

LISTADO DE SECUENCIAS

<110> TSCAN THERAPEUTICS, INC.
DANA-FARBER CANCER INSTITUTE, INC.

<120> PEPTIDOS INMUNOGENICOS DE MAGEA1, PROTEINAS DE UNION QUE RECONOCEN
LOS PEPTIDOS INMUNOGENICOS DE MAGEA1 Y SUS USOS

<130> TTC-01025

<140> PCT/US2022/049556
<141> 10-11-2022

<150> 63/342.415
<151> 16-05-2022

<150> 63/317.337
<151> 07-03-2022

<150> 63/277.924
<151> 10-11-2021

<160> 75

<170> PatentIn version 3.5

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<400> 9
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1 5 10

<210> 11
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<210> 12
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<213> Secuencia Artificial

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<223> Descripcion de Secuencia Artificial: Polinucleotido
sintetico

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gaaggaagaa tttctattct gaactgtgac tatactaaca gcatgtttga ttatttcctt 180
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gcctggagca acaaactctga ctttgcattgt gcaaacgcct tcaacaacag cattattcca	660
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<211> 278

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<213> Secuencia Artificial

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<223> Descripcion de Secuencia Artificial: Polipeptido sintetico

<400> 13

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Asp	Trp	Val	Asn	Ser	Gln	Gln	Lys	Asn	Asp	Asp	Gln	Gln	Val	Lys	Gln
		20						25					30		

Asn	Ser	Pro	Ser	Leu	Ser	Val	Gln	Glu	Gly	Arg	Ile	Ser	Ile	Leu	Asn
		35					40					45			

Cys	Asp	Tyr	Thr	Asn	Ser	Met	Phe	Asp	Tyr	Phe	Leu	Trp	Tyr	Lys	Lys
	50					55					60				

Tyr	Pro	Ala	Glu	Gly	Pro	Thr	Phe	Leu	Ile	Ser	Ile	Ser	Ser	Ile	Lys
65					70					75					80

Asp	Lys	Asn	Glu	Asp	Gly	Arg	Phe	Thr	Val	Phe	Leu	Asn	Lys	Ser	Ala
			85						90					95	

Lys	His	Leu	Ser	Leu	His	Ile	Val	Pro	Ser	Gln	Pro	Gly	Asp	Ser	Ala
			100					105					110		

Val	Tyr	Phe	Cys	Ala	Ala	Ser	Ala	Gln	Asn	Asn	Asp	Met	Arg	Phe	Gly
		115					120					125			

Ala Gly Thr Arg Leu Thr Val Lys Pro Asn Ile Gln Asn Pro Asp Pro
130 135 140

Ala Val Tyr Gln Leu Arg Asp Ser Lys Ser Ser Asp Lys Ser Val Cys
145 150 155 160

Leu Phe Thr Asp Phe Asp Ser Gln Thr Asn Val Ser Gln Ser Lys Asp
165 170 175

Ser Asp Val Tyr Ile Thr Asp Lys Thr Val Leu Asp Met Arg Ser Met
180 185 190

Asp Phe Lys Ser Asn Ser Ala Val Ala Trp Ser Asn Lys Ser Asp Phe
195 200 205

Ala Cys Ala Asn Ala Phe Asn Asn Ser Ile Ile Pro Glu Asp Thr Phe
210 215 220

Phe Pro Ser Pro Glu Ser Ser Cys Asp Val Lys Leu Val Glu Lys Ser
225 230 235 240

Phe Glu Thr Asp Thr Asn Leu Asn Phe Gln Asn Leu Ser Val Ile Gly
245 250 255

Phe Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu Leu Met Thr
260 265 270

Leu Arg Leu Trp Ser Ser
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<211> 921

<212> DNA

<213> Secuencia Artificial

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<223> Descripcion de Secuencia Artificial: Polinucleotido
sintetico

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agatgcagcc caatgaaagg acacagtcac gtttactggc atcggcagct cccagaggaa	180
ggctctgaaat tcatgggttta tctccagaaa gaaaatatca ttgatgagtc aggaatgcc	240
aaggaacgct tttctgctga atttccaaa gagggcccca gcatcctgag gatccagcag	300
gttgtgcgcg gagattctgc agcttatttc tgtgccagct caccctccta cgagcagtac	360
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gtcgctgtgt ttgagccatc agaagcagag atctcccaca cccaaaaggc cacactgggtg	480
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<211> 307

<212> PRT

<213> Secuencia Artificial

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<223> Descripcion de Secuencia Artificial: Polipeptido sintetico

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Met	Asp	Thr	Arg	Leu	Leu	Cys	Cys	Ala	Val	Ile	Cys	Leu	Leu	Gly	Ala
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Gly	Leu	Ser	Asn	Ala	Gly	Val	Met	Gln	Asn	Pro	Arg	His	Leu	Val	Arg
			20					25					30		

Arg	Arg	Gly	Gln	Glu	Ala	Arg	Leu	Arg	Cys	Ser	Pro	Met	Lys	Gly	His
		35					40					45			

Ser	His	Val	Tyr	Trp	Tyr	Arg	Gln	Leu	Pro	Glu	Glu	Gly	Leu	Lys	Phe
	50					55				60					

Met Val Tyr Leu Gln Lys Glu Asn Ile Ile Asp Glu Ser Gly Met Pro
65 70 75 80

Lys Glu Arg Phe Ser Ala Glu Phe Pro Lys Glu Gly Pro Ser Ile Leu
85 90 95

Arg Ile Gln Gln Val Val Arg Gly Asp Ser Ala Ala Tyr Phe Cys Ala
100 105 110

Ser Ser Pro Ser Tyr Glu Gln Tyr Phe Gly Pro Gly Thr Arg Leu Thr
115 120 125

Val Thr Glu Asp Leu Asn Lys Val Phe Pro Pro Glu Val Ala Val Phe
130 135 140

Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr Leu Val
145 150 155 160

Cys Leu Ala Thr Gly Phe Phe Pro Asp His Val Glu Leu Ser Trp Trp
165 170 175

Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro Gln Pro
180 185 190

Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Cys Leu Ser Ser
195 200 205

Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg Asn His Phe
210 215 220

Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp Thr
225 230 235 240

Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala Trp
245 250 255

Gly Arg Ala Asp Cys Gly Phe Thr Ser Val Ser Tyr Gln Gln Gly Val
260 265 270

Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu
275 280 285

Tyr Ala Val Leu Val Ser Ala Leu Val Leu Met Ala Met Val Lys Arg
290 295 300

Lys Asp Phe
305

<210> 16
<211> 813
<212> DNA
<213> Secuencia Artificial

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<223> Descripcion de Secuencia Artificial: Polinucleotido
sintetico

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tgcaactcct caagtgtttt ctccagcctt caatggtaca gacaggagcc tggggaaggt 180
cctgtcctcc tggtgacagt tgttactggt ggagaagtga agaagctgaa gagacttacc 240
tttcagtttg gtgatgcaag aaaggacagt tctctccaca tctactgcagc ccagcctggt 300
gatacaggcc tctacctctg tgcaggagat gaaagtatta gctatggaaa gctgacattt 360
ggacaaggga ccatcttgac tgtccatcca aatatccaga accctgaccc tgccgtgtac 420
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caaacaaatg tgtcaciaag taaggattct gatgtgtata tcacagacaa aactgtgcta 540
gacatgaggt ctatggactt caagagcaac agtgctgtgg cctggagcaa caaatctgac 600
tttgcatgtg caaacgcctt caacaacagc attattccag aagacacctt cttccccagc 660
ccagaaaagt cctgtgatgt caagctggtc gagaaaagct ttgaaacaga tacgaaccta 720
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<210> 17
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<212> PRT

<213> Secuencia Artificial

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<223> Descripcion de Secuencia Artificial: Polipeptido sintetico

<400> 17

Met Val Leu Lys Phe Ser Val Ser Ile Leu Trp Ile Gln Leu Ala Trp
1 5 10 15

Val Ser Thr Gln Leu Leu Glu Gln Ser Pro Gln Phe Leu Ser Ile Gln
20 25 30

Glu Gly Glu Asn Leu Thr Val Tyr Cys Asn Ser Ser Ser Val Phe Ser
35 40 45

Ser Leu Gln Trp Tyr Arg Gln Glu Pro Gly Glu Gly Pro Val Leu Leu
50 55 60

Val Thr Val Val Thr Gly Gly Glu Val Lys Lys Leu Lys Arg Leu Thr
65 70 75 80

Phe Gln Phe Gly Asp Ala Arg Lys Asp Ser Ser Leu His Ile Thr Ala
85 90 95

Ala Gln Pro Gly Asp Thr Gly Leu Tyr Leu Cys Ala Gly Asp Glu Ser
100 105 110

Ile Ser Tyr Gly Lys Leu Thr Phe Gly Gln Gly Thr Ile Leu Thr Val
115 120 125

His Pro Asn Ile Gln Asn Pro Asp Pro Ala Val Tyr Gln Leu Arg Asp
130 135 140

Ser Lys Ser Ser Asp Lys Ser Val Cys Leu Phe Thr Asp Phe Asp Ser
145 150 155 160

Gln Thr Asn Val Ser Gln Ser Lys Asp Ser Asp Val Tyr Ile Thr Asp
165 170 175

Lys Thr Val Leu Asp Met Arg Ser Met Asp Phe Lys Ser Asn Ser Ala
180 185 190

Val Ala Trp Ser Asn Lys Ser Asp Phe Ala Cys Ala Asn Ala Phe Asn
195 200 205

Asn Ser Ile Ile Pro Glu Asp Thr Phe Phe Pro Ser Pro Glu Ser Ser
210 215 220

Cys Asp Val Lys Leu Val Glu Lys Ser Phe Glu Thr Asp Thr Asn Leu
225 230 235 240

Asn Phe Gln Asn Leu Ser Val Ile Gly Phe Arg Ile Leu Leu Leu Lys
245 250 255

Val Ala Gly Phe Asn Leu Leu Met Thr Leu Arg Leu Trp Ser Ser
260 265 270

<210> 18

<211> 930

<212> DNA

<213> Secuencia Artificial

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<223> Descripcion de Secuencia Artificial: Polinucleotido
sintetico

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ggactggagt tgctcattta ctttaacaac aacgttccta ttgatgattc agggatgccc	240
gaggatcgct tctcagctaa gatgcctaata gcatcattct ccactctgaa gatccagccc	300
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gccctcaatg actccagata ctgcctgagc agccgcctga gggctctcggc caccttctgg	660
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gagtggaccc aggatagggc caaacccgtc acccagatcg tcagcgccga ggcctggggt	780
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ctctatgaga tcctgctagg gaaggccacc ctgtatgctg tgctggtcag cgcccttggtg	900
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 <223> Descripcion de Secuencia Artificial: Polipeptido sintetico

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 20 25 30

Glu Met Gly Gln Glu Val Thr Leu Arg Cys Lys Pro Ile Ser Gly His
 35 40 45

Asp Tyr Leu Phe Trp Tyr Arg Gln Thr Met Met Arg Gly Leu Glu Leu
 50 55 60

Leu Ile Tyr Phe Asn Asn Asn Val Pro Ile Asp Asp Ser Gly Met Pro
 65 70 75 80

Glu Asp Arg Phe Ser Ala Lys Met Pro Asn Ala Ser Phe Ser Thr Leu
 85 90 95

Lys Ile Gln Pro Ser Glu Pro Arg Asp Ser Ala Val Tyr Phe Cys Ala
 100 105 110

Ser Ser Phe Leu Gly Trp Asn Glu Lys Leu Phe Phe Gly Ser Gly Thr
 115 120 125

Gln Leu Ser Val Leu Glu Asp Leu Asn Lys Val Phe Pro Pro Glu Val
 130 135 140

Ala Val Phe Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala
145 150 155 160

