

LISTADO DE SECUENCIAS

<110> UNIVERSIDAD DE MASSACHUSETTS

<120> VECTORES AAV AUTORREGULADORES PARA LA EXPRESION SEGURA DE MECP2 EN
SINDROME
DE RETT

<130> U0120.70091W000

<140> NO ASIGNADO AUN

<141> 2018-06-06

<150> US 62/516,060

<151> 2017-06-06

<160> 15

<170> PatentIn version 3.5

<210> 1

<211> 498

<212> PRT

<213> Humano

<400> 1

Met Ala Ala Ala Ala Ala Ala Ala Pro Ser Gly Gly Gly Gly Gly Gly
1 5 10 15

Glu Glu Glu Arg Leu Glu Glu Lys Ser Glu Asp Gln Asp Leu Gln Gly
20 25 30

Leu Lys Asp Lys Pro Leu Lys Phe Lys Lys Val Lys Lys Asp Lys Lys
35 40 45

Glu Glu Lys Glu Gly Lys His Glu Pro Val Gln Pro Ser Ala His His
50 55 60

Ser Ala Glu Pro Ala Glu Ala Gly Lys Ala Glu Thr Ser Glu Gly Ser
65 70 75 80

Gly Ser Ala Pro Ala Val Pro Glu Ala Ser Ala Ser Pro Lys Gln Arg
85 90 95

Arg Ser Ile Ile Arg Asp Arg Gly Pro Met Tyr Asp Asp Pro Thr Leu
100 105 110

Pro Glu Gly Trp Thr Arg Lys Leu Lys Gln Arg Lys Ser Gly Arg Ser
115 120 125

Ala Gly Lys Tyr Asp Val Tyr Leu Ile Asn Pro Gln Gly Lys Ala Phe
130 135 140

Arg Ser Lys Val Glu Leu Ile Ala Tyr Phe Glu Lys Val Gly Asp Thr
145 150 155 160

Ser Leu Asp Pro Asn Asp Phe Asp Phe Thr Val Thr Gly Arg Gly Ser
165 170 175

Pro Ser Arg Arg Glu Gln Lys Pro Pro Lys Lys Pro Lys Ser Pro Lys
180 185 190

Ala Pro Gly Thr Gly Arg Gly Arg Gly Arg Pro Lys Gly Ser Gly Thr
195 200 205

Thr Arg Pro Lys Ala Ala Thr Ser Glu Gly Val Gln Val Lys Arg Val
210 215 220

Leu Glu Lys Ser Pro Gly Lys Leu Leu Val Lys Met Pro Phe Gln Thr
225 230 235 240

Ser Pro Gly Gly Lys Ala Glu Gly Gly Gly Ala Thr Thr Ser Thr Gln
245 250 255

Val Met Val Ile Lys Arg Pro Gly Arg Lys Arg Lys Ala Glu Ala Asp
260 265 270

Pro Gln Ala Ile Pro Lys Lys Arg Gly Arg Lys Pro Gly Ser Val Val
275 280 285

Ala Ala Ala Ala Ala Glu Ala Lys Lys Lys Ala Val Lys Glu Ser Ser
290 295 300

Ile Arg Ser Val Gln Glu Thr Val Leu Pro Ile Lys Lys Arg Lys Thr
305 310 315 320

Arg Glu Thr Val Ser Ile Glu Val Lys Glu Val Val Lys Pro Leu Leu

325

330

335

Val Ser Thr Leu Gly Glu Lys Ser Gly Lys Gly Leu Lys Thr Cys Lys
 340 345 350

Ser Pro Gly Arg Lys Ser Lys Glu Ser Ser Pro Lys Gly Arg Ser Ser
 355 360 365

Ser Ala Ser Ser Pro Pro Lys Lys Glu His His His His His His His
 370 375 380

Ser Glu Ser Pro Lys Ala Pro Val Pro Leu Leu Pro Pro Leu Pro Pro
 385 390 395 400

Pro Pro Pro Glu Pro Glu Ser Ser Glu Asp Pro Thr Ser Pro Pro Glu
 405 410 415

Pro Gln Asp Leu Ser Ser Ser Val Cys Lys Glu Glu Lys Met Pro Arg
 420 425 430

Gly Gly Ser Leu Glu Ser Asp Gly Cys Pro Lys Glu Pro Ala Lys Thr
 435 440 445

Gln Pro Ala Val Ala Thr Ala Ala Thr Ala Ala Glu Lys Tyr Lys His
 450 455 460

Arg Gly Glu Gly Glu Arg Lys Asp Ile Val Ser Ser Ser Met Pro Arg
 465 470 475 480

Pro Asn Arg Glu Glu Pro Val Asp Ser Arg Thr Pro Val Thr Glu Arg
 485 490 495

Val Ser

<210> 2

<211> 486

<212> PRT

<213> Humano

<400> 2

Met Val Ala Gly Met Leu Gly Leu Arg Glu Glu Lys Ser Glu Asp Gln
1 5 10 15

Asp Leu Gln Gly Leu Lys Asp Lys Pro Leu Lys Phe Lys Lys Val Lys
20 25 30

Lys Asp Lys Lys Glu Glu Lys Glu Gly Lys His Glu Pro Val Gln Pro
35 40 45

Ser Ala His His Ser Ala Glu Pro Ala Glu Ala Gly Lys Ala Glu Thr
50 55 60

Ser Glu Gly Ser Gly Ser Ala Pro Ala Val Pro Glu Ala Ser Ala Ser
65 70 75 80

Pro Lys Gln Arg Arg Ser Ile Ile Arg Asp Arg Gly Pro Met Tyr Asp
85 90 95

Asp Pro Thr Leu Pro Glu Gly Trp Thr Arg Lys Leu Lys Gln Arg Lys
100 105 110

Ser Gly Arg Ser Ala Gly Lys Tyr Asp Val Tyr Leu Ile Asn Pro Gln
115 120 125

Gly Lys Ala Phe Arg Ser Lys Val Glu Leu Ile Ala Tyr Phe Glu Lys
130 135 140

Val Gly Asp Thr Ser Leu Asp Pro Asn Asp Phe Asp Phe Thr Val Thr
145 150 155 160

Gly Arg Gly Ser Pro Ser Arg Arg Glu Gln Lys Pro Pro Lys Lys Pro
165 170 175

Lys Ser Pro Lys Ala Pro Gly Thr Gly Arg Gly Arg Gly Arg Pro Lys
180 185 190

Gly Ser Gly Thr Thr Arg Pro Lys Ala Ala Thr Ser Glu Gly Val Gln
195 200 205

Val Lys Arg Val Leu Glu Lys Ser Pro Gly Lys Leu Leu Val Lys Met
210 215 220

Pro Phe Gln Thr Ser Pro Gly Gly Lys Ala Glu Gly Gly Gly Ala Thr
225 230 235 240

Thr Ser Thr Gln Val Met Val Ile Lys Arg Pro Gly Arg Lys Arg Lys
245 250 255

Ala Glu Ala Asp Pro Gln Ala Ile Pro Lys Lys Arg Gly Arg Lys Pro
260 265 270

Gly Ser Val Val Ala Ala Ala Ala Ala Glu Ala Lys Lys Lys Ala Val
275 280 285

Lys Glu Ser Ser Ile Arg Ser Val Gln Glu Thr Val Leu Pro Ile Lys
290 295 300

Lys Arg Lys Thr Arg Glu Thr Val Ser Ile Glu Val Lys Glu Val Val
305 310 315 320

Lys Pro Leu Leu Val Ser Thr Leu Gly Glu Lys Ser Gly Lys Gly Leu
325 330 335

Lys Thr Cys Lys Ser Pro Gly Arg Lys Ser Lys Glu Ser Ser Pro Lys
340 345 350

Gly Arg Ser Ser Ser Ala Ser Ser Pro Pro Lys Lys Glu His His His
355 360 365

His His His His Ser Glu Ser Pro Lys Ala Pro Val Pro Leu Leu Pro
370 375 380

Pro Leu Pro Pro Pro Pro Pro Glu Pro Glu Ser Ser Glu Asp Pro Thr
385 390 395 400

Ser Pro Pro Glu Pro Gln Asp Leu Ser Ser Ser Val Cys Lys Glu Glu
405 410 415

Lys Met Pro Arg Gly Gly Ser Leu Glu Ser Asp Gly Cys Pro Lys Glu
420 425 430

Pro Ala Lys Thr Gln Pro Ala Val Ala Thr Ala Ala Thr Ala Ala Glu
 435 440 445

Lys Tyr Lys His Arg Gly Glu Gly Glu Arg Lys Asp Ile Val Ser Ser
 450 455 460

Ser Met Pro Arg Pro Asn Arg Glu Glu Pro Val Asp Ser Arg Thr Pro
 465 470 475 480

Val Thr Glu Arg Val Ser
 485

<210> 3
 <211> 170
 <212> ADN
 <213> Ratón

<400> 3
 aattgagggc gtcaccgcta aggcctccgcc ccagcctggg ctccacaacc aatgaagggt 60
 aatctcgaca aagagcaagg ggtggggcgc gggcgcgag gtgcagcagc acacaggctg 120
 gtcgggaggg cggggcgcga cgtctgccgt gcgggggtccc ggcacgcggt 170

