SEQUENCE LISTING

<110> TECNOGEN SpA
SASSANO, Marica
ESPOSITO, Adelaide
RIVIECCIO, Vincenzo
CASSANI, Giovanni

<120> IMPROVED HUMAN LONG PENTRAXIN 3 EXPRESSION SYSTEM AND USES THEREOF

<130> PCT 109660

<150> EP09 166 759.2
<151> 2009-07-29

<160> 12

<170> PatentIn version 3.5

<210> 1
<211> 7469
<212> DNA
<213> Artificial Sequence

<220>
<223> recombinant plasmid pSASSI-HPTX3

<400> 1
ggatcccccg ggctgcagga attccggctc aaactcagct cacttgagag tctcctcccg 60

ccagctgtgg aaagaacttt gcgtctctcc agcaatgcat ctccttgcga ttctgttttg 120

tgctctctgg tctgcagtgt tggccgagaa ctcggatgat tatgatctca tgtatgtgaa 180

tttggacaac gaaatagaca atggactcca tcccactgag gaccccacgc cgtgcgactg 240

cggtcaggag cactcggaat gggacaagct cttcatcatg ctggagaact cgcagatgag 300

agagcgcatg ctgctgcaag ccacggacga cgtcctgcgg ggcgagctgc agaggctgcg 360

ggaggagctg ggccggctcg cggaaagcct ggcgaggccg tgcgcgccgg gggctcccgc 420

agaggccagg ctgaccagtg ctctggacga gctgctgcag gcgacccgcg acgcgggccg 480

caggctggcg cgtatggagg gcgcggaggc gcagcgccca gaggaggcgg ggcgcgccct 540

ggccgcggtg ctagaggagc tgcggcagac gcgagccgac ctgcacgcgg tgcagggctg 600

ggctgcccgg agctggctgc cggcaggttg tgaaacagct attttattcc caatgcgttc 660

caagaagatt tttggaagcg tgcatccagt gagaccaatg aggcttgagt cttttagtgc 720

ctgcatttgg gtcaaagcca cagatgtatt aaacaaaacc atcctgtttt cctatggcac 780

aaagaggaat ccatatgaaa tccagctgta tctcagctac caatccatag tgtttgtggt 840

gggtggagag gagaacaaac tggttgctga agccatggtt tccctgggaa ggtggaccca 900

cctgtgcggc acctggaatt cagaggaagg gctcacatcc ttgtgggtaa atggtgaact 960

ggcggctacc actgttgaga tggccacagg tcacattgtt cctgagggag gaatcctgca 1020

gattggccaa gaaaagaatg gctgctgtgt gggtggtggc tttgatgaaa cattagcctt 1080

ctctgggaga ctcacaggct tcaatatctg ggatagtgtt cttagcaatg aagagataag 1140

agagaccgga ggagcagagt cttgtcacat ccgggggaat attgttgggt ggggagtcac 1200

agagatccag ccacatggag gagctcagta tgtttcataa atgttgtgaa actccacttg 1260
aagccaaaga aagaaactca cacttaaaac acatgccagt tgggaaggtc tgaaaactca 1320
gtgcataata ggaacacttg agactaatga aagagagagt tgagaccaat ctttatttgt 1380
actggccaaa tactgaataa acagttgaag gaaagacatt ggaaaaagct tagacatgat 1440
aagatacatt gatgagtttg gacaaaccac aactagaatg cagtgaaaaa aatgctttat 1500
ttgtgaaatt tgtgatgcta ttgctttatt tgtaaccatt ataagctgca ataaacaagt 1560
taacaacaac aattgcattc attttatgtt tcaggttcag ggggaggtgt gggaggtttt 1620
ttaaagcaag taaaacctct acaaatgtgg tatggctgat tatgatccgg ctgcctcgcg 1680
cgtttcggtg atgacggtga aaacctctga cacatgcagc tcccggagac ggtcacagct 1740
tgtctgtaag cggatgccgg gagcagacaa gcccgtcagg gcgcgtcagc gggtgttggc 1800
gggtgtcggg gcgcagccat gaccggtcga ctctcgaggg ggggcccggg gatccaacgt 1860
tacagttctc cagtgcatgt aatcccttca gttggttggt acaacttgcc aactgggccc 1920
tgttccacat gtgacacggg gggggaccaa acacaaaggg gttctctgac tgtagttgac 1980
atccttataa atggatgtgc acatttgcca acactgagtg gctttcatcc tggagcagac 2040
tttgcagtct gtggactgca acacaacatt gcctttatgt gtaactcttg gctgaagctc 2100
ttacaccaat gctgggggac atgtacctcc caggggccca ggaagactac gggaggctac 2160
accaacgtca atcagagggg cctgtgtagc taccgataag cggaccctca agagggcatt 2220
agcaatagtg tttataaggc ccccttgtta accctaaacg ggtagcatat gcttcccggg 2280
tagtagtata tactatccag actaacccta attcaatagc atatgttacc caacgggaag 2340
catatgctat cgaattaggg ttagtaaaag ggtcctaagg aacagcgatc gatgataagc 2400
tgtcaaacat gagaattctt gaagacgaaa gggcctcgtg atacgcctat ttttataggt 2460
taatgtcatg ataataatgg tttcttagac gtcaggtggc acttttcggg gaaatgtgcg 2520
cggaacccct atttgtttat ttttctaaat acattcaaat atgtatccgc tcatgagaca 2580
ataaccctga taaatgcttc aataatattg aaaaaggaag agtatgagta ttcaacattt 2640
ccgtgtcgcc cttattccct tttttgcggc attttgcctt cctgtttttg ctcacccaga 2700
aacgctggtg aaagtaaaag atgctgaaga tcagttgggt gcacgagtgg gttacatcga 2760
actggatctc aacagcggta agatccttga gagttttcgc cccgaagaac gttttccaat 2820
gatgagcact tttaaagttc tgctatgtgg cgcggtatta tcccgtgttg acgccgggca 2880
agagcaactc ggtcgccgca tacactattc tcagaatgac ttggttgagt actcaccagt 2940
cacagaaaag catcttacgg atggcatgac agtaagagaa ttatgcagtg ctgccataac 3000
catgagtgat aacactgcgg ccaacttact tctgacaacg atcggaggac cgaaggagct 3060
aaccgctttt ttgcacaaca tgggggatca tgtaactcgc cttgatcgtt gggaaccgga 3120
gctgaatgaa gccataccaa acgacgagcg tgacaccacg atgcctgcag caatggcaac 3180
aacgttgcgc aaactattaa ctggcgaact acttactcta gcttcccggc aacaattaat 3240

