaaa gtccaagtgg cccttggcag catttactct ctctgtttgc 240

tctggttaat aatctcagga gcacaaacat tcctggaggc aggagaagaa atcaacatcc 300

tggacttatc ctctgggcct ctccccaccc ccaggagagg ctcaggttaa tttttaaaaa 360

gcagtcaaaa gtccaagtgg cccttggcag catttactct ctctgtttgc tctggttaat 420

aatctcagga gcacaaacat tcctggaggc aggagaagaa atcaacatcc tggacttatc 480

ctctgggcct ctccccaccc ccaggagagg ctgtcgactg gacacaggac gctgtggttt 540

ctgagccagg gggcgactca gatcccagcc agtggactta gcccctgttt gctcctccga 600

taactggggt gaccttggtt aatattcacc agcagcctcc cccgttgccc ctctggatcc 660

actgcttaaa tacggacgag gacagggccc tgtctcctca gcttcaggca ccaccactga 720

cctgggacag tgaatcgtaa gtactagcag ctacaatcca gctaccattc tgcttttatt 780

ttatggttgg gataaggctg gattattctg agtccaagct aggccctttt gctaatcatg 840

ttcatacctc ttatcttcct cccacagctc ctgggcaacg tgctggtctg tgtgctggcc 900

catcactttg gcaaagaatt gcgatcgcca ccatgcagat tgagctgagc acctgcttct 960

tcctgtgcct gctgaggttc tgcttctctg ccaccaggag atactacctg ggggctgtgg 1020

agctgagctg ggactacatg cagtctgacc tgggggagct gcctgtggat gccaggttcc 1080

cccccagagt gcccaagagc ttccccttca acacctctgt ggtgtacaag aagaccctgt 1140

ttgtggagtt cactgaccac ctgttcaaca ttgccaagcc caggcccccc tggatgggcc 1200

tgctgggccc caccatccag gctgaggtgt atgacactgt ggtgatcacc ctgaagaaca 1260

tggccagcca ccctgtgagc ctgcatgctg tgggggtgag ctactggaag gcctctgagg 1320

gggctgagta tgatgaccag accagccaga gggagaagga ggatgacaag gtgttccctg 1380

ggggcagcca cacctatgtg tggcaggtgc tgaaggagaa tggccccatg gcctctgacc 1440

ccctgtgcct gacctacagc tacctgagcc atgtggacct ggtgaaggac ctgaactctg 1500

gcctgattgg ggccctgctg gtgtgcaggg agggcagcct ggccaaggag aagacccaga 1560

ccctgcacaa gttcatcctg ctgtttgctg tgtttgatga gggcaagagc tggcactctg 1620

aaaccaagaa cagcctgatg caggacaggg atgctgcctc tgccagggcc tggcccaaga 1680

tgcacactgt gaatggctat gtgaacagga gcctgcctgg cctgattggc tgccacagga 1740

agtctgtgta ctggcatgtg attggcatgg gcaccacccc tgaggtgcac agcatcttcc 1800

tggagggcca caccttcctg gtcaggaacc acaggcaggc cagcctggag atcagcccca 1860

tcaccttcct gactgcccag accctgctga tggacctggg ccagttcctg ctgttctgcc 1920

acatcagcag ccaccagcat gatggcatgg aggcctatgt gaaggtggac agctgccctg 1980

aggagcccca gctgaggatg aagaacaatg aggaggctga ggactatgat gatgacctga 2040

ctgactctga gatggatgtg gtgaggtttg atgatgacaa cagccccagc ttcatccaga 2100

tcaggtctgt ggccaagaag caccccaaga cctgggtgca ctacattgct gctgaggagg 2160

aggactggga ctatgccccc ctggtgctgg cccctgatga caggagctac aagagccagt 2220

acctgaacaa tggcccccag aggattggca ggaagtacaa gaaggtcagg ttcatggcct 2280

acactgatga aaccttcaag accagggagg ccatccagca tgagtctggc atcctgggcc 2340

ccctgctgta tggggaggtg ggggacaccc tgctgatcat cttcaagaac caggccagca 2400

ggccctacaa catctacccc catggcatca ctgatgtgag gcccctgtac agcaggaggc 2460

tgcccaaggg ggtgaagcac ctgaaggact tccccatcct gcctggggag atcttcaagt 2520

acaagtggac tgtgactgtg gaggatggcc ccaccaagtc tgaccccagg tgcctgacca 2580

gatactacag cagctttgtg aacatggaga gggacctggc ctctggcctg attggccccc 2640

tgctgatctg ctacaaggag tctgtggacc agaggggcaa ccagatcatg tctgacaaga 2700

ggaatgtgat cctgttctct gtgtttgatg agaacaggag ctggtacctg actgagaaca 2760

tccagaggtt cctgcccaac cctgctgggg tgcagctgga ggaccctgag ttccaggcca 2820

gcaacatcat gcacagcatc aatggctatg tgtttgacag cctgcagctg tctgtgtgcc 2880

tgcatgaggt ggcctactgg tacatcctga gcattggggc ccagactgac ttcctgtctg 2940

tgttcttctc tggctacacc ttcaagcaca agatggtgta tgaggacacc ctgaccctgt 3000

tccccttctc tggggagact gtgttcatga gcatggagaa ccctggcctg tggattctgg 3060

gctgccacaa ctctgacttc aggaacaggg gcatgactgc cctgctgaaa gtctccagct 3120

gtgacaagaa cactggggac tactatgagg acagctatga ggacatctct gcctacctgc 3180

tgagcaagaa caatgccatt gagcccagga gcttcagcca gaacccccca gtgctgaaga 3240

ggcaccagag ggagatcacc aggaccaccc tgcagtctga ccaggaggag attgactatg 3300

atgacaccat ctctgtggag atgaagaagg aggactttga catctacgac gaggacgaga 3360

accagagccc caggagcttc cagaagaaga ccaggcacta cttcattgct gctgtggaga 3420

ggctgtggga ctatggcatg agcagcagcc cccatgtgct gaggaacagg gcccagtctg 3480

gctctgtgcc ccagttcaag aaggtggtgt tccaggagtt cactgatggc agcttcaccc 3540

agcccctgta cagaggggag ctgaatgagc acctgggcct gctgggcccc tacatcaggg 3600

ctgaggtgga ggacaacatc atggtgacct tcaggaacca ggccagcagg ccctacagct 3660

tctacagcag cctgatcagc tatgaggagg accagaggca gggggctgag cccaggaaga 3720

actttgtgaa gcccaatgaa accaagacct acttctggaa ggtgcagcac cacatggccc 3780

ccaccaagga tgagtttgac tgcaaggcct gggcctactt ctctgatgtg gacctggaga 3840

aggatgtgca ctctggcctg attggccccc tgctggtgtg ccacaccaac accctgaacc 3900

ctgcccatgg caggcaggtg actgtgcagg agtttgccct gttcttcacc atctttgatg 3960

aaaccaagag ctggtacttc actgagaaca tggagaggaa ctgcagggcc ccctgcaaca 4020

tccagatgga ggaccccacc ttcaaggaga actacaggtt ccatgccatc aatggctaca 4080

tcatggacac cctgcctggc ctggtgatgg cccaggacca gaggatcagg tggtacctgc 4140

tgagcatggg cagcaatgag aacatccaca gcatccactt ctctggccat gtgttcactg 4200

tgaggaagaa ggaggagtac aagatggccc tgtacaacct gtaccctggg gtgtttgaga 4260

ctgtggagat gctgcccagc aaggctggca tctggagggt ggagtgcctg attggggagc 4320

acctgcatgc tggcatgagc accctgttcc tggtgtacag caacaagtgc cagacccccc 4380

tgggcatggc ctctggccac atcagggact tccagatcac tgcctctggc cagtatggcc 4440

agtgggcccc caagctggcc aggctgcact actctggcag catcaatgcc tggagcacca 4500

aggagccctt cagctggatc aaggtggacc tgctggcccc catgatcatc catggcatca 4560

agacccaggg ggccaggcag aagttcagca gcctgtacat cagccagttc atcatcatgt 4620

acagcctgga tggcaagaag tggcagacct acaggggcaa cagcactggc accctgatgg 4680

tgttctttgg caatgtggac agctctggca tcaagcacaa catcttcaac ccccccatca 4740

ttgccagata catcaggctg caccccaccc actacagcat caggagcacc ctgaggatgg 4800

agctgatggg ctgtgacctg aacagctgca gcatgcccct gggcatggag agcaaggcca 4860

tctctgatgc ccagatcact gccagcagct acttcaccaa catgtttgcc acctggagcc 4920

ccagcaaggc caggctgcac ctgcagggca ggagcaatgc ctggaggccc caggtcaaca 4980

accccaagga gtggctgcag gtggacttcc agaagaccat gaaggtgact ggggtgacca 5040

cccagggggt gaagagcctg ctgaccagca tgtatgtgaa ggagttcctg atcagcagca 5100

gccaggatgg ccaccagtgg accctgttct tccagaatgg caaggtgaag gtgttccagg 5160

gcaaccagga cagcttcacc cctgtggtga acagcctgga ccccccccctg ctgaccagat 5220

acctgaggat tcacccccag agctgggtgc accagattgc cctgaggatg gaggtgctgg 5280

gctgtgaggc ccaggacctg tactgacctc gaggtgtgcc ttctagttgc cagccatctg 5340

ttgtttgccc ctccccccgtg ccttccttga ccctggaagg tgccactccc actgtccttt 5400

cctaataaaa tgaggaaatt gcatcgcatt gtctgagtag gtgtcattct attctggggg 5460

gtggggtggg gcaggacagc aaggggggagg attgggaaga caatagcagg catgctgggg 5520

atgcggtggg ctctatgggc acgtgccctc tcacactacc taaaccacgc caggacaacc 5580

tctgctcctc tccaccgaaa ttccaagggg tcgagtggat gttggaggtg gcatgggccc 5640

agagaggtct ctgacctctg ccccagctcc aaggtcagca ggcagggagg gctgtgtgtt 5700

tgctgtttgc tgcttgcaat gtttgcccat tttagggaca tgagtaggct gaagtttgtt 5760

cagtgtggac ttcagaggca gcacacaaac agctgctgga ggatgggaac tgaggggttg 5820

gaaggggggca gggtgagccc agaaactcct gtgtgcctct gagcctgcag ccctctcaca 5880

ctacctaaac cacgccagga caacctctgc tcctctccac cgaaattcca aggggtcgag 5940

tggatgttgg aggtggcatg ggcccagaga ggtctctgac ctctgcccca gctccaaggt 6000

cagcaggcag ggagggctgt gtgtttgctg tttgctgctt gcaatgtttg cccattttag 6060

ggacatgagt aggctgaagt ttgttcagtg tggacttcag aggcagcaca caaacagctg 6120

ctggaggatg ggaactgagg ggttggaagg gggcagggtg agcccagaaa ctcctgtgtg 6180

cctctgagcc tgcagcacgt ggcggccgca ggaaccccta gtgatggagt tggccactcc 6240

ctctctgcgc gctcgctcgc tcactgaggc cgggcgacca aaggtcgccc gacgcccggg 6300

ctttgcccgg gcggcctcag tgagcgagcg agcgcgcaga gagggagtgg ccaa 6354

<210> 15
<211> 6308
<212> DNA
<213> Adeno-Associated Virus 2

<400> 15

ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttaattttta aaaagcagtc 180

aaaagtccaa gtggcccttg gcagcattta ctctctctgt ttgctctggt taataatctc 240

aggagcacaa acattcctgg aggcaggaga agaaatcaac atcctggact tatcctctgg 300

gcctgttaat ttttaaaaag cagtcaaaag tccaagtggc ccttggcagc atttactctc 360

tctgtttgct ctggttaata atctcaggag cacaaacatt cctggaggca ggagaagaaa 420

tcaacatcct ggacttatcc tctgggccta ggcctgaggc tggtcaaaat tgaacctcct 480

cctgctctga gcagcctggg gggcagacta agcagagggc tgtgcagacc cacataaaga 540

gcctactgtg tgccaggcac ttcacccgag gcacttcaca agcatgcttg ggaatgaaac 600

ttccaactct ttgggatgca ggtgaaacag ttcctggttc agagaggtga agcggcctgc 660

ctgaggcagc acagctcttc tttacagatg tgcttcccca cctctaccct gtctcacggc 720

cccccatgcc agcctgacgg ttgtgtctgc ctcagtcatg ctccattttt ccatcgggac 780

catcaagagg gtgtttgtgt ctaaggctga ctgggtaact ttggatgagc ggtctctccg 840

ctctgagcct gtttcctcat ctgtcaaatg ggctctaacc cactctgatc tcccagggcg 900

gcagtaagtc ttcagcatca ggcattttgg ggtgactcag taaatggtag atcttgctac 960

cagtggaaca gccactaagg attctgcagt gagagcagag ggccagctaa gtggtactct 1020

cccagagact gtctgactca cgccaccccc tccaccttgg acacaggacg ctgtggtttc 1080

tgagccaggt acaatgactc ctttcggtaa gtgcagtgga agctgtacac tgcccaggca 1140

aagcgtccgg gcagcgtagg cgggcgactc agatcccagc cagtggactt agcccctgtt 1200

tgctcctccg ataactgggg tgaccttggt taatattcac cagcagcctc ccccgttgcc 1260

cctctggatc cactgcttaa atacggacga ggacagggcc ctgtctcctc agcttcaggc 1320

accaccactg acctgggaca gtgaatcgta agtactagca gctacaatcc agctaccatt 1380

ctgcttttat tttatggttg ggataaggct ggattattct gagtccaagc taggcccttt 1440

tgctaatcat gttcatacct cttatcttcc tcccacagct cctgggcaac gtgctggtct 1500

gtgtgctggc ccatcacttt ggcaaagaat tgcgatcgcc accatgcaga ttgagctgag 1560

cacctgcttc ttcctgtgcc tgctgaggtt ctgcttctct gccaccagga gatactacct 1620

gggggctgtg gagctgagct gggactacat gcagtctgac ctgggggagc tgcctgtgga 1680

tgccaggttc ccccccagag tgcccaagag cttccccttc aacacctctg tggtgtacaa 1740

gaagaccctg tttgtggagt tcactgacca cctgttcaac attgccaagc ccaggccccc 1800

ctggatgggc ctgctgggcc ccaccatcca ggctgaggtg tatgacactg tggtgatcac 1860

cctgaagaac atggccagcc accctgtgag cctgcatgct gtgggggtga gctactggaa 1920

ggcctctgag ggggctgagt atgatgacca gaccagccag agggagaagg aggatgacaa 1980

ggtgttccct gggggcagcc acacctatgt gtggcaggtg ctgaaggaga atggccccat 2040

ggcctctgac cccctgtgcc tgacctacag ctacctgagc catgtggacc tggtgaagga 2100

cctgaactct ggcctgattg gggccctgct ggtgtgcagg gagggcagcc tggccaagga 2160

gaagacccag accctgcaca agttcatcct gctgtttgct gtgtttgatg agggcaagag 2220

ctggcactct gaaaccaaga acagcctgat gcaggacagg gatgctgcct ctgccagggc 2280

ctggcccaag atgcacactg tgaatggcta tgtgaacagg agcctgcctg gcctgattgg 2340

ctgccacagg aagtctgtgt actggcatgt gattggcatg ggcaccaccc ctgaggtgca 2400

cagcatcttc ctggagggcc acaccttcct ggtcaggaac cacaggcagg ccagcctgga 2460

gatcagcccc atcaccttcc tgactgccca gaccctgctg atggacctgg gccagttcct 2520

gctgttctgc cacatcagca gccaccagca tgatggcatg gaggcctatg tgaaggtgga 2580

cagctgccct gaggagcccc agctgaggat gaagaacaat gaggaggctg aggactatga 2640

tgatgacctg actgactctg agatggatgt ggtgaggttt gatgatgaca acagccccag 2700

cttcatccag atcaggtctg tggccaagaa gcaccccaag acctgggtgc actacattgc 2760

tgctgaggag gaggactggg actatgcccc cctggtgctg gcccctgatg acaggagcta 2820

caagagccag tacctgaaca atggccccca gaggattggc aggaagtaca agaaggtcag 2880

gttcatggcc tacactgatg aaaccttcaa gaccagggag gccatccagc atgagtctgg 2940

catcctgggc cccctgctgt atggggaggt gggggacacc ctgctgatca tcttcaagaa 3000

ccaggccagc aggccctaca acatctaccc ccatggcatc actgatgtga ggcccctgta 3060

cagcaggagg ctgcccaagg gggtgaagca cctgaaggac ttccccatcc tgcctgggga 3120

gatcttcaag tacaagtgga ctgtgactgt ggaggatggc cccaccaagt ctgaccccag 3180

gtgcctgacc agatactaca gcagctttgt gaacatggag agggacctgg cctctggcct 3240

gattggcccc ctgctgatct gctacaagga gtctgtggac cagaggggca accagatcat 3300

gtctgacaag aggaatgtga tcctgttctc tgtgtttgat gagaacagga gctggtacct 3360

gactgagaac atccagaggt tcctgcccaa ccctgctggg gtgcagctgg aggaccctga 3420

gttccaggcc agcaacatca tgcacagcat caatggctat gtgtttgaca gcctgcagct 3480

gtctgtgtgc ctgcatgagg tggcctactg gtacatcctg agcattgggg cccagactga 3540

cttcctgtct gtgttcttct ctggctacac cttcaagcac aagatggtgt atgaggacac 3600

cctgaccctg ttccccttct ctggggagac tgtgttcatg agcatggaga accctggcct 3660

gtggattctg ggctgccaca actctgactt caggaacagg ggcatgactg ccctgctgaa 3720

agtctccagc tgtgacaaga acactgggga ctactatgag gacagctatg aggacatctc 3780

tgcctacctg ctgagcaaga acaatgccat tgagcccagg agcttcagcc agaacccccc 3840

agtgctgaag aggcaccaga gggagatcac caggaccacc ctgcagtctg accaggagga 3900

gattgactat gatgacacca tctctgtgga gatgaagaag gaggactttg acatctacga 3960

cgaggacgag aaccagagcc ccaggagctt ccagaagaag accaggcact acttcattgc 4020

tgctgtggag aggctgtggg actatggcat gagcagcagc ccccatgtgc tgaggaacag 4080

ggcccagtct ggctctgtgc cccagttcaa gaaggtggtg ttccaggagt tcactgatgg 4140

cagcttcacc cagcccctgt acagagggga gctgaatgag cacctgggcc tgctgggccc 4200

ctacatcagg gctgaggtgg aggacaacat catggtgacc ttcaggaacc aggccagcag 4260

gccctacagc ttctacagca gcctgatcag ctatgaggag gaccagaggc agggggctga 4320

gcccaggaag aactttgtga agcccaatga aaccaagacc tacttctgga aggtgcagca 4380

ccacatggcc cccaccaagg atgagtttga ctgcaaggcc tgggcctact tctctgatgt 4440

ggacctggag aaggatgtgc actctggcct gattggcccc ctgctggtgt gccacaccaa 4500

caccctgaac cctgcccatg gcaggcaggt gactgtgcag gagtttgccc tgttcttcac 4560

catctttgat gaaaccaaga gctggtactt cactgagaac atggagagga actgcagggc 4620

cccctgcaac atccagatgg aggaccccac cttcaaggag aactacaggt tccatgccat 4680

caatggctac atcatggaca ccctgcctgg cctggtgatg gcccaggacc agaggatcag 4740

gtggtacctg ctgagcatgg gcagcaatga gaacatccac agcatccact tctctggcca 4800

tgtgttcact gtgaggaaga aggaggagta caagatggcc ctgtacaacc tgtaccctgg 4860

ggtgtttgag actgtggaga tgctgcccag caaggctggc atctggaggg tggagtgcct 4920

gattggggag cacctgcatg ctggcatgag caccctgttc ctggtgtaca gcaacaagtg 4980

ccagaccccc ctgggcatgg cctctggcca catcagggac ttccagatca ctgcctctgg 5040

ccagtatggc cagtgggccc ccaagctggc caggctgcac tactctggca gcatcaatgc 5100

ctggagcacc aaggagccct tcagctggat caaggtggac ctgctggccc ccatgatcat 5160

ccatggcatc aagacccagg gggccaggca gaagttcagc agcctgtaca tcagccagtt 5220

catcatcatg tacagcctgg atggcaagaa gtggcagacc tacaggggca acagcactgg 5280

caccctgatg gtgttctttg gcaatgtgga cagctctggc atcaagcaca acatcttcaa 5340

ccccccccatc attgccagat acatcaggct gcaccccacc cactacagca tcaggagcac 5400

cctgaggatg gagctgatgg gctgtgacct gaacagctgc agcatgcccc tgggcatgga 5460

gagcaaggcc atctctgatg cccagatcac tgccagcagc tacttcacca acatgtttgc 5520

cacctggagc cccagcaagg ccaggctgca cctgcagggc aggagcaatg cctggaggcc 5580

ccaggtcaac aaccccaagg agtggctgca ggtggacttc cagaagacca tgaaggtgac 5640

tggggtgacc acccaggggg tgaagagcct gctgaccagc atgtatgtga aggagttcct 5700

gatcagcagc agccaggatg gccaccagtg gaccctgttc ttccagaatg gcaaggtgaa 5760

ggtgttccag ggcaaccagg acagcttcac ccctgtggtg aacagcctgg acccccccct 5820

gctgaccaga tacctgagga ttcaccccca gagctgggtg caccagattg ccctgaggat 5880

ggaggtgctg ggctgtgagg cccaggacct gtactgacct cgagctgtgc cttctagttg 5940

ccagccatct gttgtttgcc cctcccccgt gccttccttg accctggaag gtgccactcc 6000

cactgtcctt tcctaataaa atgaggaaat tgcatcgcat tgtctgagta ggtgtcattc 6060

tattctgggg ggtggggtgg ggcaggacag caaggggggag gattgggaag acaatagcag 6120

gcatgctggg gatgcggtgg gctctatgga ccggtgcggc cgcaggaacc cctagtgatg 6180

gagttggcca ctccctctct gcgcgctcgc tcgctcactg aggccgggcg accaaaggtc 6240

gcccgacgcc cgggctttgc ccgggcggcc tcagtgagcg agcgagcgcg cagagaggga 6300

gtggccaa 6308

<210> 16
<211> 5635
<212> DNA
<213> Adeno-Associate Virus 2

<400> 16
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttaattttta aaaagcagtc 180

aaaagtccaa gtggcccttg gcagcattta ctctctctgt ttgctctggt taataatctc 240

aggagcacaa acattcctgg aggcaggaga agaaatcaac atcctggact tatcctctgg 300

gcctgttaat ttttaaaaag cagtcaaaag tccaagtggc ccttggcagc atttactctc 360

tctgtttgct ctggttaata atctcaggag cacaaacatt cctggaggca ggagaagaaa 420

tcaacatcct ggacttatcc tctgggccta gtcgactgga cacaggacgc tgtggtttct 480

gagccagggg gcgactcaga tcccagccag tggacttagc ccctgtttgc tcctccgata 540

actggggtga ccttggttaa tattcaccag cagcctcccc cgttgcccct ctggatccac 600

tgcttaaata cggacgagga cagggccctg tctcctcagc ttcaggcacc accactgacc 660

tgggacagtg aatcgtaagt actagcagct acaatccagc taccattctg cttttatttt 720

atggttggga taaggctgga ttattctgag tccaagctag gccctttgc taatcatgtt 780

catacctctt atcttcctcc cacagctcct gggcaacgtg ctggtctgtg tgctggccca 840

tcactttggc aaagaattgc gatcgccacc atgcagattg agctgagcac ctgcttcttc 900

ctgtgcctgc tgaggttctg cttctctgcc accaggagat actacctggg ggctgtggag 960

ctgagctggg actacatgca gtctgacctg ggggagctgc ctgtggatgc caggttcccc 1020

cccagagtgc ccaagagctt ccccttcaac acctctgtgg tgtacaagaa gaccctgttt 1080

gtggagttca ctgaccacct gttcaacatt gccaagccca ggcccccctg gatgggcctg 1140

ctgggcccca ccatccaggc tgaggtgtat gacactgtgg tgatcaccct gaagaacatg 1200

gccagccacc ctgtgagcct gcatgctgtg ggggtgagct actggaaggc ctctgagggg 1260

gctgagtatg atgaccagac cagccagagg gagaaggagg atgacaaggt gttccctggg 1320

ggcagccaca cctatgtgtg gcaggtgctg aaggagaatg gccccatggc ctctgacccc 1380

ctgtgcctga cctacagcta cctgagccat gtggacctgg tgaaggacct gaactctggc 1440

ctgattgggg ccctgctggt gtgcagggag ggcagcctgg ccaaggagaa gacccagacc 1500

ctgcacaagt tcatcctgct gtttgctgtg tttgatgagg gcaagagctg gcactctgaa 1560

accaagaaca gcctgatgca ggacagggat gctgcctctg ccagggcctg gcccaagatg 1620

cacactgtga atggctatgt gaacaggagc ctgcctggcc tgattggctg ccacaggaag 1680

tctgtgtact ggcatgtgat tggcatgggc accacccctg aggtgcacag catcttcctg 1740

gagggccaca ccttcctggt caggaaccac aggcaggcca gcctggagat cagccccatc 1800

accttcctga ctgcccagac cctgctgatg gacctgggcc agttcctgct gttctgccac 1860

atcagcagcc accagcatga tggcatggag gcctatgtga aggtggacag ctgccctgag 1920

gagccccagc tgaggatgaa gaacaatgag gaggctgagg actatgatga tgacctgact 1980

gactctgaga tggatgtggt gaggtttgat gatgacaaca gccccagctt catccagatc 2040

aggtctgtgg ccaagaagca ccccaagacc tgggtgcact acattgctgc tgaggaggag 2100

gactgggact atgcccccct ggtgctggcc cctgatgaca ggagctacaa gagccagtac 2160

ctgaacaatg gcccccagag gattggcagg aagtacaaga aggtcaggtt catggcctac 2220

actgatgaaa ccttcaagac cagggaggcc atccagcatg agtctggcat cctgggcccc 2280

ctgctgtatg gggaggtggg ggacaccctg ctgatcatct tcaagaacca ggccagcagg 2340

ccctacaaca tctaccccca tggcatcact gatgtgaggc ccctgtacag caggaggctg 2400

cccaaggggg tgaagcacct gaaggacttc cccatcctgc ctggggagat cttcaagtac 2460

aagtggactg tgactgtgga ggatggcccc accaagtctg accccaggtg cctgaccaga 2520

tactacagca gctttgtgaa catggagagg gacctggcct ctggcctgat tggccccctg 2580

ctgatctgct acaaggagtc tgtggaccag aggggcaacc agatcatgtc tgacaagagg 2640

aatgtgatcc tgttctctgt gtttgatgag aacaggagct ggtacctgac tgagaacatc 2700

cagaggttcc tgcccaaccc tgctggggtg cagctggagg accctgagtt ccaggccagc 2760

aacatcatgc acagcatcaa tggctatgtg tttgacagcc tgcagctgtc tgtgtgcctg 2820

catgaggtgg cctactggta catcctgagc attggggccc agactgactt cctgtctgtg 2880

ttcttctctg gctacacctt caagcacaag atggtgtatg aggacaccct gaccctgttc 2940

cccttctctg gggagactgt gttcatgagc atggagaacc ctggcctgtg gattctgggc 3000

tgccacaact ctgacttcag gaacaggggc atgactgccc tgctgaaagt ctccagctgt 3060

gacaagaaca ctggggacta ctatgaggac agctatgagg acatctctgc ctacctgctg 3120

agcaagaaca atgccattga gcccaggagc ttcagccaga acccccccagt gctgaagagg 3180

caccagaggg agatcaccag gaccaccctg cagtctgacc aggaggagat tgactatgat 3240

gacaccatct ctgtggagat gaagaaggag gactttgaca tctacgacga ggacgagaac 3300

cagagcccca ggagcttcca gaagaagacc aggcactact tcattgctgc tgtggagagg 3360

ctgtgggact atggcatgag cagcagcccc catgtgctga ggaacagggc ccagtctggc 3420

tctgtgcccc agttcaagaa ggtggtgttc caggagttca ctgatggcag cttcacccag 3480

cccctgtaca gaggggagct gaatgagcac ctgggcctgc tgggccccta catcagggct 3540

gaggtggagg acaacatcat ggtgaccttc aggaaccagg ccagcaggcc ctacagcttc 3600

tacagcagcc tgatcagcta tgaggaggac cagaggcagg gggctgagcc caggaagaac 3660

tttgtgaagc ccaatgaaac caagacctac ttctggaagg tgcagcacca catggccccc 3720

accaaggatg agtttgactg caaggcctgg gcctacttct ctgatgtgga cctggagaag 3780

gatgtgcact ctggcctgat tggccccctg ctggtgtgcc acaccaacac cctgaaccct 3840

gcccatggca ggcaggtgac tgtgcaggag tttgccctgt tcttcaccat ctttgatgaa 3900

accaagagct ggtacttcac tgagaacatg gagaggaact gcagggcccc ctgcaacatc 3960

cagatggagg accccacctt caaggagaac tacaggttcc atgccatcaa tggctacatc 4020

atggacaccc tgcctggcct ggtgatggcc caggaccaga ggatcaggtg gtacctgctg 4080

agcatgggca gcaatgagaa catccacagc atccacttct ctggccatgt gttcactgtg 4140

aggaagaagg aggagtacaa gatggccctg tacaacctgt accctggggt gtttgagact 4200

gtggagatgc tgcccagcaa ggctggcatc tggagggtgg agtgcctgat tggggagcac 4260

ctgcatgctg gcatgagcac cctgttcctg gtgtacagca acaagtgcca gacccccctg 4320

ggcatggcct ctggccacat cagggacttc cagatcactg cctctggcca gtatggccag 4380

tgggccccca agctggccag gctgcactac tctggcagca tcaatgcctg gagcaccaag 4440

gagcccttca gctggatcaa ggtggacctg ctggccccca tgatcatcca tggcatcaag 4500

acccaggggg ccaggcagaa gttcagcagc ctgtacatca gccagttcat catcatgtac 4560

agcctggatg gcaagaagtg gcagacctac aggggcaaca gcactggcac cctgatggtg 4620

ttctttggca atgtggacag ctctggcatc aagcacaaca tcttcaaccc ccccatcatt 4680

gccagataca tcaggctgca ccccacccac tacagcatca ggagcaccct gaggatggag 4740

ctgatgggct gtgacctgaa cagctgcagc atgcccctgg gcatggagag caaggccatc 4800

tctgatgccc agatcactgc cagcagctac ttcaccaaca tgtttgccac ctggagcccc 4860

agcaaggcca ggctgcacct gcagggcagg agcaatgcct ggaggcccca ggtcaacaac 4920

cccaaggagt ggctgcaggt ggacttccag aagaccatga aggtgactgg ggtgaccacc 4980

caggggggtga agagcctgct gaccagcatg tatgtgaagg agttcctgat cagcagcagc 5040

caggatggcc accagtggac cctgttcttc cagaatggca aggtgaaggt gttccagggc 5100

aaccaggaca gcttcacccc tgtggtgaac agcctggacc ccccccctgct gaccagatac 5160

ctgaggattc acccccagag ctgggtgcac cagattgccc tgaggatgga ggtgctgggc 5220

tgtgaggccc aggacctgta ctgacctcga gctgtgcctt ctagttgcca gccatctgtt 5280

gtttgccccct cccccgtgcc ttccttgacc ctggaaggtg ccactcccac tgtcctttcc 5340

taataaaatg aggaaattgc atcgcattgt ctgagtaggt gtcattctat tctgggggggt 5400

ggggtggggc aggacagcaa gggggaggat tgggaagaca atagcaggca tgctggggat 5460

gcggtgggct ctatggaccg gtgcggccgc aggaacccct agtgatggag ttggccactc 5520

cctctctgcg cgctcgctcg ctcactgagg ccgggcgacc aaaggtcgcc cgacgcccgg 5580

gctttgcccg ggcggcctca gtgagcgagc gagcgcgcag agagggagtg gccaa 5635

<210> 17
<211> 6962
<212> DNA
<213> Adeno-Associated Virus 2

<400> 17

ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgta ggctcagagg cacacaggag 180

tttctgggct caccctgccc ccttccaacc cctcagttcc catcctccag cagctgtttg 240

tgtgctgcct ctgaagtcca cactgaacaa acttcagcct actcatgtcc ctaaaatggg 300

caaacattgc aagcagcaaa cagcaaacac acagccctcc ctgcctgctg accttggagc 360

tggggcagag gtcagagacc tctctgggcc catgccacct ccaacatcca ctcgacccct 420

tggaatttcg gtggagagga gcagaggttg tcctggcgtg gtttaggtag tgtgagaggg 480

gtcgacaggc tcagaggcac acaggagttt ctgggctcac cctgcccccc tccaacccct 540

cagttcccat cctccagcag ctgtttgtgt gctgcctctg aagtccacac tgaacaaact 600

tcagcctact catgtcccta aaatgggcaa acattgcaag cagcaaacag caaacacaca 660

gccctccctg cctgctgacc ttggagctgg ggcagaggtc agagacctct ctgggcccat 720

gccacctcca acatccactc gacccccttgg aatttcggtg gagaggagca gaggttgtcc 780

tggcgtggtt taggtagtgt gagaggggtc gacgttaatt tttaaaaagc agtcaaaagt 840

ccaagtggcc cttggcagca tttactctct ctgtttgctc tggttaataa tctcaggagc 900

acaaacattc ctggaggcag gagaagaaat caacatcctg gacttatcct ctgggcctgt 960

taatttttaa aaagcagtca aaagtccaag tggcccttgg cagcatttac tctctctgtt 1020

tgctctggtt aataatctca ggagcacaaa cattcctgga ggcaggagaa gaaatcaaca 1080

tcctggactt atcctctggg cctaggcctg aggctggtca aaattgaacc tcctcctgct 1140

ctgagcagcc tgggggggcag actaagcaga gggctgtgca gacccacata aagagcctac 1200

tgtgtgccag gcacttcacc cgaggcactt cacaagcatg cttgggaatg aaacttccaa 1260

ctctttggga tgcaggtgaa acagttcctg gttcagagag gtgaagcggc ctgcctgagg 1320

cagcacagct cttctttaca gatgtgcttc cccacctcta ccctgtctca cggcccccca 1380

tgccagcctg acggttgtgt ctgcctcagt catgctccat ttttccatcg ggaccatcaa 1440

gagggtgttt gtgtctaagg ctgactgggt aactttggat gagcggtctc tccgctctga 1500

gcctgtttcc tcatctgtca aatgggctct aacccactct gatctcccag ggcggcagta 1560

agtcttcagc atcaggcatt ttggggtgac tcagtaaatg gtagatcttg ctaccagtgg 1620

aacagccact aaggattctg cagtgagagc agagggccag ctaagtggta ctctcccaga 1680

gactgtctga ctcacgccac cccctccacc ttggacacag gacgctgtgg tttctgagcc 1740

aggtacaatg actcctttcg gtaagtgcag tggaagctgt acactgccca ggcaaagcgt 1800

ccgggcagcg taggcgggcg actcagatcc cagccagtgg acttagcccc tgtttgctcc 1860

tccgataact ggggtgacct tggttaatat tcaccagcag cctcccccgt tgcccctctg 1920

gatccactgc ttaaatacgg acgaggacag ggccctgtct cctcagcttc aggcaccacc 1980

actgacctgg gacagtgaat cgtaagtact agcagctaca atccagctac cattctgctt 2040

ttattttatg gttgggataa ggctggatta ttctgagtcc aagctaggcc cttttgctaa 2100

tcatgttcat acctcttatc ttcctcccac agctcctggg caacgtgctg gtctgtgtgc 2160

tggcccatca ctttggcaaa gaattgcgat cgccaccatg cagattgagc tgagcacctg 2220

cttcttcctg tgcctgctga ggttctgctt ctctgccacc aggagatact acctgggggc 2280

tgtggagctg agctgggact acatgcagtc tgacctgggg gagctgcctg tggatgccag 2340

gttccccccc agagtgccca agagcttccc cttcaacacc tctgtggtgt acaagaagac 2400

cctgtttgtg gagttcactg accacctgtt caacattgcc aagcccaggc ccccctggat 2460

gggcctgctg ggccccacca tccaggctga ggtgtatgac actgtggtga tcaccctgaa 2520

gaacatggcc agccaccctg tgagcctgca tgctgtgggg gtgagctact ggaaggcctc 2580

tgagggggct gagtatgatg accagaccag ccagagggag aaggaggatg acaaggtgtt 2640

ccctgggggc agccacacct atgtgtggca ggtgctgaag gagaatggcc ccatggcctc 2700

tgacccccctg tgcctgacct acagctacct gagccatgtg gacctggtga aggacctgaa 2760

ctctggcctg attggggccc tgctggtgtg cagggagggc agcctggcca aggagaagac 2820

ccagaccctg cacaagttca tcctgctgtt tgctgtgttt gatgagggca agagctggca 2880

ctctgaaacc aagaacagcc tgatgcagga cagggatgct gcctctgcca gggcctggcc 2940

caagatgcac actgtgaatg gctatgtgaa caggagcctg cctggcctga ttggctgcca 3000

caggaagtct gtgtactggc atgtgattgg catgggcacc acccctgagg tgcacagcat 3060

cttcctggag ggccacacct tcctggtcag gaaccacagg caggccagcc tggagatcag 3120

ccccatcacc ttcctgactg cccagaccct gctgatggac ctgggccagt tcctgctgtt 3180

ctgccacatc agcagccacc agcatgatgg catggaggcc tatgtgaagg tggacagctg 3240

ccctgaggag ccccagctga ggatgaagaa caatgaggag gctgaggact atgatgatga 3300

cctgactgac tctgagatgg atgtggtgag gtttgatgat gacaacagcc ccagcttcat 3360

ccagatcagg tctgtggcca agaagcaccc caagacctgg gtgcactaca ttgctgctga 3420

ggaggaggac tgggactatg ccccccctggt gctggcccct gatgacagga gctacaagag 3480

ccagtacctg aacaatggcc cccagaggat tggcaggaag tacaagaagg tcaggttcat 3540

ggcctacact gatgaaacct tcaagaccag ggaggccatc cagcatgagt ctggcatcct 3600

gggccccctg ctgtatgggg aggtggggga caccctgctg atcatcttca agaaccaggc 3660

cagcaggccc tacaacatct acccccatgg catcactgat gtgaggcccc tgtacagcag 3720

gaggctgccc aaggggggtga agcacctgaa ggacttcccc atcctgcctg gggagatctt 3780

caagtacaag tggactgtga ctgtggagga tggccccacc aagtctgacc ccaggtgcct 3840

gaccagatac tacagcagct ttgtgaacat ggagagggac ctggcctctg gcctgattgg 3900

```
ccccctgctg atctgctaca aggagtctgt ggaccagagg ggcaaccaga tcatgtctga     3960
caagaggaat gtgatcctgt tctctgtgtt tgatgagaac aggagctggt acctgactga     4020
gaacatccag aggttcctgc ccaaccctgc tggggtgcag ctggaggacc ctgagttcca     4080
ggccagcaac atcatgcaca gcatcaatgg ctatgtgttt gacagcctgc agctgtctgt     4140
gtgcctgcat gaggtggcct actggtacat cctgagcatt ggggcccaga ctgacttcct     4200
gtctgtgttc ttctctggct acaccttcaa gcacaagatg gtgtatgagg acaccctgac     4260
cctgttcccc ttctctgggg agactgtgtt catgagcatg gagaaccctg gcctgtggat     4320
tctgggctgc cacaactctg acttcaggaa caggggcatg actgccctgc tgaaagtctc     4380
cagctgtgac aagaacactg gggactacta tgaggacagc tatgaggaca tctctgccta     4440
cctgctgagc aagaacaatg ccattgagcc caggagcttc agccagaacc ccccagtgct     4500
gaagaggcac cagagggaga tcaccaggac caccctgcag tctgaccagg aggagattga     4560
ctatgatgac accatctctg tggagatgaa gaaggaggac tttgacatct acgacgagga     4620
cgagaaccag agccccagga gcttccagaa gaagaccagg cactacttca ttgctgctgt     4680
ggagaggctg tgggactatg gcatgagcag cagcccccat gtgctgagga acagggccca     4740
gtctggctct gtgccccagt tcaagaaggt ggtgttccag gagttcactg atggcagctt     4800
cacccagccc ctgtacagag gggagctgaa tgagcacctg ggcctgctgg gcccctacat     4860
cagggctgag gtggaggaca acatcatggt gaccttcagg aaccaggcca gcaggcccta     4920
cagcttctac agcagcctga tcagctatga ggaggaccag aggcaggggg ctgagcccag     4980
gaagaacttt gtgaagccca atgaaaccaa gacctacttc tggaaggtgc agcaccacat     5040
ggcccccacc aaggatgagt ttgactgcaa ggcctgggcc tacttctctg atgtggacct     5100
ggagaaggat gtgcactctg gcctgattgg ccccctgctg gtgtgccaca ccaacaccct     5160
gaaccctgcc catggcaggc aggtgactgt gcaggagttt gccctgttct tcaccatctt     5220
tgatgaaacc aagagctggt acttcactga gaacatggag aggaactgca gggccccctg     5280
caacatccag atggaggacc ccaccttcaa ggagaactac aggttccatg ccatcaatgg     5340
ctacatcatg gacaccctgc ctggcctggt gatggcccag gaccagagga tcaggtggta     5400
cctgctgagc atgggcagca atgagaacat ccacagcatc cacttctctg gccatgtgtt     5460
cactgtgagg aagaaggagg agtacaagat ggccctgtac aacctgtacc ctggggtgtt     5520
tgagactgtg gagatgctgc ccagcaaggc tggcatctgg agggtggagt gcctgattgg     5580
ggagcacctg catgctggca tgagcaccct gttcctggtg tacagcaaca agtgccagac     5640
ccccctgggc atggcctctg gccacatcag ggacttccag atcactgcct ctggccagta     5700
tggccagtgg gcccccaagc tggccaggct gcactactct ggcagcatca atgcctggag     5760
caccaaggag cccttcagct ggatcaaggt ggacctgctg gcccccatga tcatccatgg     5820
catcaagacc caggggggca ggcagaagtt cagcagcctg tacatcagcc agttcatcat     5880
catgtacagc ctggatggca agaagtggca gacctacagg ggcaacagca ctggcaccct     5940
```

