

WO1179_ST25.txt
SEQUENCE LISTING

<110> Ares Trading S.A.
 <120> TACI-immunoglobulin fusion proteins for treatment of optic neuritis
 <130> 1179 WO/PCT
 <150> EP 07120490.3
 <151> 2007-11-12
 <150> US 61/002,988
 <151> 2007-11-14
 <160> 25
 <170> PatentIn version 3.5
 <210> 1
 <211> 166
 <212> PRT
 <213> homo sapiens
 <400> 1

Met Ser Gly Leu Gly Arg Ser Arg Arg Gly Gly Arg Ser Arg Val Asp
 1 5 10 15

Gln Glu Glu Arg Phe Pro Gln Gly Leu Trp Thr Gly Val Ala Met Arg
 20 25 30

Ser Cys Pro Glu Glu Gln Tyr Trp Asp Pro Leu Leu Gly Thr Cys Met
 35 40 45

Ser Cys Lys Thr Ile Cys Asn His Gln Ser Gln Arg Thr Cys Ala Ala
 50 55 60

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

His Leu Leu Arg Asp Cys Ile Ser Cys Ala Ser Ile Cys Gly Gln His
 85 90 95

Pro Lys Gln Cys Ala Tyr Phe Cys Glu Asn Lys Leu Arg Ser Pro Val
 100 105 110

Asn Leu Pro Pro Glu Leu Arg Arg Gln Arg Ser Gly Glu Val Glu Asn
 115 120 125

Asn Ser Asp Asn Ser Gly Arg Tyr Gln Gly Leu Gly His Arg Gly Ser
 130 135 140

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

Ala Leu Val Tyr Ser Thr
 165

<210> 2
 <211> 232
 <212> PRT
 <213> homo sapiens

<400> 2

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
 1 5 10 15

Pro Glu Ala Glu Gly Ala Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
 20 25 30

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
 35 40 45

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
 50 55 60

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
 65 70 75 80

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
 85 90 95

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
 100 105 110

Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
 115 120 125

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

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
 145 150 155 160

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
 165 170 175

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
 180 185 190

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
 195 200 205

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
 210 215 220

Ser Leu Ser Leu Ser Pro Gly Lys
 225 230

<210> 3

<211> 313
<212> PRT
<213> homo sapiens

<400> 3

```

Ala Met Arg Ser Cys Pro Glu Glu Gln Tyr Trp Asp Pro Leu Leu Gly
1          5          10          15

Thr Cys Met Ser Cys Lys Thr Ile Cys Asn His Gln Ser Gln Arg Thr
20          25          30

Cys Ala Ala Phe Cys Arg Ser Leu Ser Cys Arg Lys Glu Gln Gly Lys
35          40          45

Phe Tyr Asp His Leu Leu Arg Asp Cys Ile Ser Cys Ala Ser Ile Cys
50          55          60

Gly Gln His Pro Lys Gln Cys Ala Tyr Phe Cys Glu Asn Lys Leu Arg
65          70          75          80

Ser Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro
85          90          95

Ala Pro Glu Ala Glu Gly Ala Pro Ser Val Phe Leu Phe Pro Pro Lys
100         105         110

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
115         120         125

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
130         135         140

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
145         150         155         160

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
165         170         175

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
180         185         190

Ala Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
195         200         205

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

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
225         230         235         240

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

```

W01179_ST25.txt

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
260 265 270

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
275 280 285

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
290 295 300

Lys Ser Leu Ser Leu Ser Pro Gly Lys
305 310

<210> 4
<211> 762
<212> DNA
<213> homo sapiens

<220>
<221> CDS
<222> (7)..(759)

<400> 4
ggatcc atg aag cac ctg tgg ttc ttc ctc ctg ctg gtg gcg gct ccc 48
Met Lys His Leu Trp Phe Phe Leu Leu Val Ala Ala Pro
1 5 10

aga tgg gtc ctg tcc gag ccc aaa tct tgt gac aaa act cac aca tgc 96
Arg Trp Val Leu Ser Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys
15 20 25 30

cca ccg tgc cca gca cct gaa ctc ctg ggg gga ccg tca gtc ttc ctc 144
Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu
35 40 45

ttc ccc cca aaa ccc aag gac acc ctc atg atc tcc cgg acc cct gag 192
Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
50 55 60

gtc aca tgc gtg gtg gtg gac gtg agc cac gaa gac cct gag gtc aag 240
Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys
65 70 75

ttc aac tgg tac gtg gac ggc gtg gag gtg cat aat gcc aag aca aag 288
Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
80 85 90

ccg cgg gag gag cag tac aac agc acg tac cgt gtg gtc agc gtc ctc 336
Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu
95 100 105 110

acc gtc ctg cac cag gac tgg ctg aat ggc aag gag tac aag tgc aag 384
Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
115 120 125

gtc tcc aac aaa gcc ctc cca gcc ccc atc gag aaa acc atc tcc aaa 432
Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
130 135 140

gcc aaa ggg cag ccc cga gaa cca cag gtg tac acc ctg ccc cca tcc 480
Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
145 150 155

cgg gat gag ctg acc aag aac cag gtc agc ctg acc tgc ctg gtc aaa 528

W01179_ST25.txt

Arg	Asp	Glu	Leu	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys		
160						165					170						
ggc	ttc	tat	ccc	agc	gac	atc	gcc	gtg	gag	tgg	gag	agc	aat	ggg	cag	576	
Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln		
175					180					185					190		
ccg	gag	aac	aac	tac	aag	acc	acg	cct	ccc	gtg	ctg	gac	tcc	gac	ggc	624	
Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly		
				195					200					205			
tcc	ttc	ttc	ctc	tac	agc	aag	ctc	acc	gtg	gac	aag	agc	agg	tgg	cag	672	
Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln		
			210					215					220				
cag	ggg	aac	gtc	ttc	tca	tgc	tcc	gtg	atg	cat	gag	gct	ctg	cac	aac	720	
Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn		
		225					230					235					
cac	tac	acg	cag	aag	agc	ctc	tcc	ctg	tct	ccg	ggt	aaa	tga			762	
His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Pro	Gly	Lys					
	240					245					250						