<210> 4
 <211> 23
 <212> ADN
 <213> Humano

<400> 4
 acaaacacca ttgtcacact cca 23

<210> 5
 <211> 22
 <212> ADN
 <213> Humano

<400> 5
 atacatactt ctttacattc ca 22

<210> 6
 <211> 22
 <212> ADN
 <213> Humano

<400> 6
 cgaccatggc tgtagactgt ta 22

<210> 7
<211> 5214
<212> ADN
<213> humano

<400> 7
ctgcgcgctc gctcgctcac tgaggccgcc cgggcaaagc ccgggcgctc ggcgaccttt 60
ggtcgcccgg cctcagtgag cgagcgagcg cgcagagagg gagtgtagcc atgctctagg 120
aagatcaatt cggtacaatt cacgcgtcga caattgaggg cgtcaccgct aaggctccgc 180
cccagcctgg gctccacaac caatgaaggg taatctcgac aaagagcaag ggggtggggcg 240
cgggcgcgca ggtgcagcag cacacaggct ggtcgggagg gcggggcgcg acgtctgccg 300
tgcgggggtcc cggcatcggt tgcgcgcgcg ctccctcctc tcggagagag ggctgtggta 360
aaaccctcc ggaaaatggc tgcagccgct gccgcagcgc cgagcggcgg aggtggcgggt 420
ggcgaggagg agagactgga agaaaagtca gaagaccagg acctccaggg cctcaaggac 480
aaaccctca agtttaaaaa ggtgaagaaa gataagaaag aagagaaaaga gggcaagcat 540
gagcccgtgc agccatcagc ccaccactct gctgagcccg cagaggcagg caaagcagag 600
acatcagaag ggtcaggctc cgccccggct gtgccggaag cttctgcctc ccccaaacag 660
cggcgctcca tcatccgtga ccgggggaccc atgtatgatg accccaccct gcctgaaggc 720
tggacacgga agcttaagca aaggaaatct ggacgctctg ctgggaagta tgatgtgtat 780
ttgatcaatc cccagggaaa agcctttcgc tctaaagtgg agttgattgc gtacttcgaa 840
aaggtaggcg acacatccct ggacccta atgatttgact tcacggtaac tgggagaggg 900
agccccctcc ggcgagagca gaaaccacct aagaagccca aatctcccaa agctccagga 960
actggcagag gtcggggacg ccccaaaggg agcggcacca cgagacccaa ggcagctacg 1020
tcagagggtg tgcaggtgaa aagggtcctg gagaaaagtc ctgggaagct cttgtcaag 1080
atgccttttc aaacttcgcc agggggcaag gctgaggggg gtggggccac cacatccacc 1140
caggtcatgg tgatcaaacg ccccggcagg aagcgaaaag ctgaggcaga ccctcaggcc 1200
attcccaaga aacggggctc aaagccgggg agtgtggtgg cagccgctgc cgccagggcc 1260
aaaaagaaag ccgtgaagga gtcttctatc cgatctgtgc aggagaccgt actccccatc 1320
aagaagcgca agaccggga gacggtcagc atcgaggtca aggaagtggg gaagcccctg 1380

ctggtgtcca ccctcgggtga gaagagcggg aaaggactga agacctgtaa gagccctggg	1440
cggaaaagca aggagagcag ccccaagggg cgcagcagca gcgcctcctc accccccaag	1500
aaggagcacc accaccatca ccaccactca gagtcccca aaggccccgt gccactgctc	1560
ccaccctgc cccacctcc acctgagccc gagagctccg aggacccac cagccccct	1620
gagccccagg acttgagcag cagcgtctgc aaagaggaga agatgccag aggaggctca	1680
ctggagagcg acggctgccc caaggagcca gctaagactc agcccgcggt tgccaccgcc	1740
gccacggccg cagaaaagta caaacaccga ggggaggagg agcgcaaaga cattgtttca	1800
tcctccatgc caaggccaaa cagagaggag cctgtggaca gccggacgcc cgtgaccgag	1860
agagttagcg agcagaagct gatctcagag gaggacctgt gacgaccatg gctgtagact	1920
gttactcgag atacatactt ctttacattc caatacatat ttctttacat tccaatacat	1980
acttctttac attccaccat ggactagtac aaacaccatt gtcacactcc aacaaacacc	2040
attgtcacac tccaacaaac accattgtca cactccagcg gccgcttcga tccgatcttt	2100
ttccctctgc caaaaattat ggggacatca tgaagcccct tgagcatctg acttctggct	2160
aataaaggaa atttattttc attgcaatag tgtgttgga ttttttgtgt ctctcactcg	2220
gcctaggtag ataagtagca tggcgggtta atcattaact acaaggaacc cctagtgatg	2280
gagttggcca ctccctctct gcgcgctcgc tcgctcactg aggccgggcg accaaaggtc	2340
gcccgcgcc cgggctttgc ccgggcggcc tcagtgcgc agcgagcgc cagccttaat	2400
taacctaatt cactggccgt cgttttacia cgtcgtgact gggaaaaccc tggcgttacc	2460
caacttaatc gccttgagc acatccccct ttcgccagct ggcgtaatag cgaagaggcc	2520
cgcaccgatc gcccttccca acagttgcgc agcctgaatg gcgaatggga cgcgccctgt	2580
agcggcgcat taagcgggc ggggtgtggtg gttacgcga gcgtgaccgc tacacttgcc	2640
agcgccctag cgcccgtcc tttcgctttc ttcccttcct ttctcgccac gttcgccggc	2700
tttccccgtc aagctctaaa tcgggggctc ctttaggggt tccgatttag tgctttacgg	2760
cacctcgacc ccaaaaaact tgattagggt gatggttcac gtagtgggcc atcgccctga	2820
tagacggttt ttcgccctt gacgttgag tccacgttct ttaatagtgg actcttgttc	2880
caaactggaa caacactcaa ccctatctcg gtctattctt ttgatttata agggattttg	2940
ccgatttcgg cctattggtt aaaaaatgag ctgatttaac aaaaatttaa cgcgaatttt	3000