agactggatg gaggcggata aagttgcagg accacttctg cgctcggccc ttccggctgg 3300
ctggtttatt gctgataaat ctggagccgg tgagcgtggg tctcgcggta tcattgcagc 3360
actggggcca gatggtaagc cctcccgtat cgtagttatc tacacgacgg ggagtcaggc 3420
aactatggat gaacgaaata gacagatcgc tgagataggt gcctcactga ttaagcattg 3480
gtaactgtca gaccaagttt actcatatat actttagatt gatttaaaac ttcattttta 3540
atttaaaagg atctaggtga agatcctttt tgataatctc atgaccaaaa tcccttaacg 3600
tgagttttcg ttccactgag cgtcagaccc cgtagaaaag atcaaaggat cttcttgaga 3660
tccttttttt ctgcgcgtaa tctgctgctt gcaaacaaaa aaaccaccgc taccagcggt 3720
ggtttgtttg ccggatcaag agctaccaac tctttttccg aaggtaactg gcttcagcag 3780
agcgcagata ccaaatactg tccttctagt gtagccgtag ttaggccacc acttcaagaa 3840
ctctgtagca ccgcctacat acctcgctct gctaatcctg ttaccagtgg ctgctgccag 3900
tggcgataag tcgtgtctta ccgggttgga ctcaagacga tagttaccgg ataaggcgca 3960
gcggtcgggc tgaacggggg gttcgtgcac acagcccagc ttggagcgaa cgacctacac 4020
cgaactgaga tacctacagc gtgagctatg agaaagcgcc acgcttcccg aagggagaaa 4080
ggcggacagg tatccggtaa gcggcagggt cggaacagga gagcgcacga gggagcttcc 4140
agggggaaac gcctggtatc tttatagtcc tgtcgggttt cgccacctct gacttgagcg 4200
tcgatttttg tgatgctcgt caggggggcg gagcctatgg aaaaacgcca gcaacgcggc 4260
ctttttacgg ttcctggcct tttgctgcgc cgcgtgcggc tgctggagat ggcggacgcg 4320
atggatatgt tctgccaagg gttggtttgc gcattcacag ttctccgcaa gaattgattg 4380
gctccaattc ttggagtggt gaatccgtta gcgaggtgcc gccggcttcc attcaggtcg 4440
aggtggcccg gctccatgca ccgcgacgca acgcggggag gcagacaagg tatagggcgg 4500
cgcctacaat ccatgccaac ccgttccatg tgctcgccga ggcggcataa atcgccgtga 4560
cgatcagcgg tccagtgatc gaagttaggc tggtaagagc cgcgagcgat ccttgaagct 4620
gtccctgatg gtcgtcatct acctgcctgg acagcatggc ctgcaacgcg ggcatcccga 4680
tgccgccgga agcgagaaga atcataatgg ggaaggccat ccagcctcgc gtcgcgaacg 4740
gcgaacgcca gcaagacgta gcccagcgcg tcggccgcca tgccctgctt catccccgtg 4800
gcccgttgct cgcgtttgct ggcggtgtcc ccggaagaaa tatatttgca tgtctttagt 4860
tctatgatga cacaaacccc gcccagcgtc ttgtcattgg cgaattcgaa cacgcagatg 4920
cagtcggggc ggcgcggtcc caggtccact tcgcatatta aggtgacgcg tgtggcctcg 4980
aacaccgagc gaccctgcag cgacccgctt aacagcgtca acagcgtgcc gcagatcccg 5040
ggcaatgaga tatgaaaaag cctgaactca ccgcgacgtc tgtcgagaag tttctgatcg 5100
aaaagttcga cagcgtctcc gacctgatgc agctctcgga gggcgaagaa tctcgtgctt 5160
tcagcttcga tgtaggaggg cgtggatatg tcctgcgggt aaatagctgc gccgatggtt 5220
tctacaaaga tcgttatgtt tatcggcact ttgcatcggc cgcgctcccg attccggaag 5280