gatggtgttc tttggcaatg tggacagctc tggcatcaag cacaacatct tcaacccccc 6000

catcattgcc agatacatca ggctgcaccc cacccactac agcatcagga gcaccctgag 6060

gatggagctg atgggctgtg acctgaacag ctgcagcatg cccctgggca tggagagcaa 6120

ggccatctct gatgcccaga tcactgccag cagctacttc accaacatgt ttgccacctg 6180

gagccccagc aaggccaggc tgcacctgca gggcaggagc aatgcctgga ggccccaggt 6240

caacaacccc aaggagtggc tgcaggtgga cttccagaag accatgaagg tgactggggt 6300

gaccacccag ggggtgaaga gcctgctgac cagcatgtat gtgaaggagt tcctgatcag 6360

cagcagccag gatggccacc agtggaccct gttcttccag aatggcaagg tgaaggtgtt 6420

ccagggcaac caggacagct tcacccctgt ggtgaacagc ctggacccca ccctgctgac 6480

cagatacctg aggattcacc cccagagctg ggtgcaccag attgccctga ggatggaggt 6540

gctgggctgt gaggcccagg acctgtactg acctcgagct gtgccttcta gttgccagcc 6600

atctgttgtt tgcccctccc ccgtgccttc cttgaccctg gaaggtgcca ctcccactgt 6660

cctttcctaa taaaatgagg aaattgcatc gcattgtctg agtaggtgtc attctattct 6720

ggggggtggg gtggggcagg acagcaaggg ggaggattgg gaagacaata gcaggcatgc 6780

tggggatgcg gtgggctcta tggaccggtg cggccgcagg aacccctagt gatggagttg 6840

gccactccct ctctgcgcgc tcgctcgctc actgaggccg ggcgaccaaa ggtcgcccga 6900

cgcccgggct ttgcccgggc ggcctcagtg agcgagcgag cgcgcagaga gggagtggcc 6960

aa 6962

<210> 18
<211> 6289
<212> DNA
<213> Adeno-Associated Virus 2

<400> 18
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgta ggctcagagg cacacaggag 180

tttctgggct caccctgccc ccttccaacc cctcagttcc catcctccag cagctgtttg 240

tgtgctgcct ctgaagtcca cactgaacaa acttcagcct actcatgtcc ctaaaatggg 300

caaacattgc aagcagcaaa cagcaaacac acagccctcc ctgcctgctg accttggagc 360

tggggcagag gtcagagacc tctctgggcc catgccacct ccaacatcca ctcgacccct 420

tggaatttcg gtggagagga gcagaggttg tcctggcgtg gtttaggtag tgtgagaggg 480

gtcgacaggc tcagaggcac acaggagttt ctgggctcac cctgccccct tccaacccct 540

cagttcccat cctccagcag ctgtttgtgt gctgcctctg aagtccacac tgaacaaact 600

tcagcctact catgtcccta aaatgggcaa acattgcaag cagcaaacag caaacacaca 660

gccctccctg cctgctgacc ttggagctgg ggcagaggtc agagacctct ctgggcccat 720

gccacctcca acatccactc gacccccttgg aatttcggtg gagaggagca gaggttgtcc 780

tggcgtggtt taggtagtgt gagaggggtc gacgttaatt tttaaaaagc agtcaaaagt 840

ccaagtggcc cttggcagca tttactctct ctgtttgctc tggttaataa tctcaggagc 900

acaaacattc ctggaggcag gagaagaaat caacatcctg gacttatcct ctgggcctgt 960

taatttttaa aaagcagtca aaagtccaag tggcccttgg cagcatttac tctctctgtt 1020

tgctctggtt aataatctca ggagcacaaa cattcctgga ggcaggagaa gaaatcaaca 1080

tcctggactt atcctctggg cctagtcgac tggacacagg acgctgtggt ttctgagcca 1140

gggggcgact cagatcccag ccagtggact tagcccctgt ttgctcctcc gataactggg 1200

gtgaccttgg ttaatattca ccagcagcct cccccgttgc ccctctggat ccactgctta 1260

aatacggacg aggacagggc cctgtctcct cagcttcagg caccaccact gacctgggac 1320

agtgaatcgt aagtactagc agctacaatc cagctaccat tctgctttta ttttatggtt 1380

gggataaggc tggattattc tgagtccaag ctaggccctt ttgctaatca tgttcatacc 1440

tcttatcttc ctcccacagc tcctgggcaa cgtgctggtc tgtgtgctgg cccatcactt 1500

tggcaaagaa ttgcgatcgc caccatgcag attgagctga gcacctgctt cttcctgtgc 1560

ctgctgaggt tctgcttctc tgccaccagg agatactacc tgggggctgt ggagctgagc 1620

tgggactaca tgcagtctga cctgggggag ctgcctgtgg atgccaggtt ccccccccaga 1680

gtgcccaaga gcttcccctt caacacctct gtggtgtaca agaagaccct gtttgtggag 1740

ttcactgacc acctgttcaa cattgccaag cccaggcccc cctggatggg cctgctgggc 1800

cccaccatcc aggctgaggt gtatgacact gtggtgatca ccctgaagaa catggccagc 1860

caccctgtga gcctgcatgc tgtgggggtg agctactgga aggcctctga gggggctgag 1920

tatgatgacc agaccagcca gagggagaag gaggatgaca aggtgttccc tgggggcagc 1980

cacacctatg tgtggcaggt gctgaaggag aatggcccca tggcctctga ccccctgtgc 2040

ctgacctaca gctacctgag ccatgtggac ctggtgaagg acctgaactc tggcctgatt 2100

ggggccctgc tggtgtgcag ggagggcagc ctggccaagg agaagaccca gaccctgcac 2160

aagttcatcc tgctgtttgc tgtgtttgat gagggcaaga gctggcactc tgaaaccaag 2220

aacagcctga tgcaggacag ggatgctgcc tctgccaggg cctggcccaa gatgcacact 2280

gtgaatggct atgtgaacag gagcctgcct ggcctgattg gctgccacag gaagtctgtg 2340

tactggcatg tgattggcat gggcaccacc cctgaggtgc acagcatctt cctggagggc 2400

cacaccttcc tggtcaggaa ccacaggcag gccagcctgg agatcagccc catcaccttc 2460

ctgactgccc agaccctgct gatggacctg ggccagttcc tgctgttctg ccacatcagc 2520

agccaccagc atgatggcat ggaggcctat gtgaaggtgg acagctgccc tgaggagccc 2580

cagctgagga tgaagaacaa tgaggaggct gaggactatg atgatgacct gactgactct 2640

gagatggatg tggtgaggtt tgatgatgac aacagcccca gcttcatcca gatcaggtct 2700

gtggccaaga agcaccccaa gacctgggtg cactacattg ctgctgagga ggaggactgg 2760

gactatgccc ccctggtgct ggcccctgat gacaggagct acaagagcca gtacctgaac 2820

aatggccccc agaggattgg caggaagtac aagaaggtca ggttcatggc ctacactgat 2880

gaaaccttca agaccaggga ggccatccag catgagtctg gcatcctggg ccccctgctg 2940

tatggggagg tgggggacac cctgctgatc atcttcaaga accaggccag caggccctac 3000

aacatctacc cccatggcat cactgatgtg aggcccctgt acagcaggag gctgcccaag 3060

ggggtgaagc acctgaagga cttccccatc ctgcctgggg agatcttcaa gtacaagtgg 3120

actgtgactg tggaggatgg ccccaccaag tctgacccca ggtgcctgac cagatactac 3180

agcagctttg tgaacatgga gagggacctg gcctctggcc tgattggccc cctgctgatc 3240

tgctacaagg agtctgtgga ccagaggggc aaccagatca tgtctgacaa gaggaatgtg 3300

atcctgttct ctgtgtttga tgagaacagg agctggtacc tgactgagaa catccagagg 3360

ttcctgccca accctgctgg ggtgcagctg gaggaccctg agttccaggc cagcaacatc 3420

atgcacagca tcaatggcta tgtgtttgac agcctgcagc tgtctgtgtg cctgcatgag 3480

gtggcctact ggtacatcct gagcattggg gcccagactg acttcctgtc tgtgttcttc 3540

tctggctaca ccttcaagca caagatggtg tatgaggaca ccctgaccct gttccccttc 3600

tctggggaga ctgtgttcat gagcatggag aaccctggcc tgtggattct gggctgccac 3660

aactctgact tcaggaacag gggcatgact gccctgctga aagtctccag ctgtgacaag 3720

aacactgggg actactatga ggacagctat gaggacatct ctgcctacct gctgagcaag 3780

aacaatgcca ttgagcccag gagcttcagc cagaaccccc cagtgctgaa gaggcaccag 3840

agggagatca ccaggaccac cctgcagtct gaccaggagg agattgacta tgatgacacc 3900

atctctgtgg agatgaagaa ggaggacttt gacatctacg acgaggacga gaaccagagc 3960

cccaggagct tccagaagaa gaccaggcac tacttcattg ctgctgtgga gaggctgtgg 4020

gactatggca tgagcagcag cccccatgtg ctgaggaaca gggcccagtc tggctctgtg 4080

ccccagttca agaaggtggt gttccaggag ttcactgatg gcagcttcac ccagcccctg 4140

tacagagggg agctgaatga gcacctgggc ctgctgggcc cctacatcag ggctgaggtg 4200

gaggacaaca tcatggtgac cttcaggaac caggccagca ggccctacag cttctacagc 4260

agcctgatca gctatgagga ggaccagagg caggggggctg agcccaggaa gaactttgtg 4320

aagcccaatg aaaccaagac ctacttctgg aaggtgcagc accacatggc ccccaccaag 4380

gatgagtttg actgcaaggc ctgggcctac ttctctgatg tggacctgga gaaggatgtg 4440

cactctggcc tgattggccc cctgctggtg tgccacacca acaccctgaa ccctgcccat 4500

ggcaggcagg tgactgtgca ggagtttgcc ctgttcttca ccatctttga tgaaaccaag 4560

agctggtact tcactgagaa catggagagg aactgcaggg ccccctgcaa catccagatg 4620

gaggacccca ccttcaagga gaactacagg ttccatgcca tcaatggcta catcatggac 4680

accctgcctg gcctggtgat ggcccaggac cagaggatca ggtggtacct gctgagcatg 4740

ggcagcaatg agaacatcca cagcatccac ttctctggcc atgtgttcac tgtgaggaag 4800

aaggaggagt acaagatggc cctgtacaac ctgtaccctg gggtgtttga gactgtggag 4860

atgctgccca gcaaggctgg catctggagg gtggagtgcc tgattgggga gcacctgcat 4920

gctggcatga gcaccctgtt cctggtgtac agcaacaagt gccagacccc cctgggcatg 4980

gcctctggcc acatcaggga cttccagatc actgcctctg gccagtatgg ccagtgggcc 5040

cccaagctgg ccaggctgca ctactctggc agcatcaatg cctggagcac caaggagccc 5100

ttcagctgga tcaaggtgga cctgctggcc cccatgatca tccatggcat caagacccag 5160

ggggccaggc agaagttcag cagcctgtac atcagccagt tcatcatcat gtacagcctg 5220

gatggcaaga agtggcagac ctacaggggc aacagcactg gcaccctgat ggtgttcttt 5280

ggcaatgtgg acagctctgg catcaagcac aacatcttca acccccccat cattgccaga 5340

tacatcaggc tgcaccccac ccactacagc atcaggagca ccctgaggat ggagctgatg 5400

ggctgtgacc tgaacagctg cagcatgccc ctgggcatgg agagcaaggc catctctgat 5460

gcccagatca ctgccagcag ctacttcacc aacatgtttg ccacctggag ccccagcaag 5520

gccaggctgc acctgcaggg caggagcaat gcctggaggc cccaggtcaa caaccccaag 5580

gagtggctgc aggtggactt ccagaagacc atgaaggtga ctggggtgac cacccagggg 5640

gtgaagagcc tgctgaccag catgtatgtg aaggagttcc tgatcagcag cagccaggat 5700

ggccaccagt ggaccctgtt cttccagaat ggcaaggtga aggtgttcca gggcaaccag 5760

gacagcttca cccctgtggt gaacagcctg gacccccccc tgctgaccag atacctgagg 5820

attcaccccc agagctgggt gcaccagatt gccctgagga tggaggtgct gggctgtgag 5880

gcccaggacc tgtactgacc tcgagctgtg ccttctagtt gccagccatc tgttgtttgc 5940

ccctcccccg tgccttcctt gaccctggaa ggtgccactc ccactgtcct ttcctaataa 6000

aatgaggaaa ttgcatcgca ttgtctgagt aggtgtcatt ctattctggg gggtggggtg 6060

gggcaggaca gcaaggggga ggattgggaa gacaatagca ggcatgctgg ggatgcggtg 6120

ggctctatgg accggtgcgg ccgcaggaac ccctagtgat ggagttggcc actccctctc 6180

tgcgcgctcg ctcgctcact gaggccgggc gaccaaaggt cgcccgacgc ccgggctttg 6240

cccgggcggc ctcagtgagc gagcgagcgc gcagagaggg agtggccaa 6289

<210> 19
<211> 5430
<212> DNA
<213> Adeno-Associated Virus 2

<400> 19
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgacgt ggacttagcc 180

cctgtttgct cctccgataa ctggggtgac cttggttaat attcaccagc agcctccccg 240

tggacttagc ccctgtttgc tcctccgata actggggtga ccttggttaa tattcaccag 300

cagcctcccc acgcgaaacg tcgactggac acaggacgct gtggtttctg agccaggggg 360

cgactcagat cccagccagt ggacttagcc cctgtttgct cctccgataa ctggggtgac 420

cttggttaat attcaccagc agcctccccc gttgcccctc tggatccact gcttaaatac 480

ggacgaggac agggccctgt ctcctcagct tcaggcacca ccactgacct gggacagtga 540

atcgtaagta ctagcagcta caatccagct accattctgc ttttatttta tggttgggat 600

aaggctggat tattctgagt ccaagctagg ccctttgct aatcatgttc atacctctta 660

tcttcctccc acagctcctg ggcaacgtgc tggtctgtgt gctggcccat cactttggca 720

aagaattgcg atcgccacca tgcagattga gctgagcacc tgcttcttcc tgtgcctgct 780

gaggttctgc ttctctgcca ccaggagata ctacctgggg gctgtggagc tgagctggga 840

ctacatgcag tctgacctgg gggagctgcc tgtggatgcc aggttccccc ccagagtgcc 900

caagagcttc cccttcaaca cctctgtggt gtacaagaag accctgtttg tggagttcac 960

tgaccacctg ttcaacattg ccaagcccag gcccccctgg atgggcctgc tgggccccac 1020

catccaggct gaggtgtatg acactgtggt gatcaccctg aagaacatgg ccagccaccc 1080

tgtgagcctg catgctgtgg gggtgagcta ctggaaggcc tctgaggggg ctgagtatga 1140

tgaccagacc agccagaggg agaaggagga tgacaaggtg ttccctgggg gcagccacac 1200

ctatgtgtgg caggtgctga aggagaatgg ccccatggcc tctgaccccc tgtgcctgac 1260

ctacagctac ctgagccatg tggacctggt gaaggacctg aactctggcc tgattggggc 1320

cctgctggtg tgcagggagg gcagcctggc caaggagaag acccagaccc tgcacaagtt 1380

catcctgctg tttgctgtgt ttgatgaggg caagagctgg cactctgaaa ccaagaacag 1440

cctgatgcag gacagggatg ctgcctctgc cagggcctgg cccaagatgc acactgtgaa 1500

tggctatgtg aacaggagcc tgcctggcct gattggctgc cacaggaagt ctgtgtactg 1560

gcatgtgatt ggcatgggca ccacccctga ggtgcacagc atcttcctgg agggccacac 1620

cttcctggtc aggaaccaca ggcaggccag cctggagatc agccccatca ccttcctgac 1680

tgcccagacc ctgctgatgg acctgggcca gttcctgctg ttctgccaca tcagcagcca 1740

ccagcatgat ggcatggagg cctatgtgaa ggtggacagc tgccctgagg agccccagct 1800

gaggatgaag aacaatgagg aggctgagga ctatgatgat gacctgactg actctgagat 1860

ggatgtggtg aggtttgatg atgacaacag ccccagcttc atccagatca ggtctgtggc 1920

caagaagcac cccaagacct gggtgcacta cattgctgct gaggaggagg actgggacta 1980

tgccccctg gtgctggccc ctgatgacag gagctacaag agccagtacc tgaacaatgg 2040

cccccagagg attggcagga agtacaagaa ggtcaggttc atggcctaca ctgatgaaac 2100

cttcaagacc agggaggcca tccagcatga gtctggcatc ctgggccccc tgctgtatgg 2160

ggaggtgggg gacaccctgc tgatcatctt caagaaccag gccagcaggc cctacaacat 2220

ctacccccat ggcatcactg atgtgaggcc cctgtacagc aggaggctgc ccaaggggt 2280

gaagcacctg aaggacttcc ccatcctgcc tggggagatc ttcaagtaca agtggactgt 2340

gactgtggag gatggcccca ccaagtctga ccccaggtgc ctgaccagat actacagcag 2400

ctttgtgaac atggagaggg acctggcctc tggcctgatt ggccccctgc tgatctgcta 2460

caaggagtct gtggaccaga ggggcaacca gatcatgtct gacaagagga atgtgatcct 2520

gttctctgtg tttgatgaga acaggagctg gtacctgact gagaacatcc agaggttcct 2580

gcccaaccct gctggggtgc agctggagga ccctgagttc caggccagca acatcatgca 2640

cagcatcaat ggctatgtgt ttgacagcct gcagctgtct gtgtgcctgc atgaggtggc 2700

ctactggtac atcctgagca ttggggccca gactgacttc ctgtctgtgt tcttctctgg 2760

ctacaccttc aagcacaaga tggtgtatga ggacaccctg accctgttcc ccttctctgg 2820

ggagactgtg ttcatgagca tggagaaccc tggcctgtgg attctgggct gccacaactc 2880

tgacttcagg aacaggggca tgactgccct gctgaaagtc tccagctgtg acaagaacac 2940

tggggactac tatgaggaca gctatgagga catctctgcc tacctgctga gcaagaacaa 3000

tgccattgag cccaggagct tcagccagaa ccccccagtg ctgaagaggc accagaggga 3060

gatcaccagg accaccctgc agtctgacca ggaggagatt gactatgatg acaccatctc 3120

tgtggagatg aagaaggagg actttgacat ctacgacgag gacgagaacc agagccccag 3180

gagcttccag aagaagacca ggcactactt cattgctgct gtggagaggc tgtgggacta 3240

tggcatgagc agcagccccc atgtgctgag gaacagggcc cagtctggct ctgtgcccca 3300

gttcaagaag gtggtgttcc aggagttcac tgatggcagc ttcacccagc ccctgtacag 3360

aggggagctg aatgagcacc tgggcctgct gggcccctac atcagggctg aggtggagga 3420

caacatcatg gtgaccttca ggaaccaggc cagcaggccc tacagcttct acagcagcct 3480

gatcagctat gaggaggacc agaggcaggg ggctgagccc aggaagaact ttgtgaagcc 3540

caatgaaacc aagacctact tctggaaggt gcagcaccac atggccccca ccaaggatga 3600

gtttgactgc aaggcctggg cctacttctc tgatgtggac ctggagaagg atgtgcactc 3660

tggcctgatt ggcccctgc tggtgtgcca caccaacacc ctgaaccctg cccatggcag 3720

gcaggtgact gtgcaggagt ttgccctgtt cttcaccatc tttgatgaaa ccaagagctg 3780

gtacttcact gagaacatgg agaggaactg cagggccccc tgcaacatcc agatggagga 3840

ccccaccttc aaggagaact acaggttcca tgccatcaat ggctacatca tggacaccct 3900

gcctggcctg gtgatggccc aggaccagag gatcaggtgg tacctgctga gcatgggcag 3960

caatgagaac atccacagca tccacttctc tggccatgtg ttcactgtga ggaagaagga 4020

ggagtacaag atggccctgt acaacctgta ccctggggtg tttgagactg tggagatgct 4080

gcccagcaag gctggcatct ggagggtgga gtgcctgatt ggggagcacc tgcatgctgg 4140

catgagcacc ctgttcctgg tgtacagcaa caagtgccag acccccctgg gcatggcctc 4200

tggccacatc agggacttcc agatcactgc ctctggccag tatggccagt gggcccccaa 4260

gctggccagg ctgcactact ctggcagcat caatgcctgg agcaccaagg agcccttcag 4320

ctggatcaag gtggacctgc tggcccccat gatcatccat ggcatcaaga cccaggggc 4380

caggcagaag ttcagcagcc tgtacatcag ccagttcatc atcatgtaca gcctggatgg 4440

caagaagtgg cagacctaca ggggcaacag cactggcacc ctgatggtgt tctttggcaa 4500

tgtggacagc tctggcatca agcacaacat cttcaacccc cccatcattg ccagatacat 4560

caggctgcac cccacccact acagcatcag gagcaccctg aggatggagc tgatgggctg 4620

tgacctgaac agctgcagca tgcccctggg catggagagc aaggccatct ctgatgccca 4680

gatcactgcc agcagctact tcaccaacat gtttgccacc tggagcccca gcaaggccag 4740

gctgcacctg cagggcagga gcaatgcctg gaggccccag gtcaacaacc ccaaggagtg 4800

gctgcaggtg gacttccaga agaccatgaa ggtgactggg gtgaccaccc agggggtgaa 4860

gagcctgctg accagcatgt atgtgaagga gttcctgatc agcagcagcc aggatggcca 4920

ccagtggacc ctgttcttcc agaatggcaa ggtgaaggtg ttccagggca accaggacag 4980

cttcacccct gtggtgaaca gcctggaccc ccccctgctg accagatacc tgaggattca 5040

cccccagagc tgggtgcacc agattgccct gaggatggag gtgctgggct gtgaggccca 5100

ggacctgtac tgacctcgag gcactgtcct ttcctaataa aatgaggaaa ttgcatcgca 5160

ttgtctgagt aggtgtcatt ctattctggg gggtggggtg gggcaggaca gcaaggggga 5220

ggattgggaa gacaatagca ggcatgctgg ggatgcggtg ggctctatgg gcacgtggcg 5280

gccgcaggaa cccctagtga tggagttggc cactccctct ctgcgcgctc gctcgctcac 5340

tgaggccggg cgaccaaagg tcgcccgacg cccgggcttt gcccgggcgg cctcagtgag 5400

cgagcgagcg cgcagagagg gagtggccaa 5430

<210> 20
<211> 5779
<212> DNA
<213> Adeno-Associated Virus 2

<400> 20
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgacgt ggacttagcc 180

cctgtttgct cctccgataa ctggggtgac cttggttaat attcaccagc agcctccccg 240

tggacttagc ccctgtttgc tcctccgata actggggtga ccttggttaa tattcaccag 300

cagcctcccc acgcgaaacg tcgactggac acaggacgct gtggtttctg agccaggggg 360

cgactcagat cccagccagt ggacttagcc cctgtttgct cctccgataa ctggggtgac 420

cttggttaat attcaccagc agcctccccc gttgcccctc tggatccact gcttaaatac 480

ggacgaggac agggccctgt ctcctcagct tcaggcacca ccactgacct gggacagtga 540

atcgtaagta ctagcagcta caatccagct accattctgc ttttatttta tggttgggat 600

aaggctggat tattctgagt ccaagctagg ccctttgct aatcatgttc atacctctta 660

tcttcctccc acagctcctg ggcaacgtgc tggtctgtgt gctggcccat cactttggca 720

aagaattgcg atcgccacca tgcagattga gctgagcacc tgcttcttcc tgtgcctgct 780

gaggttctgc ttctctgcca ccaggagata ctacctgggg gctgtggagc tgagctggga 840

ctacatgcag tctgacctgg gggagctgcc tgtggatgcc aggttccccc ccagagtgcc 900

caagagcttc cccttcaaca cctctgtggt gtacaagaag accctgtttg tggagttcac 960

tgaccacctg ttcaacattg ccaagcccag gccccccctgg atgggcctgc tgggccccac 1020

catccaggct gaggtgtatg acactgtggt gatcaccctg aagaacatgg ccagccaccc 1080

tgtgagcctg catgctgtgg gggtgagcta ctggaaggcc tctgaggggg ctgagtatga 1140

tgaccagacc agccagaggg agaaggagga tgacaaggtg ttccctgggg gcagccacac 1200

ctatgtgtgg caggtgctga aggagaatgg ccccatggcc tctgaccccc tgtgcctgac 1260

ctacagctac ctgagccatg tggacctggt gaaggacctg aactctggcc tgattggggc 1320

cctgctggtg tgcagggagg gcagcctggc caaggagaag acccagaccc tgcacaagtt 1380

catcctgctg tttgctgtgt ttgatgaggg caagagctgg cactctgaaa ccaagaacag 1440

cctgatgcag gacagggatg ctgcctctgc cagggcctgg cccaagatgc acactgtgaa 1500

tggctatgtg aacaggagcc tgcctggcct gattggctgc cacaggaagt ctgtgtactg 1560

gcatgtgatt ggcatgggca ccacccctga ggtgcacagc atcttcctgg agggccacac 1620

cttcctggtc aggaaccaca ggcaggccag cctggagatc agccccatca ccttcctgac 1680

tgcccagacc ctgctgatgg acctgggcca gttcctgctg ttctgccaca tcagcagcca 1740

ccagcatgat ggcatggagg cctatgtgaa ggtggacagc tgccctgagg agccccagct 1800

gaggatgaag aacaatgagg aggctgagga ctatgatgat gacctgactg actctgagat 1860

ggatgtggtg aggtttgatg atgacaacag ccccagcttc atccagatca ggtctgtggc 1920

caagaagcac cccaagacct gggtgcacta cattgctgct gaggaggagg actgggacta 1980

tgcccccctg gtgctggccc ctgatgacag gagctacaag agccagtacc tgaacaatgg 2040

cccccagagg attggcagga agtacaagaa ggtcaggttc atggcctaca ctgatgaaac 2100

cttcaagacc agggaggcca tccagcatga gtctggcatc ctgggccccc tgctgtatgg 2160

ggaggtgggg gacaccctgc tgatcatctt caagaaccag gccagcaggc cctacaacat 2220

ctacccccat ggcatcactg atgtgaggcc cctgtacagc aggaggctgc ccaaggggt 2280

gaagcacctg aaggacttcc ccatcctgcc tggggagatc ttcaagtaca agtggactgt 2340

gactgtggag gatggcccca ccaagtctga ccccaggtgc ctgaccagat actacagcag 2400

ctttgtgaac atggagaggg acctggcctc tggcctgatt ggccccctgc tgatctgcta 2460

caaggagtct gtggaccaga ggggcaacca gatcatgtct gacaagagga atgtgatcct 2520

gttctctgtg tttgatgaga acaggagctg gtacctgact gagaacatcc agaggttcct 2580

gcccaaccct gctggggtgc agctggagga ccctgagttc caggccagca acatcatgca 2640

cagcatcaat ggctatgtgt ttgacagcct gcagctgtct gtgtgcctgc atgaggtggc 2700

ctactggtac atcctgagca ttggggccca gactgacttc ctgtctgtgt tcttctctgg 2760

ctacaccttc aagcacaaga tggtgtatga ggacaccctg accctgttcc ccttctctgg 2820

ggagactgtg ttcatgagca tggagaaccc tggcctgtgg attctgggct gccacaactc 2880

tgacttcagg aacaggggca tgactgccct gctgaaagtc tccagctgtg acaagaacac 2940

tggggactac tatgaggaca gctatgagga catctctgcc tacctgctga gcaagaacaa 3000

tgccattgag cccaggagct tcagccagaa ccccccagtg ctgaagaggc accagaggga 3060

gatcaccagg accaccctgc agtctgacca ggaggagatt gactatgatg acaccatctc 3120

tgtggagatg aagaaggagg actttgacat ctacgacgag gacgagaacc agagccccag 3180

gagcttccag aagaagacca ggcactactt cattgctgct gtggagaggc tgtgggacta 3240

tggcatgagc agcagccccc atgtgctgag gaacagggcc cagtctggct ctgtgcccca 3300

gttcaagaag gtggtgttcc aggagttcac tgatggcagc ttcacccagc ccctgtacag 3360

aggggagctg aatgagcacc tgggcctgct gggcccctac atcagggctg aggtggagga 3420

caacatcatg gtgaccttca ggaaccaggc cagcaggccc tacagcttct acagcagcct 3480

gatcagctat gaggaggacc agaggcaggg ggctgagccc aggaagaact ttgtgaagcc 3540

caatgaaacc aagacctact tctggaaggt gcagcaccac atggccccca ccaaggatga 3600

gtttgactgc aaggcctggg cctacttctc tgatgtggac ctggagaagg atgtgcactc 3660

tggcctgatt ggccccctgc tggtgtgcca caccaacacc ctgaaccctg cccatggcag 3720

gcaggtgact gtgcaggagt ttgccctgtt cttcaccatc tttgatgaaa ccaagagctg 3780

gtacttcact gagaacatgg agaggaactg cagggccccc tgcaacatcc agatggagga 3840

ccccaccttc aaggagaact acaggttcca tgccatcaat ggctacatca tggacaccct 3900

gcctggcctg gtgatggccc aggaccagag gatcaggtgg tacctgctga gcatgggcag 3960

caatgagaac atccacagca tccacttctc tggccatgtg ttcactgtga ggaagaagga 4020

ggagtacaag atggccctgt acaacctgta ccctggggtg tttgagactg tggagatgct 4080

gcccagcaag gctggcatct ggagggtgga gtgcctgatt ggggagcacc tgcatgctgg 4140

catgagcacc ctgttcctgg tgtacagcaa caagtgccag acccccctgg gcatggcctc 4200

tggccacatc agggacttcc agatcactgc ctctggccag tatggccagt gggcccccaa 4260

gctggccagg ctgcactact ctggcagcat caatgcctgg agcaccaagg agcccttcag 4320

ctggatcaag gtggacctgc tggcccccat gatcatccat ggcatcaaga cccagggggc 4380

caggcagaag ttcagcagcc tgtacatcag ccagttcatc atcatgtaca gcctggatgg 4440

caagaagtgg cagacctaca ggggcaacag cactggcacc ctgatggtgt tctttggcaa 4500

tgtggacagc tctggcatca agcacaacat cttcaacccc cccatcattg ccagatacat 4560

caggctgcac cccacccact acagcatcag gagcaccctg aggatggagc tgatgggctg 4620

tgacctgaac agctgcagca tgcccctggg catggagagc aaggccatct ctgatgccca 4680

gatcactgcc agcagctact tcaccaacat gtttgccacc tggagcccca gcaaggccag 4740

gctgcacctg cagggcagga gcaatgcctg gaggccccag gtcaacaacc ccaaggagtg 4800

gctgcaggtg gacttccaga agaccatgaa ggtgactggg gtgaccaccc agggggtgaa 4860

gagcctgctg accagcatgt atgtgaagga gttcctgatc agcagcagcc aggatggcca 4920

ccagtggacc ctgttcttcc agaatggcaa ggtgaaggtg ttccagggca accaggacag 4980

cttcacccct gtggtgaaca gcctggaccc ccccctgctg accagatacc tgaggattca 5040

cccccagagc tgggtgcacc agattgccct gaggatggag gtgctgggct gtgaggccca 5100

ggacctgtac tgacctcgag gcactgtcct ttcctaataa aatgaggaaa ttgcatcgca 5160

ttgtctgagt aggtgtcatt ctattctggg gggtggggtg gggcaggaca gcaaggggga 5220

ggattgggaa gacaatagca ggcatgctgg ggatgcggtg ggctctatgg gcactcgaca 5280

ggttaatttt taaaaagcag tcaaaagtcc aagtggccct tggcagcatt tactctctct 5340

gtttgctctg gttaataatc tcaggagcac aaacattcct ggaggcagga gaagaaatca 5400

acatcctgga cttatcctct gggcctctcc ccacccccag gagaggctca ggttaatttt 5460

taaaaagcag tcaaaagtcc aagtggccct tggcagcatt tactctctct gtttgctctg 5520

gttaataatc tcaggagcac aaacattcct ggaggcagga gaagaaatca acatcctgga 5580

cttatcctct gggcctctcc ccacccccag gagaggctgt cgagtggcgg ccgcaggaac 5640

ccctagtgat ggagttggcc actccctctc tgcgcgctcg ctcgctcact gaggccgggc 5700

gaccaaaggt cgcccgacgc ccgggctttg cccgggcggc ctcagtgagc gagcgagcgc 5760

gcagagaggg agtggccaa 5779

<210> 21
<211> 5962
<212> DNA
<213> Adeno-Associated Virus 2

<400> 21
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgaccc ctctcacact 180