Thr Leu Val Cys Leu Ala Thr Gly Phe Phe Pro Asp His Val Glu Leu
165 170 175

Ser Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp
180 185 190

Pro Gln Pro Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Cys
195 200 205

Leu Ser Ser Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg
210 215 220

Asn His Phe Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp
225 230 235 240

Glu Trp Thr Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala
245 250 255

Glu Ala Trp Gly Arg Ala Asp Cys Gly Phe Thr Ser Val Ser Tyr Gln
260 265 270

Gln Gly Val Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys
275 280 285

Ala Thr Leu Tyr Ala Val Leu Val Ser Ala Leu Val Leu Met Ala Met
290 295 300

Val Lys Arg Lys Asp Phe
305 310

<210> 20

<211> 822

<212> DNA

<213> Secuencia Artificial

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<223> Descripcion de Secuencia Artificial: Polinucleotido
sintetico

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aaccagaac ccgccgtcta ccagctgaaa gacccgaggt ctcaagactc tacgtttgtgc 480
ttgttcaccg atttcgacag tcagataaat gtgcctaaga ccatggagag tggcactttc 540
atcactgaca aatgtgtgtt ggacatgaag gctatggaca gcaagtcaaa cggcgcgatt 600
gcttgggtcca accaaacttc tttcacgtgc caggacatct tcaaggagac aaacgccacc 660
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<210> 21
<211> 274
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<213> Secuencia Artificial

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<223> Descripcion de Secuencia Artificial: Polipeptido sintetico

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Met Ala Met Leu Leu Gly Ala Ser Val Leu Ile Leu Trp Leu Gln Pro
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Asp Trp Val Asn Ser Gln Gln Lys Asn Asp Asp Gln Gln Val Lys Gln
20 25 30

Asn Ser Pro Ser Leu Ser Val Gln Glu Gly Arg Ile Ser Ile Leu Asn
35 40 45

Cys Asp Tyr Thr Asn Ser Met Phe Asp Tyr Phe Leu Trp Tyr Lys Lys

50

55

60

Tyr Pro Ala Glu Gly Pro Thr Phe Leu Ile Ser Ile Ser Ser Ile Lys
65 70 75 80

Asp Lys Asn Glu Asp Gly Arg Phe Thr Val Phe Leu Asn Lys Ser Ala
85 90 95

Lys His Leu Ser Leu His Ile Val Pro Ser Gln Pro Gly Asp Ser Ala
100 105 110

Val Tyr Phe Cys Ala Ala Ser Ala Gln Asn Asn Asp Met Arg Phe Gly
115 120 125

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

Ala Val Tyr Gln Leu Lys Asp Pro Arg Ser Gln Asp Ser Thr Leu Cys
145 150 155 160

Leu Phe Thr Asp Phe Asp Ser Gln Ile Asn Val Pro Lys Thr Met Glu
165 170 175

Ser Gly Thr Phe Ile Thr Asp Lys Cys Val Leu Asp Met Lys Ala Met
180 185 190

Asp Ser Lys Ser Asn Gly Ala Ile Ala Trp Ser Asn Gln Thr Ser Phe
195 200 205

Thr Cys Gln Asp Ile Phe Lys Glu Thr Asn Ala Thr Tyr Pro Ser Ser
210 215 220

Asp Val Pro Cys Asp Ala Thr Leu Thr Glu Lys Ser Phe Glu Thr Asp
225 230 235 240

Met Asn Leu Asn Phe Gln Asn Leu Leu Val Met Val Leu Arg Ile Leu
245 250 255

Leu Leu Lys Val Ala Gly Phe Asn Leu Leu Met Thr Leu Arg Leu Trp
260 265 270

Ser Ser

<210> 22

<211> 909

<212> DNA

<213> Secuencia Artificial

<220>

<223> Descripcion de Secuencia Artificial: Polinucleotido
sintetico

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agatgcagcc caatgaaagg acacagtcac gtttactggc atcggcagct cccagaggaa	180
ggctctgaaat tcatgggtta tctccagaaa gaaaatatca ttgatgagtc aggaatgcca	240
aaggaacgct tttctgctga atttccaaa gagggcccca gcatcctgag gatccagcag	300
gttggtgcgc gagattctgc agcttatttc tgtgccagct caccctccta cgagcagtac	360
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gtgagtctct ttgaaccgag taaggctgag atcgcaaca aacaaaaggc gaccctcgtc	480
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gaagtacaca gcggtgtttg caccgaccct caagcctaca aggaatctaa ctattcatac	600
tgcctttcat cccgacttag ggtttctgct accttttggc acaatccgag gaatcacttt	660
aggtgtcaag tacagttcca cggattgtca gaggaggata aatggccgga gggctccccg	720
aagccggtta cgcagaacat tagtgccgaa gcctggggac gagcagactg cggatatcacg	780
tctgccagct atcagcaagg cgttctgtca gcgacaattc tgtacgaaat acttttgggt	840
aaggctacat tgtatgcggt attggtgtct acgctggtag tcatggccat ggtgaaacga	900
aaaaactca	909

<210> 23

<211> 303

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<213> Secuencia Artificial

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<223> Descripcion de Secuencia Artificial: Polipeptido sintetico

<400> 23

Met Asp Thr Arg Leu Leu Cys Cys Ala Val Ile Cys Leu Leu Gly Ala
1 5 10 15

Gly Leu Ser Asn Ala Gly Val Met Gln Asn Pro Arg His Leu Val Arg
20 25 30

Arg Arg Gly Gln Glu Ala Arg Leu Arg Cys Ser Pro Met Lys Gly His
35 40 45

Ser His Val Tyr Trp Tyr Arg Gln Leu Pro Glu Glu Gly Leu Lys Phe
50 55 60

Met Val Tyr Leu Gln Lys Glu Asn Ile Ile Asp Glu Ser Gly Met Pro
65 70 75 80

Lys Glu Arg Phe Ser Ala Glu Phe Pro Lys Glu Gly Pro Ser Ile Leu
85 90 95

Arg Ile Gln Gln Val Val Arg Gly Asp Ser Ala Ala Tyr Phe Cys Ala
100 105 110

Ser Ser Pro Ser Tyr Glu Gln Tyr Phe Gly Pro Gly Thr Arg Leu Thr
115 120 125

Val Thr Glu Asp Leu Arg Asn Val Thr Pro Pro Lys Val Ser Leu Phe
130 135 140

Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys Ala Thr Leu Val
145 150 155 160

Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu Leu Ser Trp Trp
165 170 175

Val Asn Gly Lys Glu Val His Ser Gly Val Cys Thr Asp Pro Gln Ala
180 185 190

Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu Arg Val
195 200 205

Ser Ala Thr Phe Trp His Asn Pro Arg Asn His Phe Arg Cys Gln Val
210 215 220

Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly Ser Pro
225 230 235 240

Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp Gly Arg Ala Asp
245 250 255

Cys Gly Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val Leu Ser Ala Thr
260 265 270

Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala Val Leu
275 280 285

Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg Lys Asn Ser
290 295 300

<210> 24

<211> 1812

<212> DNA

<213> Secuencia Artificial

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<223> Descripcion de Secuencia Artificial: Polinucleotido
sintetico

<400> 24

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gtgagtctct ttgaaccgag taaggctgag atcgcgaaac aacaaaaggc gaccctcgtc	480
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gaagtacaca gcggtgtttg caccgaccct caagcctaca aggaatctaa ctattcatac	600
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gtgcctaaga ccatggagag tggcactttc atcactgaca aatgtgtgtt ggacatgaag	1560
gctatggaca gcaagtcaaa cggcgcgatt gcttgggtcca accaaacttc tttcacgtgc	1620
caggacatct tcaaggagac aaacgccacc tatccatcct ctgatgttcc gtgcgatgcg	1680
actcttaccg agaaaagctt cgagacggac atgaacttga acttccaaaa cctgcttgtg	1740
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ctttggtcta gc	1812

<210> 25

<211> 604

<212> PRT

<213> Secuencia Artificial

<220>

<223> Descripcion de Secuencia Artificial: Polipeptido sintetico

<400> 25

Met Asp Thr Arg Leu Leu Cys Cys Ala Val Ile Cys Leu Leu Gly Ala
1 5 10 15

Gly Leu Ser Asn Ala Gly Val Met Gln Asn Pro Arg His Leu Val Arg
20 25 30

Arg Arg Gly Gln Glu Ala Arg Leu Arg Cys Ser Pro Met Lys Gly His
35 40 45

Ser His Val Tyr Trp Tyr Arg Gln Leu Pro Glu Glu Gly Leu Lys Phe
50 55 60

Met Val Tyr Leu Gln Lys Glu Asn Ile Ile Asp Glu Ser Gly Met Pro
65 70 75 80

Lys Glu Arg Phe Ser Ala Glu Phe Pro Lys Glu Gly Pro Ser Ile Leu
85 90 95

Arg Ile Gln Gln Val Val Arg Gly Asp Ser Ala Ala Tyr Phe Cys Ala
100 105 110

Ser Ser Pro Ser Tyr Glu Gln Tyr Phe Gly Pro Gly Thr Arg Leu Thr
115 120 125

Val Thr Glu Asp Leu Arg Asn Val Thr Pro Pro Lys Val Ser Leu Phe
130 135 140

Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys Ala Thr Leu Val
145 150 155 160

Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu Leu Ser Trp Trp
165 170 175

Val Asn Gly Lys Glu Val His Ser Gly Val Cys Thr Asp Pro Gln Ala
180 185 190

Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu Arg Val
195 200 205

Ser Ala Thr Phe Trp His Asn Pro Arg Asn His Phe Arg Cys Gln Val

210

215

220

Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly Ser Pro
 225 230 235 240

Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp Gly Arg Ala Asp
 245 250 255

Cys Gly Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val Leu Ser Ala Thr
 260 265 270

Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala Val Leu
 275 280 285

Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg Lys Asn Ser Arg
 290 295 300

Ala Lys Arg Ser Gly Ser Gly Ala Thr Asn Phe Ser Leu Leu Lys Gln
 305 310 315 320

Ala Gly Asp Val Glu Glu Asn Pro Gly Pro Met Ala Met Leu Leu Gly
 325 330 335

Ala Ser Val Leu Ile Leu Trp Leu Gln Pro Asp Trp Val Asn Ser Gln
 340 345 350

Gln Lys Asn Asp Asp Gln Gln Val Lys Gln Asn Ser Pro Ser Leu Ser
 355 360 365

Val Gln Glu Gly Arg Ile Ser Ile Leu Asn Cys Asp Tyr Thr Asn Ser
 370 375 380

Met Phe Asp Tyr Phe Leu Trp Tyr Lys Lys Tyr Pro Ala Glu Gly Pro
 385 390 395 400

Thr Phe Leu Ile Ser Ile Ser Ser Ile Lys Asp Lys Asn Glu Asp Gly
 405 410 415

Arg Phe Thr Val Phe Leu Asn Lys Ser Ala Lys His Leu Ser Leu His
 420 425 430

Ile Val Pro Ser Gln Pro Gly Asp Ser Ala Val Tyr Phe Cys Ala Ala
435 440 445

Ser Ala Gln Asn Asn Asp Met Arg Phe Gly Ala Gly Thr Arg Leu Thr
450 455 460

Val Lys Pro Asn Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln Leu Lys
465 470 475 480