aacaaaatat taacgcttac aatttaggtg gcacttttcg gggaaatgtg cgcggaaccc	3060
ctatttgttt atttttctaa atacattcaa atatgtatcc gctcatgaga caataaccct	3120
gataaatgct tcaataatat tgaaaaagga agagtatgag tattcaacat ttccgtgtcg	3180
cctttattcc cttttttgcg gcattttgcc ttcttgtttt tgctcaccca gaaacgctgg	3240
tgaaagtaaa agatgctgaa gatcagttgg gtgcacgagt gggttacatc gaactggatc	3300
tcaacagcgg taagatcctt gagagttttc gccccgaaga acgttttcca atgatgagca	3360
cttttaaagt tctgctatgt ggcgcggtat tatcccgtat tgacgccggg caagagcaac	3420
tcggtcgccg catacactat tctcagaatg acttggttga gtactcacca gtcacagaaa	3480
agcatcttac ggatggcatg acagtaagag aattatgcag tgctgccata accatgagtg	3540
ataacactgc ggccaactta cttctgacaa cgatcggagg accgaaggag ctaaccgctt	3600
ttttgcacaa catgggggat catgtaactc gccttgatcg ttgggaaccg gagctgaatg	3660
aagccatacc aaacgacgag cgtgacacca cgatgcctgt agcaatggca acaacgttgc	3720
gcaaactatt aactggcgaa ctacttactc tagcttcccg gcaacaatta atagactgga	3780
tggaggcgga taaagttgca ggaccacttc tgcgctcggc ctttccggct ggctggttta	3840
ttgctgataa atctggagcc ggtgagcgtg ggtctcgcgg tatcattgca gcactggggc	3900
cagatggtaa gccctcccgt atcgtagtta tctacacgac ggggagtcag gcaactatgg	3960
atgaacgaaa tagacagatc gctgagatag gtgcctcact gattaagcat tggtaactgt	4020
cagaccaagt ttactcatat atactttaga ttgatttaaa acttcatttt taatttaaaa	4080
ggatctaggt gaagatcctt tttgataatc tcatgaccaa aatcccctaa cgtgagtttt	4140
cgttccactg agcgtcagac cccgtagaaa agatcaaagg atcttcttga gatccttttt	4200
ttctgcgctg aatctgctgc ttgcaaacaa aaaaaccacc gctaccagcg gtggtttgtt	4260
tgccggatca agagctacca actctttttc cgaaggtaac tggcttcagc agagcgcaga	4320
taccaaatac tgttcttcta gtgtagccgt agttaggcca ccacttcaag aactctgtag	4380
caccgcctac atacctcgct ctgctaattc tgttaccagt ggctgctgcc agtggcgata	4440
agtcgtgtct taccgggttg gactcaagac gatagttacc ggataaggcg cagcggtcgg	4500
gctgaacggg gggttcgtgc acacagccca gcttggagcg aacgacctac accgaactga	4560
gataacctaca gcgtgagcta tgagaaagcg ccacgcttcc cgaagggaga aaggcggaca	4620

ggtatccggt aagcggcagg gtcggaacag gagagcgac gagggagctt ccagggggaa	4680
acgcctggta tctttatagt cctgtcgggt ttgccacct ctgacttgag cgtcgatttt	4740
tgtgatgctc gtcagggggg cggagcctat ggaaaaacgc cagcaacgcg gcctttttac	4800
ggttcctggc cttttgctgg ccttttgctc acatgttctt tcctgcgtta tcccctgatt	4860
ctgtggataa ccgtattacc gcctttgagt gagctgatac cgctcgccgc agccgaacga	4920
ccgagcgag cgagtcagtg agcgaggaag cggaagagcg cccaatacgc aaaccgcctc	4980
tccccgcgcg ttggccgatt cattaatgca gctggcacga caggtttccc gactggaaag	5040
cgggcagtga gcgcaacgca attaatgtga gttagctcac tcattaggca ccccaggctt	5100
tacactttat gcttccggct cgtatgttgt gtggaattgt gagcggataa caatttcaca	5160
caggaaacag ctatgaccat gattacgcca gatttaatta aggccttaat tagg	5214

<210> 8
 <211> 5236
 <212> ADN
 <213> humano

<400> 8	
ctgcgcgctc gctcgctcac tgaggccgcc cgggcaaagc ccgggcgtcg ggcgaccttt	60
ggtcgcccgg cctcagtgag cgagcgagcg cgcagagagg gagtgtagcc atgctctagg	120
aagatcaatt cggatcaatt cacgcgtcga caattgaggg cgtcaccgct aaggctccgc	180
cccagcctgg gctccacaac caatgaaggg taatctcgac aaagagcaag ggggtggggcg	240
cgggcgcgca ggtgcagcag cacacaggct ggtcgggagg gcggggcgcg acgtctgccg	300
tgcgggggtcc cggcatcggc tgccgcgcgc ctccctcctc tcggagagag ggctgtggta	360
aaaccgtcc ggaaaatggc tgcagccgct gccgcagcgc cgagcggcgg aggtggcggc	420
ggcgaggagg agagactgga agaaaagtca gaagaccagg acctccaggg cctcaaggac	480
aaaccctca agtttaaaaa ggtgaagaaa gataagaaag aagagaaaga gggcaagcat	540
gagcccgtgc agccatcagc ccaccactct gctgagcccg cagaggcagg caaagcagag	600
acatcagaag ggtcaggctc cgccccggct gtgccggaag cttctgcctc ccccaaacag	660
cggcgctcca tcatccgtga ccggggaccc atgtatgatg accccaccct gcctgaaggc	720
tggacacgga agcttaagca aaggaaatct ggacgctctg ctgggaagta tgatgtgtat	780
ttgatcaatc cccagggaaa agcctttcgc tctaaagtgg agttgattgc gtacttcgaa	840

aaggtaggcg	acacatccct	ggacccta	gattttgact	tcacggtaac	tgggagaggg	900
agcccctccc	ggcgagagca	gaaaccacct	aagaagccca	aatctcccaa	agctccagga	960
actggcagag	gtcggggacg	ccccaagggg	agcggcacca	cgagacccaa	ggcagctacg	1020
tcagagggtg	tgcaggtgaa	aagggtcctg	gagaaaagtc	ctgggaagct	ccttgtcaag	1080
atgccttttc	aaacttcgcc	agggggcaag	gctgaggggg	gtggggccac	cacatccacc	1140
caggtcatgg	tgatcaaacg	ccccggcagg	aagcgaaaag	ctgaggcaga	ccctcaggcc	1200
attcccaaga	aacggggtcg	aaagccgggg	agtgtggtgg	cagccgctgc	cgccgaggcc	1260
aaaaagaaag	ccgtgaagga	gtcttctatc	cgatctgtgc	aggagaccgt	actccccatc	1320
aagaagcgca	agaccggga	gacggtcagc	atcgagggtca	aggaagtggg	gaagcccctg	1380
ctggtgtcca	ccctcgggtga	gaagagcggg	aaaggactga	agacctgtaa	gagccctggg	1440
cggaaaagca	aggagagcag	ccccaagggg	cgcagcagca	gcgctctctc	accccccaag	1500
aaggagcacc	accaccatca	ccaccactca	gagtcccaa	aggcccccg	gccactgctc	1560
ccacccctgc	ccccacctcc	acctgagccc	gagagctccg	aggacccac	cagccccct	1620
gagccccagg	acttgagcag	cagcgtctgc	aaagaggaga	agatgcccag	aggagggtca	1680
ctggagagcg	acggctgccc	caaggagcca	gctaagactc	agcccgcggt	tgccaccgcc	1740
gccacggccg	cagaaaagta	caaacaccga	ggggagggag	agcgcaaaga	cattgtttca	1800
tcctccatgc	caaggccaaa	cagagaggag	cctgtggaca	gccggacgcc	cgtgaccgag	1860
agagttagcg	agcagaagct	gatctcagag	gaggacctgt	gacgaccatg	gctgtagact	1920
gttacgacca	tggctgtaga	ctgttactcg	agatacatac	ttctttacat	tccaatacat	1980
acttctttac	attccaatac	atacttcttt	acattccacc	atggactagt	acaaacacca	2040
ttgtcacact	ccaacaaaca	ccattgtcac	actccaacaa	acaccattgt	cacactccag	2100
cggccgcttc	gatccgatct	ttttccctct	gccaaaaatt	atggggacat	catgaagccc	2160
cttgagcatc	tgacttctgg	ctaataaagg	aaatttatatt	tcattgcaat	agtgtgttgg	2220
aattttttgt	gtctctcact	cggcctaggt	agataagtag	catggcgggt	taatcattaa	2280
ctacaaggaa	cccctagtga	tggagttggc	cactccctct	ctgcgcgctc	gctcgctcac	2340
tgaggccggg	cgaccaaagg	tcgcccgcg	cccgggcttt	gcccgggcgg	cctcagttag	2400
cgagcgagcg	cgcagcctta	attaacctaa	ttcactggcc	gtcgttttac	aacgtcgtga	2460