acctaaacca cgccaggaca acctctgctc ctctccaccg aaattccaag gggtcgagtg 240

gatgttggag gtggcatggg cccagagagg tctctgacct ctgccccagc tccaaggtca 300

gcaggcaggg agggctgtgt gtttgctgtt tgctgcttgc aatgtttgcc cattttaggg 360

acatgagtag gctgaagttt gttcagtgtg gacttcagag gcagcacaca aacagctgct 420

ggaggatggg aactgagggg ttggaagggg gcagggtgag cccagaaact cctgtgtgcc 480

tctgagcctg cagacgcgaa acgtcgactg gacacaggac gctgtggttt ctgagccagg 540

gggcgactca gatcccagcc agtggactta gcccctgttt gctcctccga taactggggt 600

gaccttggtt aatattcacc agcagcctcc cccgttgccc ctctggatcc actgcttaaa 660

tacggacgag gacagggccc tgtctcctca gcttcaggca ccaccactga cctgggacag 720

tgaatcgtaa gtactagcag ctacaatcca gctaccattc tgcttttatt ttatggttgg 780

gataaggctg gattattctg agtccaagct aggccctttt gctaatcatg ttcatacctc 840

ttatcttcct cccacagctc ctgggcaacg tgctggtctg tgtgctggcc catcactttg 900

gcaaagaatt gcgatcgcca ccatgcagat tgagctgagc acctgcttct tcctgtgcct 960

gctgaggttc tgcttctctg ccaccaggag atactacctg ggggctgtgg agctgagctg 1020

ggactacatg cagtctgacc tgggggagct gcctgtggat gccaggttcc cccccagagt 1080

gcccaagagc ttccccttca acacctctgt ggtgtacaag aagaccctgt ttgtggagtt 1140

cactgaccac ctgttcaaca ttgccaagcc caggcccccc tggatgggcc tgctgggccc 1200

caccatccag gctgaggtgt atgacactgt ggtgatcacc ctgaagaaca tggccagcca 1260

ccctgtgagc ctgcatgctg tgggggtgag ctactggaag gcctctgagg gggctgagta 1320

tgatgaccag accagccaga gggagaagga ggatgacaag gtgttccctg ggggcagcca 1380

cacctatgtg tggcaggtgc tgaaggagaa tggccccatg gcctctgacc ccctgtgcct 1440

gacctacagc tacctgagcc atgtggacct ggtgaaggac ctgaactctg gcctgattgg 1500

ggccctgctg gtgtgcaggg agggcagcct ggccaaggag aagacccaga ccctgcacaa 1560

gttcatcctg ctgtttgctg tgtttgatga gggcaagagc tggcactctg aaaccaagaa 1620

cagcctgatg caggacaggg atgctgcctc tgccagggcc tggcccaaga tgcacactgt 1680

gaatggctat gtgaacagga gcctgcctgg cctgattggc tgccacagga agtctgtgta 1740

ctggcatgtg attggcatgg gcaccacccc tgaggtgcac agcatcttcc tggagggcca 1800

caccttcctg gtcaggaacc acaggcaggc cagcctggag atcagcccca tcaccttcct 1860

gactgcccag accctgctga tggacctggg ccagttcctg ctgttctgcc acatcagcag 1920

ccaccagcat gatggcatgg aggcctatgt gaaggtggac agctgccctg aggagcccca 1980

gctgaggatg aagaacaatg aggaggctga ggactatgat gatgacctga ctgactctga 2040

gatggatgtg gtgaggtttg atgatgacaa cagccccagc ttcatccaga tcaggtctgt 2100

ggccaagaag caccccaaga cctgggtgca ctacattgct gctgaggagg aggactggga 2160

ctatgccccc ctggtgctgg cccctgatga caggagctac aagagccagt acctgaacaa 2220

tggcccccag aggattggca ggaagtacaa gaaggtcagg ttcatggcct acactgatga 2280

aaccttcaag accagggagg ccatccagca tgagtctggc atcctgggcc ccctgctgta 2340

tggggaggtg ggggacaccc tgctgatcat cttcaagaac caggccagca ggccctacaa 2400

catctacccc catggcatca ctgatgtgag gcccctgtac agcaggaggc tgcccaaggg 2460

ggtgaagcac ctgaaggact tccccatcct gcctggggag atcttcaagt acaagtggac 2520

tgtgactgtg gaggatggcc ccaccaagtc tgaccccagg tgcctgacca gatactacag 2580

cagctttgtg aacatggaga gggacctggc ctctggcctg attggccccc tgctgatctg 2640

ctacaaggag tctgtggacc agaggggcaa ccagatcatg tctgacaaga ggaatgtgat 2700

cctgttctct gtgtttgatg agaacaggag ctggtacctg actgagaaca tccagaggtt 2760

cctgcccaac cctgctgggg tgcagctgga ggaccctgag ttccaggcca gcaacatcat 2820

gcacagcatc aatggctatg tgtttgacag cctgcagctg tctgtgtgcc tgcatgaggt 2880

ggcctactgg tacatcctga gcattggggc ccagactgac ttcctgtctg tgttcttctc 2940

tggctacacc ttcaagcaca agatggtgta tgaggacacc ctgaccctgt tcccccttctc 3000

tggggagact gtgttcatga gcatggagaa ccctggcctg tggattctgg gctgccacaa 3060

ctctgacttc aggaacaggg gcatgactgc cctgctgaaa gtctccagct gtgacaagaa 3120

cactggggac tactatgagg acagctatga ggacatctct gcctacctgc tgagcaagaa 3180

caatgccatt gagcccagga gcttcagcca gaaccccccа gtgctgaaga ggcaccagag 3240

ggagatcacc aggaccaccc tgcagtctga ccaggaggag attgactatg atgacaccat 3300

ctctgtggag atgaagaagg aggactttga catctacgac gaggacgaga accagagccc 3360

caggagcttc cagaagaaga ccaggcacta cttcattgct gctgtggaga ggctgtggga 3420

ctatggcatg agcagcagcc cccatgtgct gaggaacagg gcccagtctg gctctgtgcc 3480

ccagttcaag aaggtggtgt tccaggagtt cactgatggc agcttcaccc agcccctgta 3540

cagaggggag ctgaatgagc acctgggcct gctgggcccc tacatcaggg ctgaggtgga 3600

ggacaacatc atggtgacct tcaggaacca ggccagcagg ccctacagct tctacagcag 3660

cctgatcagc tatgaggagg accagaggca gggggctgag cccaggaaga actttgtgaa 3720

gcccaatgaa accaagacct acttctggaa ggtgcagcac cacatggccc ccaccaagga 3780

tgagtttgac tgcaaggcct gggcctactt ctctgatgtg gacctggaga aggatgtgca 3840

ctctggcctg attggccccc tgctggtgtg ccacaccaac accctgaacc ctgcccatgg 3900

caggcaggtg actgtgcagg agtttgccct gttcttcacc atctttgatg aaaccaagag 3960

ctggtacttc actgagaaca tggagaggaa ctgcagggcc ccctgcaaca tccagatgga 4020

ggaccccacc ttcaaggaga actacaggtt ccatgccatc aatggctaca tcatggacac 4080

cctgcctggc ctggtgatgg cccaggacca gaggatcagg tggtacctgc tgagcatggg 4140

cagcaatgag aacatccaca gcatccactt ctctggccat gtgttcactg tgaggaagaa 4200

ggaggagtac aagatggccc tgtacaacct gtaccctggg gtgtttgaga ctgtggagat 4260

gctgcccagc aaggctggca tctggagggt ggagtgcctg attggggagc acctgcatgc 4320

tggcatgagc accctgttcc tggtgtacag caacaagtgc cagacccccc tgggcatggc 4380

ctctggccac atcagggact tccagatcac tgcctctggc cagtatggcc agtgggcccc 4440

caagctggcc aggctgcact actctggcag catcaatgcc tggagcacca aggagccctt 4500

cagctggatc aaggtggacc tgctggcccc catgatcatc catggcatca agacccaggg 4560

ggccaggcag aagttcagca gcctgtacat cagccagttc atcatcatgt acagcctgga 4620

tggcaagaag tggcagacct acaggggcaa cagcactggc accctgatgg tgttctttgg 4680

caatgtggac agctctggca tcaagcacaa catcttcaac ccccccatca ttgccagata 4740

catcaggctg caccccaccc actacagcat caggagcacc ctgaggatgg agctgatggg 4800

ctgtgacctg aacagctgca gcatgcccct gggcatggag agcaaggcca tctctgatgc 4860

ccagatcact gccagcagct acttcaccaa catgtttgcc acctggagcc ccagcaaggc 4920

caggctgcac ctgcagggca ggagcaatgc ctggaggccc caggtcaaca accccaagga 4980

gtggctgcag gtggacttcc agaagaccat gaaggtgact ggggtgacca cccaggggt 5040

gaagagcctg ctgaccagca tgtatgtgaa ggagttcctg atcagcagca gccaggatgg 5100

ccaccagtgg accctgttct tccagaatgg caaggtgaag gtgttccagg gcaaccagga 5160

cagcttcacc cctgtggtga acagcctgga ccccccccctg ctgaccagat acctgaggat 5220

tcacccccag agctgggtgc accagattgc cctgaggatg gaggtgctgg gctgtgaggc 5280

ccaggacctg tactgacctc gaggcactgt cctttcctaa taaaatgagg aaattgcatc 5340

gcattgtctg agtaggtgtc attctattct ggggggtggg gtggggcagg acagcaaggg 5400

ggaggattgg gaagacaata gcaggcatgc tggggatgcg gtgggctcta tgggcactcg 5460

acaggttaat ttttaaaaag cagtcaaaag tccaagtggc ccttggcagc atttactctc 5520

tctgtttgct ctggttaata atctcaggag cacaaacatt cctggaggca ggagaagaaa 5580

tcaacatcct ggacttatcc tctgggcctc tccccacccc caggagaggc tcaggttaat 5640

ttttaaaaag cagtcaaaag tccaagtggc ccttggcagc atttactctc tctgtttgct 5700

ctggttaata atctcaggag cacaaacatt cctggaggca ggagaagaaa tcaacatcct 5760

ggacttatcc tctgggcctc tccccacccc caggagaggc tgtcgagtgg cggccgcagg 5820

aacccctagt gatggagttg gccactccct ctctgcgcgc tcgctcgctc actgaggccg 5880

ggcgaccaaa ggtcgcccga cgcccgggct ttgcccgggc ggcctcagtg agcgagcgag 5940

cgcgcagaga gggagtggcc aa 5962

<210> 22
<211> 5919
<212> DNA
<213> Adeno-Associated Virus 2

<400> 22
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgta ggctcagagg cacacaggag 180

tttctgggct caccctgccc ccttccaacc cctcagttcc catcctccag cagctgtttg 240

tgtgctgcct ctgaagtcca cactgaacaa acttcagcct actcatgtcc ctaaaatggg 300

caaacattgc aagcagcaaa cagcaaacac acagccctcc ctgcctgctg accttggagc 360

tggggcagag gtcagagacc tctctgggcc catgccacct ccaacatcca ctcgacccct 420

tggaatttcg gtggagagga gcagaggttg tcctggcgtg gtttaggtag tgtgagaggg 480

gtcgacgatc ttgctaccag tggaacagcc actaaggatt ctgcagtgag agcagagggc 540

cagctaagtg gtactctccc agagactgtc tgactcacgc caccccctcc accttggaca 600

caggacgctg tggtttctga gccaggtaca atgactcctt tcggtaagtg cagtggaagc 660

tgtacactgc ccaggcaaag cgtccgggca gcgtaggcgg gcgactcaga tcccagccag 720

tggacttagc ccctgtttgc tcctccgata actggggtga ccttggttaa tattcaccag 780

cagcctcccc cgttgccccct ctggatccac tgcttaaata cggacgagga cagggccctg 840

tctcctcagc ttcaggcacc accactgacc tgggacagtg aatcgtaagt atgcctttca 900

ctgcgagagg ttctggagag gcttctgagc tccccatggc ccaggcaggc agcaggtctg 960

gggcaggagg ggggttgtgg agtgggtatc cgcctgctga ggtgcagggc agatcatcat 1020

gtgccttgac tcggggcctg gccccccccat ctctgtcttg caggacaatt gccgtcttct 1080

gtctcgtggg gcatcctcct gctggcaggc ctgtgctgcc tggtccctgt ctccctggct 1140

gaggaccggc caccatgcag attgagctga gcacctgctt cttcctgtgc ctgctgaggt 1200

tctgcttctc tgccaccagg agatactacc tgggggctgt ggagctgagc tgggactaca 1260

tgcagtctga cctgggggag ctgcctgtgg atgccaggtt ccccccccaga gtgcccaaga 1320

gcttcccctt caacacctct gtggtgtaca agaagaccct gtttgtggag ttcactgacc 1380

acctgttcaa cattgccaag cccaggcccc cctggatggg cctgctgggc cccaccatcc 1440

aggctgaggt gtatgacact gtggtgatca ccctgaagaa catggccagc caccctgtga 1500

gcctgcatgc tgtgggggtg agctactgga aggcctctga gggggctgag tatgatgacc 1560

agaccagcca gagggagaag gaggatgaca aggtgttccc tgggggcagc cacacctatg 1620

tgtggcaggt gctgaaggag aatggcccca tggcctctga ccccctgtgc ctgacctaca 1680

gctacctgag ccatgtggac ctggtgaagg acctgaactc tggcctgatt ggggccctgc 1740

tggtgtgcag ggagggcagc ctggccaagg agaagaccca gaccctgcac aagttcatcc 1800

tgctgtttgc tgtgtttgat gagggcaaga gctggcactc tgaaaccaag aacagcctga 1860

tgcaggacag ggatgctgcc tctgccaggg cctggcccaa gatgcacact gtgaatggct 1920

atgtgaacag gagcctgcct ggcctgattg gctgccacag gaagtctgtg tactggcatg 1980

tgattggcat gggcaccacc cctgaggtgc acagcatctt cctggagggc cacaccttcc 2040

tggtcaggaa ccacaggcag gccagcctgg agatcagccc catcaccttc ctgactgccc 2100

agaccctgct gatggacctg ggccagttcc tgctgttctg ccacatcagc agccaccagc 2160

atgatggcat ggaggcctat gtgaaggtgg acagctgccc tgaggagccc cagctgagga 2220

tgaagaacaa tgaggaggct gaggactatg atgatgacct gactgactct gagatggatg 2280

tggtgaggtt tgatgatgac aacagcccca gcttcatcca gatcaggtct gtggccaaga 2340

agcaccccaa gacctgggtg cactacattg ctgctgagga ggaggactgg gactatgccc 2400

ccctggtgct ggcccctgat gacaggagct acaagagcca gtacctgaac aatggccccc 2460

agaggattgg caggaagtac aagaaggtca ggttcatggc ctacactgat gaaaccttca 2520

agaccaggga ggccatccag catgagtctg gcatcctggg ccccctgctg tatggggagg 2580

tgggggacac cctgctgatc atcttcaaga accaggccag caggccctac aacatctacc 2640

cccatggcat cactgatgtg aggcccctgt acagcaggag gctgcccaag ggggtgaagc 2700

acctgaagga cttccccatc ctgcctgggg agatcttcaa gtacaagtgg actgtgactg 2760

tggaggatgg ccccaccaag tctgacccca ggtgcctgac cagatactac agcagctttg 2820

tgaacatgga gagggacctg gcctctggcc tgattggccc cctgctgatc tgctacaagg 2880

agtctgtgga ccagaggggc aaccagatca tgtctgacaa gaggaatgtg atcctgttct 2940

ctgtgtttga tgagaacagg agctggtacc tgactgagaa catccagagg ttcctgccca 3000

accctgctgg ggtgcagctg gaggaccctg agttccaggc cagcaacatc atgcacagca 3060

tcaatggcta tgtgtttgac agcctgcagc tgtctgtgtg cctgcatgag gtggcctact 3120

ggtacatcct gagcattggg gcccagactg acttcctgtc tgtgttcttc tctggctaca 3180

ccttcaagca caagatggtg tatgaggaca ccctgaccct gttccccttc tctggggaga 3240

ctgtgttcat gagcatggag aaccctggcc tgtggattct gggctgccac aactctgact 3300

tcaggaacag gggcatgact gccctgctga aagtctccag ctgtgacaag aacactgggg 3360

actactatga ggacagctat gaggacatct ctgcctacct gctgagcaag aacaatgcca 3420

ttgagcccag gagcttcagc cagaaccccc cagtgctgaa gaggcaccag agggagatca 3480

ccaggaccac cctgcagtct gaccaggagg agattgacta tgatgacacc atctctgtgg 3540

agatgaagaa ggaggacttt gacatctacg acgaggacga gaaccagagc cccaggagct 3600

tccagaagaa gaccaggcac tacttcattg ctgctgtgga gaggctgtgg gactatggca 3660

tgagcagcag cccccatgtg ctgaggaaca gggcccagtc tggctctgtg ccccagttca 3720

agaaggtggt gttccaggag ttcactgatg gcagcttcac ccagcccctg tacagagggg 3780

agctgaatga gcacctgggc ctgctgggcc cctacatcag ggctgaggtg gaggacaaca 3840

tcatggtgac cttcaggaac caggccagca ggccctacag cttctacagc agcctgatca 3900

gctatgagga ggaccagagg caggggggctg agcccaggaa gaactttgtg aagcccaatg 3960

aaaccaagac ctacttctgg aaggtgcagc accacatggc ccccaccaag gatgagtttg 4020

actgcaaggc ctgggcctac ttctctgatg tggacctgga gaaggatgtg cactctggcc 4080

tgattggccc cctgctggtg tgccacacca acaccctgaa ccctgcccat ggcaggcagg 4140

tgactgtgca ggagtttgcc ctgttcttca ccatctttga tgaaaccaag agctggtact 4200

tcactgagaa catggagagg aactgcaggg ccccctgcaa catccagatg gaggacccca 4260

ccttcaagga gaactacagg ttccatgcca tcaatggcta catcatggac accctgcctg 4320

gcctggtgat ggcccaggac cagaggatca ggtggtacct gctgagcatg ggcagcaatg 4380

agaacatcca cagcatccac ttctctggcc atgtgttcac tgtgaggaag aaggaggagt 4440

acaagatggc cctgtacaac ctgtaccctg gggtgtttga gactgtggag atgctgccca 4500

gcaaggctgg catctggagg gtggagtgcc tgattgggga gcacctgcat gctggcatga 4560

gcaccctgtt cctggtgtac agcaacaagt gccagacccc cctgggcatg gcctctggcc 4620

acatcaggga cttccagatc actgcctctg gccagtatgg ccagtgggcc cccaagctgg 4680

ccaggctgca ctactctggc agcatcaatg cctggagcac caaggagccc ttcagctgga 4740

tcaaggtgga cctgctggcc cccatgatca tccatggcat caagacccag ggggccaggc 4800

agaagttcag cagcctgtac atcagccagt tcatcatcat gtacagcctg gatggcaaga 4860

agtggcagac ctacaggggc aacagcactg gcaccctgat ggtgttcttt ggcaatgtgg 4920

acagctctgg catcaagcac aacatcttca acccccccat cattgccaga tacatcaggc 4980

tgcaccccac ccactacagc atcaggagca ccctgaggat ggagctgatg ggctgtgacc 5040

tgaacagctg cagcatgccc ctgggcatgg agagcaaggc catctctgat gcccagatca 5100

ctgccagcag ctacttcacc aacatgtttg ccacctggag ccccagcaag gccaggctgc 5160

acctgcaggg caggagcaat gcctggaggc cccaggtcaa caaccccaag gagtggctgc 5220

aggtggactt ccagaagacc atgaaggtga ctggggtgac cacccagggg gtgaagagcc 5280

tgctgaccag catgtatgtg aaggagttcc tgatcagcag cagccaggat ggccaccagt 5340

ggaccctgtt cttccagaat ggcaaggtga aggtgttcca gggcaaccag gacagcttca 5400

cccctgtggt gaacagcctg gacccccccc tgctgaccag atacctgagg attcaccccc 5460

agagctgggt gcaccagatt gccctgagga tggaggtgct gggctgtgag gcccaggacc 5520

tgtactgagc tcgagctgtg ccttctagtt gccagccatc tgttgtttgc ccctcccccg 5580

tgccttcctt gaccctggaa ggtgccactc ccactgtcct ttcctaataa aatgaggaaa 5640

ttgcatcgca ttgtctgagt aggtgtcatt ctattctggg gggtggggtg gggcaggaca 5700

gcaaggggga ggattgggaa gacaatagca ggcatgctgg ggatgcggtg ggctctatgg 5760

accggtgcgg ccgcaggaac ccctagtgat ggagttggcc actccctctc tgcgcgctcg 5820

ctcgctcact gaggccgggc gaccaaaggt cgcccgacgc ccgggctttg cccgggcggc 5880

ctcagtgagc gagcgagcgc gcagagaggg agtggccaa 5919

<210> 23
<211> 5306
<212> DNA
<213> Adeno-Associated Virus 2

<400> 23
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttaaacgt cgaccctaaa 180

atgggcaaac attgcaagca gcaaacagca aactgacctt ggagctgggg cagaggtcag 240

agacctctct gggcactcga ccccttggaa tttcggtgga gaggagcaga ggtacacagc 300

cctccctgcc tgccccatgc cacctccaac atctgtcctg gcgtggttta ggtagtgtga 360

gaggggaatg actcctttcg gtaagtgcag tggaagctgt acactgccca ggcaaagcgt 420

ccgggcagcg taggcgggcg actcagatcc cagccagtgg acttagcccc tgtttgctcc 480

tccgataact ggggtgacct tggttaatat tcaccagcag cctcccccgt tgcccctctg 540

gatccactgc ttaaatacgg acgaggacag ggccctgtct cctcagcttc aggcaccacc 600

actgacctgg gacagtgaat cgcgatcgca ctgcttaaat acggacgagg acagggccct 660

gtctcctcag cttcaggcac caccactgac ctgggacagt gaatcgcgat cgccaccatg 720

cagattgagc tgagcacctg cttcttcctg tgcctgctga ggttctgctt ctctgccacc 780

aggagatact acctgggggc tgtggagctg agctgggact acatgcagtc tgacctgggg 840

gagctgcctg tggatgccag gttccccccc agagtgccca agagcttccc cttcaacacc 900

tctgtggtgt acaagaagac cctgtttgtg gagttcactg accacctgtt caacattgcc 960

aagcccaggc ccccctggat gggcctgctg ggccccacca tccaggctga ggtgtatgac 1020

actgtggtga tcaccctgaa gaacatggcc agccaccctg tgagcctgca tgctgtgggg 1080

gtgagctact ggaaggcctc tgagggggct gagtatgatg accagaccag ccagagggag 1140

aaggaggatg acaaggtgtt ccctgggggc agccacacct atgtgtggca ggtgctgaag 1200

gagaatggcc ccatggcctc tgacccctg tgcctgacct acagctacct gagccatgtg 1260

gacctggtga aggacctgaa ctctggcctg attggggccc tgctggtgtg cagggagggc 1320

agcctggcca aggagaagac ccagaccctg cacaagttca tcctgctgtt tgctgtgttt 1380

gatgagggca agagctggca ctctgaaacc aagaacagcc tgatgcagga cagggatgct 1440

gcctctgcca gggcctggcc caagatgcac actgtgaatg gctatgtgaa caggagcctg 1500

cctggcctga ttggctgcca caggaagtct gtgtactggc atgtgattgg catgggcacc 1560

acccctgagg tgcacagcat cttcctggag ggccacacct tcctggtcag gaaccacagg 1620

caggccagcc tggagatcag ccccatcacc ttcctgactg cccagaccct gctgatggac 1680

ctgggccagt tcctgctgtt ctgccacatc agcagccacc agcatgatgg catggaggcc 1740

tatgtgaagg tggacagctg ccctgaggag ccccagctga ggatgaagaa caatgaggag 1800

gctgaggact atgatgatga cctgactgac tctgagatgg atgtggtgag gtttgatgat 1860

gacaacagcc ccagcttcat ccagatcagg tctgtggcca agaagcaccc caagacctgg 1920

gtgcactaca ttgctgctga ggaggaggac tgggactatg ccccctggt gctggcccct 1980

gatgacagga gctacaagag ccagtacctg aacaatggcc cccagaggat tggcaggaag 2040

tacaagaagg tcaggttcat ggcctacact gatgaaacct tcaagaccag ggaggccatc 2100

cagcatgagt ctggcatcct gggccccctg ctgtatgggg aggtggggga caccctgctg 2160

atcatcttca agaaccaggc cagcaggccc tacaacatct acccccatgg catcactgat 2220

gtgaggcccc tgtacagcag gaggctgccc aaggggggtga agcacctgaa ggacttcccc 2280

atcctgcctg gggagatctt caagtacaag tggactgtga ctgtggagga tggccccacc 2340

aagtctgacc ccaggtgcct gaccagatac tacagcagct ttgtgaacat ggagagggac 2400

ctggcctctg gcctgattgg ccccctgctg atctgctaca aggagtctgt ggaccagagg 2460

ggcaaccaga tcatgtctga caagaggaat gtgatcctgt tctctgtgtt tgatgagaac 2520

aggagctggt acctgactga gaacatccag aggttcctgc ccaaccctgc tggggtgcag 2580

ctggaggacc ctgagttcca ggccagcaac atcatgcaca gcatcaatgg ctatgtgttt 2640

gacagcctgc agctgtctgt gtgcctgcat gaggtggcct actggtacat cctgagcatt 2700

ggggcccaga ctgacttcct gtctgtgttc ttctctggct acaccttcaa gcacaagatg 2760

gtgtatgagg acaccctgac cctgttcccc ttctctgggg agactgtgtt catgagcatg 2820

gagaaccctg gcctgtggat tctgggctgc cacaactctg acttcaggaa caggggcatg 2880

actgccctgc tgaaagtctc cagctgtgac aagaacactg gggactacta tgaggacagc 2940

tatgaggaca tctctgccta cctgctgagc aagaacaatg ccattgagcc caggagcttc 3000

agccagaacc ccccagtgct gaagaggcac cagagggaga tcaccaggac caccctgcag 3060

tctgaccagg aggagattga ctatgatgac accatctctg tggagatgaa gaaggaggac 3120

tttgacatct acgacgagga cgagaaccag agccccagga gcttccagaa gaagaccagg 3180

cactacttca ttgctgctgt ggagaggctg tgggactatg gcatgagcag cagccccat 3240

gtgctgagga acagggccca gtctggctct gtgccccagt tcaagaaggt ggtgttccag 3300

gagttcactg atggcagctt cacccagccc ctgtacagag gggagctgaa tgagcacctg 3360

ggcctgctgg gcccctacat cagggctgag gtggaggaca acatcatggt gaccttcagg 3420

aaccaggcca gcaggcccta cagcttctac agcagcctga tcagctatga ggaggaccag 3480

aggcaggggg ctgagcccag gaagaacttt gtgaagccca atgaaaccaa gacctacttc 3540

tggaaggtgc agcaccacat ggcccccacc aaggatgagt ttgactgcaa ggcctgggcc 3600

tacttctctg atgtggacct ggagaaggat gtgcactctg gcctgattgg ccccctgctg 3660

gtgtgccaca ccaacaccct gaaccctgcc catggcaggc aggtgactgt gcaggagttt 3720

gccctgttct tcaccatctt tgatgaaacc aagagctggt acttcactga gaacatggag 3780

aggaactgca gggccccctg caacatccag atggaggacc ccaccttcaa ggagaactac 3840

aggttccatg ccatcaatgg ctacatcatg gacaccctgc ctggcctggt gatggcccag 3900

gaccagagga tcaggtggta cctgctgagc atgggcagca atgagaacat ccacagcatc 3960

cacttctctg gccatgtgtt cactgtgagg aagaaggagg agtacaagat ggccctgtac 4020

aacctgtacc ctggggtgtt tgagactgtg gagatgctgc ccagcaaggc tggcatctgg 4080

agggtggagt gcctgattgg ggagcacctg catgctggca tgagcaccct gttcctggtg 4140

tacagcaaca agtgccagac ccccctgggc atggcctctg gccacatcag ggacttccag 4200

atcactgcct ctggccagta tggccagtgg gcccccaagc tggccaggct gcactactct 4260

ggcagcatca atgcctggag caccaaggag cccttcagct ggatcaaggt ggacctgctg 4320

gcccccatga tcatccatgg catcaagacc caggggggca ggcagaagtt cagcagcctg 4380

tacatcagcc agttcatcat catgtacagc ctggatggca agaagtggca gacctacagg 4440

ggcaacagca ctggcaccct gatggtgttc tttggcaatg tggacagctc tggcatcaag 4500

cacaacatct tcaacccccc catcattgcc agatacatca ggctgcaccc cacccactac 4560

agcatcagga gcaccctgag gatggagctg atgggctgtg acctgaacag ctgcagcatg 4620

cccctgggca tggagagcaa ggccatctct gatgcccaga tcactgccag cagctacttc 4680

accaacatgt ttgccacctg gagccccagc aaggccaggc tgcacctgca gggcaggagc 4740

aatgcctgga ggccccaggt caacaacccc aaggagtggc tgcaggtgga cttccagaag 4800

accatgaagg tgactggggt gaccacccag ggggtgaaga gcctgctgac cagcatgtat 4860

gtgaaggagt tcctgatcag cagcagccag gatggccacc agtggaccct gttcttccag 4920

aatggcaagg tgaaggtgtt ccagggcaac caggacagct tcacccctgt ggtgaacagc 4980

ctggaccccc ccctgctgac cagatacctg aggattcacc cccagagctg ggtgcaccag 5040

attgccctga ggatggaggt gctgggctgt gaggcccagg acctgtactg acctcgagga 5100

ataaaggaaa tttattttca ttgcaatagt gtgttggttt tttgtgtcac gtggcggccg 5160

caggaacccc tagtgatgga gttggccact ccctctctgc gcgctcgctc gctcactgag 5220

gccgggcgac caaaggtcgc ccgacgcccg ggctttgccc gggcggcctc agtgagcgag 5280

cgagcgcgca gagagggagt ggccaa 5306

<210> 24
<211> 5461
<212> DNA
<213> Adeno-Associated Virus 2

<400> 24
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgactt tatttgccac 180

aaaaacccta tcagatgggc gtctttatca tttccattgt acagatgggg aaacaggctt 240

cggggtcggg gcatagccac ttactgacga ctccccaccc agcaagtggt tttgaacccg 300

gaccctctca cactacctaa accacgccag gacaacctct gctcctctcc accgaaattc 360

caaggggtcg agtggatgtt ggaggtggca tgggcccaga gaggtctctg acctctgccc 420

cagctccaag gtcagcaggc agggagggct gtgtgtttgc tgtttgctgc ttgcaatgtt 480

tgcccatttt agggacatga gtaggctgaa gtttgttcag tgtggacttc agaggcagca 540

cacaaacagc tgctggagga tgggaactga ggggttggaa gggggcaggg tgagcccaga 600

aactcctgtg tgcctctgag cctgcagacg cgaaacgtcg actggacaca ggacgctgtg 660

gtttctgagc caggggggcga ctcagatccc agccagtgga cttagcccct gtttgctcct 720

ccgataactg gggtgacctt ggttaatatt caccagcagc ctcccccgtt gcccctctgg 780

atccactgct taaatacgga cgaggacagg gccctgtctc ctcagcttca ggcaccacca 840

ctgacctggg acagtgaatc gcgatcgcca ccatgcagat tgagctgagc acctgcttct 900

tcctgtgcct gctgaggttc tgcttctctg ccaccaggag atactacctg ggggctgtgg 960

agctgagctg ggactacatg cagtctgacc tgggggagct gcctgtggat gccaggttcc 1020

cccccagagt gcccaagagc ttcccccttca acacctctgt ggtgtacaag aagaccctgt 1080

ttgtggagtt cactgaccac ctgttcaaca ttgccaagcc caggcccccc tggatgggcc 1140

tgctgggccc caccatccag gctgaggtgt atgacactgt ggtgatcacc ctgaagaaca 1200

tggccagcca ccctgtgagc ctgcatgctg tgggggtgag ctactggaag gcctctgagg 1260

gggctgagta tgatgaccag accagccaga gggagaagga ggatgacaag gtgttccctg 1320

ggggcagcca cacctatgtg tggcaggtgc tgaaggagaa tggccccatg gcctctgacc 1380

ccctgtgcct gacctacagc tacctgagcc atgtggacct ggtgaaggac ctgaactctg 1440

gcctgattgg ggccctgctg gtgtgcaggg agggcagcct ggccaaggag aagacccaga 1500

ccctgcacaa gttcatcctg ctgtttgctg tgtttgatga gggcaagagc tggcactctg 1560

aaaccaagaa cagcctgatg caggacaggg atgctgcctc tgccagggcc tggcccaaga 1620

tgcacactgt gaatggctat gtgaacagga gcctgcctgg cctgattggc tgccacagga 1680

agtctgtgta ctggcatgtg attggcatgg gcaccacccc tgaggtgcac agcatcttcc 1740

tggagggcca caccttcctg gtcaggaacc acaggcaggc cagcctggag atcagcccca 1800

tcaccttcct gactgcccag accctgctga tggacctggg ccagttcctg ctgttctgcc 1860

acatcagcag ccaccagcat gatggcatgg aggcctatgt gaaggtggac agctgccctg 1920

aggagcccca gctgaggatg aagaacaatg aggaggctga ggactatgat gatgacctga 1980

ctgactctga gatggatgtg gtgaggtttg atgatgacaa cagccccagc ttcatccaga 2040

tcaggtctgt ggccaagaag caccccaaga cctgggtgca ctacattgct gctgaggagg 2100

aggactggga ctatgccccc ctggtgctgg cccctgatga caggagctac aagagccagt 2160

acctgaacaa tggcccccag aggattggca ggaagtacaa gaaggtcagg ttcatggcct 2220

acactgatga aaccttcaag accagggagg ccatccagca tgagtctggc atcctgggcc 2280

ccctgctgta tggggaggtg ggggacaccc tgctgatcat cttcaagaac caggccagca 2340

ggccctacaa catctacccc catggcatca ctgatgtgag gcccctgtac agcaggaggc 2400

tgcccaaggg ggtgaagcac ctgaaggact tccccatcct gcctggggag atcttcaagt 2460

acaagtggac tgtgactgtg gaggatggcc ccaccaagtc tgaccccagg tgcctgacca 2520

gatactacag cagctttgtg aacatggaga gggacctggc ctctggcctg attggccccc 2580

tgctgatctg ctacaaggag tctgtggacc agaggggcaa ccagatcatg tctgacaaga 2640

ggaatgtgat cctgttctct gtgtttgatg agaacaggag ctggtacctg actgagaaca 2700

tccagaggtt cctgcccaac cctgctgggg tgcagctgga ggaccctgag ttccaggcca 2760

gcaacatcat gcacagcatc aatggctatg tgtttgacag cctgcagctg tctgtgtgcc 2820

tgcatgaggt ggcctactgg tacatcctga gcattggggc ccagactgac ttcctgtctg 2880

tgttcttctc tggctacacc ttcaagcaca agatggtgta tgaggacacc ctgaccctgt 2940

tccccttctc tggggagact gtgttcatga gcatggagaa ccctggcctg tggattctgg 3000

gctgccacaa ctctgacttc aggaacaggg gcatgactgc cctgctgaaa gtctccagct 3060

gtgacaagaa cactggggac tactatgagg acagctatga ggacatctct gcctacctgc 3120

tgagcaagaa caatgccatt gagcccagga gcttcagcca gaaccccca gtgctgaaga 3180

ggcaccagag ggagatcacc aggaccaccc tgcagtctga ccaggaggag attgactatg 3240

atgacaccat ctctgtggag atgaagaagg aggactttga catctacgac gaggacgaga 3300

accagagccc caggagcttc cagaagaaga ccaggcacta cttcattgct gctgtggaga 3360

ggctgtggga ctatggcatg agcagcagcc cccatgtgct gaggaacagg gcccagtctg 3420

gctctgtgcc ccagttcaag aaggtggtgt tccaggagtt cactgatggc agcttcaccc 3480

agcccctgta cagaggggag ctgaatgagc acctgggcct gctgggcccc tacatcaggg 3540

ctgaggtgga ggacaacatc atggtgacct tcaggaacca ggccagcagg ccctacagct 3600

tctacagcag cctgatcagc tatgaggagg accagaggca gggggctgag cccaggaaga 3660

actttgtgaa gcccaatgaa accaagacct acttctggaa ggtgcagcac cacatggccc 3720

ccaccaagga tgagtttgac tgcaaggcct gggcctactt ctctgatgtg gacctggaga 3780

aggatgtgca ctctggcctg attggccccc tgctggtgtg ccacaccaac accctgaacc 3840

ctgcccatgg caggcaggtg actgtgcagg agtttgccct gttcttcacc atctttgatg 3900

aaaccaagag ctggtacttc actgagaaca tggagaggaa ctgcagggcc ccctgcaaca 3960

tccagatgga ggaccccacc ttcaaggaga actacaggtt ccatgccatc aatggctaca 4020

tcatggacac cctgcctggc ctggtgatgg cccaggacca gaggatcagg tggtacctgc 4080

tgagcatggg cagcaatgag aacatccaca gcatccactt ctctggccat gtgttcactg 4140

tgaggaagaa ggaggagtac aagatggccc tgtacaacct gtaccctggg gtgtttgaga 4200

ctgtggagat gctgcccagc aaggctggca tctggagggt ggagtgcctg attggggagc 4260

acctgcatgc tggcatgagc accctgttcc tggtgtacag caacaagtgc cagacccccc 4320

tgggcatggc ctctggccac atcagggact tccagatcac tgcctctggc cagtatggcc 4380

agtgggcccc caagctggcc aggctgcact actctggcag catcaatgcc tggagcacca 4440

aggagccctt cagctggatc aaggtggacc tgctggcccc catgatcatc catggcatca 4500

agacccaggg ggccaggcag aagttcagca gcctgtacat cagccagttc atcatcatgt 4560

acagcctgga tggcaagaag tggcagacct acaggggcaa cagcactggc accctgatgg 4620

tgttctttgg caatgtggac agctctggca tcaagcacaa catcttcaac ccccccatca 4680

ttgccagata catcaggctg caccccaccc actacagcat caggagcacc ctgaggatgg 4740

agctgatggg ctgtgacctg aacagctgca gcatgcccct gggcatggag agcaaggcca 4800

tctctgatgc ccagatcact gccagcagct acttcaccaa catgtttgcc acctggagcc 4860

ccagcaaggc caggctgcac ctgcagggca ggagcaatgc ctggaggccc caggtcaaca 4920

accccaagga gtggctgcag gtggacttcc agaagaccat gaaggtgact ggggtgacca 4980

cccagggggt gaagagcctg ctgaccagca tgtatgtgaa ggagttcctg atcagcagca 5040

gccaggatgg ccaccagtgg accctgttct tccagaatgg caaggtgaag gtgttccagg 5100

gcaaccagga cagcttcacc cctgtggtga acagcctgga ccccccccctg ctgaccagat 5160

acctgaggat tcacccccag agctgggtgc accagattgc cctgaggatg gaggtgctgg 5220

gctgtgaggc ccaggacctg tactgacctc gaggaataaa ggaaatttat tttcattgca 5280

atagtgtgtt ggtttttttgt gtcacgtggc ggccgcagga acccctagtg atggagttgg 5340

ccactccctc tctgcgcgct cgctcgctca ctgaggccgg gcgaccaaag gtcgcccgac 5400

gcccgggctt tgcccgggcg gcctcagtga gcgagcgagc gcgcagagag ggagtggcca 5460

a 5461

<210> 25
<211> 5327
<212> DNA
<213> Adeno-Associated Virus 2

<400> 25
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgaccc ctctcacact 180