Asp Pro Arg Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp
485 490 495

Ser Gln Ile Asn Val Pro Lys Thr Met Glu Ser Gly Thr Phe Ile Thr
500 505 510

Asp Lys Cys Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly
515 520 525

Ala Ile Ala Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe
530 535 540

Lys Glu Thr Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala
545 550 555 560

Thr Leu Thr Glu Lys Ser Phe Glu Thr Asp Met Asn Leu Asn Phe Gln
565 570 575

Asn Leu Leu Val Met Val Leu Arg Ile Leu Leu Leu Lys Val Ala Gly
580 585 590

Phe Asn Leu Leu Met Thr Leu Arg Leu Trp Ser Ser
595 600

<210> 26

<211> 801

<212> DNA

<213> Secuencia Artificial

<220>

<223> Descripcion de Secuencia Artificial: Polinucleotido
sintetico

<400> 26
atggtcctga aattctccgt gtccattctt tggattcagt tggcatgggt gagcaccag 60
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tgcaactcct caagtgtttt ctccagcctt caatgggtaca gacaggagcc tggggaaggt 180
cctgtcctcc tggtgacagt tgttactggg ggagaagtga agaagctgaa gagacttacc 240
tttcagtttg gtgatgcaag aaaggacagt tctctccaca tctactgcagc ccagcctggt 300
gatacaggcc tctacctctg tgcaggagat gaaagtatta gctatggaaa gctgacattt 360
ggacaaggga ccatcttgac tgtccatcca aacattcaaa acccagaacc cgccgtctac 420
cagctgaaag acccgaggtc tcaagactct acgttgtgct tgttcaccga tttcgacagt 480
cagataaatg tgcctaagac catggagagt ggcactttca tctactgaaa atgtgtgttg 540
gacatgaagg ctatggacag caagtcaaac ggcgcgattg cttgggtcaa ccaaacttct 600
ttcacgtgcc aggacatctt caaggagaca aacgccacct atccatcctc tgatgttccg 660
tgcgatgcga ctcttaccga gaaaagcttc gagacggaca tgaacttgaa cttccaaaac 720
ctgcttgtga tgggtactgcg aatacttctt cttaaggtgg cgggcttcaa tttgctcatg 780
acactcagac tttgggtctag c 801

<210> 27
<211> 267
<212> PRT
<213> Secuencia Artificial

<220>
<223> Descripcion de Secuencia Artificial: Polipeptido sintetico

<400> 27
Met Val Leu Lys Phe Ser Val Ser Ile Leu Trp Ile Gln Leu Ala Trp
1 5 10 15

Val Ser Thr Gln Leu Leu Glu Gln Ser Pro Gln Phe Leu Ser Ile Gln
20 25 30

Glu Gly Glu Asn Leu Thr Val Tyr Cys Asn Ser Ser Ser Val Phe Ser
35 40 45

Ser Leu Gln Trp Tyr Arg Gln Glu Pro Gly Glu Gly Pro Val Leu Leu
50 55 60

Val Thr Val Val Thr Gly Gly Glu Val Lys Lys Leu Lys Arg Leu Thr
65 70 75 80

Phe Gln Phe Gly Asp Ala Arg Lys Asp Ser Ser Leu His Ile Thr Ala
85 90 95

Ala Gln Pro Gly Asp Thr Gly Leu Tyr Leu Cys Ala Gly Asp Glu Ser
100 105 110

Ile Ser Tyr Gly Lys Leu Thr Phe Gly Gln Gly Thr Ile Leu Thr Val
115 120 125

His Pro Asn Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln Leu Lys Asp
130 135 140

Pro Arg Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser
145 150 155 160

Gln Ile Asn Val Pro Lys Thr Met Glu Ser Gly Thr Phe Ile Thr Asp
165 170 175

Lys Cys Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly Ala
180 185 190

Ile Ala Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe Lys
195 200 205

Glu Thr Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala Thr
210 215 220

Leu Thr Glu Lys Ser Phe Glu Thr Asp Met Asn Leu Asn Phe Gln Asn
225 230 235 240

Leu Leu Val Met Val Leu Arg Ile Leu Leu Leu Lys Val Ala Gly Phe
245 250 255

Asn Leu Leu Met Thr Leu Arg Leu Trp Ser Ser
260 265

<210> 28
<211> 918
<212> DNA
<213> Secuencia Artificial

<220>

<223> Descripcion de Secuencia Artificial: Polinucleotido
sintetico

<400> 28

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gctggagtta tccagtcacc ccggcacgag gtgacagaga tgggacaaga agtgactctg	120
agatgtaaac caatttcagg acatgactac cttttcttgt acagacagac catgatgcgg	180
ggactggagt tgctcattta ctttaacaac aacgttccta ttgatgattc agggatgccc	240
gaggatcgct tctcagctaa gatgcctaata gcatcattct ccactctgaa gatccagccc	300
tcagaacca gggactcagc tgtgtacttc tgtgccagca gttttctcgg ctggaatgaa	360
aaactgttct ttggcagtgg aaccagctc tctgtcttgg aagatcttcg aaacgtaacc	420
cctccaaaag tgagtctctt tgaaccgagt aaggctgaga tcgcgaacaa acaaaaggcg	480
accctcgtct gtcttgcgcg aggatTTTTT cccgaccacg tggagttgtc ttggtgggta	540
aacggtaagg aagtacacag cgggtgtttgc accgaccctc aagcctacaa ggaatctaac	600
tattcatact gcctttcatc ccgacttagg gtttctgcta ctttttggca caatccgagg	660
aatcacttta ggtgtcaagt acagttccac ggattgtcag aggaggataa atggccggag	720
ggctccccga agccgggttac gcagaacatt agtgcggaag cctggggacg agcagactgc	780
ggtatcacgt ctgccagcta tcagcaaggc gttctgtcag cgacaattct gtacgaaata	840
cttttgggta aggctacatt gtatgcggta ttggtgtcta cgctggtagt catggccatg	900
gtgaaacgaa aaaactca	918

<210> 29
<211> 306
<212> PRT
<213> Secuencia Artificial

<220>

<223> Descripcion de Secuencia Artificial: Polipeptido
sintetico

<400> 29

Met Gly Ser Trp Thr Leu Cys Cys Val Ser Leu Cys Ile Leu Val Ala

1	5	10	15
Lys His Thr Asp Ala Gly Val Ile Gln Ser Pro Arg His Glu Val Thr	20	25	30
Glu Met Gly Gln Glu Val Thr Leu Arg Cys Lys Pro Ile Ser Gly His	35	40	45
Asp Tyr Leu Phe Trp Tyr Arg Gln Thr Met Met Arg Gly Leu Glu Leu	50	55	60
Leu Ile Tyr Phe Asn Asn Asn Val Pro Ile Asp Asp Ser Gly Met Pro	65	70	75
Glu Asp Arg Phe Ser Ala Lys Met Pro Asn Ala Ser Phe Ser Thr Leu	85	90	95
Lys Ile Gln Pro Ser Glu Pro Arg Asp Ser Ala Val Tyr Phe Cys Ala	100	105	110
Ser Ser Phe Leu Gly Trp Asn Glu Lys Leu Phe Phe Gly Ser Gly Thr	115	120	125
Gln Leu Ser Val Leu Glu Asp Leu Arg Asn Val Thr Pro Pro Lys Val	130	135	140
Ser Leu Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys Ala	145	150	155
Thr Leu Val Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu Leu	165	170	175
Ser Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Cys Thr Asp	180	185	190
Pro Gln Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg	195	200	205
Leu Arg Val Ser Ala Thr Phe Trp His Asn Pro Arg Asn His Phe Arg	210	215	220

Cys Gln Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu
 225 230 235 240

Gly Ser Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp Gly
 245 250 255

Arg Ala Asp Cys Gly Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val Leu
 260 265 270

Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr
 275 280 285

Ala Val Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg Lys
 290 295 300

Asn Ser
 305

<210> 30
 <211> 1800
 <212> DNA
 <213> Secuencia Artificial

<220>
 <223> Descripcion de Secuencia Artificial: Polinucleotido sintetico

<400> 30
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 gctggagtta tccagtcacc ccggcacgag gtgacagaga tgggacaaga agtgactctg 120
 agatgtaaac caatttcagg acatgactac cttttctggt acagacagac catgatgcgg 180
 ggactggagt tgctcattta ctttaacaac aacgttccta ttgatgattc agggatgccc 240
 gaggatcgct tctcagctaa gatgcctaata gcatcattct ccactctgaa gatccagccc 300
 tcagaaccca gggactcagc tgtgtacttc tgtgccagca gttttctcgg ctggaatgaa 360
 aaactgttct ttggcagtgg aaccagctc tctgtcttgg aagatcttcg aaacgtaacc 420
 cctccaaaag tgagtctctt tgaaccgagt aaggctgaga tcgcgaacaa acaaaaggcg 480
 accctcgtct gtcttgccg aggatTTTTT cccgaccacg tggagttgtc ttggtgggta 540
 aacggtaagg aagtacacag cgggtgtttgc accgaccctc aagcctacaa ggaatctaac 600

tattcatact gcctttcatc ccgacttagg gtttctgcta ccttttggca caatccgagg	660
aatcacttta ggtgtcaagt acagttccac ggattgtcag aggaggataa atggccggag	720
ggctccccga agccggttac gcagaacatt agtgcggaag cctggggacg agcagactgc	780
ggtatcacgt ctgccagcta tcagcaaggc gttctgtcag cgacaattct gtacgaaata	840
cttttgggta aggctacatt gtatgcggta ttggtgtcta cgctggtagt catggccatg	900
gtgaaacgaa aaaactcaag agccaaaaga agcgggagcg gtgcgacaaa ctttagcctg	960
ttgaaacaag ccggcgacgt tgaagagaac cccggaccta tggctcctgaa attctccgtg	1020
tccattcttt ggattcagtt ggcatgggtg agcaccacgc tgctggagca gagccctcag	1080
tttcttagca tccaagaggg agaaaatctc actgtgtact gcaactcctc aagtgttttc	1140
tccagccttc aatggtacag acaggagcct ggggaaggtc ctgtcctcct ggtgacagtt	1200
gttactgggtg gagaagtga gaagctgaag agacttacct ttcagtttgg tgatgcaaga	1260
aaggacagtt ctctccacat cactgcagcc cagcctgggtg atacaggcct ctacctctgt	1320
gcaggagatg aaagtattag ctatggaaag ctgacatttg gacaaggagc catcttgact	1380
gtccatccaa acattcaaaa ccagaaccc gccgtctacc agctgaaaga cccgaggtct	1440
caagactcta cgttgtgctt gttcaccgat ttcgacagtc agataaatgt gcctaagacc	1500
atggagagtg gcactttcat cactgacaaa tgtgtgttgg acatgaaggc tatggacagc	1560
aagtcaaacg gcgcgattgc ttggtccaac caaacttctt tcacgtgcca ggacatcttc	1620
aaggagacaa acgccaccta tccatcctct gatgttccgt gcgatgacgac tcttaccgag	1680
aaaagcttcg agacggacat gaacttgaac ttccaaaacc tgcttgtgat ggtactgcga	1740
atacttcttc ttaaggtggc gggcttcaat ttgctcatga cactcagact ttggtctagc	1800