<210> 5
 <211> 251
 <212> PRT
 <213> homo sapiens
 <400> 5

Met	Lys	His	Leu	Trp	Phe	Phe	Leu	Leu	Leu	Val	Ala	Ala	Pro	Arg	Trp		
1				5					10					15			
Val	Leu	Ser	Glu	Pro	Lys	Ser	Cys	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro		
			20					25					30				
Cys	Pro	Ala	Pro	Glu	Leu	Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro		
		35					40					45					
Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr		
	50					55					60						
Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn		
65				70					75						80		
Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg		
				85					90					95			
Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val		
			100					105					110				
Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser		
		115					120					125					
Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys		
	130					135					140						
Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Asp		
145					150					155					160		

Glu Leu Thr Lys Asn₁₆₅ Gln Val Ser Leu Thr₁₇₀ Cys Leu Val Lys Gly₁₇₅ Phe

Tyr Pro Ser Asp₁₈₀ Ile Ala Val Glu Trp₁₈₅ Glu Ser Asn Gly₁₉₀ Gln Pro Glu

Asn Asn Tyr₁₉₅ Lys Thr Thr Pro Pro₂₀₀ Val Leu Asp Ser Asp₂₀₅ Gly Ser Phe

Phe Leu₂₁₀ Tyr Ser Lys Leu Thr₂₁₅ Val Asp Lys Ser Arg₂₂₀ Trp Gln Gln Gly

Asn Val Phe Ser Cys Ser₂₃₀ Val Met His Glu Ala₂₃₅ Leu His Asn His Tyr₂₄₀

Thr Gln Lys Ser Leu₂₄₅ Ser Leu Ser Pro Gly₂₅₀ Lys

<210> 6
<211> 293
<212> PRT
<213> homo sapiens
<400> 6

Met Ser Gly Leu Gly₅ Arg Ser Arg Arg Gly₁₀ Gly Arg Ser Arg Val₁₅ Asp

Gln Glu Glu Arg₂₀ Phe Pro Gln Gly₂₅ Leu Trp Thr Gly Val₃₀ Ala Met Arg

Ser Cys Pro₃₅ Glu Glu Gln Tyr Trp₄₀ Asp Pro Leu Leu Gly₄₅ Thr Cys Met

Ser Cys₅₀ Lys Thr Ile Cys Asn₅₅ His Gln Ser Gln Arg₆₀ Thr Cys Ala Ala

Phe Cys Arg Ser Leu Ser₇₀ Cys Arg Lys Glu Gln₇₅ Gly Lys Phe Tyr Asp₈₀

His Leu Leu Arg Asp₈₅ Cys Ile Ser Cys Ala₉₀ Ser Ile Cys Gly Gln₉₅ His

Pro Lys Gln Cys₁₀₀ Ala Tyr Phe Cys Glu₁₀₅ Asn Lys Leu Arg Ser₁₁₀ Pro Val

Asn Leu Pro₁₁₅ Pro Glu Leu Arg Arg₁₂₀ Gln Arg Ser Gly Glu₁₂₅ Val Glu Asn

Asn Ser₁₃₀ Asp Asn Ser Gly Arg₁₃₅ Tyr Gln Gly Leu Glu₁₄₀ His Arg Gly Ser

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

Ala Leu Val Tyr Ser Thr Leu Gly Leu Cys Leu Cys Ala Val Leu Cys
165 170 175

Cys Phe Leu Val Ala Val Ala Cys Phe Leu Lys Lys Arg Gly Asp Pro
180 185 190

Cys Ser Cys Gln Pro Arg Ser Arg Pro Arg Gln Ser Pro Ala Lys Ser
195 200 205

Ser Gln Asp His Ala Met Glu Ala Gly Ser Pro Val Ser Thr Ser Pro
210 215 220

Glu Pro Val Glu Thr Cys Ser Phe Cys Phe Pro Glu Cys Arg Ala Pro
225 230 235 240

Thr Gln Glu Ser Ala Val Thr Pro Gly Thr Pro Asp Pro Thr Cys Ala
245 250 255

Gly Arg Trp Gly Cys His Thr Arg Thr Thr Val Leu Gln Pro Cys Pro
260 265 270

His Ile Pro Asp Ser Gly Leu Gly Ile Val Cys Val Pro Ala Gln Glu
275 280 285

Gly Gly Pro Gly Ala
290

<210> 7
<211> 1214
<212> DNA
<213> homo sapiens

<220>
<221> CDS
<222> (17)..(1192)