acctaaacca cgccaggaca acctctgctc ctctccaccg aaattccaag gggtcgagtg 240

gatgttggag gtggcatggg cccagagagg tctctgacct ctgccccagc tccaaggtca 300

gcaggcaggg agggctgtgt gtttgctgtt tgctgcttgc aatgtttgcc cattttaggg 360

acatgagtag gctgaagttt gttcagtgtg gacttcagag gcagcacaca aacagctgct 420

ggaggatggg aactgagggg ttggaagggg gcagggtgag cccagaaact cctgtgtgcc 480

tctgagcctg cagacgcgaa acgtcgactg gacacaggac gctgtggttt ctgagccagg 540

gggcgactca gatcccagcc agtggactta gcccctgttt gctcctccga taactggggt 600

gaccttggtt aatattcacc agcagcctcc cccgttgccc ctctggatcc actgcttaaa 660

tacggacgag gacagggccc tgtctcctca gcttcaggca ccaccactga cctgggacag 720

tgaatcgcga tcgccaccat gcagattgag ctgagcacct gcttcttcct gtgcctgctg 780

aggttctgct tctctgccac caggagatac tacctggggg ctgtggagct gagctgggac 840

tacatgcagt ctgacctggg ggagctgcct gtggatgcca ggttcccccc cagagtgccc 900

aagagcttcc ccttcaacac ctctgtggtg tacaagaaga ccctgtttgt ggagttcact 960

gaccacctgt tcaacattgc caagcccagg ccccccctgga tgggcctgct gggccccacc 1020

atccaggctg aggtgtatga cactgtggtg atcaccctga agaacatggc cagccaccct 1080

gtgagcctgc atgctgtggg ggtgagctac tggaaggcct ctgagggggc tgagtatgat 1140

gaccagacca gccagaggga gaaggaggat gacaaggtgt tccctggggg cagccacacc 1200

tatgtgtggc aggtgctgaa ggagaatggc cccatggcct ctgaccccct gtgcctgacc 1260

tacagctacc tgagccatgt ggacctggtg aaggacctga actctggcct gattggggcc 1320

ctgctggtgt gcagggaggg cagcctggcc aaggagaaga cccagaccct gcacaagttc 1380

atcctgctgt ttgctgtgtt tgatgagggc aagagctggc actctgaaac caagaacagc 1440

ctgatgcagg acagggatgc tgcctctgcc agggcctggc ccaagatgca cactgtgaat 1500

ggctatgtga acaggagcct gcctggcctg attggctgcc acaggaagtc tgtgtactgg 1560

catgtgattg gcatgggcac cacccctgag gtgcacagca tcttcctgga gggccacacc 1620

ttcctggtca ggaaccacag gcaggccagc ctggagatca gccccatcac cttcctgact 1680

gcccagaccc tgctgatgga cctgggccag ttcctgctgt tctgccacat cagcagccac 1740

cagcatgatg gcatggaggc ctatgtgaag gtggacagct gccctgagga gccccagctg 1800

aggatgaaga acaatgagga ggctgaggac tatgatgatg acctgactga ctctgagatg 1860

gatgtggtga ggtttgatga tgacaacagc cccagcttca tccagatcag gtctgtggcc 1920

aagaagcacc ccaagacctg ggtgcactac attgctgctg aggaggagga ctgggactat 1980

gccccccctgg tgctggcccc tgatgacagg agctacaaga gccagtacct gaacaatggc 2040

ccccagagga ttggcaggaa gtacaagaag gtcaggttca tggcctacac tgatgaaacc 2100

ttcaagacca gggaggccat ccagcatgag tctggcatcc tgggcccccct gctgtatggg 2160

gaggtggggg acaccctgct gatcatcttc aagaaccagg ccagcaggcc ctacaacatc 2220

tacccccatg gcatcactga tgtgaggccc ctgtacagca ggaggctgcc caaggggtg 2280

aagcacctga aggacttccc catcctgcct ggggagatct tcaagtacaa gtggactgtg 2340

actgtggagg atggccccac caagtctgac cccaggtgcc tgaccagata ctacagcagc 2400

tttgtgaaca tggagaggga cctggcctct ggcctgattg gccccctgct gatctgctac 2460

aaggagtctg tggaccagag gggcaaccag atcatgtctg acaagaggaa tgtgatcctg 2520

ttctctgtgt ttgatgagaa caggagctgg tacctgactg agaacatcca gaggttcctg 2580

cccaaccctg ctggggtgca gctggaggac cctgagttcc aggccagcaa catcatgcac 2640

agcatcaatg gctatgtgtt tgacagcctg cagctgtctg tgtgcctgca tgaggtggcc 2700

tactggtaca tcctgagcat tggggcccag actgacttcc tgtctgtgtt cttctctggc 2760

tacaccttca agcacaagat ggtgtatgag gacaccctga ccctgttccc cttctctggg 2820

gagactgtgt tcatgagcat ggagaaccct ggcctgtgga ttctgggctg ccacaactct 2880

gacttcagga acaggggcat gactgccctg ctgaaagtct ccagctgtga caagaacact 2940

ggggactact atgaggacag ctatgaggac atctctgcct acctgctgag caagaacaat 3000

gccattgagc ccaggagctt cagccagaac cccccagtgc tgaagaggca ccagagggag 3060

atcaccagga ccaccctgca gtctgaccag gaggagattg actatgatga caccatctct 3120

gtggagatga agaaggagga ctttgacatc tacgacgagg acgagaacca gagccccagg 3180

agcttccaga agaagaccag gcactacttc attgctgctg tggagaggct gtgggactat 3240

ggcatgagca gcagccccca tgtgctgagg aacagggccc agtctggctc tgtgccccag 3300

ttcaagaagg tggtgttcca ggagttcact gatggcagct tcacccagcc cctgtacaga 3360

ggggagctga atgagcacct gggcctgctg ggcccctaca tcagggctga ggtggaggac 3420

aacatcatgg tgaccttcag gaaccaggcc agcaggccct acagcttcta cagcagcctg 3480

atcagctatg aggaggacca gaggcagggg gctgagccca ggaagaactt tgtgaagccc 3540

aatgaaacca agacctactt ctggaaggtg cagcaccaca tggcccccac caaggatgag 3600

tttgactgca aggcctgggc ctacttctct gatgtggacc tggagaagga tgtgcactct 3660

ggcctgattg gccccctgct ggtgtgccac accaacaccc tgaaccctgc ccatggcagg 3720

caggtgactg tgcaggagtt tgccctgttc ttcaccatct ttgatgaaac caagagctgg 3780

tacttcactg agaacatgga gaggaactgc agggcccccc gcaacatcca gatggaggac 3840

cccaccttca aggagaacta caggttccat gccatcaatg gctacatcat ggacaccctg 3900

cctggcctgg tgatggccca ggaccagagg atcaggtggt acctgctgag catgggcagc 3960

aatgagaaca tccacagcat ccacttctct ggccatgtgt tcactgtgag gaagaaggag 4020

gagtacaaga tggccctgta caacctgtac cctggggtgt ttgagactgt ggagatgctg 4080

cccagcaagg ctggcatctg gagggtggag tgcctgattg gggagcacct gcatgctggc 4140

atgagcaccc tgttcctggt gtacagcaac aagtgccaga ccccccctggg catggcctct 4200

ggccacatca gggacttcca gatcactgcc tctggccagt atggccagtg ggcccccaag 4260

ctggccaggc tgcactactc tggcagcatc aatgcctgga gcaccaagga gcccttcagc 4320

tggatcaagg tggacctgct ggcccccatg atcatccatg gcatcaagac ccaggggcc 4380

aggcagaagt tcagcagcct gtacatcagc cagttcatca tcatgtacag cctggatggc 4440

aagaagtggc agacctacag gggcaacagc actggcaccc tgatggtgtt ctttggcaat 4500

gtggacagct ctggcatcaa gcacaacatc ttcaaccccc ccatcattgc cagatacatc 4560

aggctgcacc ccacccacta cagcatcagg agcaccctga ggatggagct gatgggctgt 4620

gacctgaaca gctgcagcat gcccctgggc atggagagca aggccatctc tgatgcccag 4680

atcactgcca gcagctactt caccaacatg tttgccacct ggagccccag caaggccagg 4740

ctgcacctgc agggcaggag caatgcctgg aggccccagg tcaacaaccc caaggagtgg 4800

ctgcaggtgg acttccagaa gaccatgaag gtgactgggg tgaccaccca gggggtgaag 4860

agcctgctga ccagcatgta tgtgaaggag ttcctgatca gcagcagcca ggatggccac 4920

cagtggaccc tgttcttcca gaatggcaag gtgaaggtgt tccagggcaa ccaggacagc 4980

ttcacccctg tggtgaacag cctggacccc cccctgctga ccagatacct gaggattcac 5040

ccccagagct gggtgcacca gattgccctg aggatggagg tgctgggctg tgaggcccag 5100

gacctgtact gacctcgagg aataaaggaa atttattttc attgcaatag tgtgttggtt 5160

ttttgtgtca cgtggcggcc gcaggaaccc ctagtgatgg agttggccac tccctctctg 5220

cgcgctcgct cgctcactga ggccgggcga ccaaaggtcg cccgacgccc gggctttgcc 5280

cgggcggcct cagtgagcga gcgagcgcgc agagagggag tggccaa 5327

<210> 26
<211> 5309
<212> DNA
<213> Adeno-Associated Virus 2

<400> 26
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtc tgcaggctca gaggcacaca 180

ggagtttctg ggctcaccct gccccccttcc aacccctcag ttcccatcct ccagcagctg 240

tttgtgtgct gcctctgaag tccacactga acaaacttca gcctactcat gtccctaaaa 300

tgggcaaaca ttgcaagcag caaacagcaa acacacagcc ctccctgcct gctgaccttg 360

gagctggggc agaggtcaga gacctctctg ggcccatgcc acctccaaca tccactcgac 420

cccttggaat ttcggtggag aggagcagag gttgtcctgg cgtggtttag gtagtgtgag 480

aggggtcgac tggacacagg acgctgtggt ttctgagcca gggggcgact cagatcccag 540

ccagtggact tagcccctgt ttgctcctcc gataactggg gtgaccttgg ttaatattca 600

ccagcagcct cccccgttgc ccctctggat ccactgctta aatacggacg aggacagggc 660

cctgtctcct cagcttcagg caccaccact gacctgggac agtgaatcgc gatcgccacc 720

atgcagattg agctgagcac ctgcttcttc ctgtgcctgc tgaggttctg cttctctgcc 780

accaggagat actacctggg ggctgtggag ctgagctggg actacatgca gtctgacctg 840

ggggagctgc ctgtggatgc caggttcccc cccagagtgc ccaagagctt ccccttcaac 900

acctctgtgg tgtacaagaa gaccctgttt gtggagttca ctgaccacct gttcaacatt 960

gccaagccca ggcccccctg gatgggcctg ctgggcccca ccatccaggc tgaggtgtat 1020

gacactgtgg tgatcaccct gaagaacatg gccagccacc ctgtgagcct gcatgctgtg 1080

ggggtgagct actggaaggc ctctgagggg gctgagtatg atgaccagac cagccagagg 1140

gagaaggagg atgacaaggt gttccctggg ggcagccaca cctatgtgtg gcaggtgctg 1200

aaggagaatg gccccatggc ctctgacccc ctgtgcctga cctacagcta cctgagccat 1260

gtggacctgg tgaaggacct gaactctggc ctgattgggg ccctgctggt gtgcagggag 1320

ggcagcctgg ccaaggagaa gacccagacc ctgcacaagt tcatcctgct gtttgctgtg 1380

tttgatgagg gcaagagctg gcactctgaa accaagaaca gcctgatgca ggacagggat 1440

gctgcctctg ccagggcctg gcccaagatg cacactgtga atggctatgt gaacaggagc 1500

ctgcctggcc tgattggctg ccacaggaag tctgtgtact ggcatgtgat tggcatgggc 1560

accacccctg aggtgcacag catcttcctg gagggccaca ccttcctggt caggaaccac 1620

aggcaggcca gcctggagat cagccccatc accttcctga ctgcccagac cctgctgatg 1680

gacctgggcc agttcctgct gttctgccac atcagcagcc accagcatga tggcatggag 1740

gcctatgtga aggtggacag ctgccctgag gagccccagc tgaggatgaa gaacaatgag 1800

gaggctgagg actatgatga tgacctgact gactctgaga tggatgtggt gaggtttgat 1860

gatgacaaca gccccagctt catccagatc aggtctgtgg ccaagaagca ccccaagacc 1920

tgggtgcact acattgctgc tgaggaggag gactgggact atgcccccct ggtgctggcc 1980

cctgatgaca ggagctacaa gagccagtac ctgaacaatg gcccccagag gattggcagg 2040

aagtacaaga aggtcaggtt catggcctac actgatgaaa ccttcaagac cagggaggcc 2100

atccagcatg agtctggcat cctgggcccc ctgctgtatg gggaggtggg ggacaccctg 2160

ctgatcatct tcaagaacca ggccagcagg ccctacaaca tctacccca tggcatcact 2220

gatgtgaggc ccctgtacag caggaggctg cccaaggggg tgaagcacct gaaggacttc 2280

cccatcctgc ctggggagat cttcaagtac aagtggactg tgactgtgga ggatggcccc 2340

accaagtctg accccaggtg cctgaccaga tactacagca gctttgtgaa catggagagg 2400

gacctggcct ctggcctgat tggccccctg ctgatctgct acaaggagtc tgtggaccag 2460

aggggcaacc agatcatgtc tgacaagagg aatgtgatcc tgttctctgt gtttgatgag 2520

aacaggagct ggtacctgac tgagaacatc cagaggttcc tgcccaaccc tgctggggtg 2580

cagctggagg accctgagtt ccaggccagc aacatcatgc acagcatcaa tggctatgtg 2640

tttgacagcc tgcagctgtc tgtgtgcctg catgaggtgg cctactggta catcctgagc 2700

attggggccc agactgactt cctgtctgtg ttcttctctg gctacacctt caagcacaag 2760

atggtgtatg aggacaccct gaccctgttc cccttctctg gggagactgt gttcatgagc 2820

atggagaacc ctggcctgtg gattctgggc tgccacaact ctgacttcag gaacaggggc 2880

atgactgccc tgctgaaagt ctccagctgt gacaagaaca ctggggacta ctatgaggac 2940

agctatgagg acatctctgc ctacctgctg agcaagaaca atgccattga gcccaggagc 3000

ttcagccaga acccccccagt gctgaagagg caccagaggg agatcaccag gaccaccctg 3060

cagtctgacc aggaggagat tgactatgat gacaccatct ctgtggagat gaagaaggag 3120

gactttgaca tctacgacga ggacgagaac cagagcccca ggagcttcca gaagaagacc 3180

aggcactact tcattgctgc tgtggagagg ctgtgggact atggcatgag cagcagcccc 3240

catgtgctga ggaacagggc ccagtctggc tctgtgcccc agttcaagaa ggtggtgttc 3300

caggagttca ctgatggcag cttcacccag cccctgtaca gaggggagct gaatgagcac 3360

ctgggcctgc tgggccccta catcagggct gaggtggagg acaacatcat ggtgaccttc 3420

aggaaccagg ccagcaggcc ctacagcttc tacagcagcc tgatcagcta tgaggaggac 3480

cagaggcagg gggctgagcc caggaagaac tttgtgaagc ccaatgaaac caagacctac 3540

ttctggaagg tgcagcacca catggccccc accaaggatg agtttgactg caaggcctgg 3600

gcctacttct ctgatgtgga cctggagaag gatgtgcact ctggcctgat tggccccctg 3660

ctggtgtgcc acaccaacac cctgaaccct gcccatggca ggcaggtgac tgtgcaggag 3720

tttgccctgt tcttcaccat ctttgatgaa accaagagct ggtacttcac tgagaacatg 3780

gagaggaact gcagggcccc ctgcaacatc cagatggagg accccacctt caaggagaac 3840

tacaggttcc atgccatcaa tggctacatc atggacaccc tgcctggcct ggtgatggcc 3900

caggaccaga ggatcaggtg gtacctgctg agcatgggca gcaatgagaa catccacagc 3960

atccacttct ctggccatgt gttcactgtg aggaagaagg aggagtacaa gatggccctg 4020

tacaacctgt accctggggt gtttgagact gtggagatgc tgcccagcaa ggctggcatc 4080

tggagggtgg agtgcctgat tggggagcac ctgcatgctg gcatgagcac cctgttcctg 4140

gtgtacagca acaagtgcca gacccccctg ggcatggcct ctggccacat cagggacttc 4200

cagatcactg cctctggcca gtatggccag tgggccccca agctggccag gctgcactac 4260

tctggcagca tcaatgcctg gagcaccaag gagcccttca gctggatcaa ggtggacctg 4320

ctggccccca tgatcatcca tggcatcaag acccaggggg ccaggcagaa gttcagcagc 4380

ctgtacatca gccagttcat catcatgtac agcctggatg gcaagaagtg gcagacctac 4440

aggggcaaca gcactggcac cctgatggtg ttctttggca atgtggacag ctctggcatc 4500

aagcacaaca tcttcaaccc ccccatcatt gccagataca tcaggctgca ccccacccac 4560

tacagcatca ggagcaccct gaggatggag ctgatgggct gtgacctgaa cagctgcagc 4620

atgcccctgg gcatggagag caaggccatc tctgatgccc agatcactgc cagcagctac 4680

ttcaccaaca tgtttgccac ctggagcccc agcaaggcca ggctgcacct gcagggcagg 4740

agcaatgcct ggaggcccca ggtcaacaac cccaaggagt ggctgcaggt ggacttccag 4800

aagaccatga aggtgactgg ggtgaccacc caggggggtga agagcctgct gaccagcatg 4860

tatgtgaagg agttcctgat cagcagcagc caggatggcc accagtggac cctgttcttc 4920

cagaatggca aggtgaaggt gttccagggc aaccaggaca gcttcacccc tgtggtgaac 4980

agcctggacc ccccccctgct gaccagatac ctgaggattc acccccagag ctgggtgcac 5040

cagattgccc tgaggatgga ggtgctgggc tgtgaggccc aggacctgta ctgacctcga 5100

ggaataaagg aaatttattt tcattgcaat agtgtgttgg ttttttgtgt cacgtggcgg 5160

ccgcaggaac ccctagtgat ggagttggcc actccctctc tgcgcgctcg ctcgctcact 5220

gaggccgggc gaccaaaggt cgcccgacgc ccgggctttg cccgggcggc ctcagtgagc 5280

gagcgagcgc gcagagaggg agtggccaa 5309

<210> 27
<211> 5532
<212> DNA
<213> Adeno-Associated Virus 2

<400> 27
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgaccc ctctcacact 180

acctaaacca cgccaggaca acctctgctc ctctccaccg aaattccaag gggtcgagtg 240

gatgttggag gtggcatggg cccagagagg tctctgacct ctgccccagc tccaaggtca 300

gcaggcaggg agggctgtgt gtttgctgtt tgctgcttgc aatgtttgcc cattttaggg 360

acatgagtag gctgaagttt gttcagtgtg gacttcagag gcagcacaca aacagctgct 420

ggaggatggg aactgagggg ttggaagggg gcagggtgag cccagaaact cctgtgtgcc 480

tctgagcctg cagacgcgaa acgtcgactg gacacaggac gctgtggttt ctgagccagg 540

gggcgactca gatcccagcc agtggactta gcccctgttt gctcctccga taactggggt 600

gaccttggtt aatattcacc agcagcctcc cccgttgccc ctctggatcc actgcttaaa 660

tacggacgag gacagggccc tgtctcctca gcttcaggca ccaccactga cctgggacag 720

tgaatcgtaa gtatgccttt cactgcgaga ggttctggag aggcttctga gctccccatg 780

gcccaggcag gcagcaggtc tggggcagga ggggggttgt ggagtgcctt gactcggggc 840

ctggcccccc catctctgtc ttgcaggaca attgccgtct tctgtctcgt ggggcatcct 900

cctgctggca ggcctgtgct gcctggtccc tgcgatcgcc accatgcaga ttgagctgag 960

cacctgcttc ttcctgtgcc tgctgaggtt ctgcttctct gccaccagga gatactacct 1020

gggggctgtg gagctgagct gggactacat gcagtctgac ctgggggagc tgcctgtgga 1080

tgccaggttc ccccccagag tgcccaagag cttccccttc aacacctctg tggtgtacaa 1140

gaagaccctg tttgtggagt tcactgacca cctgttcaac attgccaagc ccaggccccc 1200

ctggatgggc ctgctgggcc ccaccatcca ggctgaggtg tatgacactg tggtgatcac 1260

cctgaagaac atggccagcc accctgtgag cctgcatgct gtgggggtga gctactggaa 1320

ggcctctgag ggggctgagt atgatgacca gaccagccag agggagaagg aggatgacaa 1380

ggtgttccct gggggcagcc acacctatgt gtggcaggtg ctgaaggaga atggccccat 1440

ggcctctgac cccctgtgcc tgacctacag ctacctgagc catgtggacc tggtgaagga 1500

cctgaactct ggcctgattg gggccctgct ggtgtgcagg gagggcagcc tggccaagga 1560

gaagacccag accctgcaca agttcatcct gctgtttgct gtgtttgatg agggcaagag 1620

ctggcactct gaaaccaaga acagcctgat gcaggacagg gatgctgcct ctgccagggc 1680

ctggcccaag atgcacactg tgaatggcta tgtgaacagg agcctgcctg gcctgattgg 1740

ctgccacagg aagtctgtgt actggcatgt gattggcatg ggcaccaccc ctgaggtgca 1800

cagcatcttc ctggagggcc acaccttcct ggtcaggaac cacaggcagg ccagcctgga 1860

gatcagcccc atcaccttcc tgactgccca gaccctgctg atggacctgg gccagttcct 1920

gctgttctgc cacatcagca gccaccagca tgatggcatg gaggcctatg tgaaggtgga 1980

cagctgccct gaggagcccc agctgaggat gaagaacaat gaggaggctg aggactatga 2040

tgatgacctg actgactctg agatggatgt ggtgaggttt gatgatgaca acagccccag 2100

cttcatccag atcaggtctg tggccaagaa gcaccccaag acctgggtgc actacattgc 2160

tgctgaggag gaggactggg actatgcccc cctggtgctg gcccctgatg acaggagcta 2220

caagagccag tacctgaaca atggccccca gaggattggc aggaagtaca agaaggtcag 2280

gttcatggcc tacactgatg aaaccttcaa gaccagggag gccatccagc atgagtctgg 2340

catcctgggc cccctgctgt atggggaggt gggggacacc ctgctgatca tcttcaagaa 2400

ccaggccagc aggccctaca acatctaccc ccatggcatc actgatgtga ggcccctgta 2460

cagcaggagg ctgcccaagg gggtgaagca cctgaaggac ttccccatcc tgcctgggga 2520

gatcttcaag tacaagtgga ctgtgactgt ggaggatggc cccaccaagt ctgaccccag 2580

gtgcctgacc agatactaca gcagctttgt gaacatggag agggacctgg cctctggcct 2640

gattggcccc ctgctgatct gctacaagga gtctgtggac cagaggggca accagatcat 2700

gtctgacaag aggaatgtga tcctgttctc tgtgtttgat gagaacagga gctggtacct 2760

gactgagaac atccagaggt tcctgcccaa ccctgctggg gtgcagctgg aggaccctga 2820

gttccaggcc agcaacatca tgcacagcat caatggctat gtgtttgaca gcctgcagct 2880

gtctgtgtgc ctgcatgagg tggcctactg gtacatcctg agcattgggg cccagactga 2940

cttcctgtct gtgttcttct ctggctacac cttcaagcac aagatggtgt atgaggacac 3000

cctgaccctg ttccccttct ctggggagac tgtgttcatg agcatggaga accctggcct 3060

gtggattctg ggctgccaca actctgactt caggaacagg ggcatgactg ccctgctgaa 3120

agtctccagc tgtgacaaga acactgggga ctactatgag gacagctatg aggacatctc 3180

tgcctacctg ctgagcaaga acaatgccat tgagcccagg agcttcagcc agaacccccc 3240

agtgctgaag aggcaccaga gggagatcac caggaccacc ctgcagtctg accaggagga 3300

gattgactat gatgacacca tctctgtgga gatgaagaag gaggactttg acatctacga 3360

cgaggacgag aaccagagcc ccaggagctt ccagaagaag accaggcact acttcattgc 3420

tgctgtggag aggctgtggg actatggcat gagcagcagc ccccatgtgc tgaggaacag 3480

ggcccagtct ggctctgtgc cccagttcaa gaaggtggtg ttccaggagt tcactgatgg 3540

cagcttcacc cagcccctgt acagagggga gctgaatgag cacctgggcc tgctgggccc 3600

ctacatcagg gctgaggtgg aggacaacat catggtgacc ttcaggaacc aggccagcag 3660

gccctacagc ttctacagca gcctgatcag ctatgaggag gaccagaggc agggggctga 3720

gcccaggaag aactttgtga agcccaatga aaccaagacc tacttctgga aggtgcagca 3780

ccacatggcc cccaccaagg atgagtttga ctgcaaggcc tgggcctact tctctgatgt 3840

ggacctggag aaggatgtgc actctggcct gattggcccc ctgctggtgt gccacaccaa 3900

caccctgaac cctgcccatg gcaggcaggt gactgtgcag gagtttgccc tgttcttcac 3960

catctttgat gaaaccaaga gctggtactt cactgagaac atggagagga actgcagggc 4020

cccctgcaac atccagatgg aggaccccac cttcaaggag aactacaggt tccatgccat 4080

caatggctac atcatggaca ccctgcctgg cctggtgatg gcccaggacc agaggatcag 4140

gtggtacctg ctgagcatgg gcagcaatga gaacatccac agcatccact tctctggcca 4200

tgtgttcact gtgaggaaga aggaggagta caagatggcc ctgtacaacc tgtaccctgg 4260

ggtgtttgag actgtggaga tgctgcccag caaggctggc atctggaggg tggagtgcct 4320

gattggggag cacctgcatg ctggcatgag caccctgttc ctggtgtaca gcaacaagtg 4380

ccagaccccc ctgggcatgg cctctggcca catcagggac ttccagatca ctgcctctgg 4440

ccagtatggc cagtgggccc ccaagctggc caggctgcac tactctggca gcatcaatgc 4500

ctggagcacc aaggagccct tcagctggat caaggtggac ctgctggccc ccatgatcat 4560

ccatggcatc aagacccagg gggccaggca gaagttcagc agcctgtaca tcagccagtt 4620

catcatcatg tacagcctgg atggcaagaa gtggcagacc tacaggggca acagcactgg 4680

caccctgatg gtgttctttg gcaatgtgga cagctctggc atcaagcaca acatcttcaa 4740

ccccccccatc attgccagat acatcaggct gcaccccacc cactacagca tcaggagcac 4800

cctgaggatg gagctgatgg gctgtgacct gaacagctgc agcatgcccc tgggcatgga 4860

gagcaaggcc atctctgatg cccagatcac tgccagcagc tacttcacca acatgtttgc 4920

cacctggagc cccagcaagg ccaggctgca cctgcagggc aggagcaatg cctggaggcc 4980

ccaggtcaac aaccccaagg agtggctgca ggtggacttc cagaagacca tgaaggtgac 5040

tggggtgacc acccaggggg tgaagagcct gctgaccagc atgtatgtga aggagttcct 5100

gatcagcagc agccaggatg gccaccagtg gaccctgttc ttccagaatg gcaaggtgaa 5160

ggtgttccag ggcaaccagg acagcttcac ccctgtggtg aacagcctgg acccccccct 5220

gctgaccaga tacctgagga ttcaccccca gagctgggtg caccagattg ccctgaggat 5280

ggaggtgctg ggctgtgagg cccaggacct gtactgacct cgaggaataa aggaaattta 5340

ttttcattgc aatagtgtgt tggtttttg tgtcacgtgg cggccgcagg aacccctagt 5400

gatggagttg gccactccct ctctgcgcgc tcgctcgctc actgaggccg ggcgaccaaa 5460

ggtcgcccga cgcccgggct ttgcccgggc ggcctcagtg agcgagcgag cgcgcagaga 5520

gggagtggcc aa 5532

<210> 28
<211> 5877
<212> DNA
<213> Adeno-Associated Virus 2

<400> 28
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgaccc ctctcacact 180

acctaaacca cgccaggaca acctctgctc ctctccaccg aaattccaag gggtcgagtg 240

gatgttggag gtggcatggg cccagagagg tctctgacct ctgccccagc tccaaggtca 300

gcaggcaggg agggctgtgt gtttgctgtt tgctgcttgc aatgtttgcc cattttaggg 360

acatgagtag gctgaagttt gttcagtgtg gacttcagag gcagcacaca aacagctgct 420

ggaggatggg aactgagggg ttggaagggg gcagggtgag cccagaaact cctgtgtgcc 480

tctgagcctg cagacgcgaa acgtcgacag gttaattttt aaaaagcagt caaaagtcca 540

agtggccctt ggcagcattt actctctctg tttgctctgg ttaataatct caggagcaca 600

aacattcctg gaggcaggag aagaaatcaa catcctggac ttatcctctg ggcctctccc 660

caccccccagg agaggctcag gttaattttt aaaaagcagt caaaagtcca agtggccctt 720

ggcagcattt actctctctg tttgctctgg ttaataatct caggagcaca aacattcctg 780

gaggcaggag aagaaatcaa catcctggac ttatcctctg ggcctctccc caccccccagg 840

agaggctgtc gactggacac aggacgctgt ggtttctgag ccaggggggcg actcagatcc 900

cagccagtgg acttagcccc tgtttgctcc tccgataact ggggtgacct tggttaatat 960

tcaccagcag cctcccccgt tgcccctctg gatccactgc ttaaatacgg acgaggacag 1020

ggccctgtct cctcagcttc aggcaccacc actgacctgg gacagtgaat cgtaagtatg 1080

cctttcactg cgagaggttc tggagaggct tctgagctcc ccatggccca ggcaggcagc 1140

aggtctgggg caggaggggg gttgtggagt gccttgactc ggggcctggc ccccccatct 1200

ctgtcttgca ggacaattgc cgtcttctgt ctcgtggggc atcctcctgc tggcaggcct 1260

gtgctgcctg gtccctgcga tcgccaccat gcagattgag ctgagcacct gcttcttcct 1320

gtgcctgctg aggttctgct tctctgccac caggagatac tacctggggg ctgtggagct 1380

gagctgggac tacatgcagt ctgacctggg ggagctgcct gtggatgcca ggttcccccc 1440

cagagtgccc aagagcttcc ccttcaacac ctctgtggtg tacaagaaga ccctgtttgt 1500

ggagttcact gaccacctgt tcaacattgc caagcccagg ccccccctgga tgggcctgct 1560

gggccccacc atccaggctg aggtgtatga cactgtggtg atcaccctga agaacatggc 1620

cagccaccct gtgagcctgc atgctgtggg ggtgagctac tggaaggcct ctgaggggggc 1680

tgagtatgat gaccagacca gccagaggga gaaggaggat gacaaggtgt tccctggggg 1740

cagccacacc tatgtgtggc aggtgctgaa ggagaatggc cccatggcct ctgacccccct 1800

gtgcctgacc tacagctacc tgagccatgt ggacctggtg aaggacctga actctggcct 1860

gattggggcc ctgctggtgt gcagggaggg cagcctggcc aaggagaaga cccagaccct 1920

gcacaagttc atcctgctgt ttgctgtgtt tgatgagggc aagagctggc actctgaaac 1980

caagaacagc ctgatgcagg acagggatgc tgcctctgcc agggcctggc ccaagatgca 2040

cactgtgaat ggctatgtga acaggagcct gcctggcctg attggctgcc acaggaagtc 2100

tgtgtactgg catgtgattg gcatgggcac cacccctgag gtgcacagca tcttcctgga 2160

gggccacacc ttcctggtca ggaaccacag gcaggccagc ctggagatca gccccatcac 2220

cttcctgact gcccagaccc tgctgatgga cctgggccag ttcctgctgt tctgccacat 2280

cagcagccac cagcatgatg gcatggaggc ctatgtgaag gtggacagct gccctgagga 2340

gccccagctg aggatgaaga acaatgagga ggctgaggac tatgatgatg acctgactga 2400

ctctgagatg gatgtggtga ggtttgatga tgacaacagc cccagcttca tccagatcag 2460

gtctgtggcc aagaagcacc ccaagacctg ggtgcactac attgctgctg aggaggagga 2520

ctgggactat gccccctgg tgctggcccc tgatgacagg agctacaaga gccagtacct 2580

gaacaatggc ccccagagga ttggcaggaa gtacaagaag gtcaggttca tggcctacac 2640

tgatgaaacc ttcaagacca gggaggccat ccagcatgag tctggcatcc tgggcccct 2700

gctgtatggg gaggtggggg acaccctgct gatcatcttc aagaaccagg ccagcaggcc 2760

ctacaacatc tacccccatg gcatcactga tgtgaggccc ctgtacagca ggaggctgcc 2820

caaggggtg aagcacctga aggacttccc catcctgcct ggggagatct tcaagtacaa 2880

gtggactgtg actgtggagg atggccccac caagtctgac cccaggtgcc tgaccagata 2940

ctacagcagc tttgtgaaca tggagaggga cctggcctct ggcctgattg gccccctgct 3000

gatctgctac aaggagtctg tggaccagag gggcaaccag atcatgtctg acaagaggaa 3060

tgtgatcctg ttctctgtgt ttgatgagaa caggagctgg tacctgactg agaacatcca 3120

gaggttcctg cccaaccctg ctggggtgca gctggaggac cctgagttcc aggccagcaa 3180

catcatgcac agcatcaatg gctatgtgtt tgacagcctg cagctgtctg tgtgcctgca 3240

tgaggtggcc tactggtaca tcctgagcat tggggcccag actgacttcc tgtctgtgtt 3300

cttctctggc tacaccttca agcacaagat ggtgtatgag gacaccctga ccctgttccc 3360

cttctctggg gagactgtgt tcatgagcat ggagaaccct ggcctgtgga ttctgggctg 3420

ccacaactct gacttcagga acaggggcat gactgccctg ctgaaagtct ccagctgtga 3480

caagaacact ggggactact atgaggacag ctatgaggac atctctgcct acctgctgag 3540

caagaacaat gccattgagc ccaggagctt cagccagaac cccccagtgc tgaagaggca 3600

ccagagggag atcaccagga ccaccctgca gtctgaccag gaggagattg actatgatga 3660

caccatctct gtggagatga agaaggagga ctttgacatc tacgacgagg acgagaacca 3720

gagccccagg agcttccaga agaagaccag gcactacttc attgctgctg tggagaggct 3780

gtgggactat ggcatgagca gcagccccca tgtgctgagg aacagggccc agtctggctc 3840

tgtgccccag ttcaagaagg tggtgttcca ggagttcact gatggcagct tcacccagcc 3900

cctgtacaga ggggagctga atgagcacct gggcctgctg ggcccctaca tcagggctga 3960

ggtggaggac aacatcatgg tgaccttcag gaaccaggcc agcaggccct acagcttcta 4020

cagcagcctg atcagctatg aggaggacca gaggcagggg gctgagccca ggaagaactt 4080

tgtgaagccc aatgaaacca agacctactt ctggaaggtg cagcaccaca tggcccccac 4140

caaggatgag tttgactgca aggcctgggc ctacttctct gatgtggacc tggagaagga 4200

tgtgcactct ggcctgattg gccccctgct ggtgtgccac accaacaccc tgaaccctgc 4260

ccatggcagg caggtgactg tgcaggagtt tgccctgttc ttcaccatct ttgatgaaac 4320

caagagctgg tacttcactg agaacatgga gaggaactgc agggcccccc gcaacatcca 4380

gatggaggac cccaccttca aggagaacta caggttccat gccatcaatg gctacatcat 4440

ggacaccctg cctggcctgg tgatggccca ggaccagagg atcaggtggt acctgctgag 4500

catgggcagc aatgagaaca tccacagcat ccacttctct ggccatgtgt tcactgtgag 4560

gaagaaggag gagtacaaga tggccctgta caacctgtac cctggggtgt ttgagactgt 4620

ggagatgctg cccagcaagg ctggcatctg gagggtggag tgcctgattg gggagcacct 4680

gcatgctggc atgagcaccc tgttcctggt gtacagcaac aagtgccaga ccccccctggg 4740

catggcctct ggccacatca gggacttcca gatcactgcc tctggccagt atggccagtg 4800

ggcccccaag ctggccaggc tgcactactc tggcagcatc aatgcctgga gcaccaagga 4860

gcccttcagc tggatcaagg tggacctgct ggcccccatg atcatccatg gcatcaagac 4920

ccaggggccc aggcagaagt tcagcagcct gtacatcagc cagttcatca tcatgtacag 4980

cctggatggc aagaagtggc agacctacag gggcaacagc actggcaccc tgatggtgtt 5040

ctttggcaat gtggacagct ctggcatcaa gcacaacatc ttcaaccccc ccatcattgc 5100

cagatacatc aggctgcacc ccacccacta cagcatcagg agcaccctga ggatggagct 5160

gatgggctgt gacctgaaca gctgcagcat gcccctgggc atggagagca aggccatctc 5220

tgatgcccag atcactgcca gcagctactt caccaacatg tttgccacct ggagccccag 5280

caaggccagg ctgcacctgc agggcaggag caatgcctgg aggccccagg tcaacaaccc 5340

caaggagtgg ctgcaggtgg acttccagaa gaccatgaag gtgactgggg tgaccaccca 5400

gggggtgaag agcctgctga ccagcatgta tgtgaaggag ttcctgatca gcagcagcca 5460

ggatggccac cagtggaccc tgttcttcca gaatggcaag gtgaaggtgt tccagggcaa 5520

ccaggacagc ttcacccctg tggtgaacag cctggacccc cccctgctga ccagatacct 5580

gaggattcac ccccagagct gggtgcacca gattgccctg aggatggagg tgctgggctg 5640

tgaggcccag gacctgtact gacctcgagg aataaaggaa atttattttc attgcaatag 5700

tgtgttggtt ttttgtgtca cgtggcggcc gcaggaaccc ctagtgatgg agttggccac 5760

tccctctctg cgcgctcgct cgctcactga ggccgggcga ccaaaggtcg cccgacgccc 5820

gggctttgcc cgggcggcct cagtgagcga gcgagcgcgc agagagggag tggccaa 5877

<210> 29
<211> 6054
<212> DNA
<213> Adeno-Associated Virus 2

<400> 29
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgaccc ctctcacact 180