<210> 31

<211> 600

<212> PRT

<213> Secuencia Artificial

<220>

<223> Descripcion de Secuencia Artificial: Polipeptido sintetico

<400> 31

Met	Gly	Ser	Trp	Thr	Leu	Cys	Cys	Val	Ser	Leu	Cys	Ile	Leu	Val	Ala
1				5				10					15		

Lys His Thr Asp Ala Gly Val Ile Gln Ser Pro Arg His Glu Val Thr
20 25 30

Glu Met Gly Gln Glu Val Thr Leu Arg Cys Lys Pro Ile Ser Gly His
35 40 45

Asp Tyr Leu Phe Trp Tyr Arg Gln Thr Met Met Arg Gly Leu Glu Leu
50 55 60

Leu Ile Tyr Phe Asn Asn Asn Val Pro Ile Asp Asp Ser Gly Met Pro
65 70 75 80

Glu Asp Arg Phe Ser Ala Lys Met Pro Asn Ala Ser Phe Ser Thr Leu
85 90 95

Lys Ile Gln Pro Ser Glu Pro Arg Asp Ser Ala Val Tyr Phe Cys Ala
100 105 110

Ser Ser Phe Leu Gly Trp Asn Glu Lys Leu Phe Phe Gly Ser Gly Thr
115 120 125

Gln Leu Ser Val Leu Glu Asp Leu Arg Asn Val Thr Pro Pro Lys Val
130 135 140

Ser Leu Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys Ala
145 150 155 160

Thr Leu Val Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu Leu
165 170 175

Ser Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Cys Thr Asp
180 185 190

Pro Gln Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg
195 200 205

Leu Arg Val Ser Ala Thr Phe Trp His Asn Pro Arg Asn His Phe Arg
210 215 220

Cys Gln Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu
225 230 235 240

Gly Ser Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp Gly
245 250 255

Arg Ala Asp Cys Gly Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val Leu
260 265 270

Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr
275 280 285

Ala Val Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg Lys
290 295 300

Asn Ser Arg Ala Lys Arg Ser Gly Ser Gly Ala Thr Asn Phe Ser Leu
305 310 315 320

Leu Lys Gln Ala Gly Asp Val Glu Glu Asn Pro Gly Pro Met Val Leu
325 330 335

Lys Phe Ser Val Ser Ile Leu Trp Ile Gln Leu Ala Trp Val Ser Thr
340 345 350

Gln Leu Leu Glu Gln Ser Pro Gln Phe Leu Ser Ile Gln Glu Gly Glu
355 360 365

Asn Leu Thr Val Tyr Cys Asn Ser Ser Ser Val Phe Ser Ser Leu Gln
370 375 380

Trp Tyr Arg Gln Glu Pro Gly Glu Gly Pro Val Leu Leu Val Thr Val
385 390 395 400

Val Thr Gly Gly Glu Val Lys Lys Leu Lys Arg Leu Thr Phe Gln Phe
405 410 415

Gly Asp Ala Arg Lys Asp Ser Ser Leu His Ile Thr Ala Ala Gln Pro
420 425 430

Gly Asp Thr Gly Leu Tyr Leu Cys Ala Gly Asp Glu Ser Ile Ser Tyr
435 440 445

Gly Lys Leu Thr Phe Gly Gln Gly Thr Ile Leu Thr Val His Pro Asn
450 455 460

Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln Leu Lys Asp Pro Arg Ser
465 470 475 480

Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln Ile Asn
485 490 495

Val Pro Lys Thr Met Glu Ser Gly Thr Phe Ile Thr Asp Lys Cys Val
500 505 510

Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly Ala Ile Ala Trp
515 520 525

Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu Thr Asn
530 535 540

Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala Thr Leu Thr Glu
545 550 555 560

Lys Ser Phe Glu Thr Asp Met Asn Leu Asn Phe Gln Asn Leu Leu Val
565 570 575

Met Val Leu Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu Leu
580 585 590

Met Thr Leu Arg Leu Trp Ser Ser
595 600

<210> 32

<211> 831

<212> DNA

<213> Secuencia Artificial

<220>

<223> Descripcion de Secuencia Artificial: Polinucleotido
sintetico

<400> 32

atggccatgc tcctgggggc atcagtgtctg attctgtggc ttcagccaga ctgggttaac

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agtcaacaga agaatgatga ccagcaagtt aagcaaaatt caccatccct gagcgtccag      120
gaaggaagaa tttctattct gaactgtgac tatactaaca gcatgtttga ttatttcctt      180
tggtacaaga aataccctgc tgaaggtcct acattcctga tttctattag ttccattaag      240
gataaaaatg aagatggaag attcactgtt ttccttaaca aaagtgccaa gcacctctct      300
ctgcacattg tgccctccca gcctggagac tctgcagtgt acttctgtgc agcaagcgct      360
cagaacaatg acatgcgctt tggagcaggg accagactga cagttaaacc aaacatccag      420
aaccccgacc ccgccgtgta ccagctgagg gactccaagt ccagcgacaa gagcgtgtgt      480
ctgtttacgg acttcgacag ccagaccaac gtgagtcaaa gcaaggacag cgacgtctac      540
ataacggata agaccgtgct ggacatgcgg agcatggact tcaagagcaa cagcgccgtg      600
gcctgggtcca acaagagcga cttgcctgc gccaacgcct tcaacaacag catcatcccc      660
gaggacacct tcttccccag cagcgacgtg ccctgcgacg tgaaactggg ggagaagtcc      720
ttcgagacag acaccaatct gaactttcag aacctgctgg tgatcgtgct gcggattctg      780
ctgctgaaag tggccggctt caatctgctg atgaccctgc ggctgtggag c              831

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<210> 33

<211> 277

<212> PRT

<213> Secuencia Artificial

<220>

<223> Descripcion de Secuencia Artificial: Polipeptido
sintetico

<400> 33

```

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

```

```

Asp Trp Val Asn Ser Gln Gln Lys Asn Asp Asp Gln Gln Val Lys Gln
          20          25          30

```

```

Asn Ser Pro Ser Leu Ser Val Gln Glu Gly Arg Ile Ser Ile Leu Asn
          35          40          45

```

```

Cys Asp Tyr Thr Asn Ser Met Phe Asp Tyr Phe Leu Trp Tyr Lys Lys
          50          55          60

```

```

Tyr Pro Ala Glu Gly Pro Thr Phe Leu Ile Ser Ile Ser Ser Ile Lys

```

65

70

75

80

Asp Lys Asn Glu Asp Gly Arg Phe Thr Val Phe Leu Asn Lys Ser Ala
 85 90 95

Lys His Leu Ser Leu His Ile Val Pro Ser Gln Pro Gly Asp Ser Ala
 100 105 110

Val Tyr Phe Cys Ala Ala Ser Ala Gln Asn Asn Asp Met Arg Phe Gly
 115 120 125

Ala Gly Thr Arg Leu Thr Val Lys Pro Asn Ile Gln Asn Pro Asp Pro
 130 135 140

Ala Val Tyr Gln Leu Arg Asp Ser Lys Ser Ser Asp Lys Ser Val Cys
 145 150 155 160

Leu Phe Thr Asp Phe Asp Ser Gln Thr Asn Val Ser Gln Ser Lys Asp
 165 170 175

Ser Asp Val Tyr Ile Thr Asp Lys Thr Val Leu Asp Met Arg Ser Met
 180 185 190

Asp Phe Lys Ser Asn Ser Ala Val Ala Trp Ser Asn Lys Ser Asp Phe
 195 200 205

Ala Cys Ala Asn Ala Phe Asn Asn Ser Ile Ile Pro Glu Asp Thr Phe
 210 215 220

Phe Pro Ser Ser Asp Val Pro Cys Asp Val Lys Leu Val Glu Lys Ser
 225 230 235 240

Phe Glu Thr Asp Thr Asn Leu Asn Phe Gln Asn Leu Leu Val Ile Val
 245 250 255

Leu Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu Leu Met Thr
 260 265 270

Leu Arg Leu Trp Ser
 275

<210> 34
<211> 921
<212> DNA
<213> Secuencia Artificial

<220>
<223> Descripcion de Secuencia Artificial: Polinucleotido
sintetico

<400> 34
atggacacca gacttctctg ctgtgctgtc atctgtctcc tgggggcagg cctctcaaat 60
gccggcgtca tgcagaaccc aagacacctg gtcaggagga ggggacagga ggcaagactg 120
agatgcagcc caatgaaagg acacagtcac gtttactggc atcggcagct cccagaggaa 180
ggctctgaaat tcatggttta tctccagaaa gaaaatatca ttgatgagtc aggaatgcca 240
aaggaacgct tttctgctga atttccaaa gagggcccca gcatcctgag gatccagcag 300
gttgctgcgc gagattctgc agcttatttc tgtgccagct caccctccta cgagcagtac 360
ttcgggcctg gcaccaggct cactgtcaca gaagatctga acaaggtgtt ccctccagag 420
gtggccgtgt tcgagccttc taaggccgag atcgcccaca cacaaaaagc caccctcgtg 480
tgcctggcca ccggcttttt ccccgaccac gtggaactgt cttggtgggt caacggcaaa 540
gaggtgcact ccggcgtgtc aacggatccc cagcctctga aagaacagcc tgccctgaac 600
gacagccggt actgcctgag ctccagactg agagtgtccg ccaccttctg gcagaacccc 660
cggaaccact tcagatgcca ggtgcagttt tacggcctga gcgagaacga cgagtggacc 720
caggacagag ccaagcccgt gacacaaatc gtgtctgccg aagcctgggg aagagccgat 780
tgcggcatca ccagcgcctc ctatcaccag ggcgtgctga gcgccacaat cctgtacgaa 840
atcctgctgg gcaaggccac cctgtacgcc gtgctggtgt ctgctctggt gctgatggcc 900
atggtcaagc ggaaggactt t 921

<210> 35
<211> 307
<212> PRT
<213> Secuencia Artificial

<220>
<223> Descripcion de Secuencia Artificial: Polipeptido
sintetico

<400> 35

Met Asp Thr Arg Leu Leu Cys Cys Ala Val Ile Cys Leu Leu Gly Ala
1 5 10 15

Gly Leu Ser Asn Ala Gly Val Met Gln Asn Pro Arg His Leu Val Arg
20 25 30

Arg Arg Gly Gln Glu Ala Arg Leu Arg Cys Ser Pro Met Lys Gly His
35 40 45

Ser His Val Tyr Trp Tyr Arg Gln Leu Pro Glu Glu Gly Leu Lys Phe
50 55 60

Met Val Tyr Leu Gln Lys Glu Asn Ile Ile Asp Glu Ser Gly Met Pro
65 70 75 80

Lys Glu Arg Phe Ser Ala Glu Phe Pro Lys Glu Gly Pro Ser Ile Leu
85 90 95

Arg Ile Gln Gln Val Val Arg Gly Asp Ser Ala Ala Tyr Phe Cys Ala
100 105 110

Ser Ser Pro Ser Tyr Glu Gln Tyr Phe Gly Pro Gly Thr Arg Leu Thr
115 120 125

Val Thr Glu Asp Leu Asn Lys Val Phe Pro Pro Glu Val Ala Val Phe
130 135 140

Glu Pro Ser Lys Ala Glu Ile Ala His Thr Gln Lys Ala Thr Leu Val
145 150 155 160

Cys Leu Ala Thr Gly Phe Phe Pro Asp His Val Glu Leu Ser Trp Trp
165 170 175

Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro Gln Pro
180 185 190

Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Cys Leu Ser Ser
195 200 205

Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg Asn His Phe
210 215 220

Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp Thr
225 230 235 240

Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala Trp
245 250 255

Gly Arg Ala Asp Cys Gly Ile Thr Ser Ala Ser Tyr His Gln Gly Val
260 265 270

Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu
275 280 285

Tyr Ala Val Leu Val Ser Ala Leu Val Leu Met Ala Met Val Lys Arg
290 295 300

Lys Asp Phe
305

<210> 36
<211> 1842
<212> DNA
<213> Secuencia Artificial

<220>
<223> Descripcion de Secuencia Artificial: Polinucleotido
sintetico

<400> 36
atggacacca gacttctctg ctgtgctgtc atctgtctcc tgggggcagg cctctcaaat 60
gccggcgtca tgcagaaccc aagacacctg gtcaggagga ggggacagga ggcaagactg 120
agatgcagcc caatgaaagg acacagtcac gtttactggt atcggcagct cccagaggaa 180
ggtctgaaat tcatggttta tctccagaaa gaaaatatca ttgatgagtc aggaatgcca 240
aaggaacgct tttctgctga atttccaaa gagggcccca gcatcctgag gatccagcag 300
gttgtgcgcg gagattctgc agcttatttc tgtgccagct caccctccta cgagcagtac 360
ttcgggcctg gcaccaggct cactgtcaca gaagatctga acaagggtgtt ccctccagag 420
gtggccgtgt tcgagccttc taaggccgag atcgcccaca cacaaaaagc caccctcgtg 480
tgcctggcca ccggcttttt ccccgaccac gtggaactgt cttggtgggt caacggcaaa 540