<400> 7
tattaggccg gccacc atg gat gca atg aag aga ggg ctc tgc tgt gtg ctg 52
Met Asp Ala Met Lys Arg Gly Leu Cys Cys Val Leu
1 5 10
ctg ctg tgt ggc gcc gtc ttc gtt tcg ctc agc cag gaa atc cat gcc 100
Leu Leu Cys Gly Ala Val Phe Val Ser Leu Ser Gln Glu Ile His Ala
15 20 25
gag ttg aga cgc ttc cgt aga gct atg aga tcc tgc ccc gaa gag cag 148
Glu Leu Arg Arg Phe Arg Arg Ala Met Arg Ser Cys Pro Glu Glu Gln
30 35 40
tac tgg gat cct ctg ctg ggt acc tgc atg tcc tgc aaa acc att tgc 196
Tyr Trp Asp Pro Leu Leu Gly Thr Cys Met Ser Cys Lys Thr Ile Cys
45 50 55 60
aac cat cag agc cag cgc acc tgt gca gcc ttc tgc agg tca ctc agc 244
Asn His Gln Ser Gln Arg Thr Cys Ala Ala Phe Cys Arg Ser Leu Ser

65															70															75															
tgc	cgc	aag	gag	caa	ggc	aag	ttc	tat	gac	cat	ctc	ctg	agg	gac	tgc		292																												
Cys	Arg	Lys	Glu	Gln	Gly	Lys	Phe	Tyr	Asp	His	Leu	Leu	Arg	Asp	Cys																														
			80					85					90																																
atc	agc	tgt	gcc	tcc	atc	tgt	gga	cag	cac	cct	aag	caa	tgt	gca	tac		340																												
Ile	Ser	Cys	Ala	Ser	Ile	Cys	Gly	Gln	His	Pro	Lys	Gln	Cys	Ala	Tyr																														
		95					100					105																																	
ttc	tgt	gag	aac	aag	ctc	agg	agc	cca	gtg	aac	ctt	cca	cca	gag	ctc		388																												
Phe	Cys	Glu	Asn	Lys	Leu	Arg	Ser	Pro	Val	Asn	Leu	Pro	Pro	Glu	Leu																														
	110					115					120																																		
agg	aga	cag	cgg	agt	gga	gaa	gtt	gaa	aac	aat	tca	gac	aac	tcg	gga		436																												
Arg	Arg	Gln	Arg	Ser	Gly	Glu	Val	Glu	Asn	Asn	Ser	Asp	Asn	Ser	Gly																														
125					130				135						140																														
agg	tac	caa	gga	ttg	gag	cac	aga	ggc	tca	gaa	gca	agt	cca	gct	ctc		484																												
Arg	Tyr	Gln	Gly	Leu	Glu	His	Arg	Gly	Ser	Glu	Ala	Ser	Pro	Ala	Leu																														
				145					150					155																															
cca	ggt	ctc	aag	gag	ccc	aaa	tct	tca	gac	aaa	act	cac	aca	tgc	cca		532																												
Pro	Gly	Leu	Lys	Glu	Pro	Lys	Ser	Ser	Asp	Lys	Thr	His	Thr	Cys	Pro																														
			160					165					170																																
ccg	tgc	cca	gca	cct	gaa	gcc	gag	ggg	gca	ccg	tca	gtc	ttc	ctc	ttc		580																												
Pro	Cys	Pro	Ala	Pro	Glu	Ala	Glu	Gly	Ala	Pro	Ser	Val	Phe	Leu	Phe																														
		175					180					185																																	
ccc	cca	aaa	ccc	aag	gac	acc	ctc	atg	atc	tcc	cgg	acc	cct	gag	gtc		628																												
Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val																														
	190					195					200																																		
aca	tgc	gtg	gtg	gtg	gac	gtg	agc	cac	gaa	gac	cct	gag	gtc	aag	ttc		676																												
Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe																														
205					210					215					220																														
aac	tgg	tac	gtg	gac	ggc	gtg	gag	gtg	cat	aat	gcc	aag	aca	aag	ccg		724																												
Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro																														
				225					230					235																															
cgg	gag	gag	cag	tac	aac	agc	acg	tac	cgt	gtg	gtc	agc	gtc	ctc	acc		772																												
Arg	Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr																														
			240					245					250																																
gtc	ctg	cac	cag	gac	tgg	ctg	aat	ggc	aag	gag	tac	aag	tgc	aag	gtc		820																												
Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val																														
		255					260					265																																	
tcc	aac	aaa	gcc	ctc	cca	tcc	tcc	atc	gag	aaa	acc	atc	tcc	aaa	gcc		868																												
Ser	Asn	Lys	Ala	Leu	Pro	Ser	Ser	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala																														
	270					275					280																																		
aaa	ggg	cag	ccc	cga	gaa	cca	cag	gtg	tac	acc	ctg	ccc	cca	tcc	cgg		916																												
Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg																														
285					290					295					300																														
gat	gag	ctg	acc	aag	aac	cag	gtc	agc	ctg	acc	tgc	ctg	gtc	aaa	ggc		964																												
Asp	Glu	Leu	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly																														
				305					310					315																															
ttc	tat	ccc	agc	gac	atc	gcc	gtg	gag	tgg	gag	agc	aat	ggg	cag	ccg		1012																												
Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro																														
			320					325					330																																
gag	aac	aac	tac	aag	acc	acg	cct	ccc	gtg	ctg	gac	tcc	gac	ggc	tcc		1060																												
Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser																														
		335					340					345																																	