acctaaacca cgccaggaca acctctgctc ctctccaccg aaattccaag gggtcgagtg 240

gatgttggag gtggcatggg cccagagagg tctctgacct ctgccccagc tccaaggtca 300

gcaggcaggg agggctgtgt gtttgctgtt tgctgcttgc aatgtttgcc cattttaggg 360

acatgagtag gctgaagttt gttcagtgtg gacttcagag gcagcacaca aacagctgct 420

ggaggatggg aactgagggg ttggaagggg gcagggtgag cccagaaact cctgtgtgcc 480

tctgagcctg cagacgcgaa acgtcgacag gttaattttt aaaaagcagt caaaagtcca 540

agtggccctt ggcagcattt actctctctg tttgctctgg ttaataatct caggagcaca 600

aacattcctg gaggcaggag aagaaatcaa catcctggac ttatcctctg ggcctctccc 660

caccccccagg agaggctcag gttaattttt aaaaagcagt caaaagtcca agtggccctt 720

ggcagcattt actctctctg tttgctctgg ttaataatct caggagcaca aacattcctg 780

gaggcaggag aagaaatcaa catcctggac ttatcctctg ggcctctccc caccccccagg 840

agaggctgtc gactggacac aggacgctgt ggtttctgag ccaggggggcg actcagatcc 900

cagccagtgg acttagcccc tgtttgctcc tccgataact ggggtgacct tggttaatat 960

tcaccagcag cctcccccgt tgcccctctg gatccactgc ttaaatacgg acgaggacag 1020

ggccctgtct cctcagcttc aggcaccacc actgacctgg gacagtgaat cgtaagtatg 1080

cctttcactg cgagaggttc tggagaggct tctgagctcc ccatggccca ggcaggcagc 1140

aggtctgggg caggaggggg gttgtggagt gccttgactc ggggcctggc ccccccatct 1200

ctgtcttgca ggacaattgc cgtcttctgt ctcgtggggc atcctcctgc tggcaggcct 1260

gtgctgcctg gtccctgcga tcgccaccat gcagattgag ctgagcacct gcttcttcct 1320

gtgcctgctg aggttctgct tctctgccac caggagatac tacctggggg ctgtggagct 1380

gagctgggac tacatgcagt ctgacctggg ggagctgcct gtggatgcca ggttcccccc 1440

cagagtgccc aagagcttcc ccttcaacac ctctgtggtg tacaagaaga ccctgtttgt 1500

ggagttcact gaccacctgt tcaacattgc caagcccagg ccccccctgga tgggcctgct 1560

gggccccacc atccaggctg aggtgtatga cactgtggtg atcaccctga agaacatggc 1620

cagccaccct gtgagcctgc atgctgtggg ggtgagctac tggaaggcct ctgaggggggc 1680

tgagtatgat gaccagacca gccagaggga gaaggaggat gacaaggtgt tccctggggg 1740

cagccacacc tatgtgtggc aggtgctgaa ggagaatggc cccatggcct ctgaccccct 1800

gtgcctgacc tacagctacc tgagccatgt ggacctggtg aaggacctga actctggcct 1860

gattggggcc ctgctggtgt gcagggaggg cagcctggcc aaggagaaga cccagaccct 1920

gcacaagttc atcctgctgt ttgctgtgtt tgatgagggc aagagctggc actctgaaac 1980

caagaacagc ctgatgcagg acagggatgc tgcctctgcc agggcctggc ccaagatgca 2040

cactgtgaat ggctatgtga acaggagcct gcctggcctg attggctgcc acaggaagtc 2100

tgtgtactgg catgtgattg gcatgggcac cacccctgag gtgcacagca tcttcctgga 2160

gggccacacc ttcctggtca ggaaccacag gcaggccagc ctggagatca gccccatcac 2220

cttcctgact gcccagaccc tgctgatgga cctgggccag ttcctgctgt tctgccacat 2280

cagcagccac cagcatgatg gcatggaggc ctatgtgaag gtggacagct gccctgagga 2340

gccccagctg aggatgaaga acaatgagga ggctgaggac tatgatgatg acctgactga 2400

ctctgagatg gatgtggtga ggtttgatga tgacaacagc cccagcttca tccagatcag 2460

gtctgtggcc aagaagcacc ccaagacctg ggtgcactac attgctgctg aggaggagga 2520

ctgggactat gccccctgg tgctggcccc tgatgacagg agctacaaga gccagtacct 2580

gaacaatggc ccccagagga ttggcaggaa gtacaagaag gtcaggttca tggcctacac 2640

tgatgaaacc ttcaagacca gggaggccat ccagcatgag tctggcatcc tgggcccct 2700

gctgtatggg gaggtggggg acaccctgct gatcatcttc aagaaccagg ccagcaggcc 2760

ctacaacatc tacccccatg gcatcactga tgtgaggccc ctgtacagca ggaggctgcc 2820

caaggggtg aagcacctga aggacttccc catcctgcct ggggagatct tcaagtacaa 2880

gtggactgtg actgtggagg atggccccac caagtctgac cccaggtgcc tgaccagata 2940

ctacagcagc tttgtgaaca tggagaggga cctggcctct ggcctgattg gccccctgct 3000

gatctgctac aaggagtctg tggaccagag gggcaaccag atcatgtctg acaagaggaa 3060

tgtgatcctg ttctctgtgt ttgatgagaa caggagctgg tacctgactg agaacatcca 3120

gaggttcctg cccaaccctg ctggggtgca gctggaggac cctgagttcc aggccagcaa 3180

catcatgcac agcatcaatg gctatgtgtt tgacagcctg cagctgtctg tgtgcctgca 3240

tgaggtggcc tactggtaca tcctgagcat tggggcccag actgacttcc tgtctgtgtt 3300

cttctctggc tacaccttca agcacaagat ggtgtatgag gacaccctga ccctgttccc 3360

cttctctggg gagactgtgt tcatgagcat ggagaaccct ggcctgtgga ttctgggctg 3420

ccacaactct gacttcagga acaggggcat gactgccctg ctgaaagtct ccagctgtga 3480

caagaacact ggggactact atgaggacag ctatgaggac atctctgcct acctgctgag 3540

caagaacaat gccattgagc ccaggagctt cagccagaac cccccagtgc tgaagaggca 3600

ccagagggag atcaccagga ccaccctgca gtctgaccag gaggagattg actatgatga 3660

caccatctct gtggagatga agaaggagga ctttgacatc tacgacgagg acgagaacca 3720

gagccccagg agcttccaga agaagaccag gcactacttc attgctgctg tggagaggct 3780

gtgggactat ggcatgagca gcagccccca tgtgctgagg aacagggccc agtctggctc 3840

tgtgccccag ttcaagaagg tggtgttcca ggagttcact gatggcagct tcacccagcc 3900

cctgtacaga ggggagctga atgagcacct gggcctgctg ggcccctaca tcagggctga 3960

ggtggaggac aacatcatgg tgaccttcag gaaccaggcc agcaggccct acagcttcta 4020

cagcagcctg atcagctatg aggaggacca gaggcagggg gctgagccca ggaagaactt 4080

tgtgaagccc aatgaaacca agacctactt ctggaaggtg cagcaccaca tggcccccac 4140

caaggatgag tttgactgca aggcctgggc ctacttctct gatgtggacc tggagaagga 4200

tgtgcactct ggcctgattg gccccctgct ggtgtgccac accaacaccc tgaaccctgc 4260

ccatggcagg caggtgactg tgcaggagtt tgccctgttc ttcaccatct ttgatgaaac 4320

caagagctgg tacttcactg agaacatgga gaggaactgc agggcccccc gcaacatcca 4380

gatggaggac cccaccttca aggagaacta caggttccat gccatcaatg gctacatcat 4440

ggacaccctg cctggcctgg tgatggccca ggaccagagg atcaggtggt acctgctgag 4500

catgggcagc aatgagaaca tccacagcat ccacttctct ggccatgtgt tcactgtgag 4560

gaagaaggag gagtacaaga tggccctgta caacctgtac cctggggtgt ttgagactgt 4620

ggagatgctg cccagcaagg ctggcatctg gagggtggag tgcctgattg gggagcacct 4680

gcatgctggc atgagcaccc tgttcctggt gtacagcaac aagtgccaga ccccccctggg 4740

catggcctct ggccacatca gggacttcca gatcactgcc tctggccagt atggccagtg 4800

ggccccaag ctggccaggc tgcactactc tggcagcatc aatgcctgga gcaccaagga 4860

gcccttcagc tggatcaagg tggacctgct ggcccccatg atcatccatg gcatcaagac 4920

ccaggggcc aggcagaagt tcagcagcct gtacatcagc cagttcatca tcatgtacag 4980

cctggatggc aagaagtggc agacctacag gggcaacagc actggcaccc tgatggtgtt 5040

ctttggcaat gtggacagct ctggcatcaa gcacaacatc ttcaaccccc ccatcattgc 5100

cagatacatc aggctgcacc ccacccacta cagcatcagg agcaccctga ggatggagct 5160

gatgggctgt gacctgaaca gctgcagcat gcccctgggc atggagagca aggccatctc 5220

tgatgcccag atcactgcca gcagctactt caccaacatg tttgccacct ggagccccag 5280

caaggccagg ctgcacctgc agggcaggag caatgcctgg aggccccagg tcaacaaccc 5340

caaggagtgg ctgcaggtgg acttccagaa gaccatgaag gtgactgggg tgaccaccca 5400

gggggtgaag agcctgctga ccagcatgta tgtgaaggag ttcctgatca gcagcagcca 5460

ggatggccac cagtggaccc tgttcttcca gaatggcaag gtgaaggtgt tccagggcaa 5520

ccaggacagc ttcacccctg tggtgaacag cctggacccc cccctgctga ccagatacct 5580

gaggattcac ccccagagct gggtgcacca gattgccctg aggatggagg tgctgggctg 5640

tgaggcccag gacctgtact gacctcgagg tgtgccttct agttgccagc catctgttgt 5700

ttgcccctcc cccgtgcctt ccttgaccct ggaaggtgcc actcccactg tcctttccta 5760

ataaaatgag gaaattgcat cgcattgtct gagtaggtgt cattctattc tgggggggtgg 5820

ggtggggcag gacagcaagg gggaggattg ggaagacaat agcaggcatg ctggggatgc 5880

ggtgggctct atgggcacgt ggcggccgca ggaaccccta gtgatggagt tggccactcc 5940

ctctctgcgc gctcgctcgc tcactgaggc cgggcgacca aaggtcgccc gacgcccggg 6000

ctttgcccgg gcggcctcag tgagcgagcg agcgcgcaga gagggagtgg ccaa 6054

<210> 30
<211> 6054
<212> DNA
<213> Adeno-Associated Virus 2

<400> 30
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgaccc ctctcacact 180

acctaaacca cgccaggaca acctctgctc ctctccaccg aaattccaag gggtcgagtg 240

gatgttggag gtggcatggg cccagagagg tctctgacct ctgccccagc tccaaggtca 300

gcaggcaggg agggctgtgt gtttgctgtt tgctgcttgc aatgtttgcc cattttaggg 360

acatgagtag gctgaagttt gttcagtgtg gacttcagag gcagcacaca aacagctgct 420

ggaggatggg aactgagggg ttggaagggg gcagggtgag cccagaaact cctgtgtgcc 480

tctgagcctg cagacgcgaa acgtcgaagc ctctcctggg ggtggggaga ggcccagagg 540

ataagtccag gatgttgatt tcttctcctg cctccaggaa tgtttgtgct cctgagatta 600

ttaaccagag caaacagaga gagtaaatgc tgccaagggc cacttggact tttgactgct 660

ttttaaaaat taacctgagc ctctcctggg ggtggggaga ggcccagagg ataagtccag 720

gatgttgatt tcttctcctg cctccaggaa tgtttgtgct cctgagatta ttaaccagag 780

caaacagaga gagtaaatgc tgccaagggc cacttggact tttgactgct ttttaaaaat 840

taacctggtc gactggacac aggacgctgt ggtttctgag ccaggggggcg actcagatcc 900

cagccagtgg acttagcccc tgtttgctcc tccgataact ggggtgacct tggttaatat 960

tcaccagcag cctcccccgt tgcccctctg gatccactgc ttaaatacgg acgaggacag 1020

ggccctgtct cctcagcttc aggcaccacc actgacctgg gacagtgaat cgtaagtatg 1080

cctttcactg cgagaggttc tggagaggct tctgagctcc ccatggccca ggcaggcagc 1140

aggtctgggg caggaggggg gttgtggagt gccttgactc ggggcctggc ccccccatct 1200

ctgtcttgca ggacaattgc cgtcttctgt ctcgtggggc atcctcctgc tggcaggcct 1260

gtgctgcctg gtccctgcga tcgccaccat gcagattgag ctgagcacct gcttcttcct 1320

gtgcctgctg aggttctgct tctctgccac caggagatac tacctggggg ctgtggagct 1380

gagctgggac tacatgcagt ctgacctggg ggagctgcct gtggatgcca ggttcccccc 1440

cagagtgccc aagagcttcc ccttcaacac ctctgtggtg tacaagaaga ccctgtttgt 1500

ggagttcact gaccacctgt tcaacattgc caagcccagg ccccccctgga tgggcctgct 1560

gggccccacc atccaggctg aggtgtatga cactgtggtg atcaccctga agaacatggc 1620

cagccaccct gtgagcctgc atgctgtggg ggtgagctac tggaaggcct ctgaggggggc 1680

tgagtatgat gaccagacca gccagaggga gaaggaggat gacaaggtgt tccctggggg 1740

cagccacacc tatgtgtggc aggtgctgaa ggagaatggc cccatggcct ctgacccccct 1800

gtgcctgacc tacagctacc tgagccatgt ggacctggtg aaggacctga actctggcct 1860

gattggggcc ctgctggtgt gcagggaggg cagcctggcc aaggagaaga cccagaccct 1920

gcacaagttc atcctgctgt ttgctgtgtt tgatgagggc aagagctggc actctgaaac 1980

caagaacagc ctgatgcagg acagggatgc tgcctctgcc agggcctggc ccaagatgca 2040

cactgtgaat ggctatgtga acaggagcct gcctggcctg attggctgcc acaggaagtc 2100

tgtgtactgg catgtgattg gcatgggcac cacccctgag gtgcacagca tcttcctgga 2160

gggccacacc ttcctggtca ggaaccacag gcaggccagc ctggagatca gccccatcac 2220

cttcctgact gcccagaccc tgctgatgga cctgggccag ttcctgctgt tctgccacat 2280

cagcagccac cagcatgatg gcatggaggc ctatgtgaag gtggacagct gccctgagga 2340

gccccagctg aggatgaaga acaatgagga ggctgaggac tatgatgatg acctgactga 2400

ctctgagatg gatgtggtga ggtttgatga tgacaacagc cccagcttca tccagatcag 2460

gtctgtggcc aagaagcacc ccaagacctg ggtgcactac attgctgctg aggaggagga 2520

ctgggactat gccccctgg tgctggcccc tgatgacagg agctacaaga gccagtacct 2580

gaacaatggc ccccagagga ttggcaggaa gtacaagaag gtcaggttca tggcctacac 2640

tgatgaaacc ttcaagacca gggaggccat ccagcatgag tctggcatcc tgggcccct 2700

gctgtatggg gaggtggggg acaccctgct gatcatcttc aagaaccagg ccagcaggcc 2760

ctacaacatc tacccccatg gcatcactga tgtgaggccc ctgtacagca ggaggctgcc 2820

caaggggtg aagcacctga aggacttccc catcctgcct ggggagatct tcaagtacaa 2880

gtggactgtg actgtggagg atggccccac caagtctgac cccaggtgcc tgaccagata 2940

ctacagcagc tttgtgaaca tggagaggga cctggcctct ggcctgattg gcccctgct 3000

gatctgctac aaggagtctg tggaccagag gggcaaccag atcatgtctg acaagaggaa 3060

tgtgatcctg ttctctgtgt ttgatgagaa caggagctgg tacctgactg agaacatcca 3120

gaggttcctg cccaaccctg ctggggtgca gctggaggac cctgagttcc aggccagcaa 3180

catcatgcac agcatcaatg gctatgtgtt tgacagcctg cagctgtctg tgtgcctgca 3240

tgaggtggcc tactggtaca tcctgagcat tggggcccag actgacttcc tgtctgtgtt 3300

cttctctggc tacaccttca agcacaagat ggtgtatgag gacaccctga ccctgttccc 3360

cttctctggg gagactgtgt tcatgagcat ggagaaccct ggcctgtgga ttctgggctg 3420

ccacaactct gacttcagga acaggggcat gactgccctg ctgaaagtct ccagctgtga 3480

caagaacact ggggactact atgaggacag ctatgaggac atctctgcct acctgctgag 3540

caagaacaat gccattgagc ccaggagctt cagccagaac cccccagtgc tgaagaggca 3600

ccagagggag atcaccagga ccaccctgca gtctgaccag gaggagattg actatgatga 3660

caccatctct gtggagatga agaaggagga ctttgacatc tacgacgagg acgagaacca 3720

gagccccagg agcttccaga agaagaccag gcactacttc attgctgctg tggagaggct 3780

gtgggactat ggcatgagca gcagccccca tgtgctgagg aacagggccc agtctggctc 3840

tgtgccccag ttcaagaagg tggtgttcca ggagttcact gatggcagct tcacccagcc 3900

cctgtacaga ggggagctga atgagcacct gggcctgctg ggcccctaca tcagggctga 3960

ggtggaggac aacatcatgg tgaccttcag gaaccaggcc agcaggccct acagcttcta 4020

cagcagcctg atcagctatg aggaggacca gaggcagggg gctgagccca ggaagaactt 4080

tgtgaagccc aatgaaacca agacctactt ctggaaggtg cagcaccaca tggcccccac 4140

caaggatgag tttgactgca aggcctgggc ctacttctct gatgtggacc tggagaagga 4200

tgtgcactct ggcctgattg gccccctgct ggtgtgccac accaacaccc tgaaccctgc 4260

ccatggcagg caggtgactg tgcaggagtt tgccctgttc ttcaccatct ttgatgaaac 4320

caagagctgg tacttcactg agaacatgga gaggaactgc agggcccccc gcaacatcca 4380

gatggaggac cccaccttca aggagaacta caggttccat gccatcaatg gctacatcat 4440

ggacaccctg cctggcctgg tgatggccca ggaccagagg atcaggtggt acctgctgag 4500

catgggcagc aatgagaaca tccacagcat ccacttctct ggccatgtgt tcactgtgag 4560

gaagaaggag gagtacaaga tggccctgta caacctgtac cctggggtgt ttgagactgt 4620

ggagatgctg cccagcaagg ctggcatctg gagggtggag tgcctgattg gggagcacct 4680

gcatgctggc atgagcaccc tgttcctggt gtacagcaac aagtgccaga ccccccctggg 4740

catggcctct ggccacatca gggacttcca gatcactgcc tctggccagt atggccagtg 4800

ggcccccaag ctggccaggc tgcactactc tggcagcatc aatgcctgga gcaccaagga 4860

gcccttcagc tggatcaagg tggacctgct ggcccccatg atcatccatg gcatcaagac 4920

ccaggggccc aggcagaagt tcagcagcct gtacatcagc cagttcatca tcatgtacag 4980

cctggatggc aagaagtggc agacctacag gggcaacagc actggcaccc tgatggtgtt 5040

ctttggcaat gtggacagct ctggcatcaa gcacaacatc ttcaaccccc ccatcattgc 5100

cagatacatc aggctgcacc ccacccacta cagcatcagg agcaccctga ggatggagct 5160

gatgggctgt gacctgaaca gctgcagcat gcccctgggc atggagagca aggccatctc 5220

tgatgcccag atcactgcca gcagctactt caccaacatg tttgccacct ggagccccag 5280

caaggccagg ctgcacctgc agggcaggag caatgcctgg aggccccagg tcaacaaccc 5340

caaggagtgg ctgcaggtgg acttccagaa gaccatgaag gtgactgggg tgaccaccca 5400

gggggtgaag agcctgctga ccagcatgta tgtgaaggag ttcctgatca gcagcagcca 5460

ggatggccac cagtggaccc tgttcttcca gaatggcaag gtgaaggtgt tccagggcaa 5520

ccaggacagc ttcacccctg tggtgaacag cctggacccc cccctgctga ccagatacct 5580

gaggattcac ccccagagct gggtgcacca gattgccctg aggatggagg tgctgggctg 5640

tgaggcccag gacctgtact gacctcgagg tgtgccttct agttgccagc catctgttgt 5700

ttgcccctcc cccgtgcctt ccttgaccct ggaaggtgcc actcccactg tcctttccta 5760

ataaaatgag gaaattgcat cgcattgtct gagtaggtgt cattctattc tgggggggtgg 5820

ggtggggcag gacagcaagg gggaggattg ggaagacaat agcaggcatg ctggggatgc 5880

ggtgggctct atgggcacgt ggcggccgca ggaaccccta gtgatggagt tggccactcc 5940

ctctctgcgc gctcgctcgc tcactgaggc cgggcgacca aaggtcgccc gacgcccggg 6000

ctttgcccgg gcggcctcag tgagcgagcg agcgcgcaga gagggagtgg ccaa 6054

<210> 31
<211> 5504
<212> DNA
<213> Adeno-Associated Virus 2

<400> 31
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgaccc ctctcacact 180

acctaaacca cgccaggaca acctctgctc ctctccaccg aaattccaag gggtcgagtg 240

gatgttggag gtggcatggg cccagagagg tctctgacct ctgccccagc tccaaggtca 300

gcaggcaggg agggctgtgt gtttgctgtt tgctgcttgc aatgtttgcc cattttaggg 360

acatgagtag gctgaagttt gttcagtgtg gacttcagag gcagcacaca aacagctgct 420

ggaggatggg aactgagggg ttggaagggg gcagggtgag cccagaaact cctgtgtgcc 480

tctgagcctg cagacgcgaa acgtcgactg gacacaggac gctgtggttt ctgagccagg 540

gggcgactca gatcccagcc agtggactta gcccctgttt gctcctccga taactggggt 600

gaccttggtt aatattcacc agcagcctcc cccgttgccc ctctggatcc actgcttaaa 660

tacggacgag gacagggccc tgtctcctca gcttcaggca ccaccactga cctgggacag 720

tgaatcgcga tcgccaccat gcagattgag ctgagcacct gcttcttcct gtgcctgctg 780

aggttctgct tctctgccac caggagatac tacctggggg ctgtggagct gagctgggac 840

tacatgcagt ctgacctggg ggagctgcct gtggatgcca ggttcccccc cagagtgccc 900

aagagcttcc ccttcaacac ctctgtggtg tacaagaaga ccctgtttgt ggagttcact 960

gaccacctgt tcaacattgc caagcccagg ccccccctgga tgggcctgct gggccccacc 1020

atccaggctg aggtgtatga cactgtggtg atcaccctga agaacatggc cagccaccct 1080

gtgagcctgc atgctgtggg ggtgagctac tggaaggcct ctgaggggggc tgagtatgat 1140

gaccagacca gccagaggga gaaggaggat gacaaggtgt tccctggggg cagccacacc 1200

tatgtgtggc aggtgctgaa ggagaatggc cccatggcct ctgacccccct gtgcctgacc 1260

tacagctacc tgagccatgt ggacctggtg aaggacctga actctggcct gattggggcc 1320

ctgctggtgt gcagggaggg cagcctggcc aaggagaaga cccagaccct gcacaagttc 1380

atcctgctgt ttgctgtgtt tgatgagggc aagagctggc actctgaaac caagaacagc 1440

ctgatgcagg acagggatgc tgcctctgcc agggcctggc ccaagatgca cactgtgaat 1500

ggctatgtga acaggagcct gcctggcctg attggctgcc acaggaagtc tgtgtactgg 1560

catgtgattg gcatgggcac caccctgag gtgcacagca tcttcctgga gggccacacc 1620

ttcctggtca ggaaccacag gcaggccagc ctggagatca gccccatcac cttcctgact 1680

gcccagaccc tgctgatgga cctgggccag ttcctgctgt tctgccacat cagcagccac 1740

cagcatgatg gcatggaggc ctatgtgaag gtggacagct gccctgagga gccccagctg 1800

aggatgaaga acaatgagga ggctgaggac tatgatgatg acctgactga ctctgagatg 1860

gatgtggtga ggtttgatga tgacaacagc cccagcttca tccagatcag gtctgtggcc 1920

aagaagcacc ccaagacctg ggtgcactac attgctgctg aggaggagga ctgggactat 1980

gcccccctgg tgctggcccc tgatgacagg agctacaaga gccagtacct gaacaatggc 2040

ccccagagga ttggcaggaa gtacaagaag gtcaggttca tggcctacac tgatgaaacc 2100

ttcaagacca gggaggccat ccagcatgag tctggcatcc tgggcccccct gctgtatggg 2160

gaggtggggg acaccctgct gatcatcttc aagaaccagg ccagcaggcc ctacaacatc 2220

taccccatg gcatcactga tgtgaggccc ctgtacagca ggaggctgcc caaggggtg 2280

aagcacctga aggacttccc catcctgcct ggggagatct tcaagtacaa gtggactgtg 2340

actgtggagg atggccccac caagtctgac cccaggtgcc tgaccagata ctacagcagc 2400

tttgtgaaca tggagaggga cctggcctct ggcctgattg gcccccctgct gatctgctac 2460

aaggagtctg tggaccagag gggcaaccag atcatgtctg acaagaggaa tgtgatcctg 2520

ttctctgtgt ttgatgagaa caggagctgg tacctgactg agaacatcca gaggttcctg 2580

cccaaccctg ctggggtgca gctggaggac cctgagttcc aggccagcaa catcatgcac 2640

agcatcaatg gctatgtgtt tgacagcctg cagctgtctg tgtgcctgca tgaggtggcc 2700

tactggtaca tcctgagcat tggggcccag actgacttcc tgtctgtgtt cttctctggc 2760

tacaccttca agcacaagat ggtgtatgag gacaccctga ccctgttccc cttctctggg 2820

gagactgtgt tcatgagcat ggagaaccct ggcctgtgga ttctgggctg ccacaactct 2880

gacttcagga acaggggcat gactgccctg ctgaaagtct ccagctgtga caagaacact 2940

ggggactact atgaggacag ctatgaggac atctctgcct acctgctgag caagaacaat 3000

gccattgagc ccaggagctt cagccagaac cccccagtgc tgaagaggca ccagagggag 3060

atcaccagga ccaccctgca gtctgaccag gaggagattg actatgatga caccatctct 3120

gtggagatga agaaggagga ctttgacatc tacgacgagg acgagaacca gagccccagg 3180

agcttccaga agaagaccag gcactacttc attgctgctg tggagaggct gtgggactat 3240

ggcatgagca gcagccccca tgtgctgagg aacagggccc agtctggctc tgtgccccag 3300

ttcaagaagg tggtgttcca ggagttcact gatggcagct tcacccagcc cctgtacaga 3360

ggggagctga atgagcacct gggcctgctg ggcccctaca tcagggctga ggtggaggac 3420

aacatcatgg tgaccttcag gaaccaggcc agcaggccct acagcttcta cagcagcctg 3480

atcagctatg aggaggacca gaggcagggg gctgagccca ggaagaactt tgtgaagccc 3540

aatgaaacca agacctactt ctggaaggtg cagcaccaca tggcccccac caaggatgag 3600

tttgactgca aggcctgggc ctacttctct gatgtggacc tggagaagga tgtgcactct 3660

ggcctgattg gcccccctgct ggtgtgccac accaacaccc tgaaccctgc ccatggcagg 3720

caggtgactg tgcaggagtt tgccctgttc ttcaccatct ttgatgaaac caagagctgg 3780

tacttcactg agaacatgga gaggaactgc agggcccccct gcaacatcca gatggaggac 3840

cccaccttca aggagaacta caggttccat gccatcaatg gctacatcat ggacaccctg 3900

cctggcctgg tgatggccca ggaccagagg atcaggtggt acctgctgag catgggcagc 3960

aatgagaaca tccacagcat ccacttctct ggccatgtgt tcactgtgag gaagaaggag 4020

gagtacaaga tggccctgta caacctgtac cctggggtgt ttgagactgt ggagatgctg 4080

cccagcaagg ctggcatctg gagggtggag tgcctgattg gggagcacct gcatgctggc 4140

atgagcaccc tgttcctggt gtacagcaac aagtgccaga ccccctgggg catggcctct 4200

ggccacatca gggacttcca gatcactgcc tctggccagt atggccagtg ggcccccaag 4260

ctggccaggc tgcactactc tggcagcatc aatgcctgga gcaccaagga gcccttcagc 4320

tggatcaagg tggacctgct ggcccccatg atcatccatg gcatcaagac ccaggggcc 4380

aggcagaagt tcagcagcct gtacatcagc cagttcatca tcatgtacag cctggatggc 4440

aagaagtggc agacctacag gggcaacagc actggcaccc tgatggtgtt ctttggcaat 4500

gtggacagct ctggcatcaa gcacaacatc ttcaaccccc ccatcattgc cagatacatc 4560

aggctgcacc ccacccacta cagcatcagg agcaccctga ggatggagct gatgggctgt 4620

gacctgaaca gctgcagcat gcccctgggc atggagagca aggccatctc tgatgcccag 4680

atcactgcca gcagctactt caccaacatg tttgccacct ggagccccag caaggccagg 4740

ctgcacctgc agggcaggag caatgcctgg aggccccagg tcaacaaccc caaggagtgg 4800

ctgcaggtgg acttccagaa gaccatgaag gtgactgggg tgaccaccca gggggtgaag 4860

agcctgctga ccagcatgta tgtgaaggag ttcctgatca gcagcagcca ggatggccac 4920

cagtggaccc tgttcttcca gaatggcaag gtgaaggtgt tccagggcaa ccaggacagc 4980

ttcacccctg tggtgaacag cctggacccc cccctgctga ccagatacct gaggattcac 5040

ccccagagct gggtgcacca gattgccctg aggatggagg tgctgggctg tgaggcccag 5100

gacctgtact gacctcgagg tgtgccttct agttgccagc catctgttgt ttgcccctcc 5160

cccgtgcctt ccttgaccct ggaaggtgcc actcccactg tcctttccta ataaaatgag 5220

gaaattgcat cgcattgtct gagtaggtgt cattctattc tgggggggtgg ggtggggcag 5280

gacagcaagg gggaggattg ggaagacaat agcaggcatg ctggggatgc ggtgggctct 5340

atgggcacgt ggcggccgca ggaaccccta gtgatggagt tggccactcc ctctctgcgc 5400

gctcgctcgc tcactgaggc cgggcgacca aaggtcgccc gacgcccggg ctttgcccgg 5460

gcggcctcag tgagcgagcg agcgcgcaga gagggagtgg ccaa 5504

<210> 32
<211> 5507
<212> DNA
<213> Adeno-Associated Virus 2

<400> 32
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgaccc ctctcacact 180

acctaaacca cgccaggaca acctctgctc ctctccaccg aaattccaag gggtcgagtg 240

gatgttggag gtggcatggg cccagagagg tctctgacct ctgccccagc tccaaggtca 300

gcaggcaggg agggctgtgt gtttgctgtt tgctgcttgc aatgtttgcc cattttaggg 360

acatgagtag gctgaagttt gttcagtgtg gacttcagag gcagcacaca aacagctgct 420

ggaggatggg aactgagggg ttggaagggg gcagggtgag cccagaaact cctgtgtgcc 480

tctgagcctg cagacgcgaa acgtcgacga tcttgctacc agtggaacag ccactaagga 540

ttctgcagtg agagcagagg gccagctaag tggtactctc ccagagactg tctgactcac 600

gccacccccct ccaccttgga cacaggacgc tgtggtttct gagccaggta caatgactcc 660

tttcggtaag tgcagtggaa gctgtacact gcccaggcaa agcgtccggg cagcgtaggc 720

gggcgactca gatcccagcc agtggactta gcccctgttt gctcctccga taactggggt 780

gaccttggtt aatattcacc agcagcctcc cccgttgccc ctctggatcc actgcttaaa 840

tacggacgag gacagggccc tgtctcctca gcttcaggca ccaccactga cctgggacag 900

tgaatcgcga tcgccaccat gcagattgag ctgagcacct gcttcttcct gtgcctgctg 960

aggttctgct tctctgccac caggagatac tacctggggg ctgtggagct gagctgggac 1020

tacatgcagt ctgacctggg ggagctgcct gtggatgcca ggttcccccc cagagtgccc 1080

aagagcttcc ccttcaacac ctctgtggtg tacaagaaga ccctgtttgt ggagttcact 1140

gaccacctgt tcaacattgc caagcccagg ccccccctgga tgggcctgct gggccccacc 1200

atccaggctg aggtgtatga cactgtggtg atcaccctga agaacatggc cagccaccct 1260

gtgagcctgc atgctgtggg ggtgagctac tggaaggcct ctgaggggggc tgagtatgat 1320

gaccagacca gccagaggga gaaggaggat gacaaggtgt tccctggggg cagccacacc 1380

tatgtgtggc aggtgctgaa ggagaatggc cccatggcct ctgaccccct gtgcctgacc 1440

tacagctacc tgagccatgt ggacctggtg aaggacctga actctggcct gattggggcc 1500

ctgctggtgt gcagggaggg cagcctggcc aaggagaaga cccagaccct gcacaagttc 1560

atcctgctgt ttgctgtgtt tgatgagggc aagagctggc actctgaaac caagaacagc 1620

ctgatgcagg acagggatgc tgcctctgcc agggcctggc ccaagatgca cactgtgaat 1680

ggctatgtga acaggagcct gcctggcctg attggctgcc acaggaagtc tgtgtactgg 1740

catgtgattg gcatgggcac cacccctgag gtgcacagca tcttcctgga gggccacacc 1800

ttcctggtca ggaaccacag gcaggccagc ctggagatca gccccatcac cttcctgact 1860

gcccagaccc tgctgatgga cctgggccag ttcctgctgt tctgccacat cagcagccac 1920

cagcatgatg gcatggaggc ctatgtgaag gtggacagct gccctgagga gccccagctg 1980

aggatgaaga acaatgagga ggctgaggac tatgatgatg acctgactga ctctgagatg 2040

gatgtggtga ggtttgatga tgacaacagc cccagcttca tccagatcag gtctgtggcc 2100

aagaagcacc ccaagacctg ggtgcactac attgctgctg aggaggagga ctgggactat 2160

gccccccctgg tgctggcccc tgatgacagg agctacaaga gccagtacct gaacaatggc 2220

ccccagagga ttggcaggaa gtacaagaag gtcaggttca tggcctacac tgatgaaacc 2280

ttcaagacca gggaggccat ccagcatgag tctggcatcc tgggcccccct gctgtatggg 2340

gaggtggggg acaccctgct gatcatcttc aagaaccagg ccagcaggcc ctacaacatc 2400

taccccccatg gcatcactga tgtgaggccc ctgtacagca ggaggctgcc caaggggtg 2460

aagcacctga aggacttccc catcctgcct ggggagatct tcaagtacaa gtggactgtg 2520

actgtggagg atggccccac caagtctgac cccaggtgcc tgaccagata ctacagcagc 2580

tttgtgaaca tggagaggga cctggcctct ggcctgattg gccccctgct gatctgctac 2640

aaggagtctg tggaccagag gggcaaccag atcatgtctg acaagaggaa tgtgatcctg 2700

ttctctgtgt ttgatgagaa caggagctgg tacctgactg agaacatcca gaggttcctg 2760

cccaaccctg ctggggtgca gctggaggac cctgagttcc aggccagcaa catcatgcac 2820

agcatcaatg gctatgtgtt tgacagcctg cagctgtctg tgtgcctgca tgaggtggcc 2880

tactggtaca tcctgagcat tggggcccag actgacttcc tgtctgtgtt cttctctggc 2940

tacaccttca agcacaagat ggtgtatgag gacaccctga ccctgttccc cttctctggg 3000

gagactgtgt tcatgagcat ggagaaccct ggcctgtgga ttctgggctg ccacaactct 3060

gacttcagga acaggggcat gactgccctg ctgaaagtct ccagctgtga caagaacact 3120

ggggactact atgaggacag ctatgaggac atctctgcct acctgctgag caagaacaat 3180

gccattgagc ccaggagctt cagccagaac cccccagtgc tgaagaggca ccagagggag 3240

atcaccagga ccaccctgca gtctgaccag gaggagattg actatgatga caccatctct 3300

gtggagatga agaaggagga ctttgacatc tacgacgagg acgagaacca gagccccagg 3360

agcttccaga agaagaccag gcactacttc attgctgctg tggagaggct gtgggactat 3420

ggcatgagca gcagccccca tgtgctgagg aacagggccc agtctggctc tgtgccccag 3480

ttcaagaagg tggtgttcca ggagttcact gatggcagct tcacccagcc cctgtacaga 3540

ggggagctga atgagcacct gggcctgctg ggcccctaca tcagggctga ggtggaggac 3600

aacatcatgg tgaccttcag gaaccaggcc agcaggccct acagcttcta cagcagcctg 3660

atcagctatg aggaggacca gaggcagggg gctgagccca ggaagaactt tgtgaagccc 3720

aatgaaacca agacctactt ctggaaggtg cagcaccaca tggcccccac caaggatgag 3780

tttgactgca aggcctgggc ctacttctct gatgtggacc tggagaagga tgtgcactct 3840

ggcctgattg gccccctgct ggtgtgccac accaacaccc tgaaccctgc ccatggcagg 3900

caggtgactg tgcaggagtt tgccctgttc ttcaccatct ttgatgaaac caagagctgg 3960

tacttcactg agaacatgga gaggaactgc agggcccccc gcaacatcca gatggaggac 4020

cccaccttca aggagaacta caggttccat gccatcaatg gctacatcat ggacaccctg 4080

cctggcctgg tgatggccca ggaccagagg atcaggtggt acctgctgag catgggcagc 4140

aatgagaaca tccacagcat ccacttctct ggccatgtgt tcactgtgag gaagaaggag 4200

gagtacaaga tggccctgta caacctgtac cctggggtgt ttgagactgt ggagatgctg 4260

cccagcaagg ctggcatctg gagggtggag tgcctgattg gggagcacct gcatgctggc 4320

atgagcaccc tgttcctggt gtacagcaac aagtgccaga ccccccctggg catggcctct 4380

ggccacatca gggacttcca gatcactgcc tctggccagt atggccagtg ggcccccaag 4440

ctggccaggc tgcactactc tggcagcatc aatgcctgga gcaccaagga gcccttcagc 4500

tggatcaagg tggacctgct ggcccccatg atcatccatg gcatcaagac ccaggggcc 4560

aggcagaagt tcagcagcct gtacatcagc cagttcatca tcatgtacag cctggatggc 4620

aagaagtggc agacctacag gggcaacagc actggcaccc tgatggtgtt ctttggcaat 4680

gtggacagct ctggcatcaa gcacaacatc ttcaaccccc ccatcattgc cagatacatc 4740

aggctgcacc ccacccacta cagcatcagg agcaccctga ggatggagct gatgggctgt 4800

gacctgaaca gctgcagcat gcccctgggc atggagagca aggccatctc tgatgcccag 4860

atcactgcca gcagctactt caccaacatg tttgccacct ggagccccag caaggccagg 4920

ctgcacctgc agggcaggag caatgcctgg aggccccagg tcaacaaccc caaggagtgg 4980

ctgcaggtgg acttccagaa gaccatgaag gtgactgggg tgaccaccca gggggtgaag 5040

agcctgctga ccagcatgta tgtgaaggag ttcctgatca gcagcagcca ggatggccac 5100

cagtggaccc tgttcttcca gaatggcaag gtgaaggtgt tccagggcaa ccaggacagc 5160

ttcacccctg tggtgaacag cctggacccc cccctgctga ccagatacct gaggattcac 5220

ccccagagct gggtgcacca gattgccctg aggatggagg tgctgggctg tgaggcccag 5280

gacctgtact gacctcgagg aataaaggaa atttattttc attgcaatag tgtgttggtt 5340

ttttgtgtca cgtggcggcc gcaggaaccc ctagtgatgg agttggccac tccctctctg 5400

cgcgctcgct cgctcactga ggccgggcga ccaaaggtcg cccgacgccc gggctttgcc 5460

cgggcggcct cagtgagcga gcgagcgcgc agagagggag tggccaa 5507

<210> 33
<211> 5311
<212> DNA
<213> Adeno-Associated Virus 2

<400> 33
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgacgc agagaggtct 180