gaggtgcact ccggcgtgtc aacggatccc cagcctctga aagaacagcc tgccctgaac	600
gacagccggt actgcctgag ctccagactg agagtgtccg ccaccttctg gcagaacccc	660
cggaaccact tcagatgcca ggtgcagttt tacggcctga gcgagaacga cgagtggacc	720
caggacagag ccaagcccgt gacacaaatc gtgtctgccg aagcctgggg aagagccgat	780
tgcggcatca ccagcgcctc ctatcaccag ggcgtgctga gcgccacaat cctgtacgaa	840
atcctgctgg gcaaggccac cctgtacgcc gtgctggtgt ctgctctggt gctgatggcc	900
atggtcaagc ggaaggactt tggcagcggc agagccaaaa ggtccgggag cggtgcgaca	960
aactttagcc tgttgaaaca agccggcgac gttgaagaga accccggacc tatggccatg	1020
ctcctggggg catcagtgtc gattctgtgg cttcagccag actgggttaa cagtcaacag	1080
aagaatgatg accagcaagt taagcaaaat tcaccatccc tgagcgtcca ggaaggaaga	1140
atttctattc tgaactgtga ctatactaac agcatgtttg attatttcct ttggtacaag	1200
aaataccctg ctgaaggtcc tacattcctg atttctatta gttccattaa ggataaaaat	1260
gaagatggaa gattcactgt tttccttaac aaaagtgcc aagcacctctc tctgcacatt	1320
gtgccctccc agcctggaga ctctgcagtg tacttctgtg cagcaagcgc tcagaacaat	1380
gacatgcgct ttggagcagg gaccagactg acagttaaac caaacatcca gaaccccgac	1440
cccgccgtgt accagctgag ggactccaag tccagcgaca agagcgtgtg tctgtttacg	1500
gacttcgaca gccagaccaa cgtgagtcaa agcaaggaca gcgacgtcta cataacggat	1560
aagaccgtgc tggacatgcg gagcatggac ttcaagagca acagcgccgt ggcctggtcc	1620
aacaagagcg acttcgcctg cgccaacgcc ttcaacaaca gcatcatccc cgaggacacc	1680
ttcttcccca gcagcgacgt gccctgcgac gtgaaactgg tggagaagtc cttcgagaca	1740
gacaccaatc tgaactttca gaacctgctg gtgatcgtgc tgcggattct gctgctgaaa	1800
gtggccggct tcaatctgct gatgaccctg cggctgtgga gc	1842

<210> 37

<211> 614

<212> PRT

<213> Secuencia Artificial

<220>

<223> Descripcion de Secuencia Artificial: Polipeptido sintetico

<400> 37

Met Asp Thr Arg Leu Leu Cys Cys Ala Val Ile Cys Leu Leu Gly Ala
1 5 10 15

Gly Leu Ser Asn Ala Gly Val Met Gln Asn Pro Arg His Leu Val Arg
20 25 30

Arg Arg Gly Gln Glu Ala Arg Leu Arg Cys Ser Pro Met Lys Gly His
35 40 45

Ser His Val Tyr Trp Tyr Arg Gln Leu Pro Glu Glu Gly Leu Lys Phe
50 55 60

Met Val Tyr Leu Gln Lys Glu Asn Ile Ile Asp Glu Ser Gly Met Pro
65 70 75 80

Lys Glu Arg Phe Ser Ala Glu Phe Pro Lys Glu Gly Pro Ser Ile Leu
85 90 95

Arg Ile Gln Gln Val Val Arg Gly Asp Ser Ala Ala Tyr Phe Cys Ala
100 105 110

Ser Ser Pro Ser Tyr Glu Gln Tyr Phe Gly Pro Gly Thr Arg Leu Thr
115 120 125

Val Thr Glu Asp Leu Asn Lys Val Phe Pro Pro Glu Val Ala Val Phe
130 135 140

Glu Pro Ser Lys Ala Glu Ile Ala His Thr Gln Lys Ala Thr Leu Val
145 150 155 160

Cys Leu Ala Thr Gly Phe Phe Pro Asp His Val Glu Leu Ser Trp Trp
165 170 175

Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro Gln Pro
180 185 190

Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Cys Leu Ser Ser
195 200 205

Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg Asn His Phe

210

215

220

Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp Thr
 225 230 235 240

Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala Trp
 245 250 255

Gly Arg Ala Asp Cys Gly Ile Thr Ser Ala Ser Tyr His Gln Gly Val
 260 265 270

Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu
 275 280 285

Tyr Ala Val Leu Val Ser Ala Leu Val Leu Met Ala Met Val Lys Arg
 290 295 300

Lys Asp Phe Gly Ser Gly Arg Ala Lys Arg Ser Gly Ser Gly Ala Thr
 305 310 315 320

Asn Phe Ser Leu Leu Lys Gln Ala Gly Asp Val Glu Glu Asn Pro Gly
 325 330 335

Pro Met Ala Met Leu Leu Gly Ala Ser Val Leu Ile Leu Trp Leu Gln
 340 345 350

Pro Asp Trp Val Asn Ser Gln Gln Lys Asn Asp Asp Gln Gln Val Lys
 355 360 365

Gln Asn Ser Pro Ser Leu Ser Val Gln Glu Gly Arg Ile Ser Ile Leu
 370 375 380

Asn Cys Asp Tyr Thr Asn Ser Met Phe Asp Tyr Phe Leu Trp Tyr Lys
 385 390 395 400

Lys Tyr Pro Ala Glu Gly Pro Thr Phe Leu Ile Ser Ile Ser Ser Ile
 405 410 415

Lys Asp Lys Asn Glu Asp Gly Arg Phe Thr Val Phe Leu Asn Lys Ser
 420 425 430

Ala Lys His Leu Ser Leu His Ile Val Pro Ser Gln Pro Gly Asp Ser
435 440 445

Ala Val Tyr Phe Cys Ala Ala Ser Ala Gln Asn Asn Asp Met Arg Phe
450 455 460

Gly Ala Gly Thr Arg Leu Thr Val Lys Pro Asn Ile Gln Asn Pro Asp
465 470 475 480

Pro Ala Val Tyr Gln Leu Arg Asp Ser Lys Ser Ser Asp Lys Ser Val
485 490 495

Cys Leu Phe Thr Asp Phe Asp Ser Gln Thr Asn Val Ser Gln Ser Lys
500 505 510

Asp Ser Asp Val Tyr Ile Thr Asp Lys Thr Val Leu Asp Met Arg Ser
515 520 525

Met Asp Phe Lys Ser Asn Ser Ala Val Ala Trp Ser Asn Lys Ser Asp
530 535 540

Phe Ala Cys Ala Asn Ala Phe Asn Asn Ser Ile Ile Pro Glu Asp Thr
545 550 555 560

Phe Phe Pro Ser Ser Asp Val Pro Cys Asp Val Lys Leu Val Glu Lys
565 570 575

Ser Phe Glu Thr Asp Thr Asn Leu Asn Phe Gln Asn Leu Leu Val Ile
580 585 590

Val Leu Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu Leu Met
595 600 605

Thr Leu Arg Leu Trp Ser
610

<210> 38

<211> 810

<212> DNA

<213> Secuencia Artificial

<220>

<223> Descripcion de Secuencia Artificial: Polinucleotido
sintetico

<400> 38

atggtcctga aattctccgt gtccattctt tggattcagt tggcatgggt gagcaccag	60
ctgctggagc agagccctca gtttcttagc atccaagagg gagaaaatct cactgtgtac	120
tgcaactcct caagtgtttt ctccagcctt caatggtaca gacaggagcc tggggaaggt	180
cctgtcctcc tggtgacagt tgttactggg ggagaagtga agaagctgaa gagacttacc	240
tttcagtttg gtgatgcaag aaaggacagt tctctccaca tctatgcagc ccagcctggg	300
gatacaggcc tctacctctg tgcaggagat gaaagtatta gctatggaaa gctgacattt	360
ggacaaggga ccatcttgac tgtccatcca aacatccaga accccgaccc cgccgtgtac	420
cagctgaggg actccaagtc cagcgacaag agcgtgtgtc tgtttacgga cttcgacagc	480
cagaccaacg tgagtcaaag caaggacagc gacgtctaca taacggataa gaccgtgctg	540
gacatgcgga gcatggactt caagagcaac agcgccgtgg cctggtccaa caagagcgac	600
ttcgcctgcg ccaacgcctt caacaacagc atcatccccg aggacacctt cttccccagc	660
agcgacgtgc cctgcgacgt gaaactgggt gagaagtcct tcgagacaga caccaatctg	720
aactttcaga acctgctggg gatcgtgctg cggattctgc tgctgaaagt ggccggcttc	780
aatctgctga tgaccctgcg gctgtggagc	810

<210> 39

<211> 270

<212> PRT

<213> Secuencia Artificial

<220>

<223> Descripcion de Secuencia Artificial: Polipeptido
sintetico

<400> 39

Met	Val	Leu	Lys	Phe	Ser	Val	Ser	Ile	Leu	Trp	Ile	Gln	Leu	Ala	Trp
1				5					10					15	

Val	Ser	Thr	Gln	Leu	Leu	Glu	Gln	Ser	Pro	Gln	Phe	Leu	Ser	Ile	Gln
			20					25					30		

Glu	Gly	Glu	Asn	Leu	Thr	Val	Tyr	Cys	Asn	Ser	Ser	Ser	Val	Phe	Ser
			35				40					45			