W01179_ST25.txt

ttc ttc ctc tac agc aag ctc acc gtg gac aag agc agg tgg cag cag 1108
Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
350 355 360

ggg aac gtc ttc tca tgc tcc gtg atg cat gag gct ctg cac aac cac 1156
Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His
365 370 375 380

tac acg cag aag agc ctc tcc ctg tct ccg ggt aaa taatctagag 1202
Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
385 390

gcgcgccaat ta 1214

<210> 8
<211> 392
<212> PRT
<213> homo sapiens

<400> 8

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

Ala Val Phe Val Ser Leu Ser Gln Glu Ile His Ala Glu Leu Arg Arg
20 25 30

Phe Arg Arg Ala Met Arg Ser Cys Pro Glu Glu Gln Tyr Trp Asp Pro
35 40 45

Leu Leu Gly Thr Cys Met Ser Cys Lys Thr Ile Cys Asn His Gln Ser
50 55 60

Gln Arg Thr Cys Ala Ala Phe Cys Arg Ser Leu Ser Cys Arg Lys Glu
65 70 75 80

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

Ser Ile Cys Gly Gln His Pro Lys Gln Cys Ala Tyr Phe Cys Glu Asn
100 105 110

Lys Leu Arg Ser Pro Val Asn Leu Pro Pro Glu Leu Arg Arg Gln Arg
115 120 125

Ser Gly Glu Val Glu Asn Asn Ser Asp Asn Ser Gly Arg Tyr Gln Gly
130 135 140

Leu Glu His Arg Gly Ser Glu Ala Ser Pro Ala Leu Pro Gly Leu Lys
145 150 155 160

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
165 170 175

Pro Glu Ala Glu Gly Ala Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
180 185 190

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
195 200 205

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
210 215 220

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
225 230 235 240

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
245 250 255

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
260 265 270

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

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr
290 295 300

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
305 310 315 320

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
325 330 335

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
340 345 350

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
355 360 365

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
370 375 380

Ser Leu Ser Leu Ser Pro Gly Lys
385 390

<210> 9
<211> 1070
<212> DNA
<213> homo sapiens

<220>
<221> CDS
<222> (17)..(1048)

<400> 9
tattaggccg gccacc atg gat gca atg aag aga ggg ctc tgc tgt gtg ctg
Met Asp Ala Met Lys Arg Gly Leu Cys Cys Val Leu
1 5 10

W01179_ST25.txt

ctg	ctg	tgt	ggc	gcc	gtc	ttc	gtt	tgc	ctc	agc	cag	gaa	atc	cat	gcc	100
Leu	Leu	Cys 15	Gly	Ala	Val	Phe	Val 20	Ser	Leu	Ser	Gln	Glu 25	Ile	His	Ala	
gag	ttg	aga	cgc	ttc	cgt	aga	gct	atg	aga	tcc	tgc	ccc	gaa	gag	cag	148
Glu	Leu 30	Arg	Arg	Phe	Arg	Arg 35	Ala	Met	Arg	Ser	Cys 40	Pro	Glu	Glu	Gln	
tac	tgg	gat	cct	ctg	ctg	ggc	acc	tgc	atg	tcc	tgc	aaa	acc	att	tgc	196
Tyr 45	Trp	Asp	Pro	Leu	Leu 50	Gly	Thr	Cys	Met	Ser 55	Cys	Lys	Thr	Ile	Cys 60	
aac	cat	cag	agc	cag	cgc	acc	tgt	gca	gcc	ttc	tgc	agg	tca	ctc	agc	244
Asn	His	Gln	Ser	Gln 65	Arg	Thr	Cys	Ala	Ala 70	Phe	Cys	Arg	Ser	Leu 75	Ser	
tgc	cgc	aag	gag	caa	ggc	aag	ttc	tat	gac	cat	ctc	ctg	agg	gac	tgc	292
Cys	Arg	Lys	Glu 80	Gln	Gly	Lys	Phe	Tyr 85	Asp	His	Leu	Leu	Arg 90	Asp	Cys	
atc	agc	tgt	gcc	tcc	atc	tgt	gga	cag	cac	cct	aag	caa	tgt	gca	tac	340
Ile	Ser	Cys 95	Ala	Ser	Ile	Cys	Gly 100	Gln	His	Pro	Lys	Gln 105	Cys	Ala	Tyr	
ttc	tgt	gag	aac	gag	ccc	aaa	tct	tca	gac	aaa	act	cac	aca	tgc	cca	388
Phe	Cys 110	Glu	Asn	Glu	Pro	Lys 115	Ser	Ser	Asp	Lys	Thr 120	His	Thr	Cys	Pro	
ccg	tgc	cca	gca	cct	gaa	gcc	gag	ggg	gca	ccg	tca	gtc	ttc	ctc	ttc	436
Pro 125	Cys	Pro	Ala	Pro	Glu 130	Ala	Glu	Gly	Ala	Pro 135	Ser	Val	Phe	Leu	Phe 140	
ccc	cca	aaa	ccc	aag	gac	acc	ctc	atg	atc	tcc	cgg	acc	cct	gag	gtc	484
Pro	Pro	Lys	Pro	Lys 145	Asp	Thr	Leu	Met	Ile 150	Ser	Arg	Thr	Pro	Glu 155	Val	
aca	tgc	gtg	gtg	gtg	gac	gtg	agc	cac	gaa	gac	cct	gag	gtc	aag	ttc	532
Thr	Cys	Val	Val 160	Val	Asp	Val	Ser	His 165	Glu	Asp	Pro	Glu	Val 170	Lys	Phe	
aac	tgg	tac	gtg	gac	ggc	gtg	gag	gtg	cat	aat	gcc	aag	aca	aag	ccg	580
Asn	Trp	Tyr 175	Val	Asp	Gly	Val	Glu 180	Val	His	Asn	Ala	Lys 185	Thr	Lys	Pro	
cgg	gag	gag	cag	tac	aac	agc	acg	tac	cg	gtg	gtc	agc	gtc	ctc	acc	628
Arg	Glu 190	Glu	Gln	Tyr	Asn	Ser 195	Thr	Tyr	Arg	Val	Val 200	Ser	Val	Leu	Thr	
gtc	ctg	cac	cag	gac	tgg	ctg	aat	ggc	aag	gag	tac	aag	tgc	aag	gtc	676
Val 205	Leu	His	Gln	Asp	Trp 210	Leu	Asn	Gly	Lys	Glu 215	Tyr	Lys	Cys	Lys	Val 220	
tcc	aac	aaa	gcc	ctc	cca	tcc	tcc	atc	gag	aaa	acc	atc	tcc	aaa	gcc	724
Ser	Asn	Lys	Ala	Leu 225	Pro	Ser	Ser	Ile	Glu 230	Lys	Thr	Ile	Ser	Lys 235	Ala	
aaa	ggg	cag	ccc	cga	gaa	cca	cag	gtg	tac	acc	ctg	ccc	cca	tcc	cg	772
Lys	Gly	Gln	Pro 240	Arg	Glu	Pro	Gln	Val 245	Tyr	Thr	Leu	Pro	Pro 250	Ser	Arg	
gat	gag	ctg	acc	aag	aac	cag	gtc	agc	ctg	acc	tgc	ctg	gtc	aaa	ggc	820
Asp	Glu	Leu 255	Thr	Lys	Asn	Gln	Val 260	Ser	Leu	Thr	Cys	Leu 265	Val	Lys	Gly	
ttc	tat	ccc	agc	gac	atc	gcc	gtg	gag	tgg	gag	agc	aat	ggg	cag	ccg	868
Phe	Tyr 270	Pro	Ser	Asp	Ile	Ala 275	Val	Glu	Trp	Glu	Ser 280	Asn	Gly	Gln	Pro	
gag	aac	aac	tac	aag	acc	acg	cct	ccc	gtg	ctg	gac	tcc	gac	ggc	tcc	916