tgcttgacat tggggaattc agcgagagcc tgacctattg catctcccgc cgtgcacagg 5340
gtgtcacgtt gcaagacctg cctgaaaccg aactgcccgc tgttctgcag ccggtcgcgg 5400
aggccatgga tgcgatcgct gcggccgatc ttagccagac gagcgggttc ggcccattcg 5460
gaccgcaagg aatcggtcaa tacactacat ggcgtgattt catatgcgcg attgctgatc 5520
cccatgtgta tcactggcaa actgtgatgg acgacaccgt cagtgcgtcc gtcgcgcagg 5580
ctctcgatga gctgatgctt tgggccgagg actgccccga agtccggcac ctcgtgcacg 5640
cggatttcgg ctccaacaat gtcctgacgg acaatggccg cataacagcg gtcattgact 5700
ggagcgaggc gatgttcggg gattcccaat acgaggtcgc caacatcttc ttctggaggc 5760
cgtggttggc ttgtatggag cagcagacgc gctacttcga gcggaggcat ccggagcttg 5820
caggatcgcc gcggctccgg gcgtatatgc tccgcattgg tcttgaccaa ctctatcaga 5880
gcttggttga cggcaatttc gatgatgcag cttgggcgca gggtcgatgc gacgcaatcg 5940
tccgatccgg agccgggact gtcgggcgta cacaaatcgc ccgcagaagc gcggccgtct 6000
ggaccgatgg ctgtgtagaa gtactcgccg atagtggaaa ccgacgcccc agcactcgtc 6060
cgagggcaaa ggaatagggg agatggggga ggctaactga aacacggaag gagacaatac 6120
cggaaggaac ccgcgctatg acggcaataa aaagacagaa taaaacgcac gggtgttggg 6180
tcgtttgttc ataaacgcgg ggttcggtcc cagggctggc actctgtcga taccccaccg 6240
agaccccatt ggggccaata cgcccgcgtt tcttcctttt ccccacccca ccccccaagt 6300
tcgggtgaag gcccagggct cgcagccaac gtcggggcgg caggccctgc catagccact 6360
ggccccgtgg gttagggacg gggtccccca tggggaatgg tttatggttc gtgggggtta 6420
ttattttggg cgttgcgtgg ggtctggtcc acgactggac tgagcagaca gacccatggt 6480
ttttggatgg cctgggcatg gaccgcatgt actggcgcga cacgaacacc gggcgtctgt 6540
ggctgccaaa caccccccgac ccccaaaaac caccgcgcgg atttctggcg tgccaagcta 6600
gtcgaccaat tctcatgttt gacagcttat catcgcagat ccgggcaacg ttgttgccat 6660
tgctgcaggc gcagaactgg taggtatgga agatctatac attgaatcaa tattggcaat 6720
tagccatatt agtcattggt tatatagcat aaatcaatat tggctattgg ccattgcata 6780
cgttgtatct atatcataat atgtacattt atattggctc atgtccaata tgaccgccat 6840
gttgacattg attattgact agttattaat agtaatcaat tacggggtca ttagttcata 6900
gcccatatat ggagttccgc gttacataac ttacggtaaa tggcccgcct ggctgaccgc 6960
ccaacgaccc ccgcccattg acgtcaataa tgacgtatgt tcccatagta acgccaatag 7020
ggactttcca ttgacgtcaa tgggtggagt atttacggta aactgcccac ttggcagtac 7080
atcaagtgta tcatatgcca agtccgcccc ctattgacgt caatgacggt aaatggcccg 7140
cctggcatta tgcccagtac atgaccttac gggactttcc tacttggcag tacatctacg 7200
tattagtcat cgctattacc atggtgatgc ggttttggca gtacaccaat gggcgtggat 7260
agcggtttga ctcacgggga tttccaagtc tccaccccat tgacgtcaat gggagtttgt 7320