Ser Leu Gln Trp Tyr Arg Gln Glu Pro Gly Glu Gly Pro Val Leu Leu
50 55 60

Val Thr Val Val Thr Gly Gly Glu Val Lys Lys Leu Lys Arg Leu Thr
65 70 75 80

Phe Gln Phe Gly Asp Ala Arg Lys Asp Ser Ser Leu His Ile Thr Ala
85 90 95

Ala Gln Pro Gly Asp Thr Gly Leu Tyr Leu Cys Ala Gly Asp Glu Ser
100 105 110

Ile Ser Tyr Gly Lys Leu Thr Phe Gly Gln Gly Thr Ile Leu Thr Val
115 120 125

His Pro Asn Ile Gln Asn Pro Asp Pro Ala Val Tyr Gln Leu Arg Asp
130 135 140

Ser Lys Ser Ser Asp Lys Ser Val Cys Leu Phe Thr Asp Phe Asp Ser
145 150 155 160

Gln Thr Asn Val Ser Gln Ser Lys Asp Ser Asp Val Tyr Ile Thr Asp
165 170 175

Lys Thr Val Leu Asp Met Arg Ser Met Asp Phe Lys Ser Asn Ser Ala
180 185 190

Val Ala Trp Ser Asn Lys Ser Asp Phe Ala Cys Ala Asn Ala Phe Asn
195 200 205

Asn Ser Ile Ile Pro Glu Asp Thr Phe Phe Pro Ser Ser Asp Val Pro
210 215 220

Cys Asp Val Lys Leu Val Glu Lys Ser Phe Glu Thr Asp Thr Asn Leu
225 230 235 240

Asn Phe Gln Asn Leu Leu Val Ile Val Leu Arg Ile Leu Leu Leu Lys
245 250 255

Val Ala Gly Phe Asn Leu Leu Met Thr Leu Arg Leu Trp Ser
260 265 270

$\langle 210 \rangle$ 40

<211> 930

<212> DNA

<213> Secuencia Artificial

 $\langle 220 \rangle$

<223> Descripcion de Secuencia Artificial: Polinucleotido sintetico

<400> 40

atgggctcct ggaccctctg ctgtgtgtcc ctttgcattc tggttgcaaa gcacacagat 60

gctgggagtta tccagtcacc ccgggcacgag gtgacagaga tgggacaaga agtgactctg 120

agatgtaaac caatttcagg acatgactac cttttctggt acagacagac catgatgcgg 180

ggactggagt tgctcattta ctttaacaac aacgttccta ttgatgattc agggatgccc 240

gaggatcgct tctcagctaa gatgcctaata gcatcattct ccactctgaa gatccagccc 300

tcagaaccca gggactcagc tgtgtacttc tgtgccagca gttttctcgg ctggaatgaa 360

aaactgttct ttggcagtgg aaccagctc tctgtcttgg aagatctgaa caaggtgttc 420

cctccagagg tggccgtggt cgagccttct aaggccgaga tcgcccacac aaaaaaagcc 480

accctcgtgt gcctggccac cggctttttc cccgaccacg tgggaactgtc ttgggtgggtc 540

aacggcaaag aggtgcactc cggcgtgtca acggatcccc agcctctgaa agaacagcct 600

gccctgaacg acagccggta ctgcctgagc tccagactga gagtgtccgc caccttctgg 660

cagaaccccc ggaaccactt cagatgccag gtgcagtttt acggcctgag cgagaacgac 720

gagtggaccc aggacagagc caagcccgtg acacaaatcg tgtctgccga agcctggggga 780

agagccgatt gcggcatcac cagcgcctcc tatcaccagg gcgtgctgag cgccacaatc 840

ctgtacgaaa tcctgctggg caaggccacc ctgtacgccg tgctgggtgtc tgctctgggtg 900

ctgatggcca tgggtcaagcg gaaggacttt 930

<210> 41

$\langle 211 \rangle$ 310

<212> PRT

<213> Secuencia Artificial

 $\langle 220 \rangle$

<223> Descripcion de Secuencia Artificial: Polipeptido

sintetico

<400> 41

Met Gly Ser Trp Thr Leu Cys Cys Val Ser Leu Cys Ile Leu Val Ala
1 5 10 15

Lys His Thr Asp Ala Gly Val Ile Gln Ser Pro Arg His Glu Val Thr
20 25 30

Glu Met Gly Gln Glu Val Thr Leu Arg Cys Lys Pro Ile Ser Gly His
35 40 45

Asp Tyr Leu Phe Trp Tyr Arg Gln Thr Met Met Arg Gly Leu Glu Leu
50 55 60

Leu Ile Tyr Phe Asn Asn Asn Val Pro Ile Asp Asp Ser Gly Met Pro
65 70 75 80

Glu Asp Arg Phe Ser Ala Lys Met Pro Asn Ala Ser Phe Ser Thr Leu
85 90 95

Lys Ile Gln Pro Ser Glu Pro Arg Asp Ser Ala Val Tyr Phe Cys Ala
100 105 110

Ser Ser Phe Leu Gly Trp Asn Glu Lys Leu Phe Phe Gly Ser Gly Thr
115 120 125

Gln Leu Ser Val Leu Glu Asp Leu Asn Lys Val Phe Pro Pro Glu Val
130 135 140

Ala Val Phe Glu Pro Ser Lys Ala Glu Ile Ala His Thr Gln Lys Ala
145 150 155 160

Thr Leu Val Cys Leu Ala Thr Gly Phe Phe Pro Asp His Val Glu Leu
165 170 175

Ser Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp
180 185 190

Pro Gln Pro Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Cys
195 200 205

Leu Ser Ser Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg
210 215 220

Asn His Phe Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp
225 230 235 240

Glu Trp Thr Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala
245 250 255

Glu Ala Trp Gly Arg Ala Asp Cys Gly Ile Thr Ser Ala Ser Tyr His
260 265 270

Gln Gly Val Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys
275 280 285

Ala Thr Leu Tyr Ala Val Leu Val Ser Ala Leu Val Leu Met Ala Met
290 295 300

Val Lys Arg Lys Asp Phe
305 310

<210> 42
<211> 1830
<212> DNA
<213> Secuencia Artificial

<220>
<223> Descripcion de Secuencia Artificial: Polinucleotido
sintetico

<400> 42
atgggctcct ggaccctctg ctgtgtgtcc ctttgcattc tggttgcaaa gcacacagat 60
gctggagtta tccagtcacc ccggcacgag gtgacagaga tgggacaaga agtgactctg 120
agatgtaaac caatttcagg acatgactac cttttctggt acagacagac catgatgcgg 180
ggactggagt tgctcattta ctttaacaac aacgttccta ttgatgattc agggatgccc 240
gaggatcgct tctcagctaa gatgcctaata gcatcattct ccactctgaa gatccagccc 300
tcagaacca gggactcagc tgtgtacttc tgtgccagca gttttctcgg ctggaatgaa 360
aaactgttct ttggcagtgg aaccagctc tctgtcttgg aagatctgaa caaggtgttc 420
cctccagagg tggccgtgtt cgagccttct aaggccgaga tcgcccacac aaaaaagcc 480

accctcgtgt gcctggccac cggctttttc cccgaccacg tggaactgtc ttggtgggtc	540
aacggcaaag aggtgcactc cggcgtgtca acggatcccc agcctctgaa agaacagcct	600
gccctgaacg acagccggta ctgcctgagc tccagactga gagtgtccgc caccttctgg	660
cagaaccccc ggaaccactt cagatgccag gtgcagtttt acggcctgag cgagaacgac	720
gagtggaccc aggacagagc caagcccgtg acacaaatcg tgtctgccga agcctgggga	780
agagccgatt gcggcatcac cagcgcctcc tatcaccagg gcgtgctgag cgccacaatc	840
ctgtacgaaa tcctgctggg caaggccacc ctgtacgccg tgctgggtgtc tgctctggtg	900
ctgatggcca tgggtcaagcg gaaggacttt ggcagcggca gagccaaaag gtccgggagc	960
ggtgcgacaa acttttagcct gttgaaacaa gccggcgacg ttgaagagaa ccccgacct	1020
atggtcctga aattctccgt gtccattctt tggattcagt tggcatgggt gagcaccag	1080
ctgctggagc agagccctca gtttcttagc atccaagagg gagaaaatct cactgtgtac	1140
tgcaactcct caagtgtttt ctccagcctt caatggtaca gacaggagcc tggggaaggt	1200
cctgtcctcc tggtgacagt tgttactggt ggagaagtga agaagctgaa gagacttacc	1260
tttcagtttg gtgatgcaag aaaggacagt tctctccaca tcactgcagc ccagcctggt	1320
gatacaggcc tctacctctg tgcaggagat gaaagtatta gctatggaaa gctgacattt	1380
ggacaaggga ccatcttgac tgtccatcca aacatccaga accccgaccc cgccgtgtac	1440
cagctgaggg actccaagtc cagcgacaag agcgtgtgtc tgtttacgga cttcgacagc	1500
cagaccaacg tgagtcaaag caaggacagc gacgtctaca taacggataa gaccgtgctg	1560
gacatgcgga gcatggactt caagagcaac agcgccgtgg cctggtccaa caagagcgac	1620
ttcgctgcg ccaacgcctt caacaacagc atcatccccg aggacacctt cttccccagc	1680
agcgacgtgc cctgcgacgt gaaactggtg gagaagtcct tcgagacaga caccaatctg	1740
aactttcaga acctgctggt gatcgtgctg cggattctgc tgctgaaagt ggccggcttc	1800
aatctgctga tgaccctgcg gctgtggagc	1830

<210> 43

<211> 610

<212> PRT

<213> Secuencia Artificial

<220>

<223> Descripcion de Secuencia Artificial: Polipeptido sintetico

<400> 43

Met Gly Ser Trp Thr Leu Cys Cys Val Ser Leu Cys Ile Leu Val Ala
1 5 10 15

Lys His Thr Asp Ala Gly Val Ile Gln Ser Pro Arg His Glu Val Thr
20 25 30

Glu Met Gly Gln Glu Val Thr Leu Arg Cys Lys Pro Ile Ser Gly His
35 40 45

Asp Tyr Leu Phe Trp Tyr Arg Gln Thr Met Met Arg Gly Leu Glu Leu
50 55 60

Leu Ile Tyr Phe Asn Asn Asn Val Pro Ile Asp Asp Ser Gly Met Pro
65 70 75 80

Glu Asp Arg Phe Ser Ala Lys Met Pro Asn Ala Ser Phe Ser Thr Leu
85 90 95

Lys Ile Gln Pro Ser Glu Pro Arg Asp Ser Ala Val Tyr Phe Cys Ala
100 105 110

Ser Ser Phe Leu Gly Trp Asn Glu Lys Leu Phe Phe Gly Ser Gly Thr
115 120 125

Gln Leu Ser Val Leu Glu Asp Leu Asn Lys Val Phe Pro Pro Glu Val
130 135 140

Ala Val Phe Glu Pro Ser Lys Ala Glu Ile Ala His Thr Gln Lys Ala
145 150 155 160

Thr Leu Val Cys Leu Ala Thr Gly Phe Phe Pro Asp His Val Glu Leu
165 170 175

Ser Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp
180 185 190

Pro Gln Pro Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Cys
195 200 205

Leu Ser Ser Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg
210 215 220

Asn His Phe Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp
225 230 235 240