ctgggaaaac cctggcgтта cccaacttaa tcgccttgca gcacatcccc ctttcgccag	2520
ctggcgtaat agcgaagagg cccgcaccga tcgcccttcc caacagttgc gcagcctgaa	2580
tggcgaaatgg gacgcgccct gtagcggcgc attaagcgcg gcgggtgtgg tggttacgcg	2640
cagcgtgacc gctacacttg ccagcgccct agcggccgct cttttcgctt tcttcccttc	2700
ctttctcgcc acgttcgccg gctttccccg tcaagctcta aatcgggggc tccctttagg	2760
gttccgattt agtgctttac ggcacctcga ccccaaaaaa cttgattagg gtgatggttc	2820
acgtagtggg ccatcgccct gatagacggt ttttcgccct ttgacgttgg agtccacgtt	2880
ctttaatagt ggactcttgt tccaaactgg aacaacactc aaccctatct cggctctattc	2940
ttttgattta taagggattt tgccgatttc ggcctattgg ttaaaaaatg agctgattta	3000
acaaaaattt aacgcgaatt ttaacaaaat attaacgctt acaatttagg tggcactttt	3060
cggggaaatg tgcgcggaac ccctatttgt ttatTTTTtct aaatacattc aaatatgtat	3120
ccgctcatga gacaataacc ctgataaatg cttcaataat attgaaaaag gaagagtatg	3180
agtattcaac atttccgtgt cggccttatt ccctTTTTtg cggcattttg ccttcctgtt	3240
tttgctcacc cagaaacgct ggtgaaagta aaagatgctg aagatcagtt gggcgcacga	3300
gtgggttaca tcgaactgga tctcaacagc ggtaagatcc ttgagagttt tcgccccgaa	3360
gaacgttttc caatgatgag cactttttaa gttctgctat gtggcgcggt attatcccgt	3420
attgacgccg ggcaagagca actcggtcgc cgcatacact attctcagaa tgacttggtt	3480
gagtactcac cagtcacaga aaagcatctt acggatggca tgacagtaag agaattatgc	3540
agtgtgcca taaccatgag tgataacact gcggccaact tacttctgac aacgatcgga	3600
ggaccgaagg agctaaccgc ttttttgcac aacatggggg atcatgtaac tcgccttgat	3660
cgttgggaac cggagctgaa tgaagccata ccaaacgacg agcgtgacac cacgatgcct	3720
gtagcaatgg caacaacgtt gcgcaaacta ttaactggcg aactacttac tctagcttcc	3780
cggcaacaat taatagactg gatggaggcg gataaagttg caggaccact tctgcgctcg	3840
gcccttccgg ctggctgggt tattgctgat aaatctggag ccggtgagcg tgggtctcgc	3900
ggtatcattg cagcactggg gccagatggg aagccctccc gtatcgtagt tatctacacg	3960
acggggagtc aggcaactat ggatgaacga aatagacaga tcgctgagat aggtgcctca	4020
ctgattaagc attggtaact gtcagaccaa gtttactcat atatacttta gattgattta	4080

aaacttcatt ttttaatttaa aaggatctag gtgaagatcc tttttgataa tctcatgacc	4140
aaaatcccctt aacgtgagtt ttcgttccac tgagcgtcag accccgtaga aaagatcaaa	4200
ggatcttctt gagatccttt ttttctgcgc gtaatctgct gcttgcaaac aaaaaacca	4260
ccgctaccag cggtggtttg tttgccgat caagagctac caactctttt tccgaaggta	4320
actggcttca gcagagcgca gataccaaat actgttcttc tagtgtagcc gtagttaggc	4380
caccacttca agaactctgt agcaccgcct acatacctcg ctctgctaata cctgttacca	4440
gtggctgctg ccagtggcga taagtcgtgt cttaccgggt tggactcaag acgatagtta	4500
ccggataagg cgcagcggtc gggctgaacg gggggttcgt gcacacagcc cagcttgag	4560
cgaacgacct acaccgaact gagataccta cagcgtgagc tatgagaaaag cgccacgctt	4620
cccgaaggga gaaaggcgga caggtatccg gtaagcggca gggtcggaac aggagagcgc	4680
acgaggagc ttccaggggg aaacgcctgg tatctttata gtcctgtcgg gtttcgccac	4740
ctctgacttg agcgtcgatt tttgtgatgc tcgtcagggg ggcgagacct atggaaaaac	4800
gccagcaacg cggccttttt acggttcctg gccttttgct ggctttttgc tcacatgttc	4860
tttctgcgt tatcccctga ttctgtggat aaccgtatta ccgcctttga gtgagctgat	4920
accgctcgcc gcagccgaac gaccgagcgc agcgagtcag tgagcgagga agcggaagag	4980
cgccaatac gcaaaccgcc tctccccgcg cgttggccga ttcattaatg cagctggcac	5040
gacaggtttc ccgactggaa agcgggcagt gagcgcaacg caattaatgt gagttagctc	5100
actcattagg caccacaggc ttacacttt atgcttccgg ctcgtatgtt gtgtggaatt	5160
gtgagcggat aacaatttca cacaggaaac agctatgacc atgattacgc cagatttaat	5220
taaggcctta attagg	5236

<210> 9
 <211> 5258
 <212> ADN
 <213> Humano

<400> 9	
ctgcgcgctc gctcgctcac tgaggccgcc cgggcaaagc ccgggcgtcg ggcgaccttt	60
ggtcgcccgg cctcagtgag cgagcgagcg cgcagagagg gagtgtagcc atgctctagg	120
aagatcaatt cggtacaatt cacgcgtcga caattgaggg cgtcaccgct aaggctccgc	180

cccagcctgg gctccacaac caatgaaggg taatctcgac aaagagcaag ggggtggggcg	240
cgggcgcgca ggtgcagcag cacacaggct ggtcgggagg gcggggcgcg acgtctgccg	300
tgcgggggtcc cggcatcggt tgcgcgcgcg ctccctcctc tcggagagag ggctgtggta	360
aaacccgtcc ggaaaatggc tgcagccgct gccgcagcgc cgagcggcgg aggtggcgggt	420
ggcgaggagg agagactgga agaaaagtca gaagaccagg acctccaggg cctcaaggac	480
aaacccctca agtttaaaaa ggtgaagaaa gataagaaag aagagaaaaga gggcaagcat	540
gagcccgtgc agccatcagc ccaccactct gctgagcccc cagaggcagg caaagcagag	600
acatcagaag ggtcaggctc cgccccggct gtgccggaag cttctgcctc ccccaaacag	660
cggcgctcca tcatccgtga ccgggggaccc atgtatgatg accccaccct gcctgaaggc	720
tggacacgga agcttaagca aaggaaatct ggacgctctg ctgggaagta tgatgtgtat	780
ttgatcaatc cccagggaag agcctttcgc tctaaagtgg agttgattgc gtacttcgaa	840
aaggtaggcg acacatccct ggaccctaag gattttgact tcacggtaac tgggagaggg	900
agccccctcc ggcgagagca gaaaccacct aagaagccca aatctcccaa agctccagga	960
actggcagag gtcggggacg ccccaaaggg agcggcacca cgagacccaa ggcagctacg	1020
tcagagggtg tgcaggtgaa aagggtcctg gagaaaagtc ctgggaagct ctttgtcaag	1080
atgccttttc aaacttcgcc aggggggcaag gctgaggggg gtggggccac cacatccacc	1140
caggtcatgg tgatcaaacg ccccggcagg aagcgaaaag ctgaggcaga ccctcaggcc	1200
attcccaaga aacggggctc aaagccgggg agtgtggtgg cagccgctgc cgccgaggcc	1260
aaaaagaaag ccgtgaagga gtcttctatc cgatctgtgc aggagaccgt actccccatc	1320
aagaagcgca agaccggga gacggtcagc atcgagggtc aggaagtggg gaagcccctg	1380
ctggtgtcca ccctcggtga gaagagcggg aaaggactga agacctgtaa gagccctggg	1440
cggaaaagca aggagagcag cccaagggg cgcagcagca gcgcctcctc acccccaag	1500
aaggagcacc accaccatca ccaccactca gagtcccaa agggccccgt gccactgctc	1560
ccacccctgc cccacctcc acctgagccc gagagctccg aggacccac cagccccct	1620
gagccccagg acttgagcag cagcgtctgc aaagaggaga agatgcccag aggaggctca	1680
ctggagagcg acggctgccc caaggagcca gctaagactc agcccgcggg tgccaccgcc	1740
gccacggccg cagaaaagta caaacaccga ggggagggag agcgcaaaga cattgtttca	1800