tttggcacca aaatcaacgg gactttccaa aatgtcgtaa taaccccgcc ccgttgacgc 7380

aaatgggcgg taggcgtgta cggtgggagg tctatataag cagagctcgt ttagtgaacc 7440

gtcagatctc tagaagctgg gtaccagct 7469

<210> 2
<211> 6796
<212> DNA
<213> Artificial Sequence

<220>
<223> recombinant plasmid pSC1-PTX3

<400> 2
aattcggatc ccccgggctg caggaattcc ggctcaaact cagctcactt gagagtctcc 60

tcccgccagc tgtggaaaga actttgcgtc tctccagcaa tgcatctcct tgcgattctg 120

ttttgtgctc tctggtctgc agtgttggcc gagaactcgg atgattatga tctcatgtat 180

gtgaatttgg acaacgaaat agacaatgga ctccatccca ctgaggaccc cacgccgtgc 240

gactgcggtc aggagcactc ggaatgggac aagctcttca tcatgctgga gaactcgcag 300

atgagagagc gcatgctgct gcaagccacg gacgacgtcc tgcggggcga gctgcagagg 360

ctgcgggagg agctgggccg gctcgcggaa agcctggcga ggccgtgcgc gccgggggct 420

cccgcagagg ccaggctgac cagtgctctg gacgagctgc tgcaggcgac ccgcgacgcg 480

ggccgcaggc tggcgcgtat ggagggcgcg gaggcgcagc gcccagagga ggcggggcgc 540

gccctggccg cggtgctaga ggagctgcgg cagacgcgag ccgacctgca cgcggtgcag 600

ggctgggctg cccggagctg gctgccggca ggttgtgaaa cagctatttt attcccaatg 660

cgttccaaga agatttttgg aagcgtgcat ccagtgagac caatgaggct tgagtctttt 720

agtgcctgca tttgggtcaa agccacagat gtattaaaca aaaccatcct gttttcctat 780

ggcacaaaga ggaatccata tgaaatccag ctgtatctca gctaccaatc catagtgttt 840

gtggtgggtg gagaggagaa caaactggtt gctgaagcca tggtttccct gggaaggtgg 900

acccacctgt gcggcacctg gaattcagag gaagggctca catccttgtg ggtaaatggt 960

gaactggcgg ctaccactgt tgagatggcc acaggtcaca ttgttcctga gggaggaatc 1020

ctgcagattg gccaagaaaa gaatggctgc tgtgtgggtg gtggctttga tgaaacatta 1080

gccttctctg ggagactcac aggcttcaat atctgggata gtgttcttag caatgaagag 1140

ataagagaga ccggaggagc agagtcttgt cacatccggg ggaatattgt tgggtgggga 1200

gtcacagaga tccagccaca tggaggagct cagtatgttt cataaatgtt gtgaaactcc 1260

acttgaagcc aaagaaagaa actcacactt aaaacacatg ccagttggga aggtctgaaa 1320

actcagtgca taataggaac acttgagact aatgaaagag agagttgaga ccaatcttta 1380

tttgtactgg ccaaatactg aataaacagt tgaaggaaag acattggaaa aagcttatcg 1440

ataccgtcga cctcgagggg gggcccgggg atccagatct tattaaagca gaacttgttt 1500

attgcagctt ataatggtta caaataaagc aatagcatca caaatttcac aaataaagca 1560

ttttttcac tgcattctag ttgtggtttg tccaaactca tcaatgtatc ttatcatgtc 1620
tggtcgactc tagactcttc cgcttcctcg ctcactgact cgctgcgctc ggtcgttcgg 1680