Glu Trp Thr Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala
245 250 255

Glu Ala Trp Gly Arg Ala Asp Cys Gly Ile Thr Ser Ala Ser Tyr His
260 265 270

Gln Gly Val Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys
275 280 285

Ala Thr Leu Tyr Ala Val Leu Val Ser Ala Leu Val Leu Met Ala Met
290 295 300

Val Lys Arg Lys Asp Phe Gly Ser Gly Arg Ala Lys Arg Ser Gly Ser
305 310 315 320

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

Asn Pro Gly Pro Met Val Leu Lys Phe Ser Val Ser Ile Leu Trp Ile
340 345 350

Gln Leu Ala Trp Val Ser Thr Gln Leu Leu Glu Gln Ser Pro Gln Phe
355 360 365

Leu Ser Ile Gln Glu Gly Glu Asn Leu Thr Val Tyr Cys Asn Ser Ser
370 375 380

Ser Val Phe Ser Ser Leu Gln Trp Tyr Arg Gln Glu Pro Gly Glu Gly
385 390 395 400

Pro Val Leu Leu Val Thr Val Val Thr Gly Gly Glu Val Lys Lys Leu
405 410 415

Lys Arg Leu Thr Phe Gln Phe Gly Asp Ala Arg Lys Asp Ser Ser Leu
420 425 430

His Ile Thr Ala Ala Gln Pro Gly Asp Thr Gly Leu Tyr Leu Cys Ala
435 440 445

Gly Asp Glu Ser Ile Ser Tyr Gly Lys Leu Thr Phe Gly Gln Gly Thr
450 455 460

Ile Leu Thr Val His Pro Asn Ile Gln Asn Pro Asp Pro Ala Val Tyr
465 470 475 480

Gln Leu Arg Asp Ser Lys Ser Ser Asp Lys Ser Val Cys Leu Phe Thr
485 490 495

Asp Phe Asp Ser Gln Thr Asn Val Ser Gln Ser Lys Asp Ser Asp Val
500 505 510

Tyr Ile Thr Asp Lys Thr Val Leu Asp Met Arg Ser Met Asp Phe Lys
515 520 525

Ser Asn Ser Ala Val Ala Trp Ser Asn Lys Ser Asp Phe Ala Cys Ala
530 535 540

Asn Ala Phe Asn Asn Ser Ile Ile Pro Glu Asp Thr Phe Phe Pro Ser
545 550 555 560

Ser Asp Val Pro Cys Asp Val Lys Leu Val Glu Lys Ser Phe Glu Thr
565 570 575

Asp Thr Asn Leu Asn Phe Gln Asn Leu Leu Val Ile Val Leu Arg Ile
580 585 590

Leu Leu Leu Lys Val Ala Gly Phe Asn Leu Leu Met Thr Leu Arg Leu
595 600 605

Trp Ser
610

<210> 44
<211> 930

<212> DNA

<213> Homo sapiens

<400> 44

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ggcacccttg aggaggtgcc cactgctggg tcaacagatc ctccccagag tcctcaggga      180
gcctccgcct ttcccactac catcaacttc actcgacaga ggcaaccag tgagggttcc      240
agcagccgtg aagaggaggg gccaaagcacc tcttgtatcc tggagtcctt gttccgagca      300
gtaatcacta agaaggtggc tgatttggtt ggttttctgc tcctcaaata tcgagccagg      360
gagccagtca caaaggcaga aatgctggag agtgtcatca aaaattacaa gcactgtttt      420
cctgagatct tcggcaaagc ctctgagtcc ttgcagctgg tctttggcat tgacgtgaag      480
gaagcagacc ccaccggcca ctcctatgtc cttgtcacct gcctaggtct ctcctatgat      540
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atgattgcaa tggagggcgg ccatgctcct gaggaggaaa tctgggagga gctgagtgtg      660
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caagatttgg tgcaggaaaa gtacctggag taccggcagg tgccggacag tgatcccgca      780
cgctatgagt tcctgtgggg tccaagggcc ctcgctgaaa ccagctatgt gaaagtcctt      840
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<210> 45

<211> 309

<212> PRT

<213> Homo sapiens

<400> 45

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Met Ser Leu Glu Gln Arg Ser Leu His Cys Lys Pro Glu Glu Ala Leu
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Glu Ala Gln Gln Glu Ala Leu Gly Leu Val Cys Val Gln Ala Ala Thr
          20          25          30

Ser Ser Ser Ser Pro Leu Val Leu Gly Thr Leu Glu Glu Val Pro Thr
          35          40          45
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Ala Gly Ser Thr Asp Pro Pro Gln Ser Pro Gln Gly Ala Ser Ala Phe
50 55 60

Pro Thr Thr Ile Asn Phe Thr Arg Gln Arg Gln Pro Ser Glu Gly Ser
65 70 75 80

Ser Ser Arg Glu Glu Glu Gly Pro Ser Thr Ser Cys Ile Leu Glu Ser
85 90 95

Leu Phe Arg Ala Val Ile Thr Lys Lys Val Ala Asp Leu Val Gly Phe
100 105 110

Leu Leu Leu Lys Tyr Arg Ala Arg Glu Pro Val Thr Lys Ala Glu Met
115 120 125

Leu Glu Ser Val Ile Lys Asn Tyr Lys His Cys Phe Pro Glu Ile Phe
130 135 140

Gly Lys Ala Ser Glu Ser Leu Gln Leu Val Phe Gly Ile Asp Val Lys
145 150 155 160

Glu Ala Asp Pro Thr Gly His Ser Tyr Val Leu Val Thr Cys Leu Gly
165 170 175

Leu Ser Tyr Asp Gly Leu Leu Gly Asp Asn Gln Ile Met Pro Lys Thr
180 185 190

Gly Phe Leu Ile Ile Val Leu Val Met Ile Ala Met Glu Gly Gly His
195 200 205

Ala Pro Glu Glu Glu Ile Trp Glu Glu Leu Ser Val Met Glu Val Tyr
210 215 220

Asp Gly Arg Glu His Ser Ala Tyr Gly Glu Pro Arg Lys Leu Leu Thr
225 230 235 240

Gln Asp Leu Val Gln Glu Lys Tyr Leu Glu Tyr Arg Gln Val Pro Asp
245 250 255

Ser Asp Pro Ala Arg Tyr Glu Phe Leu Trp Gly Pro Arg Ala Leu Ala

260

265

270

Glu Thr Ser Tyr Val Lys Val Leu Glu Tyr Val Ile Lys Val Ser Ala
 275 280 285

Arg Val Arg Phe Phe Phe Pro Ser Leu Arg Glu Ala Ala Leu Arg Glu
 290 295 300

Glu Glu Glu Gly Val
 305

<210> 46

<211> 1101

<212> DNA

<213> Homo sapiens

<400> 46

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cgcggtgagc	cacgcttcat	ctcagtgggc	tacgtggacg	acactcagtt	cgtgcgcttc	180
gacagcgacg	ccgccagtcc	tcgcggggag	ccacgcgcac	catgggtgga	gcaggagggg	240
cctgagtatt	gggaccgcga	gacacagaag	tacaagcgcc	aggcacaggc	tgaccgcgtg	300
agcctgcgca	acctgcgcgg	ctactacaac	cagagcgagg	acgggtctca	caccctccag	360
cgcattgtctg	gctgcgacct	ggggcctgac	gggcgcctcc	tccgcgggta	tgaccagtcc	420
gcctacgacg	gcaaggatta	catcgccctg	aacgaggacc	tcgctcctg	gaccgccgct	480
gacaccgccg	ctcagatcac	ccagcgcaag	ttggaggctg	cccgcgccgc	tgagcagctg	540
cgcgcctacc	tggagggcac	atgcgtggag	tggtccgcc	gctacctgga	gaacgggaag	600
gagaccctgc	agcgcgcaga	accaccaaag	acacacgtga	cccaccaccc	tctctctgac	660
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tacacatgcc	atatgcagca	cgaggggctg	caagagccac	tcaccctgag	ctgggagcca	900
tcttcccagc	caaccatccc	aatcatgggc	atcgttgctg	gcctggctgt	cctggttgtc	960
ctggctgtcc	ttggtgctgt	ggtcaccgct	atgatgtgtc	gccgcaagag	ctcaggtggg	1020

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ctcatcactt gtaaagcctg a 1101

<210> 47
<211> 366
<212> PRT
<213> Homo sapiens

<400> 47
Met Arg Val Met Ala Pro Arg Ala Leu Leu Leu Leu Ser Gly Gly
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Leu Ala Leu Thr Glu Thr Trp Ala Cys Ser His Ser Met Arg Tyr Phe
20 25 30

Asp Thr Ala Val Ser Arg Pro Gly Arg Gly Glu Pro Arg Phe Ile Ser
35 40 45

Val Gly Tyr Val Asp Asp Thr Gln Phe Val Arg Phe Asp Ser Asp Ala
50 55 60

Ala Ser Pro Arg Gly Glu Pro Arg Ala Pro Trp Val Glu Gln Glu Gly
65 70 75 80

Pro Glu Tyr Trp Asp Arg Glu Thr Gln Lys Tyr Lys Arg Gln Ala Gln
85 90 95

Ala Asp Arg Val Ser Leu Arg Asn Leu Arg Gly Tyr Tyr Asn Gln Ser
100 105 110

Glu Asp Gly Ser His Thr Leu Gln Arg Met Ser Gly Cys Asp Leu Gly
115 120 125

Pro Asp Gly Arg Leu Leu Arg Gly Tyr Asp Gln Ser Ala Tyr Asp Gly
130 135 140

Lys Asp Tyr Ile Ala Leu Asn Glu Asp Leu Arg Ser Trp Thr Ala Ala
145 150 155 160

Asp Thr Ala Ala Gln Ile Thr Gln Arg Lys Leu Glu Ala Ala Arg Ala
165 170 175

Ala Glu Gln Leu Arg Ala Tyr Leu Glu Gly Thr Cys Val Glu Trp Leu
180 185 190

Arg Arg Tyr Leu Glu Asn Gly Lys Glu Thr Leu Gln Arg Ala Glu Pro
195 200 205

Pro Lys Thr His Val Thr His His Pro Leu Ser Asp His Glu Ala Thr
210 215 220

Leu Arg Cys Trp Ala Leu Gly Phe Tyr Pro Ala Glu Ile Thr Leu Thr
225 230 235 240

Trp Gln Arg Asp Gly Glu Asp Gln Thr Gln Asp Thr Glu Leu Val Glu
245 250 255

Thr Arg Pro Ala Gly Asp Gly Thr Phe Gln Lys Trp Ala Ala Val Val
260 265 270

Val Pro Ser Gly Gln Glu Gln Arg Tyr Thr Cys His Met Gln His Glu
275 280 285

Gly Leu Gln Glu Pro Leu Thr Leu Ser Trp Glu Pro Ser Ser Gln Pro
290 295 300

Thr Ile Pro Ile Met Gly Ile Val Ala Gly Leu Ala Val Leu Val Val
305 310 315 320

Leu Ala Val Leu Gly Ala Val Val Thr Ala Met Met Cys Arg Arg Lys
325 330 335

Ser Ser Gly Gly Lys Gly Gly Ser Cys Ser Gln Ala Ala Cys Ser Asn
340 345 350

Ser Ala Gln Gly Ser Asp Glu Ser Leu Ile Thr Cys Lys Ala
355 360 365

<210> 48

<211> 4734

<212> DNA

<213> Secuencia Artificial

<220>

<223> Descripcion de Secuencia Artificial: Polinucleotido
sintetico

<400> 48

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acgcagctta tggcttcttc tacctgtggg ctgagcagag cccagaaata ctgcatcctc	180
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gaaaagaaat ggtggcaatc tgaaaatggc cttgatcatg tcagcatcag actggactta	360
gaggcattat ttcggttcag ccaccttata ctgaccttta agacttttcg gcctgctgca	420
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gcttgagtg agccgagatc gcgccactgc actccagcct gggcgacaga gcgagactcc	4620
gtctcaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaacat	4680

catagccagt tccaaattat attaattgga aatgacaagc ctaaadcaga aaaa

4734

<210> 49

<211> 1578

<212> PRT

<213> Secuencia Artificial

<220>

<223> Descripcion de Secuencia Artificial: Polipeptido
sintetico

<400> 49

Met Gln Phe Gln Leu Thr Leu Phe Leu His Leu Gly Trp Leu Ser Tyr
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Ser Lys Ala Gln Asp Asp Cys Asn Arg Gly Ala Cys His Pro Thr Thr
20 25 30