tcctccatgc caaggccaaa cagagaggag cctgtggaca gccggacgcc cgtgaccgag	1860
agagttagcg agcagaagct gatctcagag gaggacctgt gacgaccatg gctgtagact	1920
gttacgacca tggctgtaga ctgttacgac catggctgta gactgttact cgagatacat	1980
acttcctttac attccaatac atacttcttt acattccaat acatacttct ttacattcca	2040
ccatggacta gtacaaacac cattgtcaca ctccaacaaa caccattgtc acactccaac	2100
aaacaccatt gtcacactcc agcggccgct tcgatccgat ctttttccct ctgccaaaaa	2160
ttatggggac atcatgaagc cccttgagca tctgacttct ggctaataaa ggaaatttat	2220
tttcattgca atagtgtgtt ggaatttttt gtgtctctca ctcggcctag gtagataagt	2280
agcatggcgg gttaatcatt aactacaagg aacccttagt gatggagttg gccactccct	2340
ctctgcgcgc tcgctcgctc actgaggccg ggcgaccaa ggctgcccga cggccgggct	2400
ttgcccgggc ggcctcagtg agcgagcgag cgcgcagcct taattaacct aattcactgg	2460
ccgtcgtttt acaacgtcgt gactgggaaa accctggcgt tacccaactt aatcgccttg	2520
cagcacatcc ccctttcgcc agctggcgta atagcgaaga ggcccgacc gatcgccctt	2580
cccaacagtt gcgcagcctg aatggcgaat gggacgcgcc ctgtagcggc gcattaagcg	2640
cggcgggtgt ggtggttacg cgcagcgtga ccgctacact tgccagcgcc ctagcggccg	2700
ctcctttcgc tttcttccct tcctttctcg ccacgttcgc cggctttccc cgtcaagctc	2760
taaatcgggg gtcctcttta gggttccgat ttagtgcttt acggcacctc gaccccaaaa	2820
aacttgatta ggtgatggt tcacgtagtg ggccatcgcc ctgatagacg gtttttcgcc	2880
ctttgacgtt ggagtccacg ttctttaata gtggactctt gttccaaact ggaacaacac	2940
tcaaccctat ctcggtctat tcttttgatt tataagggat tttgccgatt tcggcctatt	3000
ggttaaaaaa tgagctgatt taacaaaaat ttaacgcgaa ttttaacaaa atattaacgc	3060
ttacaattta ggtggcactt ttcggggaaa tgtgcgcgga acccctattt gtttattttt	3120
ctaaatacat tcaaatatgt atccgctcat gagacaataa ccctgataaa tgcttcaata	3180
atattgaaaa aggaagagta tgagtattca acatttccgt gtcgccctta ttcccttttt	3240
tgcggcattt tgccttcctg tttttgctca ccagaaaacg ctggtgaaag taaaagatgc	3300
tgaagatcag ttgggtgcac gagtgggtta catcgaactg gatctcaaca gcggtaagat	3360
ccttgagagt tttcgccccg aagaacgttt tccaatgatg agcactttta aagttctgct	3420

atgtggcgcg gtattatccc gtattgacgc cgggcaagag caactcggtc gccgcataca	3480
ctattctcag aatgacttgg ttgagtactc accagtcaca gaaaagcatc ttacggatgg	3540
catgacagta agagaattat gcagtgtctgc cataaccatg agtgataaca ctgcggccaa	3600
cttacttctg acaacgatcg gaggaccgaa ggagctaacc gcttttttgc acaacatggg	3660
ggatcatgta actcgccttg atcgttggga accggagctg aatgaagcca taccaaacga	3720
cgagcgtgac accacgatgc ctgtagcaat ggcaacaacg ttgcgcaaac tattaactgg	3780
cgaactactt actctagctt cccggcaaca attaatagac tggatggagg cggataaagt	3840
tgcaggacca cttctgcgct cggcccttcc ggctggctgg tttattgctg ataaatctgg	3900
agccggtgag cgtgggtctc gcggtatcat tgcagcactg gggccagatg gtaagccctc	3960
ccgtatcgta gttatctaca cgacggggag tcaggcaact atggatgaac gaaatagaca	4020
gatcgtgag ataggtgcct cactgattaa gcattggtaa ctgtcagacc aagtttactc	4080
atatatactt tagattgatt taaaacttca tttttaattt aaaaggatct aggtgaagat	4140
cctttttgat aatctcatga ccaaaatccc ttaacgtgag ttttcgttcc actgagcgtc	4200
agaccccgta gaaaagatca aaggatcttc ttgagatcct ttttttctgc gcgtaatctg	4260
ctgcttgcaa acaaaaaaac caccgctacc agcggtggtt tgtttgccgg atcaagagct	4320
accaactctt tttccgaagg taactggctt cagcagagcg cagataccaa atactgttct	4380
tctagtgtag ccgtagttag gccaccactt caagaactct gtagcaccgc ctacatacct	4440
cgctctgcta atcctgttac cagtggctgc tgccagtggc gataagtcgt gtcttaccgg	4500
gttggactca agacgatagt taccggataa ggcgcagcgg tcgggctgaa cgggggggtc	4560
gtgcacacag cccagcttgg agcgaacgac ctacaccgaa ctgagatacc tacagcgtga	4620
gctatgagaa agcgccacgc ttcccgaagg gagaaaggcg gacaggtatc cggtaagcgg	4680
cagggtcgga acaggagagc gcacgaggga gcttccaggg ggaaacgcct ggtatcttta	4740
tagtcctgtc gggtttcgcc acctctgact tgagcgtcga tttttgtgat gctcgtcagg	4800
ggggcgggagc ctatggaaaa acgccagcaa cgcggccttt ttacggttcc tggccttttg	4860
ctggcctttt gctcacatgt tctttcctgc gttatcccct gattctgtgg ataaccgtat	4920
taccgccttt gagtgagctg ataccgctcg ccgcagccga acgaccgagc gcagcgagtc	4980
agtgagcgag gaagcggaag agcgcccaat acgcaaaccg cctctccccg cgcgttggcc	5040

gattcattaa tgcagctggc acgacaggtt tcccgactgg aaagcgggca gtgagcgcaa	5100
cgcaattaat gtgagttagc tcactcatta ggcaccccag gctttacact ttatgtcttc	5160
ggctcgtatg ttgtgtggaa ttgtgagcgg ataacaattt cacacaggaa acagctatga	5220
ccatgattac gccagattta attaaggcct taattagg	5258

<210> 10
 <211> 2393
 <212> ADN
 <213> Humano

<400> 10	
ctgcgcgctc gctcgctcac tgaggccgcc cgggcaaagc ccgggcgtcg ggcgaccttt	60
ggtcgcccgg cctcagtgag cgagcgagcg cgcagagagg gagtgtagcc atgctctagg	120
aagatcaatt cggtacaatt cacgcgtcga caattgaggg cgtcaccgct aaggctccgc	180
cccagcctgg gctccacaac caatgaaggg taatctcgac aaagagcaag ggggtggggcg	240
cgggcgcgca ggtgcagcag cacacaggct ggtcgggagg gcggggcgcg acgtctgccg	300
tgcgggggtcc cggcatcggg tgccgcgcgcg ctccctcctc tcggagagag ggctgtggta	360
aaaccggtcc ggaaaatggc tgcagccgct gccgcagcgc cgagcggcgg aggtggcggg	420
ggcgaggagg agagactgga agaaaagtca gaagaccagg acctccaggg cctcaaggac	480
aaaccctca agtttaaaaa ggtgaagaaa gataagaaag aagagaaaaga gggcaagcat	540
gagcccgtgc agccatcagc ccaccactct gctgagcccg cagaggcagg caaagcagag	600
acatcagaag ggtcaggctc cgccccggct gtgccggaag cttctgcctc cccaaacag	660
cggcgctcca tcatccgtga ccggggaccc atgtatgatg accccaccct gcctgaaggc	720
tggacacgga agcttaagca aaggaaatct ggacgctctg ctgggaagta tgatgtgtat	780
ttgatcaatc cccagggaag agcctttcgc tctaaagtgg agttgattgc gtacttcgaa	840
aaggtaggcg acacatccct ggaccctaag gattttgact tcacggtaac tgggagaggg	900
agcccctccc ggcgagagca gaaaccacct aagaagccca aatctcccaa agctccagga	960
actggcagag gtcggggacg ccccaaaggg agcggcacca cgagacccaa ggcagctacg	1020
tcagaggggtg tgcaggtgaa aagggtcctg gagaaaagtc ctgggaagct ctttgtcaag	1080
atgccttttc aaacttcgcc agggggcaag gctgaggggg gtggggccac cacatccacc	1140
caggtcatgg tgatcaaacg ccccggcagg aagcgaagaa ctgaggcaga ccctcaggcc	1200