ctgacctctg ccccagctcc aaggtcagca ggcagggagg gctgtgtgtt tgctgtttgc 240

tgcttgcaat gtttgcccat tttagggaca tgagtaggct gaagtttgtt cagtgtggac 300

ttcagaggca gcacacaaac agccagagag gtctctgacc tctgccccag ctccaaggtc 360

agcaggcagg gagggctgtg tgtttgctgt ttgctgcttg caatgtttgc ccattttagg 420

gacatgagta ggctgaagtt tgttcagtgt ggacttcaga ggcagcacac aaacagcacg 480

cgaaacgtcg actggacaca ggacgctgtg gtttctgagc caggggggcga ctcagatccc 540

agccagtgga cttagcccct gtttgctcct ccgataactg gggtgacctt ggttaatatt 600

caccagcagc ctccccccgtt gcccctctgg atccactgct taaatacgga cgaggacagg 660

gccctgtctc ctcagcttca ggcaccacca ctgacctggg acagtgaatc gcgatcgcca 720

ccatgcagat tgagctgagc acctgcttct tcctgtgcct gctgaggttc tgcttctctg 780

ccaccaggag atactacctg ggggctgtgg agctgagctg ggactacatg cagtctgacc 840

tgggggagct gcctgtggat gccaggttcc cccccagagt gcccaagagc ttcccccttca 900

acacctctgt ggtgtacaag aagaccctgt ttgtggagtt cactgaccac ctgttcaaca 960

ttgccaagcc caggcccccc tggatgggcc tgctgggccc caccatccag gctgaggtgt 1020

atgacactgt ggtgatcacc ctgaagaaca tggccagcca ccctgtgagc ctgcatgctg 1080

tgggggtgag ctactggaag gcctctgagg gggctgagta tgatgaccag accagccaga 1140

gggagaagga ggatgacaag gtgttccctg ggggcagcca cacctatgtg tggcaggtgc 1200

tgaaggagaa tggccccatg gcctctgacc ccctgtgcct gacctacagc tacctgagcc 1260

atgtggacct ggtgaaggac ctgaactctg gcctgattgg ggccctgctg gtgtgcaggg 1320

agggcagcct ggccaaggag aagacccaga ccctgcacaa gttcatcctg ctgtttgctg 1380

tgtttgatga gggcaagagc tggcactctg aaaccaagaa cagcctgatg caggacaggg 1440

atgctgcctc tgccagggcc tggcccaaga tgcacactgt gaatggctat gtgaacagga 1500

gcctgcctgg cctgattggc tgccacagga agtctgtgta ctggcatgtg attggcatgg 1560

gcaccacccc tgaggtgcac agcatcttcc tggagggcca caccttcctg gtcaggaacc 1620

acaggcaggc cagcctggag atcagcccca tcaccttcct gactgcccag accctgctga 1680

tggacctggg ccagttcctg ctgttctgcc acatcagcag ccaccagcat gatggcatgg 1740

aggcctatgt gaaggtggac agctgccctg aggagcccca gctgaggatg aagaacaatg 1800

aggaggctga ggactatgat gatgacctga ctgactctga gatggatgtg gtgaggtttg 1860

atgatgacaa cagccccagc ttcatccaga tcaggtctgt ggccaagaag caccccaaga 1920

cctgggtgca ctacattgct gctgaggagg aggactggga ctatgccccc ctggtgctgg 1980

cccctgatga caggagctac aagagccagt acctgaacaa tggcccccag aggattggca 2040

ggaagtacaa gaaggtcagg ttcatggcct acactgatga aaccttcaag accagggagg 2100

ccatccagca tgagtctggc atcctgggcc ccctgctgta tggggaggtg ggggacaccc 2160

tgctgatcat cttcaagaac caggccagca ggccctacaa catctacccc catggcatca 2220

ctgatgtgag gcccctgtac agcaggaggc tgcccaaggg ggtgaagcac ctgaaggact 2280

tccccatcct gcctggggag atcttcaagt acaagtggac tgtgactgtg gaggatggcc 2340

ccaccaagtc tgaccccagg tgcctgacca gatactacag cagctttgtg aacatggaga 2400

gggacctggc ctctggcctg attggccccc tgctgatctg ctacaaggag tctgtggacc 2460

agaggggcaa ccagatcatg tctgacaaga ggaatgtgat cctgttctct gtgtttgatg 2520

agaacaggag ctggtacctg actgagaaca tccagaggtt cctgcccaac cctgctgggg 2580

tgcagctgga ggaccctgag ttccaggcca gcaacatcat gcacagcatc aatggctatg 2640

tgtttgacag cctgcagctg tctgtgtgcc tgcatgaggt ggcctactgg tacatcctga 2700

gcattggggc ccagactgac ttcctgtctg tgttcttctc tggctacacc ttcaagcaca 2760

agatggtgta tgaggacacc ctgaccctgt tccccttctc tggggagact gtgttcatga 2820

gcatggagaa ccctggcctg tggattctgg gctgccacaa ctctgacttc aggaacaggg 2880

gcatgactgc cctgctgaaa gtctccagct gtgacaagaa cactggggac tactatgagg 2940

acagctatga ggacatctct gcctacctgc tgagcaagaa caatgccatt gagcccagga 3000

gcttcagcca gaacccccca gtgctgaaga ggcaccagag ggagatcacc aggaccaccc 3060

tgcagtctga ccaggaggag attgactatg atgacaccat ctctgtggag atgaagaagg 3120

aggactttga catctacgac gaggacgaga accagagccc caggagcttc cagaagaaga 3180

ccaggcacta cttcattgct gctgtggaga ggctgtggga ctatggcatg agcagcagcc 3240

cccatgtgct gaggaacagg gcccagtctg gctctgtgcc ccagttcaag aaggtggtgt 3300

tccaggagtt cactgatggc agcttcaccc agcccctgta cagaggggag ctgaatgagc 3360

acctgggcct gctgggcccc tacatcaggg ctgaggtgga ggacaacatc atggtgacct 3420

tcaggaacca ggccagcagg ccctacagct tctacagcag cctgatcagc tatgaggagg 3480

accagaggca gggggctgag cccaggaaga actttgtgaa gcccaatgaa accaagacct 3540

acttctggaa ggtgcagcac cacatggccc ccaccaagga tgagtttgac tgcaaggcct 3600

gggcctactt ctctgatgtg gacctggaga aggatgtgca ctctggcctg attggccccc 3660

tgctggtgtg ccacaccaac accctgaacc ctgcccatgg caggcaggtg actgtgcagg 3720

agtttgccct gttcttcacc atctttgatg aaaccaagag ctggtacttc actgagaaca 3780

tggagaggaa ctgcagggcc ccctgcaaca tccagatgga ggaccccacc ttcaaggaga 3840

actacaggtt ccatgccatc aatggctaca tcatggacac cctgcctggc ctggtgatgg 3900

cccaggacca gaggatcagg tggtacctgc tgagcatggg cagcaatgag aacatccaca 3960

gcatccactt ctctggccat gtgttcactg tgaggaagaa ggaggagtac aagatggccc 4020

tgtacaacct gtaccctggg gtgtttgaga ctgtggagat gctgcccagc aaggctggca 4080

tctggagggt ggagtgcctg attggggagc acctgcatgc tggcatgagc accctgttcc 4140

tggtgtacag caacaagtgc cagacccccc tgggcatggc ctctggccac atcagggact 4200

tccagatcac tgcctctggc cagtatggcc agtgggcccc caagctggcc aggctgcact 4260

actctggcag catcaatgcc tggagcacca aggagccctt cagctggatc aaggtggacc 4320

tgctggcccc catgatcatc catggcatca agacccaggg ggccaggcag aagttcagca 4380

gcctgtacat cagccagttc atcatcatgt acagcctgga tggcaagaag tggcagacct 4440

acaggggcaa cagcactggc accctgatgg tgttctttgg caatgtggac agctctggca 4500

tcaagcacaa catcttcaac ccccccatca ttgccagata catcaggctg caccccaccc 4560

actacagcat caggagcacc ctgaggatgg agctgatggg ctgtgacctg aacagctgca 4620

gcatgcccct gggcatggag agcaaggcca tctctgatgc ccagatcact gccagcagct 4680

acttcaccaa catgtttgcc acctggagcc ccagcaaggc caggctgcac ctgcagggca 4740

ggagcaatgc ctggaggccc caggtcaaca accccaagga gtggctgcag gtggacttcc 4800

agaagaccat gaaggtgact ggggtgacca cccagggggt gaagagcctg ctgaccagca 4860

tgtatgtgaa ggagttcctg atcagcagca gccaggatgg ccaccagtgg accctgttct 4920

tccagaatgg caaggtgaag gtgttccagg gcaaccagga cagcttcacc cctgtggtga 4980

acagcctgga ccccccccctg ctgaccagat acctgaggat tcacccccag agctgggtgc 5040

accagattgc cctgaggatg gaggtgctgg gctgtgaggc ccaggacctg tactgacctc 5100

gaggaataaa ggaaatttat tttcattgca atagtgtgtt ggtttttttgt gtcacgtggc 5160

ggccgcagga acccctagtg atggagttgg ccactccctc tctgcgcgct cgctcgctca 5220

ctgaggccgg gcgaccaaag gtcgcccgac gcccgggctt tgcccgggcg gcctcagtga 5280

gcgagcgagc gcgcagagag ggagtggcca a 5311

<210> 34
<211> 5156
<212> DNA
<213> Adeno-Associated Virus 2

<400> 34
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgacca gagaggtctc 180

tgacctctgc cccagctcca aggtcagcag gcagggaggg ctgtgtgttt gctgtttgct 240

gcttgcaatg tttgcccatt ttagggacat gagtaggctg aagtttgttc agtgtggact 300

tcagaggcag cacacaaaca gcacgcgaaa cgtcgactgg acacaggacg ctgtggtttc 360

tgagccaggg ggcgactcag atcccagcca gtggacttag cccctgtttg ctcctccgat 420

aactggggtg accttggtta atattcacca gcagcctccc ccgttgcccc tctggatcca 480

ctgcttaaat acggacgagg acagggccct gtctcctcag cttcaggcac caccactgac 540

ctgggacagt gaatcgcgat cgccaccatg cagattgagc tgagcacctg cttcttcctg 600

tgcctgctga ggttctgctt ctctgccacc aggagatact acctgggggc tgtggagctg 660

agctgggact acatgcagtc tgacctgggg gagctgcctg tggatgccag gttccccccc 720

agagtgccca agagcttccc cttcaacacc tctgtggtgt acaagaagac cctgtttgtg 780

gagttcactg accacctgtt caacattgcc aagcccaggc ccccctggat gggcctgctg 840

ggccccacca tccaggctga ggtgtatgac actgtggtga tcaccctgaa gaacatggcc 900

agccaccctg tgagcctgca tgctgtgggg gtgagctact ggaaggcctc tgaggggget 960

gagtatgatg accagaccag ccagagggag aaggaggatg acaaggtgtt ccctgggggc 1020

agccacacct atgtgtggca ggtgctgaag gagaatggcc ccatggcctc tgacccccctg 1080

tgcctgacct acagctacct gagccatgtg gacctggtga aggacctgaa ctctggcctg 1140

attggggccc tgctggtgtg cagggagggc agcctggcca aggagaagac ccagaccctg 1200

cacaagttca tcctgctgtt tgctgtgttt gatgagggca agagctggca ctctgaaacc 1260

aagaacagcc tgatgcagga cagggatgct gcctctgcca gggcctggcc caagatgcac 1320

actgtgaatg gctatgtgaa caggagcctg cctggcctga ttggctgcca caggaagtct 1380

gtgtactggc atgtgattgg catgggcacc acccctgagg tgcacagcat cttcctggag 1440

ggccacacct tcctggtcag gaaccacagg caggccagcc tggagatcag ccccatcacc 1500

ttcctgactg cccagaccct gctgatggac ctgggccagt tcctgctgtt ctgccacatc 1560

agcagccacc agcatgatgg catggaggcc tatgtgaagg tggacagctg ccctgaggag 1620

ccccagctga ggatgaagaa caatgaggag gctgaggact atgatgatga cctgactgac 1680

tctgagatgg atgtggtgag gtttgatgat gacaacagcc ccagcttcat ccagatcagg 1740

tctgtggcca agaagcaccc caagacctgg gtgcactaca ttgctgctga ggaggaggac 1800

tgggactatg ccccctggt gctggcccct gatgacagga gctacaagag ccagtacctg 1860

aacaatggcc cccagaggat tggcaggaag tacaagaagg tcaggttcat ggcctacact 1920

gatgaaacct tcaagaccag ggaggccatc cagcatgagt ctggcatcct gggccccctg 1980

ctgtatgggg aggtggggga caccctgctg atcatcttca agaaccaggc cagcaggccc 2040

tacaacatct acccccatgg catcactgat gtgaggcccc tgtacagcag gaggctgccc 2100

aaggggtga agcacctgaa ggacttcccc atcctgcctg gggagatctt caagtacaag 2160

tggactgtga ctgtggagga tggccccacc aagtctgacc ccaggtgcct gaccagatac 2220

tacagcagct ttgtgaacat ggagagggac ctggcctctg gcctgattgg ccccctgctg 2280

atctgctaca aggagtctgt ggaccagagg ggcaaccaga tcatgtctga caagaggaat 2340

gtgatcctgt tctctgtgtt tgatgagaac aggagctggt acctgactga gaacatccag 2400

aggttcctgc ccaaccctgc tggggtgcag ctggaggacc ctgagttcca ggccagcaac 2460

atcatgcaca gcatcaatgg ctatgtgttt gacagcctgc agctgtctgt gtgcctgcat 2520

gaggtggcct actggtacat cctgagcatt ggggcccaga ctgacttcct gtctgtgttc 2580

ttctctggct acaccttcaa gcacaagatg gtgtatgagg acaccctgac cctgttcccc 2640

ttctctgggg agactgtgtt catgagcatg gagaaccctg gcctgtggat tctgggctgc 2700

cacaactctg acttcaggaa caggggcatg actgccctgc tgaaagtctc cagctgtgac 2760

aagaacactg gggactacta tgaggacagc tatgaggaca tctctgccta cctgctgagc 2820

aagaacaatg ccattgagcc caggagcttc agccagaacc ccccagtgct gaagaggcac 2880

cagagggaga tcaccaggac caccctgcag tctgaccagg aggagattga ctatgatgac 2940

accatctctg tggagatgaa gaaggaggac tttgacatct acgacgagga cgagaaccag 3000

agccccagga gcttccagaa gaagaccagg cactacttca ttgctgctgt ggagaggctg 3060

tgggactatg gcatgagcag cagcccccat gtgctgagga acagggccca gtctggctct 3120

gtgccccagt tcaagaaggt ggtgttccag gagttcactg atggcagctt cacccagccc 3180

ctgtacagag gggagctgaa tgagcacctg ggcctgctgg gcccctacat cagggctgag 3240

gtggaggaca acatcatggt gaccttcagg aaccaggcca gcaggcccta cagcttctac 3300

agcagcctga tcagctatga ggaggaccag aggcaggggg ctgagcccag gaagaacttt 3360

gtgaagccca atgaaaccaa gacctacttc tggaaggtgc agcaccacat ggcccccacc 3420

aaggatgagt ttgactgcaa ggcctgggcc tacttctctg atgtggacct ggagaaggat 3480

gtgcactctg gcctgattgg ccccctgctg gtgtgccaca ccaacaccct gaaccctgcc 3540

catggcaggc aggtgactgt gcaggagttt gccctgttct tcaccatctt tgatgaaacc 3600

aagagctggt acttcactga gaacatggag aggaactgca gggccccctg caacatccag 3660

atggaggacc ccaccttcaa ggagaactac aggttccatg ccatcaatgg ctacatcatg 3720

gacaccctgc ctggcctggt gatggcccag gaccagagga tcaggtggta cctgctgagc 3780

atgggcagca atgagaacat ccacagcatc cacttctctg gccatgtgtt cactgtgagg 3840

aagaaggagg agtacaagat ggccctgtac aacctgtacc ctggggtgtt tgagactgtg 3900

gagatgctgc ccagcaaggc tggcatctgg agggtggagt gcctgattgg ggagcacctg 3960

catgctggca tgagcaccct gttcctggtg tacagcaaca agtgccagac ccccctgggc 4020

atggcctctg gccacatcag ggacttccag atcactgcct ctggccagta tggccagtgg 4080

gcccccaagc tggccaggct gcactactct ggcagcatca atgcctggag caccaaggag 4140

cccttcagct ggatcaaggt ggacctgctg gcccccatga tcatccatgg catcaagacc 4200

caggggggca ggcagaagtt cagcagcctg tacatcagcc agttcatcat catgtacagc 4260

ctggatggca agaagtggca gacctacagg ggcaacagca ctggcaccct gatggtgttc 4320

tttggcaatg tggacagctc tggcatcaag cacaacatct tcaacccccc catcattgcc 4380

agatacatca ggctgcaccc cacccactac agcatcagga gcaccctgag gatggagctg 4440

atgggctgtg acctgaacag ctgcagcatg cccctgggca tggagagcaa ggccatctct 4500

gatgcccaga tcactgccag cagctacttc accaacatgt ttgccacctg gagccccagc 4560

aaggccaggc tgcacctgca gggcaggagc aatgcctgga ggccccaggt caacaacccc 4620

aaggagtggc tgcaggtgga cttccagaag accatgaagg tgactggggt gaccacccag 4680

ggggtgaaga gcctgctgac cagcatgtat gtgaaggagt tcctgatcag cagcagccag 4740

gatggccacc agtggaccct gttcttccag aatggcaagg tgaaggtgtt ccagggcaac 4800

caggacagct tcacccctgt ggtgaacagc ctggaccccc ccctgctgac cagatacctg 4860

aggattcacc cccagagctg ggtgcaccag attgccctga ggatggaggt gctgggctgt 4920

gaggcccagg acctgtactg acctcgagga ataaaggaaa tttattttca ttgcaatagt 4980

gtgttggttt tttgtgtcac gtggcggccg caggaacccc tagtgatgga gttggccact 5040

ccctctctgc gcgctcgctc gctcactgag gccgggcgac caaaggtcgc ccgacgcccg 5100

ggctttgccc gggcggcctc agtgagcgag cgagcgcgca gagagggagt ggccaa 5156

<210> 35
<211> 5178
<212> DNA
<213> Adeno-Associated Virus 2

<400> 35
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgactg tttgctgttt 180

gctgcttgca atgtttgccc attttaggga catgtttgct gtttgctgct tgcaatgttt 240

gcccatttta gggacatgtt tgctgtttgc tgcttgcaat gtttgcccat tttagggaca 300

tgtttgctgt ttgctgcttg caatgtttgc ccattttagg gacaacgcga aacgtcgact 360

ggacacagga cgctgtggtt tctgagccag ggggcgactc agatcccagc cagtggactt 420

agcccctgtt tgctcctccg ataactgggg tgaccttggt taatattcac cagcagcctc 480

ccccgttgcc cctctggatc cactgcttaa atacggacga ggacagggcc ctgtctcctc 540

agcttcaggc accaccactg acctgggaca gtgaatcgcg atcgccacca tgcagattga 600

gctgagcacc tgcttcttcc tgtgcctgct gaggttctgc ttctctgcca ccaggagata 660

ctacctgggg gctgtggagc tgagctggga ctacatgcag tctgacctgg gggagctgcc 720

tgtggatgcc aggttccccc ccagagtgcc caagagcttc cccttcaaca cctctgtggt 780

gtacaagaag accctgtttg tggagttcac tgaccacctg ttcaacattg ccaagcccag 840

gccccccctgg atgggcctgc tgggccccac catccaggct gaggtgtatg acactgtggt 900

gatcaccctg aagaacatgg ccagccaccc tgtgagcctg catgctgtgg gggtgagcta 960

ctggaaggcc tctgaggggg ctgagtatga tgaccagacc agccagaggg agaaggagga 1020

tgacaaggtg ttccctgggg gcagccacac ctatgtgtgg caggtgctga aggagaatgg 1080

ccccatggcc tctgaccccc tgtgcctgac ctacagctac ctgagccatg tggacctggt 1140

gaaggacctg aactctggcc tgattggggc cctgctggtg tgcagggagg gcagcctggc 1200

caaggagaag acccagaccc tgcacaagtt catcctgctg tttgctgtgt ttgatgaggg 1260

caagagctgg cactctgaaa ccaagaacag cctgatgcag gacagggatg ctgcctctgc 1320

cagggcctgg cccaagatgc acactgtgaa tggctatgtg aacaggagcc tgcctggcct 1380

gattggctgc cacaggaagt ctgtgtactg gcatgtgatt ggcatgggca ccacccctga 1440

ggtgcacagc atcttcctgg agggccacac cttcctggtc aggaaccaca ggcaggccag 1500

cctggagatc agccccatca ccttcctgac tgcccagacc ctgctgatgg acctgggcca 1560

gttcctgctg ttctgccaca tcagcagcca ccagcatgat ggcatggagg cctatgtgaa 1620

ggtggacagc tgccctgagg agccccagct gaggatgaag aacaatgagg aggctgagga 1680

ctatgatgat gacctgactg actctgagat ggatgtggtg aggtttgatg atgacaacag 1740

ccccagcttc atccagatca ggtctgtggc caagaagcac cccaagacct gggtgcacta 1800

cattgctgct gaggaggagg actgggacta tgccccctg gtgctggccc ctgatgacag 1860

gagctacaag agccagtacc tgaacaatgg cccccagagg attggcagga agtacaagaa 1920

ggtcaggttc atggcctaca ctgatgaaac cttcaagacc agggaggcca tccagcatga 1980

gtctggcatc ctgggccccc tgctgtatgg ggaggtgggg gacaccctgc tgatcatctt 2040

caagaaccag gccagcaggc cctacaacat ctacccccat ggcatcactg atgtgaggcc 2100

cctgtacagc aggaggctgc ccaaggggt gaagcacctg aaggacttcc ccatcctgcc 2160

tggggagatc ttcaagtaca agtggactgt gactgtggag gatggcccca ccaagtctga 2220

ccccaggtgc ctgaccagat actacagcag ctttgtgaac atggagaggg acctggcctc 2280

tggcctgatt ggcccctgc tgatctgcta caaggagtct gtggaccaga ggggcaacca 2340

gatcatgtct gacaagagga atgtgatcct gttctctgtg tttgatgaga acaggagctg 2400

gtacctgact gagaacatcc agaggttcct gcccaaccct gctggggtgc agctggagga 2460

ccctgagttc caggccagca acatcatgca cagcatcaat ggctatgtgt ttgacagcct 2520

gcagctgtct gtgtgcctgc atgaggtggc ctactggtac atcctgagca ttggggccca 2580

gactgacttc ctgtctgtgt tcttctctgg ctacaccttc aagcacaaga tggtgtatga 2640

ggacaccctg accctgttcc ccttctctgg ggagactgtg ttcatgagca tggagaaccc 2700

tggcctgtgg attctgggct gccacaactc tgacttcagg aacaggggca tgactgccct 2760

gctgaaagtc tccagctgtg acaagaacac tggggactac tatgaggaca gctatgagga 2820

catctctgcc tacctgctga gcaagaacaa tgccattgag cccaggagct tcagccagaa 2880

ccccccagtg ctgaagaggc accagaggga gatcaccagg accaccctgc agtctgacca 2940

ggaggagatt gactatgatg acaccatctc tgtggagatg aagaaggagg actttgacat 3000

ctacgacgag gacgagaacc agagccccag gagcttccag aagaagacca ggcactactt 3060

cattgctgct gtggagaggc tgtgggacta tggcatgagc agcagccccc atgtgctgag 3120

gaacagggcc cagtctggct ctgtgcccca gttcaagaag gtggtgttcc aggagttcac 3180

tgatggcagc ttcacccagc ccctgtacag aggggagctg aatgagcacc tgggcctgct 3240

gggcccctac atcagggctg aggtggagga caacatcatg gtgaccttca ggaaccaggc 3300

cagcaggccc tacagcttct acagcagcct gatcagctat gaggaggacc agaggcaggg 3360

ggctgagccc aggaagaact ttgtgaagcc caatgaaacc aagacctact tctggaaggt 3420

gcagcaccac atggccccca ccaaggatga gtttgactgc aaggcctggg cctacttctc 3480

tgatgtggac ctggagaagg atgtgcactc tggcctgatt ggccccctgc tggtgtgcca 3540

caccaacacc ctgaaccctg cccatggcag gcaggtgact gtgcaggagt ttgccctgtt 3600

cttcaccatc tttgatgaaa ccaagagctg gtacttcact gagaacatgg agaggaactg 3660

cagggccccc tgcaacatcc agatggagga ccccaccttc aaggagaact acaggttcca 3720

tgccatcaat ggctacatca tggacaccct gcctggcctg gtgatggccc aggaccagag 3780

gatcaggtgg tacctgctga gcatgggcag caatgagaac atccacagca tccacttctc 3840

tggccatgtg ttcactgtga ggaagaagga ggagtacaag atggccctgt acaacctgta 3900

ccctggggtg tttgagactg tggagatgct gcccagcaag gctggcatct ggagggtgga 3960

gtgcctgatt ggggagcacc tgcatgctgg catgagcacc ctgttcctgg tgtacagcaa 4020

caagtgccag acccccctgg gcatggcctc tggccacatc agggacttcc agatcactgc 4080

ctctggccag tatggccagt gggcccccaa gctggccagg ctgcactact ctggcagcat 4140

caatgcctgg agcaccaagg agcccttcag ctggatcaag gtggacctgc tggcccccat 4200

gatcatccat ggcatcaaga cccagggggc caggcagaag ttcagcagcc tgtacatcag 4260

ccagttcatc atcatgtaca gcctggatgg caagaagtgg cagacctaca ggggcaacag 4320

cactggcacc ctgatggtgt tctttggcaa tgtggacagc tctggcatca agcacaacat 4380

cttcaacccc cccatcattg ccagatacat caggctgcac cccacccact acagcatcag 4440

gagcaccctg aggatggagc tgatgggctg tgacctgaac agctgcagca tgcccctggg 4500

catggagagc aaggccatct ctgatgccca gatcactgcc agcagctact tcaccaacat 4560

gtttgccacc tggagcccca gcaaggccag gctgcacctg cagggcagga gcaatgcctg 4620

gaggccccag gtcaacaacc ccaaggagtg gctgcaggtg gacttccaga agaccatgaa 4680

ggtgactggg gtgaccaccc agggggtgaa gagcctgctg accagcatgt atgtgaagga 4740

gttcctgatc agcagcagcc aggatggcca ccagtggacc ctgttcttcc agaatggcaa 4800

ggtgaaggtg ttccagggca accaggacag cttcacccct gtggtgaaca gcctggaccc 4860

ccccctgctg accagatacc tgaggattca cccccagagc tgggtgcacc agattgccct 4920

gaggatggag gtgctgggct gtgaggccca ggacctgtac tgacctcgag gaataaagga 4980

aatttatttt cattgcaata gtgtgttggt tttttgtgtc acgtggcggc cgcaggaacc 5040

cctagtgatg gagttggcca ctccctctct gcgcgctcgc tcgctcactg aggccgggcg 5100

accaaaggtc gcccgacgcc cgggctttgc ccgggcggcc tcagtgagcg agcgagcgcg 5160

cagagaggga gtggccaa 5178

<210> 36
<211> 5160
<212> DNA
<213> Adeno-Associated Virus 2

<400> 36
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtt gtccctaaaa tgggcaaaca 180

ttgcaagcag caaacagcaa acatgtccct aaaatgggca aacattgcaa gcagcaaaca 240

gcaaacatgt ccctaaaatg ggcaaacatt gcaagcagca aacagcaaac atgtccctaa 300

aatgggcaaa cattgcaagc agcaaacagc aaacagtcga ctggacacag gacgctgtgg 360

tttctgagcc agggggcgac tcagatccca gccagtggac ttagcccctg tttgctcctc 420

cgataactgg ggtgaccttg gttaatattc accagcagcc tcccccgttg cccctctgga 480

tccactgctt aaatacggac gaggacaggg ccctgtctcc tcagcttcag gcaccaccac 540

tgacctggga cagtgaatcg cgatcgccac catgcagatt gagctgagca cctgcttctt 600

cctgtgcctg ctgaggttct gcttctctgc caccaggaga tactacctgg gggctgtgga 660

gctgagctgg gactacatgc agtctgacct gggggagctg cctgtggatg ccaggttccc 720

ccccagagtg cccaagagct tccccttcaa cacctctgtg gtgtacaaga agaccctgtt 780

tgtggagttc actgaccacc tgttcaacat tgccaagccc aggcccccct ggatgggcct 840

gctgggcccc accatccagg ctgaggtgta tgacactgtg gtgatcaccc tgaagaacat 900

ggccagccac cctgtgagcc tgcatgctgt gggggtgagc tactggaagg cctctgaggg 960

ggctgagtat gatgaccaga ccagccagag ggagaaggag gatgacaagg tgttccctgg 1020

gggcagccac acctatgtgt ggcaggtgct gaaggagaat ggccccatgg cctctgaccc 1080

cctgtgcctg acctacagct acctgagcca tgtggacctg gtgaaggacc tgaactctgg 1140

cctgattggg gccctgctgg tgtgcaggga gggcagcctg gccaaggaga agacccagac 1200

cctgcacaag ttcatcctgc tgtttgctgt gtttgatgag ggcaagagct ggcactctga 1260

aaccaagaac agcctgatgc aggacaggga tgctgcctct gccagggcct ggcccaagat 1320

gcacactgtg aatggctatg tgaacaggag cctgcctggc ctgattggct gccacaggaa 1380

gtctgtgtac tggcatgtga ttggcatggg caccacccct gaggtgcaca gcatcttcct 1440

ggagggccac accttcctgg tcaggaacca caggcaggcc agcctggaga tcagccccat 1500

caccttcctg actgcccaga ccctgctgat ggacctgggc cagttcctgc tgttctgcca 1560

catcagcagc caccagcatg atggcatgga ggcctatgtg aaggtggaca gctgccctga 1620

ggagccccag ctgaggatga agaacaatga ggaggctgag gactatgatg atgacctgac 1680

tgactctgag atggatgtgg tgaggtttga tgatgacaac agccccagct tcatccagat 1740

caggtctgtg gccaagaagc accccaagac ctgggtgcac tacattgctg ctgaggagga 1800

ggactgggac tatgcccccc tggtgctggc ccctgatgac aggagctaca agagccagta 1860

cctgaacaat ggcccccaga ggattggcag gaagtacaag aaggtcaggt tcatggccta 1920

cactgatgaa accttcaaga ccagggaggc catccagcat gagtctggca tcctgggccc 1980

cctgctgtat ggggaggtgg gggacaccct gctgatcatc ttcaagaacc aggccagcag 2040

gccctacaac atctaccccc atggcatcac tgatgtgagg cccctgtaca gcaggaggct 2100

gcccaagggg gtgaagcacc tgaaggactt ccccatcctg cctggggaga tcttcaagta 2160

caagtggact gtgactgtgg aggatggccc caccaagtct gaccccaggt gcctgaccag 2220

atactacagc agctttgtga acatggagag ggacctggcc tctggcctga ttggcccccc 2280

gctgatctgc tacaaggagt ctgtggacca gaggggcaac cagatcatgt ctgacaagag 2340

gaatgtgatc ctgttctctg tgtttgatga gaacaggagc tggtacctga ctgagaacat 2400

ccagaggttc ctgcccaacc ctgctggggt gcagctggag gaccctgagt tccaggccag 2460

caacatcatg cacagcatca atggctatgt gtttgacagc ctgcagctgt ctgtgtgcct 2520

gcatgaggtg gcctactggt acatcctgag cattggggcc cagactgact tcctgtctgt 2580

gttcttctct ggctacacct tcaagcacaa gatggtgtat gaggacaccc tgaccctgtt 2640

ccccttctct ggggagactg tgttcatgag catggagaac cctggcctgt ggattctggg 2700

ctgccacaac tctgacttca ggaacagggg catgactgcc ctgctgaaag tctccagctg 2760

tgacaagaac actggggact actatgagga cagctatgag gacatctctg cctacctgct 2820

gagcaagaac aatgccattg agcccaggag cttcagccag aacccccag tgctgaagag 2880

gcaccagagg gagatcacca ggaccaccct gcagtctgac caggaggaga ttgactatga 2940

tgacaccatc tctgtggaga tgaagaagga ggactttgac atctacgacg aggacgagaa 3000

ccagagcccc aggagcttcc agaagaagac caggcactac ttcattgctg ctgtggagag 3060

gctgtgggac tatggcatga gcagcagccc ccatgtgctg aggaacaggg cccagtctgg 3120

ctctgtgccc cagttcaaga aggtggtgtt ccaggagttc actgatggca gcttcaccca 3180

gcccctgtac agaggggagc tgaatgagca cctgggcctg ctgggcccct acatcagggc 3240

tgaggtggag gacaacatca tggtgacctt caggaaccag gccagcaggc cctacagctt 3300

ctacagcagc ctgatcagct atgaggagga ccagaggcag ggggctgagc ccaggaagaa 3360

ctttgtgaag cccaatgaaa ccaagaccta cttctggaag gtgcagcacc acatggcccc 3420

caccaaggat gagtttgact gcaaggcctg ggcctacttc tctgatgtgg acctggagaa 3480

ggatgtgcac tctggcctga ttggcccccc gctggtgtgc cacaccaaca ccctgaaccc 3540

tgcccatggc aggcaggtga ctgtgcagga gtttgccctg ttcttcacca tctttgatga 3600

aaccaagagc tggtacttca ctgagaacat ggagaggaac tgcagggccc cctgcaacat 3660

ccagatggag gaccccacct tcaaggagaa ctacaggttc catgccatca atggctacat 3720

catggacacc ctgcctggcc tggtgatggc ccaggaccag aggatcaggt ggtacctgct 3780

gagcatgggc agcaatgaga acatccacag catccacttc tctggccatg tgttcactgt 3840

gaggaagaag gaggagtaca agatggccct gtacaacctg taccctgggg tgtttgagac 3900

tgtggagatg ctgcccagca aggctggcat ctggagggtg gagtgcctga ttggggagca 3960

cctgcatgct ggcatgagca ccctgttcct ggtgtacagc aacaagtgcc agacccccct 4020

gggcatggcc tctggccaca tcagggactt ccagatcact gcctctggcc agtatggcca 4080

gtgggccccc aagctggcca ggctgcacta ctctggcagc atcaatgcct ggagcaccaa 4140

ggagcccttc agctggatca aggtggacct gctggccccc atgatcatcc atggcatcaa 4200

gacccagggg gccaggcaga agttcagcag cctgtacatc agccagttca tcatcatgta 4260

cagcctggat ggcaagaagt ggcagaccta caggggcaac agcactggca ccctgatggt 4320

gttctttggc aatgtggaca gctctggcat caagcacaac atcttcaacc cccccatcat 4380

tgccagatac atcaggctgc accccaccca ctacagcatc aggagcaccc tgaggatgga 4440

gctgatgggc tgtgacctga acagctgcag catgcccctg ggcatggaga gcaaggccat 4500

ctctgatgcc cagatcactg ccagcagcta cttcaccaac atgtttgcca cctggagccc 4560

cagcaaggcc aggctgcacc tgcagggcag gagcaatgcc tggaggcccc aggtcaacaa 4620

ccccaaggag tggctgcagg tggacttcca gaagaccatg aaggtgactg gggtgaccac 4680

ccaggggtg aagagcctgc tgaccagcat gtatgtgaag gagttcctga tcagcagcag 4740

ccaggatggc caccagtgga ccctgttctt ccagaatggc aaggtgaagg tgttccaggg 4800

caaccaggac agcttcaccc ctgtggtgaa cagcctggac ccccccctgc tgaccagata 4860

cctgaggatt cacccccaga gctgggtgca ccagattgcc ctgaggatgg aggtgctggg 4920

ctgtgaggcc caggacctgt actgacctcg aggaataaag gaaatttatt ttcattgcaa 4980

tagtgtgttg gttttttgtg tcacgtggcg gccgcaggaa cccctagtga tggagttggc 5040

cactccctct ctgcgcgctc gctcgctcac tgaggccggg cgaccaaagg tcgcccgacg 5100

cccgggcttt gcccgggcgg cctcagtgag cgagcgagcg cgcagagagg gagtggccaa 5160

<210> 37
<211> 5383
<212> DNA
<213> Adeno-Associated Virus 2

<400> 37
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgactg tttgctgttt 180