ctgcggcgag cggtatcagc tcactcaaag gcggtaatac ggttatccac agaatcaggg 1740
gataacgcag gaaagaacat gtccccaggc aggcagaagt atgcaaagca tgcatctcaa 1800
ttagtcagca accaggtgtg gaaagtcccc aggctcccca gcaggcagaa gtatgcaaag 1860
catgcatctc aattagtcag caaccatagt cccgccccta actccgccca tcccgccccc 1920
aactccgccc agttccgccc attctccgcc ccatggctga ctaatttttt ttatttatgc 1980
agaggccgag gccgcctctg cctctgagct attccagaag tagtgaggag gctttttgg 2040
aggcctaggc ttttgcaaaa agctcccggg agcttgtata tccattttcg gatctgatca 2100
agagacagga tgaggatcgt ttcgcatgat tgaacaagat ggattgcacg caggttctcc 2160
ggccgcttgg gtggagaggc tattcggcta tgactgggca caacagacaa tcggctgctc 2220
tgatgccgcc gtgttccggc tgtcagcgca ggggcgcccg gttctttttg tcaagaccga 2280
cctgtccggt gccctgaatg aactgcagga cgaggcagcg cggctatcgt ggctggccac 2340
gacgggcgtt ccttgcgcag ctgtgctcga cgttgtcact gaagcgggaa gggactggct 2400
gctattgggc gaagtgccgg ggcaggatct cctgtcatct caccttgctc ctgccgagaa 2460
agtatccatc atggctgatg caatgcggcg gctgcatacg cttgatccgg ctacctgccc 2520
attcgaccac caagcgaaac atcgcatcga gcgagcacgt actcggatgg aagccggtct 2580
tgtcgatcag gatgatctgg acgaagagca tcaggggctc gcgccagccg aactgttcgc 2640
caggctcaag gcgcgcatgc ccgacggcga ggatctcgtc gtgacccatg gcgatgcctg 2700
cttgccgaat atcatggtgg aaaatggccg cttttctgga ttcatcgact gtggccggct 2760
gggtgtggcg gaccgctatc aggacatagc gttggctacc cgtgatattg ctgaagagct 2820
tggcggcgaa tgggctgacc gcttcctcgt gctttacggt atcgccgctc ccgattcgca 2880
gcgcatcgcc ttctatcgcc ttcttgacga gttcttctga gcgggactct ggggttcgaa 2940
atgaccgacc aagcgacgcc caacctgcca tcacgagatt tcgattccac cgccgccttc 3000
tatgaaaggt tgggcttcgg aatcgttttc cgggacgccg gctggatgat cctccagcgc 3060
ggggatctca tgctggagtt cttcgcccac cccaacttgt ttattgcagc ttataatggt 3120
tacaaataaa gcaatagcat cacaaatttc acaaataaag catttttttc actgcattct 3180
agttgtggtt tgtccaaact catcaatgta tcttatcatg tctgtataca tgtgagcaaa 3240
aggccagcaa aaggccagga accgtaaaaa ggccgcgttg ctggcgtttt tccataggct 3300
ccgccccccct gacgagcatc acaaaaatcg acgctcaagt cagaggtggc gaaacccgac 3360
aggactataa agataccagg cgtttccccc tggaagctcc ctcgtgcgct ctcctgttcc 3420
gaccctgccg cttaccggat acctgtccgc ctttctccct tcgggaagcg tggcgctttc 3480
tcaatgctca cgctgtaggt atctcagttc ggtgtaggtc gttcgctcca agctgggctg 3540
tgtgcacgaa ccccccgttc agcccgaccg ctgcgcctta tccggtaact atcgtcttga 3600