attcccaaga aacggggtcg aaagccgggg agtgtggtgg cagccgctgc cgccgaggcc	1260
aaaaagaaag ccgtgaagga gtcttctatc cgatctgtgc aggagaccgt actccccatc	1320
aagaagcgca agacccggga gacggtcagc atcgagggtca aggaagtggg gaagcccctg	1380
ctggtgtcca ccctcgggta gaagagcggg aaaggactga agacctgtaa gagccctggg	1440
cggaaaagca aggagagcag ccccaagggg cgcagcagca gcgcctcctc accccccaag	1500
aaggagcacc accaccatca ccaccactca gagtccccaaggcccccggt gccactgctc	1560
ccaccctgc cccacactcc acctgagccc gagagctccg aggacccac cagccccct	1620
gagccccagg acttgagcag cagcgtctgc aaagaggaga agatgcccag aggaggctca	1680
ctggagagcg acggctgccc caaggagcca gctaagactc agcccgcggg tgccaccgcc	1740
gccacggccg cagaaaagta caaacaccga ggggaggagg agcgcaaaga cattgtttca	1800
tcctccatgc caaggccaaa cagagaggag cctgtggaca gccggacgcc cgtgaccgag	1860
agagttagcg agcagaagct gatctcagag gaggacctgt gacgaccatg gctgtagact	1920
gttactcgag atacatactt ctttacattc caatacatac ttctttacat tccaatacat	1980
acttctttac attccaccat ggactagtag aaacaccatt gtcacactcc aacaaacacc	2040
attgtcacac tccaacaaac accattgtca cactccagcg gccgcttcga tccgatcttt	2100
ttccctctgc caaaaattat ggggacatca tgaagcccct tgagcatctg acttctggct	2160
aataaaggaa atttattttc attgcaatag tgtgttgga tttttgtgt ctctcactcg	2220
gcctaggtag ataagtagca tggcgggtta atcattaact acaaggaacc ctagtgatg	2280
gagttggcca ctccctctct gcgcgctcgc tcgctcactg aggccgggag accaaaggtc	2340
gcccgcgcc cgggctttgc ccgggcggcc tcagttagcg agcgagcgcg cag	2393

<210> 11
 <211> 2415
 <212> ADN
 <213> Humano

<400> 11	
ctgcgcgctc gctcgctcac tgaggccgcc cgggcaaagc ccgggcgtcg ggcgaccttt	60
ggtcgcccgg cctcagttag cgagcgagcg cgcagagagg gagtgtagcc atgctctagg	120
aagatcaatt cggtacaatt cacgcgtcga caattgaggg cgtcaccgct aaggctccgc	180

cccagcctgg gctccacaac caatgaaggg taatctcgac aaagagcaag ggggtggggcg	240
cggg'gcgcga ggtgcagcag cacacaggct ggtcgggagg gcgggggcgcg acgtctgccg	300
tgcgggggtcc cggcatcggt tgcgcgcgcg ctccctcctc tcggagagag ggctgtggta	360
aaaccctcc ggaaaatggc tgcagccgct gccgcagcgc cgagcggcgg aggtggcgg	420
ggcgaggagg agagactgga agaaaagtca gaagaccagg acctccaggg cctcaaggac	480
aaaccctca agtttaaaaa ggtgaagaaa gataagaaag aagagaaaaga gggcaagcat	540
gagcccgtgc agccatcagc ccaccactct gctgagcccg cagaggcagg caaagcagag	600
acatcagaag ggtcaggctc cgccccggct gtgccggaag cttctgcctc ccccaaacag	660
cggcgctcca tcatccgtga cgggggaccc atgtatgatg accccaccct gcctgaaggc	720
tggacacgga agcttaagca aaggaaatct ggacgctctg ctgggaagta tgatgtgtat	780
ttgatcaatc cccagggaag agcctttcgc tctaaagtgg agttgattgc gtacttcgaa	840
aaggtaggcg acacatccct ggaccctaag gattttgact tcacggtaac tgggagaggg	900
agcccctccc ggcgagagca gaaaccacct aagaagccca aatctcccaa agctccagga	960
actggcagag gtcggggacg ccccaaaggg agcggcacca cgagacccaa ggcagctacg	1020
tcagagggtg tgcaggtgaa aagggtcctg gagaaaagtc ctgggaagct ccttgtcaag	1080
atgccttttc aaacttcgcc agggggcaag gctgaggggg gtggggccac cacatccacc	1140
caggtcatgg tgatcaaacg ccccggcagg aagcgaaaag ctgaggcaga ccctcaggcc	1200
attcccaaga aacggggctc aaagccgggg agtgtggtgg cagccgctgc cgccgaggcc	1260
aaaaagaaag ccgtgaagga gtcttctatc cgatctgtgc aggagaccgt actccccatc	1320
aagaagcgca agaccggga gacggtcagc atcgagggtc aggaagtggg gaagcccctg	1380
ctggtgtcca ccctcggtga gaagagcggg aaaggactga agacctgtaa gagccctggg	1440
cggaaaagca aggagagcag cccaagggg cgagcagca gcgcctcctc acccccaag	1500
aaggagcacc accaccatca ccaccactca gagtcccaa agggccccgt gccactgctc	1560
ccaccctgc cccacctcc acctgagccc gagagctccg aggacccac cagccccct	1620
gagccccagg acttgagcag cagcgtctgc aaaggaggaga agatgcccag aggaggctca	1680
ctggagagcg acggctgccc caaggagcca gctaagactc agcccgcggg tgccaccgcc	1740
gccacggccg cagaaaagta caaacaccga ggggaggggag agcgcaaaga cattgtttca	1800

tcctccatgc caaggccaaa cagagaggag cctgtggaca gccggacgcc cgtgaccgag	1860
agagttagcg agcagaagct gatctcagag gaggacctgt gacgaccatg gctgtagact	1920
gttacgacca tggctgtaga ctgttactcg agatacatac ttctttacat tccaatacat	1980
acttctttac attccaatac atactttctt acattccacc atggactagt acaaacacca	2040
ttgtcacact ccaacaaaca ccattgtcac actccaacaa acaccattgt cacactccag	2100
cggccgcttc gatccgatct ttttccctct gccaaaaatt atggggacat catgaagccc	2160
cttgagcatc tgacttctgg ctaataaagg aaatttattt tcattgcaat agtgtgttgg	2220
aattttttgt gtctctcact cggcctaggt agataagtag catggcgggt taatcattaa	2280
ctacaaggaa cccctagtga tggagttggc cactccctct ctgcgcgctc gctcgctcac	2340
tgaggccggg cgaccaaagg tcgcccgcg cccgggcttt gcccgggcgg cctcagttag	2400
cgagcgagcg cgag	2415