gctgcttgca atgtttgccc attttaggga catgtttgct gtttgctgct tgcaatgttt 240

gcccatttta gggacatgtt tgctgtttgc tgcttgcaat gtttgcccat tttagggaca 300

tgtttgctgt ttgctgcttg caatgtttgc ccattttagg gacaacgcga aacgtcgact 360

ggacacagga cgctgtggtt tctgagccag ggggcgactc agatcccagc cagtggactt 420

agcccctgtt tgctcctccg ataactgggg tgaccttggt taatattcac cagcagcctc 480

ccccgttgcc cctctggatc cactgcttaa atacggacga ggacagggcc ctgtctcctc 540

agcttcaggc accaccactg acctgggaca gtgaatcgta agtatgcctt tcactgcgag 600

aggttctgga gaggcttctg agctccccat ggcccaggca ggcagcaggt ctggggcagg 660

agggggttg tggagtgcct tgactcgggg cctggccccc ccatctctgt cttgcaggac 720

aattgccgtc ttctgtctcg tggggcatcc tcctgctggc aggcctgtgc tgcctggtcc 780

ctgcgatcgc caccatgcag attgagctga gcacctgctt cttcctgtgc ctgctgaggt 840

tctgcttctc tgccaccagg agatactacc tgggggctgt ggagctgagc tgggactaca 900

tgcagtctga cctgggggag ctgcctgtgg atgccaggtt ccccccccaga gtgcccaaga 960

gcttcccctt caacacctct gtggtgtaca agaagaccct gtttgtggag ttcactgacc 1020

acctgttcaa cattgccaag cccaggcccc cctggatggg cctgctgggc cccaccatcc 1080

aggctgaggt gtatgacact gtggtgatca ccctgaagaa catggccagc caccctgtga 1140

gcctgcatgc tgtgggggtg agctactgga aggcctctga gggggctgag tatgatgacc 1200

agaccagcca gagggagaag gaggatgaca aggtgttccc tgggggcagc cacacctatg 1260

tgtggcaggt gctgaaggag aatggcccca tggcctctga ccccctgtgc ctgacctaca 1320

gctacctgag ccatgtggac ctggtgaagg acctgaactc tggcctgatt ggggccctgc 1380

tggtgtgcag ggagggcagc ctggccaagg agaagaccca gaccctgcac aagttcatcc 1440

tgctgtttgc tgtgtttgat gagggcaaga gctggcactc tgaaaccaag aacagcctga 1500

tgcaggacag ggatgctgcc tctgccaggg cctggcccaa gatgcacact gtgaatggct 1560

atgtgaacag gagcctgcct ggcctgattg gctgccacag gaagtctgtg tactggcatg 1620

tgattggcat gggcaccacc cctgaggtgc acagcatctt cctggagggc cacaccttcc 1680

tggtcaggaa ccacaggcag gccagcctgg agatcagccc catcaccttc ctgactgccc 1740

agaccctgct gatggacctg ggccagttcc tgctgttctg ccacatcagc agccaccagc 1800

atgatggcat ggaggcctat gtgaaggtgg acagctgccc tgaggagccc cagctgagga 1860

tgaagaacaa tgaggaggct gaggactatg atgatgacct gactgactct gagatggatg 1920

tggtgaggtt tgatgatgac aacagcccca gcttcatcca gatcaggtct gtggccaaga 1980

agcaccccaa gacctgggtg cactacattg ctgctgagga ggaggactgg gactatgccc 2040

ccctggtgct ggcccctgat gacaggagct acaagagcca gtacctgaac aatggccccc 2100

agaggattgg caggaagtac aagaaggtca ggttcatggc ctacactgat gaaaccttca 2160

agaccaggga ggccatccag catgagtctg gcatcctggg ccccctgctg tatggggagg 2220

tgggggacac cctgctgatc atcttcaaga accaggccag caggccctac aacatctacc 2280

cccatggcat cactgatgtg aggcccctgt acagcaggag gctgcccaag ggggtgaagc 2340

acctgaagga cttccccatc ctgcctgggg agatcttcaa gtacaagtgg actgtgactg 2400

tggaggatgg ccccaccaag tctgacccca ggtgcctgac cagatactac agcagctttg 2460

tgaacatgga gagggacctg gcctctggcc tgattggccc cctgctgatc tgctacaagg 2520

agtctgtgga ccagaggggc aaccagatca tgtctgacaa gaggaatgtg atcctgttct 2580

ctgtgtttga tgagaacagg agctggtacc tgactgagaa catccagagg ttcctgccca 2640

accctgctgg ggtgcagctg gaggaccctg agttccaggc cagcaacatc atgcacagca 2700

tcaatggcta tgtgtttgac agcctgcagc tgtctgtgtg cctgcatgag gtggcctact 2760

ggtacatcct gagcattggg gcccagactg acttcctgtc tgtgttcttc tctggctaca 2820

ccttcaagca caagatggtg tatgaggaca ccctgaccct gttccccttc tctggggaga 2880

ctgtgttcat gagcatggag aaccctggcc tgtggattct gggctgccac aactctgact 2940

tcaggaacag gggcatgact gccctgctga aagtctccag ctgtgacaag aacactgggg 3000

actactatga ggacagctat gaggacatct ctgcctacct gctgagcaag aacaatgcca 3060

ttgagcccag gagcttcagc cagaaccccc cagtgctgaa gaggcaccag agggagatca 3120

ccaggaccac cctgcagtct gaccaggagg agattgacta tgatgacacc atctctgtgg 3180

agatgaagaa ggaggacttt gacatctacg acgaggacga gaaccagagc cccaggagct 3240

tccagaagaa gaccaggcac tacttcattg ctgctgtgga gaggctgtgg gactatggca 3300

tgagcagcag cccccatgtg ctgaggaaca gggcccagtc tggctctgtg ccccagttca 3360

agaaggtggt gttccaggag ttcactgatg gcagcttcac ccagcccctg tacagagggg 3420

agctgaatga gcacctgggc ctgctgggcc cctacatcag ggctgaggtg gaggacaaca 3480

tcatggtgac cttcaggaac caggccagca ggccctacag cttctacagc agcctgatca 3540

gctatgagga ggaccagagg caggggctg agcccaggaa gaactttgtg aagcccaatg 3600

aaaccaagac ctacttctgg aaggtgcagc accacatggc ccccaccaag gatgagtttg 3660

actgcaaggc ctgggcctac ttctctgatg tggacctgga gaaggatgtg cactctggcc 3720

tgattggccc cctgctggtg tgccacacca acaccctgaa ccctgcccat ggcaggcagg 3780

tgactgtgca ggagtttgcc ctgttcttca ccatctttga tgaaaccaag agctggtact 3840

tcactgagaa catggagagg aactgcaggg ccccctgcaa catccagatg gaggacccca 3900

ccttcaagga gaactacagg ttccatgcca tcaatggcta catcatggac accctgcctg 3960

gcctggtgat ggcccaggac cagaggatca ggtggtacct gctgagcatg ggcagcaatg 4020

agaacatcca cagcatccac ttctctggcc atgtgttcac tgtgaggaag aaggaggagt 4080

acaagatggc cctgtacaac ctgtaccctg gggtgtttga gactgtggag atgctgccca 4140

gcaaggctgg catctggagg gtggagtgcc tgattgggga gcacctgcat gctggcatga 4200

gcaccctgtt cctggtgtac agcaacaagt gccagacccc cctgggcatg gcctctggcc 4260

acatcaggga cttccagatc actgcctctg gccagtatgg ccagtgggcc cccaagctgg 4320

ccaggctgca ctactctggc agcatcaatg cctggagcac caaggagccc ttcagctgga 4380

tcaaggtgga cctgctggcc cccatgatca tccatggcat caagacccag ggggccaggc 4440

agaagttcag cagcctgtac atcagccagt tcatcatcat gtacagcctg gatggcaaga 4500

agtggcagac ctacaggggc aacagcactg gcaccctgat ggtgttcttt ggcaatgtgg 4560

acagctctgg catcaagcac aacatcttca acccccccat cattgccaga tacatcaggc 4620

tgcaccccac ccactacagc atcaggagca ccctgaggat ggagctgatg ggctgtgacc 4680

tgaacagctg cagcatgccc ctgggcatgg agagcaaggc catctctgat gcccagatca 4740

ctgccagcag ctacttcacc aacatgtttg ccacctggag ccccagcaag gccaggctgc 4800

acctgcaggg caggagcaat gcctggaggc cccaggtcaa caaccccaag gagtggctgc 4860

aggtggactt ccagaagacc atgaaggtga ctggggtgac cacccagggg gtgaagagcc 4920

tgctgaccag catgtatgtg aaggagttcc tgatcagcag cagccaggat ggccaccagt 4980

ggaccctgtt cttccagaat ggcaaggtga aggtgttcca gggcaaccag gacagcttca 5040

cccctgtggt gaacagcctg gacccccccc tgctgaccag atacctgagg attcaccccc 5100

agagctgggt gcaccagatt gccctgagga tggaggtgct gggctgtgag gcccaggacc 5160

tgtactgacc tcgaggaata aaggaaattt attttcattg caatagtgtg ttggtttttt 5220

gtgtcacgtg gcggccgcag gaacccctag tgatggagtt ggccactccc tctctgcgcg 5280

ctcgctcgct cactgaggcc gggcgaccaa aggtcgcccg acgcccgggc tttgcccggg 5340

cggcctcagt gagcgagcga gcgcgcagag agggagtggc caa 5383

<210> 38
<211> 5728
<212> DNA
<213> Adeno-Associated Virus 2

<400> 38
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgactg tttgctgttt 180

gctgcttgca atgtttgccc attttaggga catgtttgct gtttgctgct tgcaatgttt 240

gcccatttta gggacatgtt tgctgtttgc tgcttgcaat gtttgcccat tttagggaca 300

tgtttgctgt ttgctgcttg caatgtttgc ccattttagg gacaacgcga aacgtcgaca 360

ggttaatttt taaaaagcag tcaaaagtcc aagtggccct tggcagcatt tactctctct 420

gtttgctctg gttaataatc tcaggagcac aaacattcct ggaggcagga gaagaaatca 480

acatcctgga cttatcctct gggcctctcc ccacccccag gagaggctca ggttaatttt 540

taaaaagcag tcaaaagtcc aagtggccct tggcagcatt tactctctct gtttgctctg 600

gttaataatc tcaggagcac aaacattcct ggaggcagga gaagaaatca acatcctgga 660

cttatcctct gggcctctcc ccacccccag gagaggctgt cgactggaca caggacgctg 720

tggtttctga gccaggggggc gactcagatc ccagccagtg gacttagccc ctgtttgctc 780

ctccgataac tggggtgacc ttggttaata ttcaccagca gcctcccccg ttgcccctct 840

ggatccactg cttaaatacg gacgaggaca gggccctgtc tcctcagctt caggcaccac 900

cactgacctg ggacagtgaa tcgtaagtat gcctttcact gcgagaggtt ctggagaggc 960

ttctgagctc cccatggccc aggcaggcag caggtctggg gcaggagggg ggttgtggag 1020

tgccttgact cggggcctgg ccccccccatc tctgtcttgc aggacaattg ccgtcttctg 1080

tctcgtgggg catcctcctg ctggcaggcc tgtgctgcct ggtccctgcg atcgccacca 1140

tgcagattga gctgagcacc tgcttcttcc tgtgcctgct gaggttctgc ttctctgcca 1200

ccaggagata ctacctgggg gctgtggagc tgagctggga ctacatgcag tctgacctgg 1260

gggagctgcc tgtggatgcc aggttccccc ccagagtgcc caagagcttc cccttcaaca 1320

cctctgtggt gtacaagaag accctgtttg tggagttcac tgaccacctg ttcaacattg 1380

ccaagcccag gcccccctgg atgggcctgc tgggccccac catccaggct gaggtgtatg 1440

acactgtggt gatcaccctg aagaacatgg ccagccaccc tgtgagcctg catgctgtgg 1500

gggtgagcta ctggaaggcc tctgaggggg ctgagtatga tgaccagacc agccagaggg 1560

agaaggagga tgacaaggtg ttccctgggg gcagccacac ctatgtgtgg caggtgctga 1620

aggagaatgg ccccatggcc tctgaccccc tgtgcctgac ctacagctac ctgagccatg 1680

tggacctggt gaaggacctg aactctggcc tgattggggc cctgctggtg tgcagggagg 1740

gcagcctggc caaggagaag acccagaccc tgcacaagtt catcctgctg tttgctgtgt 1800

ttgatgaggg caagagctgg cactctgaaa ccaagaacag cctgatgcag gacagggatg 1860

ctgcctctgc cagggcctgg cccaagatgc acactgtgaa tggctatgtg aacaggagcc 1920

tgcctggcct gattggctgc cacaggaagt ctgtgtactg gcatgtgatt ggcatgggca 1980

ccacccctga ggtgcacagc atcttcctgg agggccacac cttcctggtc aggaaccaca 2040

ggcaggccag cctggagatc agccccatca ccttcctgac tgcccagacc ctgctgatgg 2100

acctgggcca gttcctgctg ttctgccaca tcagcagcca ccagcatgat ggcatggagg 2160

cctatgtgaa ggtggacagc tgccctgagg agccccagct gaggatgaag aacaatgagg 2220

aggctgagga ctatgatgat gacctgactg actctgagat ggatgtggtg aggtttgatg 2280

atgacaacag ccccagcttc atccagatca ggtctgtggc caagaagcac cccaagacct 2340

gggtgcacta cattgctgct gaggaggagg actgggacta tgcccccctg gtgctggccc 2400

ctgatgacag gagctacaag agccagtacc tgaacaatgg cccccagagg attggcagga 2460

agtacaagaa ggtcaggttc atggcctaca ctgatgaaac cttcaagacc agggaggcca 2520

tccagcatga gtctggcatc ctgggccccc tgctgtatgg ggaggtgggg gacaccctgc 2580

tgatcatctt caagaaccag gccagcaggc cctacaacat ctacccccat ggcatcactg 2640

atgtgaggcc cctgtacagc aggaggctgc ccaagggggt gaagcacctg aaggacttcc 2700

ccatcctgcc tggggagatc ttcaagtaca agtggactgt gactgtggag gatggcccca 2760

ccaagtctga ccccaggtgc ctgaccagat actacagcag ctttgtgaac atggagaggg 2820

acctggcctc tggcctgatt ggcccccctgc tgatctgcta caaggagtct gtggaccaga 2880

ggggcaacca gatcatgtct gacaagagga atgtgatcct gttctctgtg tttgatgaga 2940

acaggagctg gtacctgact gagaacatcc agaggttcct gcccaaccct gctggggtgc 3000

agctggagga ccctgagttc caggccagca acatcatgca cagcatcaat ggctatgtgt 3060

ttgacagcct gcagctgtct gtgtgcctgc atgaggtggc ctactggtac atcctgagca 3120

ttggggccca gactgacttc ctgtctgtgt tcttctctgg ctacaccttc aagcacaaga 3180

tggtgtatga ggacaccctg accctgttcc ccttctctgg ggagactgtg ttcatgagca 3240

tggagaaccc tggcctgtgg attctgggct gccacaactc tgacttcagg aacaggggca 3300

tgactgccct gctgaaagtc tccagctgtg acaagaacac tggggactac tatgaggaca 3360

gctatgagga catctctgcc tacctgctga gcaagaacaa tgccattgag cccaggagct 3420

tcagccagaa ccccccagtg ctgaagaggc accagaggga gatcaccagg accaccctgc 3480

agtctgacca ggaggagatt gactatgatg acaccatctc tgtggagatg aagaaggagg 3540

actttgacat ctacgacgag gacgagaacc agagccccag gagcttccag aagaagacca 3600

ggcactactt cattgctgct gtggagaggc tgtgggacta tggcatgagc agcagccccc 3660

atgtgctgag gaacagggcc cagtctggct ctgtgcccca gttcaagaag gtggtgttcc 3720

aggagttcac tgatggcagc ttcacccagc ccctgtacag aggggagctg aatgagcacc 3780

tgggcctgct gggcccctac atcagggctg aggtggagga caacatcatg gtgaccttca 3840

ggaaccaggc cagcaggccc tacagcttct acagcagcct gatcagctat gaggaggacc 3900

agaggcaggg ggctgagccc aggaagaact ttgtgaagcc caatgaaacc aagacctact 3960

tctggaaggt gcagcaccac atggccccca ccaaggatga gtttgactgc aaggcctggg 4020

cctacttctc tgatgtggac ctggagaagg atgtgcactc tggcctgatt ggccccctgc 4080

tggtgtgcca caccaacacc ctgaaccctg cccatggcag gcaggtgact gtgcaggagt 4140

ttgccctgtt cttcaccatc tttgatgaaa ccaagagctg gtacttcact gagaacatgg 4200

agaggaactg cagggccccc tgcaacatcc agatggagga ccccaccttc aaggagaact 4260

acaggttcca tgccatcaat ggctacatca tggacaccct gcctggcctg gtgatggccc 4320

aggaccagag gatcaggtgg tacctgctga gcatgggcag caatgagaac atccacagca 4380

tccacttctc tggccatgtg ttcactgtga ggaagaagga ggagtacaag atggccctgt 4440

acaacctgta ccctggggtg tttgagactg tggagatgct gcccagcaag gctggcatct 4500

ggagggtgga gtgcctgatt ggggagcacc tgcatgctgg catgagcacc ctgttcctgg 4560

tgtacagcaa caagtgccag acccccctgg gcatggcctc tggccacatc agggacttcc 4620

agatcactgc ctctggccag tatggccagt gggcccccaa gctggccagg ctgcactact 4680

ctggcagcat caatgcctgg agcaccaagg agcccttcag ctggatcaag gtggacctgc 4740

tggcccccat gatcatccat ggcatcaaga cccaggggggc caggcagaag ttcagcagcc 4800

tgtacatcag ccagttcatc atcatgtaca gcctggatgg caagaagtgg cagacctaca 4860

ggggcaacag cactggcacc ctgatggtgt tctttggcaa tgtggacagc tctggcatca 4920

agcacaacat cttcaacccc cccatcattg ccagatacat caggctgcac cccacccact 4980

acagcatcag gagcaccctg aggatggagc tgatgggctg tgacctgaac agctgcagca 5040

tgcccctggg catggagagc aaggccatct ctgatgccca gatcactgcc agcagctact 5100

tcaccaacat gtttgccacc tggagcccca gcaaggccag gctgcacctg cagggcagga 5160

gcaatgcctg gaggccccag gtcaacaacc ccaaggagtg gctgcaggtg gacttccaga 5220

agaccatgaa ggtgactggg gtgaccaccc agggggtgaa gagcctgctg accagcatgt 5280

atgtgaagga gttcctgatc agcagcagcc aggatggcca ccagtggacc ctgttcttcc 5340

agaatggcaa ggtgaaggtg ttccagggca accaggacag cttcacccct gtggtgaaca 5400

gcctggaccc ccccctgctg accagatacc tgaggattca cccccagagc tgggtgcacc 5460

agattgccct gaggatggag gtgctgggct gtgaggccca ggacctgtac tgacctcgag 5520

gaataaagga aatttatttt cattgcaata gtgtgttggt tttttgtgtc acgtggcggc 5580

cgcaggaacc cctagtgatg gagttggcca ctccctctct gcgcgctcgc tcgctcactg 5640

aggccgggcg accaaaggtc gcccgacgcc cgggctttgc ccgggcggcc tcagtgagcg 5700

agcgagcgcg cagagaggga gtggccaa 5728

<210> 39
<211> 5905
<212> DNA
<213> Adeno-Associated Virus 2

<400> 39
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgactg tttgctgttt 180

gctgcttgca atgtttgccc attttaggga catgtttgct gtttgctgct tgcaatgttt 240

gcccatttta gggacatgtt tgctgtttgc tgcttgcaat gtttgcccat tttagggaca 300

tgtttgctgt ttgctgcttg caatgtttgc ccattttagg gacaacgcga aacgtcgaca 360

ggttaatttt taaaaagcag tcaaaagtcc aagtggccct tggcagcatt tactctctct 420

gtttgctctg gttaataatc tcaggagcac aaacattcct ggaggcagga gaagaaatca 480

acatcctgga cttatcctct gggcctctcc ccacccccag gagaggctca ggttaatttt 540

taaaaagcag tcaaaagtcc aagtggccct tggcagcatt tactctctct gtttgctctg 600

gttaataatc tcaggagcac aaacattcct ggaggcagga gaagaaatca acatcctgga 660

cttatcctct gggcctctcc ccacccccag gagaggctgt cgactggaca caggacgctg 720

tggtttctga gccaggggggc gactcagatc ccagccagtg gacttagccc ctgtttgctc 780

ctccgataac tggggtgacc ttggttaata ttcaccagca gcctcccccg ttgcccctct 840

ggatccactg cttaaatacg gacgaggaca gggccctgtc tcctcagctt caggcaccac 900

cactgacctg ggacagtgaa tcgtaagtat gcctttcact gcgagaggtt ctggagaggc 960

ttctgagctc cccatggccc aggcaggcag caggtctggg gcaggagggg ggttgtggag 1020

tgccttgact cggggcctgg ccccccccatc tctgtcttgc aggacaattg ccgtcttctg 1080

tctcgtgggg catcctcctg ctggcaggcc tgtgctgcct ggtccctgcg atcgccacca 1140

tgcagattga gctgagcacc tgcttcttcc tgtgcctgct gaggttctgc ttctctgcca 1200

ccaggagata ctacctgggg gctgtggagc tgagctggga ctacatgcag tctgacctgg 1260

gggagctgcc tgtggatgcc aggttccccc ccagagtgcc caagagcttc cccttcaaca 1320

cctctgtggt gtacaagaag accctgtttg tggagttcac tgaccacctg ttcaacattg 1380

ccaagcccag gcccccctgg atgggcctgc tgggccccac catccaggct gaggtgtatg 1440

acactgtggt gatcaccctg aagaacatgg ccagccaccc tgtgagcctg catgctgtgg 1500

gggtgagcta ctggaaggcc tctgaggggg ctgagtatga tgaccagacc agccagaggg 1560

agaaggagga tgacaaggtg ttccctgggg gcagccacac ctatgtgtgg caggtgctga 1620

aggagaatgg ccccatggcc tctgaccccc tgtgcctgac ctacagctac ctgagccatg 1680

tggacctggt gaaggacctg aactctggcc tgattggggc cctgctggtg tgcagggagg 1740

gcagcctggc caaggagaag acccagaccc tgcacaagtt catcctgctg tttgctgtgt 1800

ttgatgaggg caagagctgg cactctgaaa ccaagaacag cctgatgcag gacagggatg 1860

ctgcctctgc cagggcctgg cccaagatgc acactgtgaa tggctatgtg aacaggagcc 1920

tgcctggcct gattggctgc cacaggaagt ctgtgtactg gcatgtgatt ggcatgggca 1980

ccacccctga ggtgcacagc atcttcctgg agggccacac cttcctggtc aggaaccaca 2040

ggcaggccag cctggagatc agccccatca ccttcctgac tgcccagacc ctgctgatgg 2100

acctgggcca gttcctgctg ttctgccaca tcagcagcca ccagcatgat ggcatggagg 2160

cctatgtgaa ggtggacagc tgccctgagg agccccagct gaggatgaag aacaatgagg 2220

aggctgagga ctatgatgat gacctgactg actctgagat ggatgtggtg aggtttgatg 2280

atgacaacag ccccagcttc atccagatca ggtctgtggc caagaagcac cccaagacct 2340

gggtgcacta cattgctgct gaggaggagg actgggacta tgcccccctg gtgctggccc 2400

ctgatgacag gagctacaag agccagtacc tgaacaatgg cccccagagg attggcagga 2460

agtacaagaa ggtcaggttc atggcctaca ctgatgaaac cttcaagacc agggaggcca 2520

tccagcatga gtctggcatc ctgggccccc tgctgtatgg ggaggtgggg gacaccctgc 2580

tgatcatctt caagaaccag gccagcaggc cctacaacat ctacccccat ggcatcactg 2640

atgtgaggcc cctgtacagc aggaggctgc ccaagggggt gaagcacctg aaggacttcc 2700

ccatcctgcc tggggagatc ttcaagtaca agtggactgt gactgtggag gatggcccca 2760

ccaagtctga ccccaggtgc ctgaccagat actacagcag ctttgtgaac atggagaggg 2820

acctggcctc tggcctgatt ggcccccctgc tgatctgcta caaggagtct gtggaccaga 2880

ggggcaacca gatcatgtct gacaagagga atgtgatcct gttctctgtg tttgatgaga 2940

acaggagctg gtacctgact gagaacatcc agaggttcct gcccaaccct gctggggtgc 3000

agctggagga ccctgagttc caggccagca acatcatgca cagcatcaat ggctatgtgt 3060

ttgacagcct gcagctgtct gtgtgcctgc atgaggtggc ctactggtac atcctgagca 3120

ttggggccca gactgacttc ctgtctgtgt tcttctctgg ctacaccttc aagcacaaga 3180

tggtgtatga ggacaccctg accctgttcc ccttctctgg ggagactgtg ttcatgagca 3240

tggagaaccc tggcctgtgg attctgggct gccacaactc tgacttcagg aacaggggca 3300

tgactgccct gctgaaagtc tccagctgtg acaagaacac tggggactac tatgaggaca 3360

gctatgagga catctctgcc tacctgctga gcaagaacaa tgccattgag cccaggagct 3420

tcagccagaa ccccccagtg ctgaagaggc accagaggga gatcaccagg accaccctgc 3480

agtctgacca ggaggagatt gactatgatg acaccatctc tgtggagatg aagaaggagg 3540

actttgacat ctacgacgag gacgagaacc agagccccag gagcttccag aagaagacca 3600

ggcactactt cattgctgct gtggagaggc tgtgggacta tggcatgagc agcagccccc 3660

atgtgctgag gaacagggcc cagtctggct ctgtgcccca gttcaagaag gtggtgttcc 3720

aggagttcac tgatggcagc ttcacccagc ccctgtacag aggggagctg aatgagcacc 3780

tgggcctgct gggcccctac atcagggctg aggtggagga caacatcatg gtgaccttca 3840

ggaaccaggc cagcaggccc tacagcttct acagcagcct gatcagctat gaggaggacc 3900

agaggcaggg ggctgagccc aggaagaact ttgtgaagcc caatgaaacc aagacctact 3960

tctggaaggt gcagcaccac atggccccca ccaaggatga gtttgactgc aaggcctggg 4020

cctacttctc tgatgtggac ctggagaagg atgtgcactc tggcctgatt ggccccctgc 4080

tggtgtgcca caccaacacc ctgaaccctg cccatggcag gcaggtgact gtgcaggagt 4140

ttgccctgtt cttcaccatc tttgatgaaa ccaagagctg gtacttcact gagaacatgg 4200

agaggaactg cagggccccc tgcaacatcc agatggagga ccccaccttc aaggagaact 4260

acaggttcca tgccatcaat ggctacatca tggacaccct gcctggcctg gtgatggccc 4320

aggaccagag gatcaggtgg tacctgctga gcatgggcag caatgagaac atccacagca 4380

tccacttctc tggccatgtg ttcactgtga ggaagaagga ggagtacaag atggccctgt 4440

acaacctgta ccctggggtg tttgagactg tggagatgct gcccagcaag gctggcatct 4500

ggagggtgga gtgcctgatt ggggagcacc tgcatgctgg catgagcacc ctgttcctgg 4560

tgtacagcaa caagtgccag acccccctgg gcatggcctc tggccacatc agggacttcc 4620

agatcactgc ctctggccag tatggccagt gggcccccaa gctggccagg ctgcactact 4680

ctggcagcat caatgcctgg agcaccaagg agcccttcag ctggatcaag gtggacctgc 4740

tggcccccat gatcatccat ggcatcaaga cccagggggc caggcagaag ttcagcagcc 4800

tgtacatcag ccagttcatc atcatgtaca gcctggatgg caagaagtgg cagacctaca 4860

ggggcaacag cactggcacc ctgatggtgt tctttggcaa tgtggacagc tctggcatca 4920

agcacaacat cttcaacccc cccatcattg ccagatacat caggctgcac cccacccact 4980

acagcatcag gagcaccctg aggatggagc tgatgggctg tgacctgaac agctgcagca 5040

tgcccctggg catggagagc aaggccatct ctgatgccca gatcactgcc agcagctact 5100

tcaccaacat gtttgccacc tggagcccca gcaaggccag gctgcacctg cagggcagga 5160

gcaatgcctg gaggccccag gtcaacaacc ccaaggagtg gctgcaggtg gacttccaga 5220

agaccatgaa ggtgactggg gtgaccaccc agggggtgaa gagcctgctg accagcatgt 5280

atgtgaagga gttcctgatc agcagcagcc aggatggcca ccagtggacc ctgttcttcc 5340

agaatggcaa ggtgaaggtg ttccagggca accaggacag cttcacccct gtggtgaaca 5400

gcctggaccc ccccctgctg accagatacc tgaggattca cccccagagc tgggtgcacc 5460

agattgccct gaggatggag gtgctgggct gtgaggccca ggacctgtac tgacctcgag 5520

gtgtgccttc tagttgccag ccatctgttg tttgcccctc ccccgtgcct tccttgaccc 5580

tggaaggtgc cactcccact gtcctttcct aataaaatga ggaaattgca tcgcattgtc 5640

tgagtaggtg tcattctatt ctgggggtg gggtggggca ggacagcaag ggggaggatt 5700

gggaagacaa tagcaggcat gctggggatg cggtgggctc tatgggcacg tggcggccgc 5760

aggaacccct agtgatggag ttggccactc cctctctgcg cgctcgctcg ctcactgagg 5820

ccgggcgacc aaaggtcgcc cgacgcccgg gctttgcccg ggcggcctca gtgagcgagc 5880

gagcgcgcag agagggagtg gccaa 5905

<210> 40
<211> 5355
<212> DNA
<213> Adeno-Associated Virus 2

<400> 40
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgactg tttgctgttt 180

gctgcttgca atgtttgccc attttaggga catgtttgct gtttgctgct tgcaatgttt 240

gcccatttta gggacatgtt tgctgtttgc tgcttgcaat gtttgcccat tttagggaca 300

tgtttgctgt ttgctgcttg caatgtttgc ccattttagg gacaacgcga aacgtcgact 360

ggacacagga cgctgtggtt tctgagccag ggggcgactc agatcccagc cagtggactt 420

agcccctgtt tgctcctccg ataactgggg tgaccttggt taatattcac cagcagcctc 480

ccccgttgcc cctctggatc cactgcttaa atacggacga ggacagggcc ctgtctcctc 540

agcttcaggc accaccactg acctgggaca gtgaatcgcg atcgccacca tgcagattga 600

gctgagcacc tgcttcttcc tgtgcctgct gaggttctgc ttctctgcca ccaggagata 660

ctacctgggg gctgtggagc tgagctggga ctacatgcag tctgacctgg gggagctgcc 720

tgtggatgcc aggttccccc ccagagtgcc caagagcttc cccttcaaca cctctgtggt 780

gtacaagaag accctgtttg tggagttcac tgaccacctg ttcaacattg ccaagcccag 840

gccccccctgg atgggcctgc tgggccccac catccaggct gaggtgtatg acactgtggt 900

gatcaccctg aagaacatgg ccagccaccc tgtgagcctg catgctgtgg gggtgagcta 960

ctggaaggcc tctgaggggg ctgagtatga tgaccagacc agccagaggg agaaggagga 1020

tgacaaggtg ttccctgggg gcagccacac ctatgtgtgg caggtgctga aggagaatgg 1080

ccccatggcc tctgaccccc tgtgcctgac ctacagctac ctgagccatg tggacctggt 1140

gaaggacctg aactctggcc tgattggggc cctgctggtg tgcagggagg gcagcctggc 1200

caaggagaag acccagaccc tgcacaagtt catcctgctg tttgctgtgt ttgatgaggg 1260

caagagctgg cactctgaaa ccaagaacag cctgatgcag gacagggatg ctgcctctgc 1320

cagggcctgg cccaagatgc acactgtgaa tggctatgtg aacaggagcc tgcctggcct 1380

gattggctgc cacaggaagt ctgtgtactg gcatgtgatt ggcatgggca ccacccctga 1440

ggtgcacagc atcttcctgg agggccacac cttcctggtc aggaaccaca ggcaggccag 1500

cctggagatc agccccatca ccttcctgac tgcccagacc ctgctgatgg acctgggcca 1560

gttcctgctg ttctgccaca tcagcagcca ccagcatgat ggcatggagg cctatgtgaa 1620

ggtggacagc tgccctgagg agccccagct gaggatgaag aacaatgagg aggctgagga 1680

ctatgatgat gacctgactg actctgagat ggatgtggtg aggtttgatg atgacaacag 1740

ccccagcttc atccagatca ggtctgtggc caagaagcac cccaagacct gggtgcacta 1800

cattgctgct gaggaggagg actgggacta tgccccctg gtgctggccc ctgatgacag 1860

gagctacaag agccagtacc tgaacaatgg cccccagagg attggcagga agtacaagaa 1920

ggtcaggttc atggcctaca ctgatgaaac cttcaagacc agggaggcca tccagcatga 1980

gtctggcatc ctgggccccc tgctgtatgg ggaggtgggg gacaccctgc tgatcatctt 2040

caagaaccag gccagcaggc cctacaacat ctacccccat ggcatcactg atgtgaggcc 2100

cctgtacagc aggaggctgc ccaaggggt gaagcacctg aaggacttcc ccatcctgcc 2160

tggggagatc ttcaagtaca agtggactgt gactgtggag gatggcccca ccaagtctga 2220

ccccaggtgc ctgaccagat actacagcag ctttgtgaac atggagaggg acctggcctc 2280

tggcctgatt ggcccctgc tgatctgcta caaggagtct gtggaccaga ggggcaacca 2340

gatcatgtct gacaagagga atgtgatcct gttctctgtg tttgatgaga acaggagctg 2400

gtacctgact gagaacatcc agaggttcct gcccaaccct gctggggtgc agctggagga 2460

ccctgagttc caggccagca acatcatgca cagcatcaat ggctatgtgt ttgacagcct 2520

gcagctgtct gtgtgcctgc atgaggtggc ctactggtac atcctgagca ttggggccca 2580

gactgacttc ctgtctgtgt tcttctctgg ctacaccttc aagcacaaga tggtgtatga 2640

ggacaccctg accctgttcc ccttctctgg ggagactgtg ttcatgagca tggagaaccc 2700

tggcctgtgg attctgggct gccacaactc tgacttcagg aacaggggca tgactgccct 2760

gctgaaagtc tccagctgtg acaagaacac tggggactac tatgaggaca gctatgagga 2820

catctctgcc tacctgctga gcaagaacaa tgccattgag cccaggagct tcagccagaa 2880

ccccccagtg ctgaagaggc accagaggga gatcaccagg accaccctgc agtctgacca 2940

ggaggagatt gactatgatg acaccatctc tgtggagatg aagaaggagg actttgacat 3000

ctacgacgag gacgagaacc agagccccag gagcttccag aagaagacca ggcactactt 3060

cattgctgct gtggagaggc tgtgggacta tggcatgagc agcagccccc atgtgctgag 3120

gaacagggcc cagtctggct ctgtgcccca gttcaagaag gtggtgttcc aggagttcac 3180

tgatggcagc ttcacccagc ccctgtacag aggggagctg aatgagcacc tgggcctgct 3240

gggcccctac atcagggctg aggtggagga caacatcatg gtgaccttca ggaaccaggc 3300

cagcaggccc tacagcttct acagcagcct gatcagctat gaggaggacc agaggcaggg 3360

ggctgagccc aggaagaact ttgtgaagcc caatgaaacc aagacctact tctggaaggt 3420

gcagcaccac atggccccca ccaaggatga gtttgactgc aaggcctggg cctacttctc 3480

tgatgtggac ctggagaagg atgtgcactc tggcctgatt ggcccctgc tggtgtgcca 3540

caccaacacc ctgaaccctg cccatggcag gcaggtgact gtgcaggagt ttgccctgtt 3600

cttcaccatc tttgatgaaa ccaagagctg gtacttcact gagaacatgg agaggaactg 3660

cagggccccc tgcaacatcc agatggagga ccccaccttc aaggagaact acaggttcca 3720

tgccatcaat ggctacatca tggacaccct gcctggcctg gtgatggccc aggaccagag 3780

gatcaggtgg tacctgctga gcatgggcag caatgagaac atccacagca tccacttctc 3840

tggccatgtg ttcactgtga ggaagaagga ggagtacaag atggccctgt acaacctgta 3900

ccctggggtg tttgagactg tggagatgct gcccagcaag gctggcatct ggagggtgga 3960

gtgcctgatt ggggagcacc tgcatgctgg catgagcacc ctgttcctgg tgtacagcaa 4020

caagtgccag acccccctgg gcatggcctc tggccacatc agggacttcc agatcactgc 4080

ctctggccag tatggccagt gggcccccaa gctggccagg ctgcactact ctggcagcat 4140

caatgcctgg agcaccaagg agcccttcag ctggatcaag gtggacctgc tggcccccat 4200

gatcatccat ggcatcaaga cccaggggc caggcagaag ttcagcagcc tgtacatcag 4260

ccagttcatc atcatgtaca gcctggatgg caagaagtgg cagacctaca ggggcaacag 4320

cactggcacc ctgatggtgt tctttggcaa tgtggacagc tctggcatca agcacaacat 4380

cttcaacccc cccatcattg ccagatacat caggctgcac cccacccact acagcatcag 4440

gagcaccctg aggatggagc tgatgggctg tgacctgaac agctgcagca tgcccctggg 4500

catggagagc aaggccatct ctgatgccca gatcactgcc agcagctact tcaccaacat 4560

gtttgccacc tggagcccca gcaaggccag gctgcacctg cagggcagga gcaatgcctg 4620

gaggccccag gtcaacaacc ccaaggagtg gctgcaggtg gacttccaga agaccatgaa 4680

ggtgactggg gtgaccaccc agggggtgaa gagcctgctg accagcatgt atgtgaagga 4740

gttcctgatc agcagcagcc aggatggcca ccagtggacc ctgttcttcc agaatggcaa 4800

ggtgaaggtg ttccagggca accaggacag cttcacccct gtggtgaaca gcctggaccc 4860

ccccctgctg accagatacc tgaggattca cccccagagc tgggtgcacc agattgccct 4920

gaggatggag gtgctgggct gtgaggccca ggacctgtac tgacctcgag gtgtgccttc 4980

tagttgccag ccatctgttg tttgcccctc ccccgtgcct tccttgaccc tggaaggtgc 5040

cactcccact gtcctttcct aataaaatga ggaaattgca tcgcattgtc tgagtaggtg 5100

tcattctatt ctgggggtg gggtggggca ggacagcaag ggggaggatt gggaagacaa 5160

tagcaggcat gctggggatg cggtgggctc tatgggcacg tggcggccgc aggaacccct 5220

agtgatggag ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgggcgacc 5280

aaaggtcgcc cgacgcccgg gctttgcccg ggcggcctca gtgagcgagc gagcgcgcag 5340

agagggagtg gccaa 5355

<210> 41
<211> 5618
<212> DNA
<213> Adeno-Associated Virus 2

<400> 41
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg ttttcgacca gagaggtctc 180

