

SEQUENCE LISTING

<110> Galapagos NV
 Brys, Reginald CX
 Vandeghinste, Nick ER

<120> MOLECULAR TARGETS AND COMPOUNDS, AND METHODS TO IDENTIFY THE
 SAME, USEFUL IN THE TREATMENT OF BONE AND JOINT DEGENERATIVE
 DISEASES

<130> GAL-054-WO-PCT

<150> US 60/936,569
 <151> 2007-06-20

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 <170> PatentIn version 3.4

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<211> 2690

<212> DNA

<213> Homo sapiens

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<213> Homo sapiens

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<211> 1953

<212> DNA

<213> Homo sapiens

<400> 40

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Gly Phe Cys Trp Leu Val Val Gly Phe Trp Arg Ala Ala Phe Ala Cys
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Pro Thr Ser Cys Lys Cys Ser Ala Ser Arg Ile Trp Cys Ser Asp Pro
35 40 45

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Ser Pro Gly Ile Val Ala Phe Pro Arg Leu Glu Pro Asn Ser Val Asp
50 55 60

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Pro Glu Asn Ile Thr Glu Ile Phe Ile Ala Asn Gln Lys Arg Leu Glu
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Ile Ile Asn Glu Asp Asp Val Glu Ala Tyr Val Gly Leu Arg Asn Leu
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Thr Ile Val Asp Ser Gly Leu Lys Phe Val Ala His Lys Ala Phe Leu
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Lys Asn Ser Asn Leu Gln His Ile Asn Phe Thr Arg Asn Lys Leu Thr
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Ser Leu Ser Arg Lys His Phe Arg His Leu Asp Leu Ser Glu Leu Ile
130 135 140

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Leu Val Gly Asn Pro Phe Thr Cys Ser Cys Asp Ile Met Trp Ile Lys
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Thr Leu Gln Glu Ala Lys Ser Ser Pro Asp Thr Gln Asp Leu Tyr Cys

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Val	Tyr	Ala	Val	Val	Val	Ile	Ala	Ser	Val	Val	Gly	Phe	Cys	Leu	Leu				
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Pro	Pro	Glu	Ser	Ile	Met	Tyr	Arg	Lys	Phe	Thr	Thr	Glu	Ser	Asp	Val		
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Tyr Leu Asp Ile Leu Gly
835

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<211> 477
<212> PRT
<213> Homo sapiens
<400> 42

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Gly Phe Cys Trp Leu Val Val Gly Phe Trp Arg Ala Ala Phe Ala Cys
20 25 30

Pro Thr Ser Cys Lys Cys Ser Ala Ser Arg Ile Trp Cys Ser Asp Pro
35 40 45

Ser Pro Gly Ile Val Ala Phe Pro Arg Leu Glu Pro Asn Ser Val Asp
50 55 60

Pro Glu Asn Ile Thr Glu Ile Phe Ile Ala Asn Gln Lys Arg Leu Glu
65 70 75 80

Ile Ile Asn Glu Asp Asp Val Glu Ala Tyr Val Gly Leu Arg Asn Leu
85 90 95

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

Lys Asn Ser Asn Leu Gln His Ile Asn Phe Thr Arg Asn Lys Leu Thr
115 120 125

Ser Leu Ser Arg Lys His Phe Arg His Leu Asp Leu Ser Glu Leu Ile
130 135 140

Leu Val Gly Asn Pro Phe Thr Cys Ser Cys Asp Ile Met Trp Ile Lys
145 150 155 160

Thr Leu Gln Glu Ala Lys Ser Ser Pro Asp Thr Gln Asp Leu Tyr Cys
165 170 175

Leu Asn Glu Ser Ser Lys Asn Ile Pro Leu Ala Asn Leu Gln Ile Pro
180 185 190

Asn Cys Gly Leu Pro Ser Ala Asn Leu Ala Ala Pro Asn Leu Thr Val
195 200 205

Glu Glu Gly Lys Ser Ile Thr Leu Ser Cys Ser Val Ala Gly Asp Pro
210 215 220

Val Pro Asn Met Tyr Trp Asp Val Gly Asn Leu Val Ser Lys His Met
225 230 235 240

Asn Glu Thr Ser His Thr Gln Gly Ser Leu Arg Ile Thr Asn Ile Ser
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Ser Asp Asp Ser Gly Lys Gln Ile Ser Cys Val Ala Glu Asn Leu Val
260 265 270

Gly Glu Asp Gln Asp Ser Val Asn Leu Thr Val His Phe Ala Pro Thr
275 280 285

Ile Thr Phe Leu Glu Ser Pro Thr Ser Asp His His Trp Cys Ile Pro
290 295 300

Phe Thr Val Lys Gly Asn Pro Lys Pro Ala Leu Gln Trp Phe Tyr Asn
305 310 315 320

Gly Ala Ile Leu Asn Glu Ser Lys Tyr Ile Cys Thr Lys Ile His Val
325 330 335

Thr Asn His Thr Glu Tyr His Gly Cys Leu Gln Leu Asp Asn Pro Thr
340 345 350

His Met Asn Asn Gly Asp Tyr Thr Leu Ile Ala Lys Asn Glu Tyr Gly
355 360 365

Lys Asp Glu Lys Gln Ile Ser Ala His Phe Met Gly Trp Pro Gly Ile
370 375 380

Asp Asp Gly Ala Asn Pro Asn Tyr Pro Asp Val Ile Tyr Glu Asp Tyr
385 390 395 400

Gly Thr Ala Ala Asn Asp Ile Gly Asp Thr Thr Asn Arg Ser Asn Glu
405 410 415

Ile Pro Ser Thr Asp Val Thr Asp Lys Thr Gly Arg Glu His Leu Ser
420 425 430

Val Tyr Ala Val Val Val Ile Ala Ser Val Val Gly Phe Cys Leu Leu
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Val Met Leu Phe Leu Leu Lys Leu Ala Arg His Ser Lys Phe Gly Met
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Lys Gly Phe Val Leu Phe His Lys Ile Pro Leu Asp Gly
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<210> 43