gtccaacccg gtaagacacg acttatcgcc actggcagca gccactggta acaggattag 3660
cagagcgagg tatgtaggcg gtgctacaga gttcttgaag tggtggccta actacggcta 3720
cactagaagg acagtatttg gtatctgcgc tctgctgaag ccagttacct tcggaaaaag 3780
agttggtagc tcttgatccg gcaaacaaac caccgctggt agcggtggtt tttttgtttg 3840
caagcagcag attacgcgca gaaaaaaagg atctcaagaa gatcctttga tcttttctac 3900
ggggtctgac gctcagtgga acgaaaactc acgttaaggg attttggtca tgagattatc 3960
aaaaaggatc ttcacctaga tccttttaaa ttaaaaatga agttttaaat caatctaaag 4020
tatatatgag taaacttggt ctgacagtta ccaatgctta atcagtgagg cacctatctc 4080
agcgatctgt ctatttcgtt catccatagt tgcctgactc cccgtcgtgt agataactac 4140
gatacgggag ggcttaccat ctggccccag tgctgcaatg ataccgcgag acccacgctc 4200
accggctcca gatttatcag caataaacca gccagccgga agggccgagc gcagaagtgg 4260
tcctgcaact ttatccgcct ccatccagtc tattaattgt tgccgggaag ctagagtaag 4320
tagttcgcca gttaatagtt tgcgcaacgt tgttgccatt gctacaggca tcgtggtgtc 4380
acgctcgtcg tttggtatgg cttcattcag ctccggttcc caacgatcaa ggcgagttac 4440
atgatccccc atgttgtgca aaaaagcggt tagctccttc ggtcctccga tcgttgtcag 4500
aagtaagttg gccgcagtgt tatcactcat ggttatggca gcactgcata attctcttac 4560
tgtcatgcca tccgtaagat gcttttctgt gactggtgag tactcaacca agtcattctg 4620
agaatagtgt atgcggcgac cgagttgctc ttgcccggcg tcaatacggg ataataccgc 4680
gccacatagc agaactttaa aagtgctcat cattggaaaa cgttcttcgg ggcgaaaact 4740
ctcaaggatc ttaccgctgt tgagatccag ttcgatgtaa cccactcgtg cacccaactg 4800
atcttcagca tcttttactt tcaccagcgt ttctgggtga gcaaaaacag gaaggcaaaa 4860
tgccgcaaaa aagggaataa gggcgacacg gaaatgttga atactcatac tcttcttttt 4920
tcaatattat tgaagcattt atcagggtta ttgtctcatg agcggataca tatttgaatg 4980
tatttagaaa aataaacaaa taggggttcc gcgcacattt ccccgaaaag tgccacctga 5040
cgtctaagaa accattatta tcatgacatt aacctataaa aataggcgta tcacgaggcc 5100
cctttcgtct cgcgcgtttc ggtgatgacg gtgaaaacct ctgacacatg cagctcccgg 5160
agacggtcac agcttgtctg taagcggatg ccgggagcag acaagcccgt cagggcgcgt 5220
cagcgggtgt tggcgggtgt cggggctggc ttaactatgc ggcatcagag cagattgtac 5280
tgagagtgca ccatatgcgg tgtgaaatac cgcacagatg cgtaaggaga aaataccgca 5340
tcaggaaatt gtaaacgtta atattttgtt aaaattcgcg ttaaattttt gttaaatcag 5400
ctcatttttt aaccaatagg ccgaaatcgg caaaatccct tataaatcaa aagaatagac 5460
cgagataggg ttgagtgttg ttccagtttg gaacaagagt ccactattaa agaacgtgga 5520
ctccaacgtc aaagggcgaa aaaccgtcta tcagggcgat ggcccactac gtgatctggc 5580
ctccgcgccg ggttttggcg ccccccgcgg gcgccccccc cctcacggcg agcgctgcca 5640