W01179_ST25.txt

Glu 285	Asn	Asn	Tyr	Lys	Thr 290	Thr	Pro	Pro	Val	Leu 295	Asp	Ser	Asp	Gly	Ser 300		
ttc	ttc	ctc	tac	agc	aag	ctc	acc	gtg	gac	aag	agc	agg	tgg	cag	cag	964	
Phe	Phe	Leu	Tyr	Ser 305	Lys	Leu	Thr	Val	Asp 310	Lys	Ser	Arg	Trp	Gln 315	Gln		
ggg	aac	gtc	ttc	tca	tgc	tcc	gtg	atg	cat	gag	gct	ctg	cac	aac	cac	1012	
Gly	Asn	Val	Phe 320	Ser	Cys	Ser	Val	Met 325	His	Glu	Ala	Leu	His 330	Asn	His		
tac	acg	cag	aag	agc	ctc	tcc	ctg	tct	ccg	ggt	aaa	taatctagag				1058	
Tyr	Thr	Gln 335	Lys	Ser	Leu	Ser	Leu 340	Ser	Pro	Gly	Lys						
gcgcgccaat	ta															1070	

<210> 10
 <211> 344
 <212> PRT
 <213> homo sapiens

<400> 10

Met 1	Asp	Ala	Met	Lys 5	Arg	Gly	Leu	Cys	Cys 10	Val	Leu	Leu	Leu	Cys 15	Gly		
Ala	Val	Phe	Val 20	Ser	Leu	Ser	Gln	Glu 25	Ile	His	Ala	Glu	Leu 30	Arg	Arg		
Phe	Arg	Arg 35	Ala	Met	Arg	Ser	Cys 40	Pro	Glu	Glu	Gln 45	Tyr	Trp	Asp	Pro		
Leu 50	Leu	Gly	Thr	Cys	Met 55	Ser	Cys	Lys	Thr	Ile	Cys 60	Asn	His	Gln	Ser		
Gln 65	Arg	Thr	Cys	Ala	Ala 70	Phe	Cys	Arg	Ser	Leu 75	Ser	Cys	Arg	Lys	Glu 80		
Gln	Gly	Lys	Phe 85	Tyr	Asp	His	Leu	Leu	Arg 90	Asp	Cys	Ile	Ser	Cys 95	Ala		
Ser	Ile	Cys	Gly 100	Gln	His	Pro	Lys	Gln 105	Cys	Ala	Tyr	Phe	Cys 110	Glu	Asn		
Glu	Pro	Lys 115	Ser	Ser	Asp	Lys	Thr 120	His	Thr	Cys	Pro	Pro 125	Cys	Pro	Ala		
Pro	Glu 130	Ala	Glu	Gly	Ala	Pro 135	Ser	Val	Phe	Leu	Phe 140	Pro	Pro	Lys	Pro		
Lys 145	Asp	Thr	Leu	Met	Ile 150	Ser	Arg	Thr	Pro	Glu 155	Val	Thr	Cys	Val	Val 160		
Val	Asp	Val	Ser	His 165	Glu	Asp	Pro	Glu	Val 170	Lys	Phe	Asn	Trp	Tyr 175	Val		

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

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
195 200 205

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
210 215 220

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

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr
245 250 255

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
260 265 270

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
275 280 285

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
290 295 300

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
305 310 315 320

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
325 330 335

Ser Leu Ser Leu Ser Pro Gly Lys
340

<210> 11
<211> 1082
<212> DNA
<213> homo sapiens

<220>
<221> CDS
<222> (17)..(1060)