tgacctctgc cccagctcca aggtcagcag gcagggaggg ctgtgtgttt gctgtttgct 240

gcttgcaatg tttgcccatt ttagggacat gagtaggctg aagtttgttc agtgtggact 300

tcagaggcag cacacaaaca gccagagagg tctctgacct ctgccccagc tccaaggtca 360

gcaggcaggg agggctgtgt gtttgctgtt tgctgcttgc aatgtttgcc cattttaggg 420

acatgagtag gctgaagttt gttcagtgtg gacttcagag gcagcacaca aacagccaga 480

gaggtctctg acctctgccc cagctccaag gtcagcaggc agggagggct gtgtgtttgc 540

tgtttgctgc ttgcaatgtt tgcccatttt agggacatga gtaggctgaa gtttgttcag 600

tgtggacttc agaggcagca cacaaacagc cagagaggtc tctgacctct gccccagctc 660

caaggtcagc aggcagggag ggctgtgtgt ttgctgtttg ctgcttgcaa tgtttgccca 720

ttttagggac atgagtaggc tgaagtttgt tcagtgtgga cttcagaggc agcacacaaa 780

cagcacgcga aacgtcgact ggacacagga cgctgtggtt tctgagccag ggggcgactc 840

agatcccagc cagtggactt agcccctgtt tgctcctccg ataactgggg tgaccttggt 900

taatattcac cagcagcctc ccccgttgcc cctctggatc cactgcttaa atacggacga 960

ggacagggcc ctgtctcctc agcttcaggc accaccactg acctgggaca gtgaatcgcg 1020

atcgccacca tgcagattga gctgagcacc tgcttcttcc tgtgcctgct gaggttctgc 1080

ttctctgcca ccaggagata ctacctgggg gctgtggagc tgagctggga ctacatgcag 1140

tctgacctgg gggagctgcc tgtggatgcc aggttccccc ccagagtgcc caagagcttc 1200

cccttcaaca cctctgtggt gtacaagaag accctgtttg tggagttcac tgaccacctg 1260

ttcaacattg ccaagcccag gccccccctgg atgggcctgc tgggccccac catccaggct 1320

gaggtgtatg acactgtggt gatcaccctg aagaacatgg ccagccaccc tgtgagcctg 1380

catgctgtgg gggtgagcta ctggaaggcc tctgaggggg ctgagtatga tgaccagacc 1440

agccagaggg agaaggagga tgacaaggtg ttccctgggg gcagccacac ctatgtgtgg 1500

caggtgctga aggagaatgg ccccatggcc tctgaccccc tgtgcctgac ctacagctac 1560

ctgagccatg tggacctggt gaaggacctg aactctggcc tgattggggc cctgctggtg 1620

tgcagggagg gcagcctggc caaggagaag acccagaccc tgcacaagtt catcctgctg 1680

tttgctgtgt ttgatgaggg caagagctgg cactctgaaa ccaagaacag cctgatgcag 1740

gacagggatg ctgcctctgc cagggcctgg cccaagatgc acactgtgaa tggctatgtg 1800

aacaggagcc tgcctggcct gattggctgc cacaggaagt ctgtgtactg gcatgtgatt 1860

ggcatgggca ccacccctga ggtgcacagc atcttcctgg agggccacac cttcctggtc 1920

aggaaccaca ggcaggccag cctggagatc agccccatca ccttcctgac tgcccagacc 1980

ctgctgatgg acctgggcca gttcctgctg ttctgccaca tcagcagcca ccagcatgat 2040

ggcatggagg cctatgtgaa ggtggacagc tgccctgagg agccccagct gaggatgaag 2100

aacaatgagg aggctgagga ctatgatgat gacctgactg actctgagat ggatgtggtg 2160

aggtttgatg atgacaacag ccccagcttc atccagatca ggtctgtggc caagaagcac 2220

cccaagacct gggtgcacta cattgctgct gaggaggagg actgggacta tgcccccctg 2280

gtgctggccc ctgatgacag gagctacaag agccagtacc tgaacaatgg cccccagagg 2340

attggcagga agtacaagaa ggtcaggttc atggcctaca ctgatgaaac cttcaagacc 2400

agggaggcca tccagcatga gtctggcatc ctgggccccc tgctgtatgg ggaggtgggg 2460

gacaccctgc tgatcatctt caagaaccag gccagcaggc cctacaacat ctacccccat 2520

ggcatcactg atgtgaggcc cctgtacagc aggaggctgc ccaagggggt gaagcacctg 2580

aaggacttcc ccatcctgcc tggggagatc ttcaagtaca agtggactgt gactgtggag 2640

gatggcccca ccaagtctga ccccaggtgc ctgaccagat actacagcag ctttgtgaac 2700

atggagaggg acctggcctc tggcctgatt ggccccctgc tgatctgcta caaggagtct 2760

gtggaccaga ggggcaacca gatcatgtct gacaagagga atgtgatcct gttctctgtg 2820

tttgatgaga acaggagctg gtacctgact gagaacatcc agaggttcct gcccaaccct 2880

gctggggtgc agctggagga ccctgagttc caggccagca acatcatgca cagcatcaat 2940

ggctatgtgt ttgacagcct gcagctgtct gtgtgcctgc atgaggtggc ctactggtac 3000

atcctgagca ttggggccca gactgacttc ctgtctgtgt tcttctctgg ctacaccttc 3060

aagcacaaga tggtgtatga ggacaccctg accctgttcc ccttctctgg ggagactgtg 3120

ttcatgagca tggagaaccc tggcctgtgg attctgggct gccacaactc tgacttcagg 3180

aacaggggca tgactgccct gctgaaagtc tccagctgtg acaagaacac tggggactac 3240

tatgaggaca gctatgagga catctctgcc tacctgctga gcaagaacaa tgccattgag 3300

cccaggagct tcagccagaa ccccccagtg ctgaagaggc accagaggga gatcaccagg 3360

accaccctgc agtctgacca ggaggagatt gactatgatg acaccatctc tgtggagatg 3420

aagaaggagg actttgacat ctacgacgag gacgagaacc agagccccag gagcttccag 3480

aagaagacca ggcactactt cattgctgct gtggagaggc tgtgggacta tggcatgagc 3540

agcagccccc atgtgctgag gaacagggcc cagtctggct ctgtgcccca gttcaagaag 3600

gtggtgttcc aggagttcac tgatggcagc ttcacccagc ccctgtacag aggggagctg 3660

aatgagcacc tgggcctgct gggcccctac atcagggctg aggtggagga caacatcatg 3720

gtgaccttca ggaaccaggc cagcaggccc tacagcttct acagcagcct gatcagctat 3780

gaggaggacc agaggcaggg ggctgagccc aggaagaact ttgtgaagcc caatgaaacc 3840

aagacctact tctggaaggt gcagcaccac atggccccca ccaaggatga gtttgactgc 3900

aaggcctggg cctacttctc tgatgtggac ctggagaagg atgtgcactc tggcctgatt 3960

ggcccctgc tggtgtgcca caccaacacc ctgaaccctg cccatggcag gcaggtgact 4020

gtgcaggagt ttgccctgtt cttcaccatc tttgatgaaa ccaagagctg gtacttcact 4080

gagaacatgg agaggaactg cagggccccc tgcaacatcc agatggagga ccccaccttc 4140

aaggagaact acaggttcca tgccatcaat ggctacatca tggacaccct gcctggcctg 4200

gtgatggccc aggaccagag gatcaggtgg tacctgctga gcatgggcag caatgagaac 4260

atccacagca tccacttctc tggccatgtg ttcactgtga ggaagaagga ggagtacaag 4320

atggccctgt acaacctgta ccctggggtg tttgagactg tggagatgct gcccagcaag 4380

gctggcatct ggagggtgga gtgcctgatt ggggagcacc tgcatgctgg catgagcacc 4440

ctgttcctgg tgtacagcaa caagtgccag acccccctgg gcatggcctc tggccacatc 4500

agggacttcc agatcactgc ctctggccag tatggccagt gggcccccaa gctggccagg 4560

ctgcactact ctggcagcat caatgcctgg agcaccaagg agcccttcag ctggatcaag 4620

gtggacctgc tggcccccat gatcatccat ggcatcaaga cccaggggc caggcagaag 4680

ttcagcagcc tgtacatcag ccagttcatc atcatgtaca gcctggatgg caagaagtgg 4740

cagacctaca ggggcaacag cactggcacc ctgatggtgt tctttggcaa tgtggacagc 4800

tctggcatca agcacaacat cttcaacccc cccatcattg ccagatacat caggctgcac 4860

cccacccact acagcatcag gagcaccctg aggatggagc tgatgggctg tgacctgaac 4920

agctgcagca tgcccctggg catggagagc aaggccatct ctgatgccca gatcactgcc 4980

agcagctact tcaccaacat gtttgccacc tggagcccca gcaaggccag gctgcacctg 5040

cagggcagga gcaatgcctg gaggccccag gtcaacaacc ccaaggagtg gctgcaggtg 5100

gacttccaga agaccatgaa ggtgactggg gtgaccaccc agggggtgaa gagcctgctg 5160

accagcatgt atgtgaagga gttcctgatc agcagcagcc aggatggcca ccagtggacc 5220

ctgttcttcc agaatggcaa ggtgaaggtg ttccagggca accaggacag cttcacccct 5280

gtggtgaaca gcctggaccc ccccctgctg accagatacc tgaggattca cccccagagc 5340

tgggtgcacc agattgccct gaggatggag gtgctgggct gtgaggccca ggacctgtac 5400

tgacctcgag gaataaagga aatttatttt cattgcaata gtgtgttggt tttttgtgtc 5460

acgtggcggc cgcaggaacc cctagtgatg gagttggcca ctccctctct gcgcgctcgc 5520

tcgctcactg aggccgggcg accaaaggtc gcccgacgcc cgggctttgc ccgggcggcc 5580

tcagtgagcg agcgagcgcg cagagaggga gtggccaa 5618

<210> 42
<211> 5993
<212> DNA
<213> Adeno-Associated Virus 2

<400> 42
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg tttaaacgtc gacaggttaa 180

ttttaaaaa gcagtcaaaa gtccaagtgg cccttggcag catttactct ctctgtttgc 240

tctggttaat aatctcagga gcacaaacat tcctggaggc aggagaagaa atcaacatcc 300

tggacttatc ctctgggcct ctccccaccc ccaggagagg ctcaggttaa ttttaaaaa 360

gcagtcaaaa gtccaagtgg cccttggcag catttactct ctctgtttgc tctggttaat 420

aatctcagga gcacaaacat tcctggaggc aggagaagaa atcaacatcc tggacttatc 480

ctctgggcct ctccccaccc ccaggagagg ctgtcgactg gacacaggac gctgtggttt 540

ctgagccagg gggcgactca gatcccagcc agtggactta gcccctgttt gctcctccga 600

taactggggt gaccttggtt aatattcacc agcagcctcc cccgttgccc ctctggatcc 660

actgcttaaa tacggacgag gacagggccc tgtctcctca gcttcaggca ccaccactga 720

cctgggacag tgaatcgcga tcgccaccat gcagattgag ctgagcacct gcttcttcct 780

gtgcctgctg aggttctgct tctctgccac caggagatac tacctggggg ctgtggagct 840

gagctgggac tacatgcagt ctgacctggg ggagctgcct gtggatgcca ggttcccccc 900

cagagtgccc aagagcttcc ccttcaacac ctctgtggtg tacaagaaga ccctgtttgt 960

ggagttcact gaccacctgt tcaacattgc caagcccagg ccccctgga tgggcctgct 1020

gggccccacc atccaggctg aggtgtatga cactgtggtg atcaccctga agaacatggc 1080

cagccaccct gtgagcctgc atgctgtggg ggtgagctac tggaaggcct ctgaggggc 1140

tgagtatgat gaccagacca gccagaggga gaaggaggat gacaaggtgt tccctggggg 1200

cagccacacc tatgtgtggc aggtgctgaa ggagaatggc cccatggcct ctgaccccct 1260

gtgcctgacc tacagctacc tgagccatgt ggacctggtg aaggacctga actctggcct 1320

gattggggcc ctgctggtgt gcagggaggg cagcctggcc aaggagaaga cccagaccct 1380

gcacaagttc atcctgctgt ttgctgtgtt tgatgagggc aagagctggc actctgaaac 1440

caagaacagc ctgatgcagg acagggatgc tgcctctgcc agggcctggc ccaagatgca 1500

cactgtgaat ggctatgtga acaggagcct gcctggcctg attggctgcc acaggaagtc 1560

tgtgtactgg catgtgattg gcatgggcac cacccctgag gtgcacagca tcttcctgga 1620

gggccacacc ttcctggtca ggaaccacag gcaggccagc ctggagatca gccccatcac 1680

cttcctgact gcccagaccc tgctgatgga cctgggccag ttcctgctgt tctgccacat 1740

cagcagccac cagcatgatg gcatggaggc ctatgtgaag gtggacagct gccctgagga 1800

gccccagctg aggatgaaga acaatgagga ggctgaggac tatgatgatg acctgactga 1860

ctctgagatg gatgtggtga ggtttgatga tgacaacagc cccagcttca tccagatcag 1920

gtctgtggcc aagaagcacc ccaagacctg ggtgcactac attgctgctg aggaggagga 1980

ctgggactat gccccccctgg tgctggcccc tgatgacagg agctacaaga gccagtacct 2040

gaacaatggc ccccagagga ttggcaggaa gtacaagaag gtcaggttca tggcctacac 2100

tgatgaaacc ttcaagacca gggaggccat ccagcatgag tctggcatcc tgggcccccct 2160

gctgtatggg gaggtggggg acaccctgct gatcatcttc aagaaccagg ccagcaggcc 2220

ctacaacatc tacccccatg gcatcactga tgtgaggccc ctgtacagca ggaggctgcc 2280

caaggggtg aagcacctga aggacttccc catcctgcct ggggagatct tcaagtacaa 2340

gtggactgtg actgtggagg atggccccac caagtctgac cccaggtgcc tgaccagata 2400

ctacagcagc tttgtgaaca tggagaggga cctggcctct ggcctgattg gcccccctgct 2460

gatctgctac aaggagtctg tggaccagag gggcaaccag atcatgtctg acaagaggaa 2520

tgtgatcctg ttctctgtgt ttgatgagaa caggagctgg tacctgactg agaacatcca 2580

gaggttcctg cccaaccctg ctggggtgca gctggaggac cctgagttcc aggccagcaa 2640

catcatgcac agcatcaatg gctatgtgtt tgacagcctg cagctgtctg tgtgcctgca 2700

tgaggtggcc tactggtaca tcctgagcat tggggcccag actgacttcc tgtctgtgtt 2760

cttctctggc tacaccttca agcacaagat ggtgtatgag gacaccctga ccctgttccc 2820

cttctctggg gagactgtgt tcatgagcat ggagaaccct ggcctgtgga ttctgggctg 2880

ccacaactct gacttcagga acaggggcat gactgccctg ctgaaagtct ccagctgtga 2940

caagaacact ggggactact atgaggacag ctatgaggac atctctgcct acctgctgag 3000

caagaacaat gccattgagc ccaggagctt cagccagaac cccccagtgc tgaagaggca 3060

ccagagggag atcaccagga ccaccctgca gtctgaccag gaggagattg actatgatga 3120

caccatctct gtggagatga agaaggagga ctttgacatc tacgacgagg acgagaacca 3180

gagccccagg agcttccaga agaagaccag gcactacttc attgctgctg tggagaggct 3240

gtgggactat ggcatgagca gcagccccca tgtgctgagg aacagggccc agtctggctc 3300

tgtgccccag ttcaagaagg tggtgttcca ggagttcact gatggcagct tcacccagcc 3360

cctgtacaga ggggagctga atgagcacct gggcctgctg ggcccctaca tcagggctga 3420

ggtggaggac aacatcatgg tgaccttcag gaaccaggcc agcaggccct acagcttcta 3480

cagcagcctg atcagctatg aggaggacca gaggcagggg gctgagccca ggaagaactt 3540

tgtgaagccc aatgaaacca agacctactt ctggaaggtg cagcaccaca tggcccccac 3600

caaggatgag tttgactgca aggcctgggc ctacttctct gatgtggacc tggagaagga 3660

tgtgcactct ggcctgattg gcccccctgct ggtgtgccac accaacaccc tgaaccctgc 3720

ccatggcagg caggtgactg tgcaggagtt tgccctgttc ttcaccatct ttgatgaaac 3780

caagagctgg tacttcactg agaacatgga gaggaactgc agggcccccct gcaacatcca 3840

gatggaggac cccaccttca aggagaacta caggttccat gccatcaatg gctacatcat 3900

ggacaccctg cctggcctgg tgatggccca ggaccagagg atcaggtggt acctgctgag 3960

catgggcagc aatgagaaca tccacagcat ccacttctct ggccatgtgt tcactgtgag 4020

gaagaaggag gagtacaaga tggccctgta caacctgtac cctggggtgt ttgagactgt 4080

ggagatgctg cccagcaagg ctggcatctg gagggtggag tgcctgattg gggagcacct 4140

gcatgctggc atgagcaccc tgttcctggt gtacagcaac aagtgccaga ccccctgggg 4200

catggcctct ggccacatca gggacttcca gatcactgcc tctggccagt atggccagtg 4260

ggcccccaag ctggccaggc tgcactactc tggcagcatc aatgcctgga gcaccaagga 4320

gcccttcagc tggatcaagg tggacctgct ggcccccatg atcatccatg gcatcaagac 4380

ccaggggcc aggcagaagt tcagcagcct gtacatcagc cagttcatca tcatgtacag 4440

cctggatggc aagaagtggc agacctacag gggcaacagc actggcaccc tgatggtgtt 4500

ctttggcaat gtggacagct ctggcatcaa gcacaacatc ttcaaccccc ccatcattgc 4560

cagatacatc aggctgcacc ccacccacta cagcatcagg agcaccctga ggatggagct 4620

gatgggctgt gacctgaaca gctgcagcat gcccctgggc atggagagca aggccatctc 4680

tgatgcccag atcactgcca gcagctactt caccaacatg tttgccacct ggagccccag 4740

caaggccagg ctgcacctgc agggcaggag caatgcctgg aggccccagg tcaacaaccc 4800

caaggagtgg ctgcaggtgg acttccagaa gaccatgaag gtgactgggg tgaccaccca 4860

gggggtgaag agcctgctga ccagcatgta tgtgaaggag ttcctgatca gcagcagcca 4920

ggatggccac cagtggaccc tgttcttcca gaatggcaag gtgaaggtgt tccagggcaa 4980

ccaggacagc ttcacccctg tggtgaacag cctggacccc cccctgctga ccagatacct 5040

gaggattcac ccccagagct gggtgcacca gattgccctg aggatggagg tgctgggctg 5100

tgaggcccag gacctgtact gacctcgagg aataaaggaa atttattttc attgcaatag 5160

tgtgttggtt ttttgtgtca cgtgccctct cacactacct aaaccacgcc aggacaacct 5220

ctgctcctct ccaccgaaat tccaaggggt cgagtggatg ttggaggtgg catgggccca 5280

gagaggtctc tgacctctgc cccagctcca aggtcagcag gcagggaggg ctgtgtgttt 5340

gctgtttgct gcttgcaatg tttgcccatt ttagggacat gagtaggctg aagtttgttc 5400

agtgtggact tcagaggcag cacacaaaca gctgctggag gatgggaact gaggggttgg 5460

aaggggggcag ggtgagccca gaaactcctg tgtgcctctg agcctgcagc cctctcacac 5520

tacctaaacc acgccaggac aacctctgct cctctccacc gaaattccaa ggggtcgagt 5580

ggatgttgga ggtggcatgg gcccagagag gtctctgacc tctgccccag ctccaaggtc 5640

agcaggcagg gagggctgtg tgtttgctgt ttgctgcttg caatgtttgc ccattttagg 5700

gacatgagta ggctgaagtt tgttcagtgt ggacttcaga ggcagcacac aaacagctgc 5760

tggaggatgg gaactgaggg gttggaaggg ggcagggtga gcccagaaac tcctgtgtgc 5820

ctctgagcct gcagcacgtg gcggccgcag gaacccctag tgatggagtt ggccactccc 5880

tctctgcgcg ctcgctcgct cactgaggcc gggcgaccaa aggtcgcccg acgcccgggc 5940

tttgcccggg cggcctcagt gagcgagcga gcgcgcagag agggagtggc caa 5993

<210> 43
<211> 5337
<212> DNA
<213> Adeno-Associated Virus 2

<400> 43
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg tttaaacgtc gacaggttaa 180

ttttaaaaa gcagtcaaaa gtccaagtgg cccttggcag catttactct ctctgtttgc 240

tctggttaat aatctcagga gcacaaacat tcctggaggc aggagaagaa atcaacatcc 300

tggacttatc ctctgggcct ctccccaccc ccaggagagg ctcaggttaa ttttaaaaa 360

gcagtcaaaa gtccaagtgg cccttggcag catttactct ctctgtttgc tctggttaat 420

aatctcagga gcacaaacat tcctggaggc aggagaagaa atcaacatcc tggacttatc 480

ctctgggcct ctccccaccc ccaggagagg ctgtcgactg gacacaggac gctgtggttt 540

ctgagccagg gggcgactca gatcccagcc agtggactta gcccctgttt gctcctccga 600

taactggggt gaccttggtt aatattcacc agcagcctcc cccgttgccc ctctggatcc 660

actgcttaaa tacggacgag gacagggccc tgtctcctca gcttcaggca ccaccactga 720

cctgggacag tgaatcgcga tcgccaccat gcagattgag ctgagcacct gcttcttcct 780

gtgcctgctg aggttctgct tctctgccac caggagatac tacctggggg ctgtggagct 840

gagctgggac tacatgcagt ctgacctggg ggagctgcct gtggatgcca ggttcccccc 900

cagagtgccc aagagcttcc ccttcaacac ctctgtggtg tacaagaaga ccctgtttgt 960

ggagttcact gaccacctgt tcaacattgc caagcccagg ccccctgga tgggcctgct 1020

gggccccacc atccaggctg aggtgtatga cactgtggtg atcaccctga agaacatggc 1080

cagccaccct gtgagcctgc atgctgtggg ggtgagctac tggaaggcct ctgaggggc 1140

tgagtatgat gaccagacca gccagaggga gaaggaggat gacaaggtgt tccctggggg 1200

cagccacacc tatgtgtggc aggtgctgaa ggagaatggc cccatggcct ctgaccccct 1260

gtgcctgacc tacagctacc tgagccatgt ggacctggtg aaggacctga actctggcct 1320

gattggggcc ctgctggtgt gcagggaggg cagcctggcc aaggagaaga cccagaccct 1380

gcacaagttc atcctgctgt ttgctgtgtt tgatgagggc aagagctggc actctgaaac 1440

caagaacagc ctgatgcagg acagggatgc tgcctctgcc agggcctggc ccaagatgca 1500

cactgtgaat ggctatgtga acaggagcct gcctggcctg attggctgcc acaggaagtc 1560

tgtgtactgg catgtgattg gcatgggcac cacccctgag gtgcacagca tcttcctgga 1620

gggccacacc ttcctggtca ggaaccacag gcaggccagc ctggagatca gccccatcac 1680

cttcctgact gcccagaccc tgctgatgga cctgggccag ttcctgctgt tctgccacat 1740

cagcagccac cagcatgatg gcatggaggc ctatgtgaag gtggacagct gccctgagga 1800

gccccagctg aggatgaaga acaatgagga ggctgaggac tatgatgatg acctgactga 1860

ctctgagatg gatgtggtga ggtttgatga tgacaacagc cccagcttca tccagatcag 1920

gtctgtggcc aagaagcacc ccaagacctg ggtgcactac attgctgctg aggaggagga 1980

ctgggactat gccccctgg tgctggcccc tgatgacagg agctacaaga gccagtacct 2040

gaacaatggc ccccagagga ttggcaggaa gtacaagaag gtcaggttca tggcctacac 2100

tgatgaaacc ttcaagacca gggaggccat ccagcatgag tctggcatcc tgggccccct 2160

gctgtatggg gaggtggggg acaccctgct gatcatcttc aagaaccagg ccagcaggcc 2220

ctacaacatc tacccccatg gcatcactga tgtgaggccc ctgtacagca ggaggctgcc 2280

caaggggtg aagcacctga aggacttccc catcctgcct ggggagatct tcaagtacaa 2340

gtggactgtg actgtggagg atggccccac caagtctgac cccaggtgcc tgaccagata 2400

ctacagcagc tttgtgaaca tggagaggga cctggcctct ggcctgattg gccccctgct 2460

gatctgctac aaggagtctg tggaccagag gggcaaccag atcatgtctg acaagaggaa 2520

tgtgatcctg ttctctgtgt ttgatgagaa caggagctgg tacctgactg agaacatcca 2580

gaggttcctg cccaaccctg ctggggtgca gctggaggac cctgagttcc aggccagcaa 2640

catcatgcac agcatcaatg gctatgtgtt tgacagcctg cagctgtctg tgtgcctgca 2700

tgaggtggcc tactggtaca tcctgagcat tggggcccag actgacttcc tgtctgtgtt 2760

cttctctggc tacaccttca agcacaagat ggtgtatgag gacaccctga ccctgttccc 2820

cttctctggg gagactgtgt tcatgagcat ggagaaccct ggcctgtgga ttctgggctg 2880

ccacaactct gacttcagga acaggggcat gactgccctg ctgaaagtct ccagctgtga 2940

caagaacact ggggactact atgaggacag ctatgaggac atctctgcct acctgctgag 3000

caagaacaat gccattgagc ccaggagctt cagccagaac cccccagtgc tgaagaggca 3060

ccagagggag atcaccagga ccaccctgca gtctgaccag gaggagattg actatgatga 3120

caccatctct gtggagatga agaaggagga ctttgacatc tacgacgagg acgagaacca 3180

gagccccagg agcttccaga agaagaccag gcactacttc attgctgctg tggagaggct 3240

gtgggactat ggcatgagca gcagccccca tgtgctgagg aacagggccc agtctggctc 3300

tgtgccccag ttcaagaagg tggtgttcca ggagttcact gatggcagct tcacccagcc 3360

cctgtacaga ggggagctga atgagcacct gggcctgctg ggcccctaca tcagggctga 3420

ggtggaggac aacatcatgg tgaccttcag gaaccaggcc agcaggccct acagcttcta 3480

cagcagcctg atcagctatg aggaggacca gaggcagggg gctgagccca ggaagaactt 3540

tgtgaagccc aatgaaacca agacctactt ctggaaggtg cagcaccaca tggcccccac 3600

caaggatgag tttgactgca aggcctgggc ctacttctct gatgtggacc tggagaagga 3660

tgtgcactct ggcctgattg gccccctgct ggtgtgccac accaacaccc tgaaccctgc 3720

ccatggcagg caggtgactg tgcaggagtt tgccctgttc ttcaccatct ttgatgaaac 3780

caagagctgg tacttcactg agaacatgga gaggaactgc agggcccccc gcaacatcca 3840

gatggaggac cccaccttca aggagaacta caggttccat gccatcaatg gctacatcat 3900

ggacaccctg cctggcctgg tgatggccca ggaccagagg atcaggtggt acctgctgag 3960

catgggcagc aatgagaaca tccacagcat ccacttctct ggccatgtgt tcactgtgag 4020

gaagaaggag gagtacaaga tggccctgta caacctgtac cctggggtgt ttgagactgt 4080

ggagatgctg cccagcaagg ctggcatctg gagggtggag tgcctgattg gggagcacct 4140

gcatgctggc atgagcaccc tgttcctggt gtacagcaac aagtgccaga ccccccctggg 4200

catggcctct ggccacatca gggacttcca gatcactgcc tctggccagt atggccagtg 4260

ggcccccaag ctggccaggc tgcactactc tggcagcatc aatgcctgga gcaccaagga 4320

gcccttcagc tggatcaagg tggacctgct ggcccccatg atcatccatg gcatcaagac 4380

ccaggggggcc aggcagaagt tcagcagcct gtacatcagc cagttcatca tcatgtacag 4440

cctggatggc aagaagtggc agacctacag gggcaacagc actggcaccc tgatggtgtt 4500

ctttggcaat gtggacagct ctggcatcaa gcacaacatc ttcaaccccc ccatcattgc 4560

cagatacatc aggctgcacc ccacccacta cagcatcagg agcaccctga ggatggagct 4620

gatgggctgt gacctgaaca gctgcagcat gcccctgggc atggagagca aggccatctc 4680

tgatgcccag atcactgcca gcagctactt caccaacatg tttgccacct ggagccccag 4740

caaggccagg ctgcacctgc agggcaggag caatgcctgg aggccccagg tcaacaaccc 4800

caaggagtgg ctgcaggtgg acttccagaa gaccatgaag gtgactgggg tgaccaccca 4860

gggggtgaag agcctgctga ccagcatgta tgtgaaggag ttcctgatca gcagcagcca 4920

ggatggccac cagtggaccc tgttcttcca gaatggcaag gtgaaggtgt tccagggcaa 4980

ccaggacagc ttcacccctg tggtgaacag cctggacccc cccctgctga ccagatacct 5040

gaggattcac ccccagagct gggtgcacca gattgccctg aggatggagg tgctgggctg 5100

tgaggcccag gacctgtact gacctcgagg aataaaggaa atttattttc attgcaatag 5160

tgtgttggtt ttttgtgtca cgtggcggcc gcaggaaccc ctagtgatgg agttggccac 5220

tccctctctg cgcgctcgct cgctcactga ggccgggcga ccaaaggtcg cccgacgccc 5280

gggctttgcc cgggcggcct cagtgagcga gcgagcgcgc agagagggag tggccaa 5337

<210> 44
<211> 5542
<212> DNA
<213> Adeno-Associated Virus 2

<400> 44
ttggccactc cctctctgcg cgctcgctcg ctcactgagg ccgcccgggc aaagcccggg 60

cgtcgggcga cctttggtcg cccggcctca gtgagcgagc gagcgcgcag agagggagtg 120

gccaactcca tcactagggg ttcctgcggc cgcacgcgtg tttaaacgtc gacaggttaa 180

tttttaaaaa gcagtcaaaa gtccaagtgg cccttggcag catttactct ctctgtttgc 240

tctggttaat aatctcagga gcacaaacat tcctggaggc aggagaagaa atcaacatcc 300

tggacttatc ctctgggcct ctccccaccc ccaggagagg ctcaggttaa tttttaaaaa 360

gcagtcaaaa gtccaagtgg cccttggcag catttactct ctctgtttgc tctggttaat 420

aatctcagga gcacaaacat tcctggaggc aggagaagaa atcaacatcc tggacttatc 480

ctctgggcct ctccccaccc ccaggagagg ctgtcgactg gacacaggac gctgtggttt 540

ctgagccagg gggcgactca gatcccagcc agtggactta gcccctgttt gctcctccga 600

taactggggt gaccttggtt aatattcacc agcagcctcc cccgttgccc ctctggatcc 660

actgcttaaa tacggacgag gacagggccc tgtctcctca gcttcaggca ccaccactga 720

cctgggacag tgaatcgtaa gtatgccttt cactgcgaga ggttctggag aggcttctga 780

gctccccatg gcccaggcag gcagcaggtc tggggcagga ggggggttgt ggagtgcctt 840

gactcggggc ctggcccccc catctctgtc ttgcaggaca attgccgtct tctgtctcgt 900

ggggcatcct cctgctggca ggcctgtgct gcctggtccc tgcgatcgcc accatgcaga 960

ttgagctgag cacctgcttc ttcctgtgcc tgctgaggtt ctgcttctct gccaccagga 1020

gatactacct gggggctgtg gagctgagct gggactacat gcagtctgac ctgggggagc 1080

tgcctgtgga tgccaggttc ccccccagag tgcccaagag cttccccttc aacacctctg 1140

tggtgtacaa gaagaccctg tttgtggagt tcactgacca cctgttcaac attgccaagc 1200

ccaggccccc ctggatgggc ctgctgggcc ccaccatcca ggctgaggtg tatgacactg 1260

tggtgatcac cctgaagaac atggccagcc accctgtgag cctgcatgct gtgggggtga 1320

gctactggaa ggcctctgag ggggctgagt atgatgacca gaccagccag agggagaagg 1380

aggatgacaa ggtgttccct gggggcagcc acacctatgt gtggcaggtg ctgaaggaga 1440

atggccccat ggcctctgac cccctgtgcc tgacctacag ctacctgagc catgtggacc 1500

tggtgaagga cctgaactct ggcctgattg gggccctgct ggtgtgcagg gagggcagcc 1560

tggccaagga gaagacccag accctgcaca agttcatcct gctgtttgct gtgtttgatg 1620

agggcaagag ctggcactct gaaaccaaga acagcctgat gcaggacagg gatgctgcct 1680

ctgccagggc ctggcccaag atgcacactg tgaatggcta tgtgaacagg agcctgcctg 1740

gcctgattgg ctgccacagg aagtctgtgt actggcatgt gattggcatg ggcaccaccc 1800

ctgaggtgca cagcatcttc ctggagggcc acaccttcct ggtcaggaac cacaggcagg 1860

ccagcctgga gatcagcccc atcaccttcc tgactgccca gaccctgctg atggacctgg 1920

gccagttcct gctgttctgc cacatcagca gccaccagca tgatggcatg gaggcctatg 1980

tgaaggtgga cagctgccct gaggagcccc agctgaggat gaagaacaat gaggaggctg 2040

aggactatga tgatgacctg actgactctg agatggatgt ggtgaggttt gatgatgaca 2100

acagccccag cttcatccag atcaggtctg tggccaagaa gcaccccaag acctgggtgc 2160

actacattgc tgctgaggag gaggactggg actatgcccc cctggtgctg gcccctgatg 2220

acaggagcta caagagccag tacctgaaca atggccccca gaggattggc aggaagtaca 2280

agaaggtcag gttcatggcc tacactgatg aaaccttcaa gaccagggag gccatccagc 2340

atgagtctgg catcctgggc cccctgctgt atggggaggt gggggacacc ctgctgatca 2400

tcttcaagaa ccaggccagc aggccctaca acatctaccc ccatggcatc actgatgtga 2460

ggcccctgta cagcaggagg ctgcccaagg gggtgaagca cctgaaggac ttccccatcc 2520

tgcctgggga gatcttcaag tacaagtgga ctgtgactgt ggaggatggc cccaccaagt 2580

ctgaccccag gtgcctgacc agatactaca gcagctttgt gaacatggag agggacctgg 2640

cctctggcct gattggcccc ctgctgatct gctacaagga gtctgtggac cagaggggca 2700

accagatcat gtctgacaag aggaatgtga tcctgttctc tgtgtttgat gagaacagga 2760

gctggtacct gactgagaac atccagaggt tcctgcccaa ccctgctggg gtgcagctgg 2820

aggaccctga gttccaggcc agcaacatca tgcacagcat caatggctat gtgtttgaca 2880

gcctgcagct gtctgtgtgc ctgcatgagg tggcctactg gtacatcctg agcattgggg 2940

cccagactga cttcctgtct gtgttcttct ctggctacac cttcaagcac aagatggtgt 3000

atgaggacac cctgaccctg ttccccttct ctggggagac tgtgttcatg agcatggaga 3060

accctggcct gtggattctg ggctgccaca actctgactt caggaacagg ggcatgactg 3120

ccctgctgaa agtctccagc tgtgacaaga acactgggga ctactatgag gacagctatg 3180

aggacatctc tgcctacctg ctgagcaaga acaatgccat tgagcccagg agcttcagcc 3240

agaacccccc agtgctgaag aggcaccaga gggagatcac caggaccacc ctgcagtctg 3300

accaggagga gattgactat gatgacacca tctctgtgga gatgaagaag gaggactttg 3360

acatctacga cgaggacgag aaccagagcc ccaggagctt ccagaagaag accaggcact 3420

acttcattgc tgctgtggag aggctgtggg actatggcat gagcagcagc ccccatgtgc 3480

tgaggaacag ggcccagtct ggctctgtgc cccagttcaa gaaggtggtg ttccaggagt 3540

tcactgatgg cagcttcacc cagcccctgt acagagggga gctgaatgag cacctgggcc 3600

tgctgggccc ctacatcagg gctgaggtgg aggacaacat catggtgacc ttcaggaacc 3660

aggccagcag gccctacagc ttctacagca gcctgatcag ctatgaggag gaccagaggc 3720

aggggggctga gcccaggaag aactttgtga agcccaatga aaccaagacc tacttctgga 3780

aggtgcagca ccacatggcc cccaccaagg atgagtttga ctgcaaggcc tgggcctact 3840

tctctgatgt ggacctggag aaggatgtgc actctggcct gattggcccc ctgctggtgt 3900

gccacaccaa caccctgaac cctgcccatg gcaggcaggt gactgtgcag gagtttgccc 3960

tgttcttcac catctttgat gaaaccaaga gctggtactt cactgagaac atggagagga 4020

actgcagggc cccctgcaac atccagatgg aggaccccac cttcaaggag aactacaggt 4080

tccatgccat caatggctac atcatggaca ccctgcctgg cctggtgatg gcccaggacc 4140

agaggatcag gtggtacctg ctgagcatgg gcagcaatga gaacatccac agcatccact 4200

tctctggcca tgtgttcact gtgaggaaga aggaggagta caagatggcc ctgtacaacc 4260

tgtaccctgg ggtgtttgag actgtggaga tgctgcccag caaggctggc atctggaggg 4320

tggagtgcct gattggggag cacctgcatg ctggcatgag caccctgttc ctggtgtaca 4380

gcaacaagtg ccagaccccc ctgggcatgg cctctggcca catcagggac ttccagatca 4440

ctgcctctgg ccagtatggc cagtgggccc ccaagctggc caggctgcac tactctggca 4500

gcatcaatgc ctggagcacc aaggagccct tcagctggat caaggtggac ctgctggccc 4560

ccatgatcat ccatggcatc aagacccagg gggccaggca gaagttcagc agcctgtaca 4620

tcagccagtt catcatcatg tacagcctgg atggcaagaa gtggcagacc tacaggggca 4680

acagcactgg caccctgatg gtgttctttg gcaatgtgga cagctctggc atcaagcaca 4740

acatcttcaa ccccccccatc attgccagat acatcaggct gcaccccacc cactacagca 4800

tcaggagcac cctgaggatg gagctgatgg gctgtgacct gaacagctgc agcatgcccc 4860

tgggcatgga gagcaaggcc atctctgatg cccagatcac tgccagcagc tacttcacca 4920

acatgtttgc cacctggagc cccagcaagg ccaggctgca cctgcagggc aggagcaatg 4980

cctggaggcc ccaggtcaac aaccccaagg agtggctgca ggtggacttc cagaagacca 5040

tgaaggtgac tggggtgacc acccaggggg tgaagagcct gctgaccagc atgtatgtga 5100

aggagttcct gatcagcagc agccaggatg gccaccagtg gaccctgttc ttccagaatg 5160

gcaaggtgaa ggtgttccag ggcaaccagg acagcttcac ccctgtggtg aacagcctgg 5220

acccccccct gctgaccaga tacctgagga ttcaccccca gagctgggtg caccagattg 5280

ccctgaggat ggaggtgctg ggctgtgagg cccaggacct gtactgacct cgaggaataa 5340

aggaaattta ttttcattgc aatagtgtgt tggtttttg tgtcacgtgg cggccgcagg 5400

aacccctagt gatggagttg gccactccct ctctgcgcgc tcgctcgctc actgaggccg 5460

ggcgaccaaa ggtcgcccga cgcccgggct ttgcccgggc ggcctcagtg agcgagcgag 5520

cgcgcagaga gggagtggcc aa 5542