cgtcagacga agggcgcagc gagcgtcctg atccttccgc ccggacgctc aggacagcgg 5700

cccgctgctc ataagactcg gccttagaac cccagtatca gcagaaggac attttaggac 5760

gggacttggg tgactctagg gcactggttt tctttccaga gagcggaaca ggcgaggaaa 5820

agtagtccct tctcggcgat tctgcggagg gatctccgtg gggcggtgaa cgccgatgat 5880

tatataagga cgcgccgggt gtggcacagc tagttccgtc gcagccggga tttgggtcgc 5940

ggttcttgtt tgtggatcgc tgtgatcgtc acttggtgag tagcgggctg ctgggctggc 6000

cggggctttc gtggccgccg ggccgctcgg tgggacggaa gcgtgtggag agaccgccaa 6060

gggctgtagt ctgggtccgc gagcaaggtt gccctgaact gggggttggg gggagcgcag 6120

caaaatggcg gctgttcccg agtcttgaat ggaagacgct tgtgaggcgg gctgtgaggt 6180

cgttgaaaca aggtgggggg catggtgggc ggcaagaacc caaggtcttg aggccttcgc 6240

taatgcggga aagctcttat tcgggtgaga tgggctgggg caccatctgg ggaccctgac 6300

gtgaagtttg tcactgactg gagaactcgg tttgtcgtct gttgcggggg cggcagttat 6360

ggcggtgccg ttgggcagtg cacccgtacc tttgggagcg cgcgccctcg tcgtgtcgtg 6420

acgtcacccg ttctgttggc ttataatgca gggtggggcc acctgccggt aggtgtgcgg 6480

taggcttttc tccgtcgcag gacgcagggt tcgggcctag ggtaggctct cctgaatcga 6540

caggcgccgg acctctggtg aggggaggga taagtgaggc gtcagtttct ttggtcggtt 6600

ttatgtacct atcttcttaa gtagctgaag ctccggtttt gaactatgcg ctcggggttg 6660

gcgagtgtgt tttgtgaagt tttttaggca ccttttgaaa tgtaatcatt tgggtcaata 6720

tgtaattttc agtgttagac tagtaaattg tccgctaaat tctggccgtt tttggctttt 6780

ttgttagacc ggaccg 6796

<210> 3
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic primer

<400> 3
atatcacgtg atctggcctc cgcgcc 26

<210> 4
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic primer

<400> 4
ggaattcggt ccggtctaac aaa 23

<210> 5
<211> 26

<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic primer

<400> 5
atatacatgt ccccaggcag gcagaa 26

<210> 6
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic primer

<400> 6
atatacatgt atacagacat gataag 26

<210> 7
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic primer

<400> 7
gtgagaactc ggatgattat gat 23

<210> 8
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic primer

<400> 8
tgaaacatac tgagctcctc cat 23

<210> 9
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic primer

<400> 9
gagaactgta acgttggatc cagctgg 27

<210> 10
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic primer

<400> 10
gtgtacaaag gatccagaca tgataag 27

<210> 11
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic primer

<400> 11
aagcttagac atgataagat acattg 26

<210> 12
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic primer

<400> 12
ctcgagagtc gaccggtcat ggctgc 26