<210> 12
 <211> 2437
 <212> ADN
 <213> Humano

<400> 12	
ctgcgcgctc gctcgctcac tgaggccgcc cgggcaaagc ccgggcgctc ggcgaccttt	60
ggtcgccccg cctcagttag cgagcgagcg cgcagagagg gagtgtagcc atgctctagg	120
aagatcaatt cgggtacaatt cacgcgtcga caattgaggg cgtcaccgct aaggctccgc	180
cccagcctgg gtcacacaac caatgaaggg taatctcgac aaagagcaag ggggtggggcg	240
cgggcgcgca ggtgcagcag cacacaggct ggtcgggagg gcggggcgcg acgtctgccg	300
tgcgggggtc cggcatcggg tgcgcgcgcg ctccctcctc tcggagagag ggctgtggta	360
aaaccctgcc ggaaaatggc tgcagccgct gccgcagcgc cgagcggcgg aggtggcggt	420
ggcgaggagg agagactgga agaaaagtca gaagaccagg acctccaggg cctcaaggac	480
aaaccctca agtttaaaaa ggtgaagaaa gataagaaag aagagaaaga gggcaagcat	540
gagcccgtgc agccatcagc ccaccactct gctgagcccc cagaggcagg caaagcagag	600
acatcagaag ggtcaggctc cgccccggct gtgccggaag cttctgcctc ccccaaacag	660
cggcgctcca tcatccgtga ccggggaccc atgtatgatg accccaccct gcctgaaggc	720
tggacacgga agcttaagca aaggaaatct ggacgctctg ctgggaagta tgatgtgtat	780

ttgatcaatc	cccagggaaa	agcctttcgc	tctaaagtgg	agttgattgc	gtacttcgaa	840
aaggtaggcg	acacatccct	ggaccctaata	gattttgact	tcacggtaac	tgggagaggg	900
agcccctccc	ggcgagagca	gaaaccacct	aagaagccca	aatctcccaa	agctccagga	960
actggcagag	gtcggggacg	ccccaagggg	agcggcacca	cgagacccaa	ggcagctacg	1020
tcagagggtg	tgcaggtgaa	aagggtcctg	gagaaaagtc	ctgggaagct	ccttgtcaag	1080
atgccttttc	aaacttcgcc	agggggcaag	gctgaggggg	gtggggccac	cacatccacc	1140
caggtcatgg	tgatcaaacg	ccccggcagg	aagcgaaaag	ctgaggcaga	ccctcaggcc	1200
attcccaaga	aacggggctc	aaagccgggg	agtgtggtgg	cagccgctgc	cgccgaggcc	1260
aaaaagaaag	ccgtgaagga	gtcttctatc	cgatctgtgc	aggagaccgt	actccccatc	1320
aagaagcgca	agaccggga	gacggtcagc	atcgaggtca	aggaagtggg	gaagcccctg	1380
ctggtgtcca	ccctcggtga	gaagagcggg	aaaggactga	agacctgtaa	gagccctggg	1440
cggaaaagca	aggagagcag	ccccaagggg	cgcagcagca	gcgcctcctc	accccccaag	1500
aaggagcacc	accaccatca	ccaccactca	gagtcccaa	aggccccctg	gccactgctc	1560
ccaccctgc	ccccacctcc	acctgagccc	gagagctccg	aggacccac	cagccccct	1620
gagccccagg	acttgagcag	cagcgtctgc	aaagaggaga	agatgccag	aggaggctca	1680
ctggagagcg	acggctgccc	caaggagcca	gctaagactc	agcccgcggg	tgccaccgcc	1740
gccacggccg	cagaaaagta	caaacaccga	ggggagggag	agcgcaaaga	cattgtttca	1800
tcctccatgc	caaggccaaa	cagagaggag	cctgtggaca	gccggacgcc	cgtgaccgag	1860
agagttagcg	agcagaagct	gatctcagag	gaggacctgt	gacgaccatg	gctgtagact	1920
gttacgacca	tggctgtaga	ctgttacgac	catggctgta	gactgttact	cgagatacat	1980
acttctttac	attccaatac	atacttcttt	acattccaat	acatacttct	ttacattcca	2040
ccatggacta	gtacaaacac	cattgtcaca	ctccaacaaa	caccattgtc	acactccaac	2100
aaacaccatt	gtcacactcc	agcggccgct	tcgatccgat	ctttttccct	ctgccccaaa	2160
ttatggggac	atcatgaagc	cccttgagca	tctgacttct	ggctaataaa	ggaaatttat	2220
tttcattgca	atagtgtgtt	ggaatTTTTT	gtgtctctca	ctcggcctag	gtagataagt	2280
agcatggcgg	gttaatcatt	aactacaagg	aacccttagt	gatggagtgt	gccactccct	2340
ctctgcgcgc	tcgctcgctc	actgaggccg	ggcgaccaaa	ggtcgccccg	cgccccgggct	2400

ttgcccgggc ggcctcagtg agcgagcgag cgcgcag

2437

<210> 13
<211> 735
<212> PRT
<213> Humano

<400> 13

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Thr Leu Ser
1 5 10 15

Glu Gly Ile Arg Gln Trp Trp Lys Leu Lys Pro Gly Pro Pro Pro Pro
20 25 30

Lys Pro Ala Glu Arg His Lys Asp Asp Ser Arg Gly Leu Val Leu Pro
35 40 45

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

Arg Gln Leu Asp Ser Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala
85 90 95

Asp Ala Glu Phe Gln Glu Arg Leu Lys Glu Asp Thr Ser Phe Gly Gly
100 105 110

Asn Leu Gly Arg Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro
115 120 125

Leu Gly Leu Val Glu Glu Pro Val Lys Thr Ala Pro Gly Lys Lys Arg
130 135 140

Pro Val Glu His Ser Pro Val Glu Pro Asp Ser Ser Ser Gly Thr Gly
145 150 155 160

Lys Ala Gly Gln Gln Pro Ala Arg Lys Arg Leu Asn Phe Gly Gln Thr
165 170 175

Gly Asp Ala Asp Ser Val Pro Asp Pro Gln Pro Leu Gly Gln Pro Pro
180 185 190

Ala Ala Pro Ser Gly Leu Gly Thr Asn Thr Met Ala Thr Gly Ser Gly
195 200 205

Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ser
210 215 220

Ser Gly Asn Trp His Cys Asp Ser Thr Trp Met Gly Asp Arg Val Ile
225 230 235 240

Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
245 250 255

Tyr Lys Gln Ile Ser Ser Gln Ser Gly Ala Ser Asn Asp Asn His Tyr
260 265 270

Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His
275 280 285

Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp
290 295 300

Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn Ile Gln Val
305 310 315 320

Lys Glu Val Thr Gln Asn Asp Gly Thr Thr Thr Ile Ala Asn Asn Leu
325 330 335

Thr Ser Thr Val Gln Val Phe Thr Asp Ser Glu Tyr Gln Leu Pro Tyr
340 345 350

Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp
355 360 365

Val Phe Met Val Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser
370 375 380

Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser

385		390		395		400
Gln Met Leu Arg Thr Gly Asn Asn Phe Thr Phe Ser Tyr Thr Phe Glu						
		405		410		415
Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg						
		420		425		430
Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ser Arg Thr						
		435		440		445
Asn Thr Pro Ser Gly Thr Thr Thr Gln Ser Arg Leu Gln Phe Ser Gln						
		450		455		460
Ala Gly Ala Ser Asp Ile Arg Asp Gln Ser Arg Asn Trp Leu Pro Gly						
		465		470		475
Pro Cys Tyr Arg Gln Gln Arg Val Ser Lys Thr Ser Ala Asp Asn Asn						
		485		490		495
Asn Ser Glu Tyr Ser Trp Thr Gly Ala Thr Lys Tyr His Leu Asn Gly						
		500		505		510
Arg Asp Ser Leu Val Asn Pro Gly Pro Ala Met Ala Ser His Lys Asp						
		515		520		525
Asp Glu Glu Lys Phe Phe Pro Gln Ser Gly Val Leu Ile Phe Gly Lys						
		530		535		540
Gln Gly Ser Glu Lys Thr Asn Val Asp Ile Glu Lys Val Met Ile Thr						
		545		550		555
Asp Glu Glu Glu Ile Arg Thr Thr Asn Pro Val Ala Thr Glu Gln Tyr						
		565		570		575
Gly Ser Val Ser Thr Asn Leu Gln Arg Gly Asn Arg Gln Ala Ala Thr						
		580		585		590
Ala Asp Val Asn Thr Gln Gly Val Leu Pro Gly Met Val Trp Gln Asp						
		595		600		605

Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His Thr
610 615 620

Asp Gly His Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly Leu Lys
625 630 635 640

His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala Asn
645 650 655

Pro Ser Thr Thr Phe Ser Ala Ala Lys Phe Ala Ser Phe Ile Thr Gln
660 665 670

Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln Lys
675 680 685

Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Ser Asn Tyr
690 695 700

Asn Lys Ser Val Asn Val Asp Phe Thr Val Asp Thr Asn Gly Val Tyr
705 710 715 720

Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Asn Leu
725 730 735

<210> 14
<211> 736
<212> PRT
<213> Humano

<400> 14

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Ala Leu Lys Pro Gly Ala Pro Gln Pro
20 25 30