<400> 11
tattaggccg gccacc atg gat gca atg aag aga ggg ctc tgc tgt gtg ctg 52
Met Asp Ala Met Lys Arg Gly Leu Cys Cys Val Leu
1 5 10

ctg ctg tgt ggc gcc gtc ttc gtt tcg ctc agc cag gaa atc cat gcc 100
Leu Leu Cys Gly Ala Val Phe Val Ser Leu Ser Gln Glu Ile His Ala
15 20 25

gag ttg aga cgc ttc cgt aga gct atg aga tcc tgc ccc gaa gag cag 148
Glu Leu Arg Arg Phe Arg Arg Ala Met Arg Ser Cys Pro Glu Glu Gln
30 35 40

tac tgg gat cct ctg ctg ggt acc tgc atg tcc tgc aaa acc att tgc 196
Tyr Trp Asp Pro Leu Leu Gly Thr Cys Met Ser Cys Lys Thr Ile Cys

W01179_ST25.txt																	
45	50								55	60							
aac Asn	cat His	cag Gln	agc Ser	cag Gln 65	cgc Arg	acc Thr	tgt Cys	gca Ala	gcc Ala 70	ttc Phe	tgc Cys	agg Arg	tca Ser	ctc Leu 75	agc Ser	244	
tgc Cys	cgc Arg	aag Lys	gag Glu 80	caa Gln	ggc Gly	aag Lys	ttc Phe	tat Tyr 85	gac Asp	cat His	ctc Leu	ctg Leu	agg Arg 90	gac Asp	tgc Cys	292	
atc Ile	agc Ser	tgt Cys 95	gcc Ala	tcc Ser	atc Ile	tgt Cys	gga Gly 100	cag Gln	cac His	cct Pro	aag Lys	caa Gln 105	tgt Cys	gca Ala	tac Tyr	340	
ttc Phe	tgt Cys 110	gag Glu	aac Asn	aag Lys	ctc Leu	agg Arg 115	agc Ser	gag Glu	ccc Pro	aaa Lys	tct Ser 120	tca Ser	gac Asp	aaa Lys	act Thr	388	
cac His 125	aca Thr	tgc Cys	cca Pro	ccg Pro	tgc Cys 130	cca Pro	gca Ala	cct Pro	gaa Glu	gcc Ala 135	gag Glu	ggg Gly	gca Ala	ccg Pro	tca Ser 140	436	
gtc Val	ttc Phe	ctc Leu	ttc Phe	ccc Pro 145	cca Pro	aaa Lys	ccc Pro	aag Lys	gac Asp 150	acc Thr	ctc Leu	atg Met	atc Ile	tcc Ser 155	cgg Arg	484	
acc Thr	cct Pro	gag Glu	gtc Val 160	aca Thr	tgc Cys	gtg Val	gtg Val	gtg Val 165	gac Asp	gtg Val	agc Ser	cac His	gaa Glu 170	gac Asp	cct Pro	532	
gag Glu	gtc Val	aag Lys 175	ttc Phe	aac Asn	tgg Trp	tac Tyr	gtg Val 180	gac Asp	ggc Gly	gtg Val	gag Glu	gtg Val 185	cat His	aat Asn	gcc Ala	580	
aag Lys	aca Thr 190	aag Lys	ccg Pro	cgg Arg	gag Glu	gag Glu 195	cag Gln	tac Tyr	aac Asn	agc Ser	acg Thr 200	tac Tyr	cgt Arg	gtg Val	gtc Val	628	
agc Ser 205	gtc Val	ctc Leu	acc Thr	gtc Val	ctg Leu 210	cac His	cag Gln	gac Asp	tgg Trp	ctg Leu 215	aat Asn	ggc Gly	aag Lys	gag Glu	tac Tyr 220	676	
aag Lys	tgc Cys	aag Lys	gtc Val	tcc Ser 225	aac Asn	aaa Lys	gcc Ala	ctc Leu	cca Pro 230	tcc Ser	tcc Ser	atc Ile	gag Glu	aaa Lys 235	acc Thr	724	
atc Ile	tcc Ser	aaa Lys	gcc Ala 240	aaa Lys	ggg Gly	cag Gln	ccc Pro	cga Arg 245	gaa Glu	cca Pro	cag Gln	gtg Val	tac Tyr 250	acc Thr	ctg Leu	772	
ccc Pro	cca Pro	tcc Ser 255	cgg Arg	gat Asp	gag Glu	ctg Leu	acc Thr 260	aag Lys	aac Asn	cag Gln	gtc Val	agc Ser 265	ctg Leu	acc Thr	tgc Cys	820	
ctg Leu	gtc Val 270	aaa Lys	ggc Gly	ttc Phe	tat Tyr	ccc Pro 275	agc Ser	gac Asp	atc Ile	gcc Ala	gtg Val 280	gag Glu	tgg Trp	gag Glu	agc Ser	868	
aat Asn 285	ggg Gly	cag Gln	ccg Pro	gag Glu	aac Asn 290	aac Asn	tac Tyr	aag Lys	acc Thr	acg Thr 295	cct Pro	ccc Pro	gtg Val	ctg Leu	gac Asp 300	916	
tcc Ser	gac Asp	ggc Gly	tcc Ser	ttc Phe 305	ttc Phe	ctc Leu	tac Tyr	agc Ser	aag Lys 310	ctc Leu	acc Thr	gtg Val	gac Asp	aag Lys 315	agc Ser	964	
agg Arg	tgg Trp	cag Gln 320	ggg Gly	aac Asn	gtc Val	ttc Phe	tca Ser 325	tgc Cys	tcc Ser	gtg Val	atg Met	cat His 330	gag Glu	gct Ala		1012	