Gly Asp Leu Leu Val Gly Arg Asn Thr Gln Leu Met Ala Ser Ser Thr
35 40 45

Cys Gly Leu Ser Arg Ala Gln Lys Tyr Cys Ile Leu Ser Tyr Leu Glu
50 55 60

Gly Glu Gln Lys Cys Phe Ile Cys Asp Ser Arg Phe Pro Tyr Asp Pro
65 70 75 80

Tyr Asp Gln Pro Asn Ser His Thr Ile Glu Asn Val Ile Val Ser Phe
85 90 95

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

His Val Ser Ile Arg Leu Asp Leu Glu Ala Leu Phe Arg Phe Ser His
115 120 125

Leu Ile Leu Thr Phe Lys Thr Phe Arg Pro Ala Ala Met Leu Val Glu
130 135 140

Arg Ser Thr Asp Tyr Gly His Asn Trp Lys Val Phe Lys Tyr Phe Ala
145 150 155 160

Lys Asp Cys Ala Thr Ser Phe Pro Asn Ile Thr Ser Gly Gln Ala Gln

165

170

175

Gly Val Gly Asp Ile Val Cys Asp Ser Lys Tyr Ser Asp Ile Glu Pro
 180 185 190

Ser Thr Gly Gly Glu Val Val Leu Lys Val Leu Asp Pro Ser Phe Glu
 195 200 205

Ile Glu Asn Pro Tyr Ser Pro Tyr Ile Gln Asp Leu Val Thr Leu Thr
 210 215 220

Asn Leu Arg Ile Asn Phe Thr Lys Leu His Thr Leu Gly Asp Ala Leu
 225 230 235 240

Leu Gly Arg Arg Gln Asn Asp Ser Leu Asp Lys Tyr Tyr Tyr Ala Leu
 245 250 255

Tyr Glu Met Ile Val Arg Gly Ser Cys Phe Cys Asn Gly His Ala Ser
 260 265 270

Glu Cys Arg Pro Met Gln Lys Met Arg Gly Asp Val Phe Ser Pro Pro
 275 280 285

Gly Met Val His Gly Gln Cys Val Cys Gln His Asn Thr Asp Gly Pro
 290 295 300

Asn Cys Glu Arg Cys Lys Asp Phe Phe Gln Asp Ala Pro Trp Arg Pro
 305 310 315 320

Ala Ala Asp Leu Gln Asp Asn Ala Cys Arg Ser Cys Ser Cys Asn Ser
 325 330 335

His Ser Ser Arg Cys His Phe Asp Met Thr Thr Tyr Leu Ala Ser Gly
 340 345 350

Gly Leu Ser Gly Gly Val Cys Glu Asp Cys Gln His Asn Thr Glu Gly
 355 360 365

Gln His Cys Asp Arg Cys Arg Pro Leu Phe Tyr Arg Asp Pro Leu Lys
 370 375 380

Thr Ile Ser Asp Pro Tyr Ala Cys Ile Pro Cys Glu Cys Asp Pro Asp
385 390 395 400

Gly Thr Ile Ser Gly Gly Ile Cys Val Ser His Ser Asp Pro Ala Leu
405 410 415

Gly Ser Val Ala Gly Gln Cys Leu Cys Lys Glu Asn Val Glu Gly Ala
420 425 430

Lys Cys Asp Gln Cys Lys Pro Asn His Tyr Gly Leu Ser Ala Thr Asp
435 440 445

Pro Leu Gly Cys Gln Pro Cys Asp Cys Asn Pro Leu Gly Ser Leu Pro
450 455 460

Phe Leu Thr Cys Asp Val Asp Thr Gly Gln Cys Leu Cys Leu Ser Tyr
465 470 475 480

Val Thr Gly Ala His Cys Glu Glu Cys Thr Val Gly Tyr Trp Gly Leu
485 490 495

Gly Asn His Leu His Gly Cys Ser Pro Cys Asp Cys Asp Ile Gly Gly
500 505 510

Ala Tyr Ser Asn Val Cys Ser Pro Lys Asn Gly Gln Cys Glu Cys Arg
515 520 525

Pro His Val Thr Gly Arg Ser Cys Ser Glu Pro Ala Pro Gly Tyr Phe
530 535 540

Phe Ala Pro Leu Asn Phe Tyr Leu Tyr Glu Ala Glu Glu Ala Thr Thr
545 550 555 560

Leu Gln Gly Leu Ala Pro Leu Gly Ser Glu Thr Phe Gly Gln Ser Pro
565 570 575

Ala Val His Val Val Leu Gly Glu Pro Val Pro Gly Asn Pro Val Thr
580 585 590

Trp Thr Gly Pro Gly Phe Ala Arg Val Leu Pro Gly Ala Gly Leu Arg

595

600

605

Phe Ala Val Asn Asn Ile Pro Phe Pro Val Asp Phe Thr Ile Ala Ile
 610 615 620

His Tyr Glu Thr Gln Ser Ala Ala Asp Trp Thr Val Gln Ile Val Val
 625 630 635 640

Asn Pro Pro Gly Gly Ser Glu His Cys Ile Pro Lys Thr Leu Gln Ser
 645 650 655

Lys Pro Gln Ser Phe Ala Leu Pro Ala Ala Thr Arg Ile Met Leu Leu
 660 665 670

Pro Thr Pro Ile Cys Leu Glu Pro Asp Val Gln Tyr Ser Ile Asp Val
 675 680 685

Tyr Phe Ser Gln Pro Leu Gln Gly Glu Ser His Ala His Ser His Val
 690 695 700

Leu Val Asp Ser Leu Gly Leu Ile Pro Gln Ile Asn Ser Leu Glu Asn
 705 710 715 720

Phe Cys Ser Lys Gln Asp Leu Asp Glu Tyr Gln Leu His Asn Cys Val
 725 730 735

Glu Ile Ala Ser Ala Met Gly Pro Gln Val Leu Pro Gly Ala Cys Glu
 740 745 750

Arg Leu Ile Ile Ser Met Ser Ala Lys Leu His Asp Gly Ala Val Ala
 755 760 765

Cys Lys Cys His Pro Gln Gly Ser Val Gly Ser Ser Cys Ser Arg Leu
 770 775 780

Gly Gly Gln Cys Gln Cys Lys Pro Leu Val Val Gly Arg Cys Cys Asp
 785 790 795 800

Arg Cys Ser Thr Gly Ser Tyr Asp Leu Gly His His Gly Cys His Pro
 805 810 815

Cys His Cys His Pro Gln Gly Ser Lys Asp Thr Val Cys Asp Gln Val
820 825 830

Thr Gly Gln Cys Pro Cys His Gly Glu Val Ser Gly Arg Arg Cys Asp
835 840 845

Arg Cys Leu Ala Gly Tyr Phe Gly Phe Pro Ser Cys His Pro Cys Pro
850 855 860

Cys Asn Arg Phe Ala Glu Leu Cys Asp Pro Glu Thr Gly Ser Cys Phe
865 870 875 880

Asn Cys Gly Gly Phe Thr Thr Gly Arg Asn Cys Glu Arg Cys Ile Asp
885 890 895

Gly Tyr Tyr Gly Asn Pro Ser Ser Gly Gln Pro Cys Arg Pro Cys Leu
900 905 910

Cys Pro Asp Asp Pro Ser Ser Asn Gln Tyr Phe Ala His Ser Cys Tyr
915 920 925

Gln Asn Leu Trp Ser Ser Asp Val Ile Cys Asn Cys Leu Gln Gly Tyr
930 935 940

Thr Gly Thr Gln Cys Gly Glu Cys Ser Thr Gly Phe Tyr Gly Asn Pro
945 950 955 960

Arg Ile Ser Gly Ala Pro Cys Gln Pro Cys Ala Cys Asn Asn Asn Ile
965 970 975

Asp Val Thr Asp Pro Glu Ser Cys Ser Arg Val Thr Gly Glu Cys Leu
980 985 990

Arg Cys Leu His Asn Thr Gln Gly Ala Asn Cys Gln Leu Cys Lys Pro
995 1000 1005

Gly His Tyr Gly Ser Ala Leu Asn Gln Thr Cys Arg Arg Cys Ser
1010 1015 1020

Cys His Ala Ser Gly Val Ser Pro Met Glu Cys Pro Pro Gly Gly

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Trp Asn Leu Val Pro Gly Arg Gly Cys Gln Ser Cys Asp Cys Asp 1070 1075 1080		
Pro Arg Thr Ser Gln Ser Ser His Cys Asp Gln Leu Thr Gly Gln 1085 1090 1095		
Cys Pro Cys Lys Leu Gly Tyr Gly Gly Lys Arg Cys Ser Glu Cys 1100 1105 1110		
Gln Glu Asn Tyr Tyr Gly Asp Pro Pro Gly Arg Cys Ile Pro Cys 1115 1120 1125		
Asp Cys Asn Arg Ala Gly Thr Gln Lys Pro Ile Cys Asp Pro Asp 1130 1135 1140		
Thr Gly Met Cys Arg Cys Arg Glu Gly Val Ser Gly Gln Arg Cys 1145 1150 1155		
Asp Arg Cys Ala Arg Gly His Ser Gln Glu Phe Pro Thr Cys Leu 1160 1165 1170		
Gln Cys His Leu Cys Phe Asp Gln Trp Asp His Thr Ile Ser Ser 1175 1180 1185		
Leu Ser Lys Ala Val Gln Gly Leu Met Arg Leu Ala Ala Asn Met 1190 1195 1200		
Glu Asp Lys Arg Glu Thr Leu Pro Val Cys Glu Ala Asp Phe Lys 1205 1210 1215		
Asp Leu Arg Gly Asn Val Ser Glu Ile Glu Arg Ile Leu Lys His 1220 1225 1230		

Pro Val Phe Pro Ser Gly Lys Phe Leu Lys Val Lys Asp Tyr His
1235 1240 1245

Asp Ser Val Arg Arg Gln Ile Met Gln Leu Asn Glu Gln Leu Lys
1250 1255 1260

Ala Val Tyr Glu Phe Gln Asp Leu Lys Asp Thr Ile Glu Arg Ala
1265 1270 1275

Lys Asn Glu Ala Asp Leu Leu Leu Glu Asp Leu Gln Glu Glu Ile
1280 1285 1290

Asp Leu Gln Ser Ser Val Leu Asn Ala Ser Ile Ala Asp Ser Ser
1295 1300 1305

Glu Asn Ile Lys Lys Tyr Tyr His Ile Ser Ser Ser Ala Glu Lys
1310 1315 1320

Lys Ile Asn Glu Thr Ser Ser Thr Ile Asn Thr Ser Ala Asn Thr
1325 1330 1335

Arg Asn Asp Leu Leu Thr Ile Leu Asp Thr Leu Thr Ser Lys Gly
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1435

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Asp Pro Ala Arg Tyr Glu Phe Leu Trp Gly Pro Arg Ala Leu Ala Glu
35 40 45

Thr Ser Tyr Val Lys Val Leu Glu Tyr Val Ile Lys Val Ser Ala Arg
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Glu Glu Gly Val

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