Lys Ala Asn Gln Gln His Gln Asp Asn Ala Arg Gly Leu Val Leu Pro
35 40 45

Gly Tyr Lys Tyr Leu Gly Pro Gly Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

Gln Gln Leu Lys Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala
85 90 95

Asp Ala Glu Phe Gln Glu Arg Leu Lys Glu Asp Thr Ser Phe Gly Gly
100 105 110

Asn Leu Gly Arg Ala Val Phe Gln Ala Lys Lys Arg Leu Leu Glu Pro
115 120 125

Leu Gly Leu Val Glu Glu Ala Ala Lys Thr Ala Pro Gly Lys Lys Arg
130 135 140

Pro Val Glu Gln Ser Pro Gln Glu Pro Asp Ser Ser Ala Gly Ile Gly
145 150 155 160

Lys Ser Gly Ala Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
165 170 175

Gly Asp Thr Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro Pro
180 185 190

Ala Ala Pro Ser Gly Val Gly Ser Leu Thr Met Ala Ser Gly Gly Gly
195 200 205

Ala Pro Val Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser Ser
210 215 220

Ser Gly Asn Trp His Cys Asp Ser Gln Trp Leu Gly Asp Arg Val Ile
225 230 235 240

Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
245 250 255

Tyr Lys Gln Ile Ser Asn Ser Thr Ser Gly Gly Ser Ser Asn Asp Asn
260 265 270

Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg
275 280 285

Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn
290 295 300

Asn Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn Ile
305 310 315 320

Gln Val Lys Glu Val Thr Asp Asn Asn Gly Val Lys Thr Ile Ala Asn
325 330 335

Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp Ser Asp Tyr Gln Leu
340 345 350

Pro Tyr Val Leu Gly Ser Ala His Glu Gly Cys Leu Pro Pro Phe Pro
355 360 365

Ala Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asp
370 375 380

Gly Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe
385 390 395 400

Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Gln Phe Ser Tyr Glu
405 410 415

Phe Glu Asn Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu
420 425 430

Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ser
435 440 445

Lys Thr Ile Asn Gly Ser Gly Gln Asn Gln Gln Thr Leu Lys Phe Ser
450 455 460

Val Ala Gly Pro Ser Asn Met Ala Val Gln Gly Arg Asn Tyr Ile Pro
465 470 475 480

Gly Pro Ser Tyr Arg Gln Gln Arg Val Ser Thr Thr Val Thr Gln Asn
485 490 495

Asn Asn Ser Glu Phe Ala Trp Pro Gly Ala Ser Ser Trp Ala Leu Asn
500 505 510

Gly Arg Asn Ser Leu Met Asn Pro Gly Pro Ala Met Ala Ser His Lys
515 520 525

Glu Gly Glu Asp Arg Phe Phe Pro Leu Ser Gly Ser Leu Ile Phe Gly
530 535 540

Lys Gln Gly Thr Gly Arg Asp Asn Val Asp Ala Asp Lys Val Met Ile
545 550 555 560

Thr Asn Glu Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr Glu Ser
565 570 575

Tyr Gly Gln Val Ala Thr Asn His Gln Ser Ala Gln Ala Gln Ala Gln
580 585 590

Thr Gly Trp Val Gln Asn Gln Gly Ile Leu Pro Gly Met Val Trp Gln
595 600 605

Asp Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His
610 615 620

Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly Met
625 630 635 640

Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala
645 650 655

Asp Pro Pro Thr Ala Phe Asn Lys Asp Lys Leu Asn Ser Phe Ile Thr
660 665 670

Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln
675 680 685

Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Ser Asn
690 695 700

Tyr Tyr Lys Ser Asn Asn Val Glu Phe Ala Val Asn Thr Glu Gly Val
705 710 715 720

Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Asn Leu
725 730 735

<210> 15
<211> 743
<212> PRT
<213> Humano

<400> 15

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Ala Leu Lys Pro Gly Ala Pro Gln Pro
20 25 30

Lys Ala Asn Gln Gln His Gln Asp Asn Ala Arg Gly Leu Val Leu Pro
35 40 45

Gly Tyr Lys Tyr Leu Gly Pro Gly Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

Gln Gln Leu Lys Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala
85 90 95

Asp Ala Glu Phe Gln Glu Arg Leu Lys Glu Asp Thr Ser Phe Gly Gly
100 105 110

Asn Leu Gly Arg Ala Val Phe Gln Ala Lys Lys Arg Leu Leu Glu Pro
115 120 125

Leu Gly Leu Val Glu Glu Ala Ala Lys Thr Ala Pro Gly Lys Lys Arg
130 135 140

Pro Val Glu Gln Ser Pro Gln Glu Pro Asp Ser Ser Ala Gly Ile Gly
145 150 155 160

Lys Ser Gly Ala Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
165 170 175

Gly Asp Thr Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro Pro
180 185 190

Ala Ala Pro Ser Gly Val Gly Ser Leu Thr Met Ala Ser Gly Gly Gly
195 200 205

Ala Pro Val Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser Ser
210 215 220

Ser Gly Asn Trp His Cys Asp Ser Gln Trp Leu Gly Asp Arg Val Ile
225 230 235 240

Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
245 250 255

Tyr Lys Gln Ile Ser Asn Ser Thr Ser Gly Gly Ser Ser Asn Asp Asn
260 265 270

Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg
275 280 285

Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn
290 295 300

Asn Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn Ile
305 310 315 320

Gln Val Lys Glu Val Thr Asp Asn Asn Gly Val Lys Thr Ile Ala Asn
325 330 335

Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp Ser Asp Tyr Gln Leu
340 345 350

Pro Tyr Val Leu Gly Ser Ala His Glu Gly Cys Leu Pro Pro Phe Pro
355 360 365

Ala Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asp

370

375

380

Gly Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe
 385 390 395 400

Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Gln Phe Ser Tyr Glu
 405 410 415

Phe Glu Asn Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu
 420 425 430

Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ser
 435 440 445

Arg Thr Ile Asn Gly Ser Gly Gln Asn Gln Gln Thr Leu Lys Phe Ser
 450 455 460

Val Ala Gly Pro Ser Asn Met Ala Val Gln Gly Arg Asn Tyr Ile Pro
 465 470 475 480

Gly Pro Ser Tyr Arg Gln Gln Arg Val Ser Thr Thr Val Thr Gln Asn
 485 490 495

Asn Asn Ser Glu Phe Ala Trp Pro Gly Ala Ser Ser Trp Ala Leu Asn
 500 505 510

Gly Arg Asn Ser Leu Met Asn Pro Gly Pro Ala Met Ala Ser His Lys
 515 520 525

Glu Gly Glu Asp Arg Phe Phe Pro Leu Ser Gly Ser Leu Ile Phe Gly
 530 535 540

Lys Gln Gly Thr Gly Arg Asp Asn Val Asp Ala Asp Lys Val Met Ile
 545 550 555 560

Thr Asn Glu Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr Glu Ser
 565 570 575

Tyr Gly Gln Val Ala Thr Asn His Gln Ser Ala Gln Thr Leu Ala Val
 580 585 590

Pro Phe Lys Ala Gln Ala Gln Thr Gly Trp Val Gln Asn Gln Gly Ile
595 600 605

Leu Pro Gly Met Val Trp Gln Asp Arg Asp Val Tyr Leu Gln Gly Pro
610 615 620

Ile Trp Ala Lys Ile Pro His Thr Asp Gly Asn Phe His Pro Ser Pro
625 630 635 640

Leu Met Gly Gly Phe Gly Met Lys His Pro Pro Pro Gln Ile Leu Ile
645 650 655

Lys Asn Thr Pro Val Pro Ala Asp Pro Pro Thr Ala Phe Asn Lys Asp
660 665 670

Lys Leu Asn Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser Val
675 680 685

Glu Ile Glu Trp Glu Leu Gln Lys Glu Asn Ser Lys Arg Trp Asn Pro
690 695 700

Glu Ile Gln Tyr Thr Ser Asn Tyr Tyr Lys Ser Asn Asn Val Glu Phe
705 710 715 720

Ala Val Asn Thr Glu Gly Val Tyr Ser Glu Pro Arg Pro Ile Gly Thr
725 730 735

Arg Tyr Leu Thr Arg Asn Leu
740