W01179_ST25.txt

ctg cac aac cac tac acg cag aag agc ctc tcc ctg tct ccg ggt aaa 1060
 Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 335 340 345

taatctagag gcgcgccaat ta 1082

<210> 12
 <211> 348
 <212> PRT
 <213> homo sapiens

<400> 12

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

Ala Val Phe Val Ser Leu Ser Gln Glu Ile His Ala Glu Leu Arg Arg
 20 25 30

Phe Arg Arg Ala Met Arg Ser Cys Pro Glu Glu Gln Tyr Trp Asp Pro
 35 40 45

Leu Leu Gly Thr Cys Met Ser Cys Lys Thr Ile Cys Asn His Gln Ser
 50 55 60

Gln Arg Thr Cys Ala Ala Phe Cys Arg Ser Leu Ser Cys Arg Lys Glu
 65 70 75 80

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

Ser Ile Cys Gly Gln His Pro Lys Gln Cys Ala Tyr Phe Cys Glu Asn
 100 105 110

Lys Leu Arg Ser Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro
 115 120 125

Pro Cys Pro Ala Pro Glu Ala Glu Gly Ala Pro Ser Val Phe Leu Phe
 130 135 140

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
 145 150 155 160

Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe
 165 170 175

Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
 180 185 190

Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
 195 200 205

Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val
 210 215 220

Ser Asn Lys Ala Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala
225 230 235 240

Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg
245 250 255

Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly
260 265 270

Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro
275 280 285

Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
290 295 300

Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
305 310 315 320

Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His
325 330 335

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
340 345

<210> 13
<211> 1109
<212> DNA
<213> homo sapiens

<220>
<221> CDS
<222> (17)..(1090)

<400> 13
tattaggccg gccacc atg gat gca atg aag aga ggg ctc tgc tgt gtg ctg 52
Met Asp Ala Met Lys Arg Gly Leu Cys Cys Val Leu
1 5 10

ctg ctg tgt ggc gcc gtc ttc gtt tcg ctc agc cag gaa atc cat gcc 100
Leu Leu Cys Gly Ala Val Phe Val Ser Leu Ser Gln Glu Ile His Ala
15 20 25

gag ttg aga cgc ttc cgt aga gct atg aga tcc tgc ccc gaa gag cag 148
Glu Leu Arg Arg Phe Arg Arg Ala Met Arg Ser Cys Pro Glu Glu Gln
30 35 40

tac tgg gat cct ctg ctg ggt acc tgc atg tcc tgc aaa acc att tgc 196
Tyr Trp Asp Pro Leu Leu Gly Thr Cys Met Ser Cys Lys Thr Ile Cys
45 50 55 60

aac cat cag agc cag cgc acc tgt gca gcc ttc tgc agg tca ctc agc 244
Asn His Gln Ser Gln Arg Thr Cys Ala Ala Phe Cys Arg Ser Leu Ser
65 70 75

tgc cgc aag gag caa ggc aag ttc tat gac cat ctc ctg agg gac tgc 292
Cys Arg Lys Glu Gln Gly Lys Phe Tyr Asp His Leu Leu Arg Asp Cys
80 85 90

W01179_ST25.txt

atc Ile	agc Ser	tgt Cys 95	gcc Ala	tcc Ser	atc Ile	tgt Cys	gga Gly 100	cag Gln	cac His	cct Pro	aag Lys	caa Gln 105	tgt Cys	gca Ala	tac Tyr	340
ttc Phe	tgt Cys 110	gag Glu	aac Asn	aag Lys	ctc Leu	agg Arg 115	agc Ser	cca Pro	gtg Val	aac Asn	ctt Leu 120	cca Pro	cca Pro	gag Glu	ctc Leu	388
agg Arg 125	gag Glu	ccc Pro	aaa Lys	tct Ser	tca Ser 130	gac Asp	aaa Lys	act Thr	cac His	aca Thr 135	tgc Cys	cca Pro	ccg Pro	tgc Cys	cca Pro 140	436
gca Ala	cct Pro	gaa Glu	gcc Ala	gag Glu 145	ggg Gly	gca Ala	ccg Pro	tca Ser	gtc Val 150	ttc Phe	ctc Leu	ttc Phe	ccc Pro	cca Pro 155	aaa Lys	484
ccc Pro	aag Lys	gac Asp 160	acc Thr	ctc Leu	atg Met	atc Ile	tcc Ser	cgg Arg 165	acc Thr	cct Pro	gag Glu	gtc Val 170	aca Thr	tgc Cys	gtg Val	532
gtg Val	gtg Val	gac Asp 175	gtg Val	agc Ser	cac His	gaa Glu	gac Asp 180	cct Pro	gag Glu	gtc Val	aag Lys	ttc Phe 185	aac Asn	tgg Trp	tac Tyr	580
gtg Val	gac Asp 190	ggc Gly	gtg Val	gag Glu	gtg Val	cat His 195	aat Asn	gcc Ala	aag Lys	aca Thr	aag Lys 200	ccg Pro	cgg Arg	gag Glu	gag Glu	628
cag Gln 205	tac Tyr	aac Asn	agc Ser	acg Thr	tac Tyr 210	cgt Arg	gtg Val	gtc Val	agc Ser	gtc Val 215	ctc Leu	acc Thr	gtc Val	ctg Leu	cac His 220	676
cag Gln	gac Asp	tgg Trp	ctg Leu	aat Asn 225	ggc Gly	aag Lys	gag Glu	tac Tyr	aag Lys 230	tgc Cys	aag Lys	gtc Val	tcc Ser	aac Asn 235	aaa Lys	724
gcc Ala	ctc Leu	cca Pro	tcc Ser 240	tcc Ser	atc Ile	gag Glu	aaa Lys	acc Thr 245	atc Ile	tcc Ser	aaa Lys	gcc Ala	aaa Lys 250	ggg Gly	cag Gln	772
ccc Pro	cga Arg	gaa Glu 255	cca Pro	cag Gln	gtg Val	tac Tyr	acc Thr 260	ctg Leu	ccc Pro	cca Pro	tcc Ser	cgg Arg 265	gat Asp	gag Glu	ctg Leu	820
acc Thr	aag Lys 270	aac Asn	cag Gln	gtc Val	agc Ser	ctg Leu 275	acc Thr	tgc Cys	ctg Leu	gtc Val	aaa Lys 280	ggc Gly	ttc Phe	tat Tyr	ccc Pro	868
agc Ser 285	gac Asp	atc Ile	gcc Ala	gtg Val	gag Glu 290	tgg Trp	gag Glu	agc Ser	aat Asn	ggg Gly 295	cag Gln	ccg Pro	gag Glu	aac Asn	aac Asn 300	916
tac Tyr	aag Lys	acc Thr	acg Thr	cct Pro 305	ccc Pro	gtg Val	ctg Leu	gac Asp	tcc Ser 310	gac Asp	ggc Gly	tcc Ser	ttc Phe	ttc Phe 315	ctc Leu	964
tac Tyr	agc Ser	aag Lys	ctc Leu 320	acc Thr	gtg Val	gac Asp	aag Lys	agc Ser 325	agg Arg	tgg Trp	cag Gln	cag Gln	ggg Gly 330	aac Asn	gtc Val	1012
ttc Phe	tca Ser	tgc Cys 335	tcc Ser	gtg Val	atg Met	cat His	gag Glu 340	gct Ala	ctg Leu	cac His	aac Asn	cac His 345	tac Tyr	acg Thr	cag Gln	1060
aag Lys	agc Ser 350	ctc Leu	tcc Ser	ctg Leu	tct Ser	ccg Pro 355	ggt Gly	aaa Lys	taa	tctagaggcg	cgccaatta					1109

<210> 14
 <211> 357
 <212> PRT
 <213> homo sapiens

<400> 14

```

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

Ala Val Phe Val Ser Leu Ser Gln Glu Ile His Ala Glu Leu Arg Arg
20      25      30

Phe Arg Arg Ala Met Arg Ser Cys Pro Glu Glu Gln Tyr Trp Asp Pro
35      40      45

Leu Leu Gly Thr Cys Met Ser Cys Lys Thr Ile Cys Asn His Gln Ser
50      55      60

Gln Arg Thr Cys Ala Ala Phe Cys Arg Ser Leu Ser Cys Arg Lys Glu
65      70      75      80

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

Ser Ile Cys Gly Gln His Pro Lys Gln Cys Ala Tyr Phe Cys Glu Asn
100     105     110

Lys Leu Arg Ser Pro Val Asn Leu Pro Pro Glu Leu Arg Glu Pro Lys
115     120     125

Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
130     135     140

Glu Gly Ala Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
145     150     155     160

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
165     170     175

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
180     185     190

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
195     200     205

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
210     215     220

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ser
225     230     235     240

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
245     250     255
    
```

Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln
260 265 270

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
275 280 285

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
290 295 300

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
305 310 315 320

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
325 330 335

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
340 345 350

Leu Ser Pro Gly Lys
355

<210> 15
<211> 29
<212> DNA
<213> artificial sequence

<220>
<223> primer sequence

<400> 15
tattaggccg gccaccatgg atgcaatga

29

<210> 16
<211> 29
<212> DNA
<213> artificial sequence

<220>
<223> primer sequence

<400> 16
tgaagatttg ggctccttga gacctggga

29

<210> 17
<211> 29
<212> DNA
<213> artificial sequence

<220>
<223> primer sequence

<400> 17
tcccaggtct caaggagccc aaatcttca

29

<210> 18
<211> 36
<212> DNA

<213> artificial sequence
 <220>
 <223> primer sequence
 <400> 18
 taattggcgc gcctctagat tatttaccgc gagaca 36

<210> 19
 <211> 30
 <212> DNA
 <213> artificial sequence
 <220>
 <223> primer sequence
 <400> 19
 tgaagatttg ggctcgttct cacagaagta 30

<210> 20
 <211> 31
 <212> DNA
 <213> artificial sequence
 <220>
 <223> primer sequence
 <400> 20
 atacttctgt gagaacgagc ccaaattctc a 31

<210> 21
 <211> 30
 <212> DNA
 <213> artificial sequence
 <220>
 <223> primer sequence
 <400> 21
 tttgggctcg ctctgagct tgttctcaca 30

<210> 22
 <211> 28
 <212> DNA
 <213> artificial sequence
 <220>
 <223> primer sequence
 <400> 22
 ctcaggagcg agcccaaattc ttcagaca 28

<210> 23
 <211> 26
 <212> DNA
 <213> artificial sequence
 <220>
 <223> primer sequence
 <400> 23
 tttgggctcc ctgagctctg gtggaa 26

<210> 24
 <211> 28
 <212> DNA
 <213> artificial sequence

<220>
 <223> primer sequence

<400> 24
 gagctcaggg agcccaaadc ttcagaca

28

<210> 25
 <211> 35
 <212> PRT
 <213> artificial sequence

<220>
 <223> modified signal peptide sequence

<400> 25

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

Ala Val Phe Val Ser Leu Ser Gln Glu Ile His Ala Glu Leu Arg Arg
 20 25 30

Phe Arg Arg
 35