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<213> Homo sapiens

<400> 43

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Pro Thr Ser Cys Lys Cys Ser Ala Ser Arg Ile Trp Cys Ser Asp Pro
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Ser Pro Gly Ile Val Ala Phe Pro Arg Leu Glu Pro Asn Ser Val Asp
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Pro Glu Asn Ile Thr Glu Ile Phe Ile Ala Asn Gln Lys Arg Leu Glu
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Ile Ile Asn Glu Asp Asp Val Glu Ala Tyr Val Gly Leu Arg Asn Leu

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Lys	Asp	Glu	Lys	Gln	Ile	Ser	Ala	His	Phe	Met	Gly	Trp	Pro	Gly	Ile
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Asp	Asp	Gly	Ala	Asn	Pro	Asn	Tyr	Pro	Asp	Val	Ile	Tyr	Glu	Asp	Tyr
385					390					395					400
Gly	Thr	Ala	Ala	Asn	Asp	Ile	Gly	Asp	Thr	Thr	Asn	Arg	Ser	Asn	Glu
				405					410					415	

Ile	Pro	Ser	Thr	Asp	Val	Thr	Asp	Lys	Thr	Gly	Arg	Glu	His	Leu	Ser		
			420					425					430				
Val	Tyr	Ala	Val	Val	Val	Ile	Ala	Ser	Val	Val	Gly	Phe	Cys	Leu	Leu		
		435					440					445					
Val	Met	Leu	Phe	Leu	Leu	Lys	Leu	Ala	Arg	His	Ser	Lys	Phe	Gly	Met		
	450					455					460						
Lys	Gly	Pro	Ala	Ser	Val	Ile	Ser	Asn	Asp	Asp	Asp	Ser	Ala	Ser	Pro		
465					470				475						480		
Leu	His	His	Ile	Ser	Asn	Gly	Ser	Asn	Thr	Pro	Ser	Ser	Ser	Glu	Gly		
			485						490					495			
Gly	Pro	Asp	Ala	Val	Ile	Ile	Gly	Met	Thr	Lys	Ile	Pro	Val	Ile	Glu		
			500					505					510				
Asn	Pro	Gln	Tyr	Phe	Gly	Ile	Thr	Asn	Ser	Gln	Leu	Lys	Pro	Asp	Thr		
		515					520					525					
Phe	Val	Gln	His	Ile	Lys	Arg	His	Asn	Ile	Val	Leu	Lys	Arg	Glu	Leu		
	530					535					540						
Gly	Glu	Gly	Ala	Phe	Gly	Lys	Val	Phe	Leu	Ala	Glu	Cys	Tyr	Asn	Leu		
545					550					555					560		
Cys	Pro	Glu	Gln	Asp	Lys	Ile	Leu	Val	Ala	Val	Lys	Thr	Leu	Lys	Asp		
			565					570						575			
Ala	Ser	Asp	Asn	Ala	Arg	Lys	Asp	Phe	His	Arg	Glu	Ala	Glu	Leu	Leu		
			580					585					590				
Thr	Asn	Leu	Gln	His	Glu	His	Ile	Val	Lys	Phe	Tyr	Gly	Val	Cys	Val		
		595					600					605					
Glu	Gly	Asp	Pro	Leu	Ile	Met	Val	Phe	Glu	Tyr	Met	Lys	His	Gly	Asp		
	610					615					620						
Leu	Asn	Lys	Phe	Leu	Arg	Ala	His	Gly	Pro	Asp	Ala	Val	Leu	Met	Ala		
625					630					635					640		
Glu	Gly	Asn	Pro	Pro	Thr	Glu	Leu	Thr	Gln	Ser	Gln	Met	Leu	His	Ile		
			645						650					655			
Ala	Gln	Gln	Ile	Ala	Ala	Gly	Met	Val	Tyr	Leu	Ala	Ser	Gln	His	Phe		
			660					665					670				
Val	His	Arg	Asp	Leu	Ala	Thr	Arg	Asn	Cys	Leu	Val	Gly	Glu	Asn	Leu		
		675					680					685					
Leu	Val	Lys	Ile	Gly	Asp	Phe	Gly	Met	Ser	Arg	Asp	Val	Tyr	Ser	Thr		
	690					695					700						
Asp	Tyr	Tyr	Arg	Val	Gly	Gly	His	Thr	Met	Leu	Pro	Ile	Arg	Trp	Met		
705					710					715					720		
Pro	Pro	Glu	Ser	Ile	Met	Tyr	Arg	Lys	Phe	Thr	Thr	Glu	Ser	Asp	Val		
				725					730					735			

Trp Ser Leu Gly Val Val Leu Trp Glu Ile Phe Thr Tyr Gly Lys Gln
740 745 750

Pro Trp Tyr Gln Leu Ser Asn Asn Glu Val Ile Glu Cys Ile Thr Gln
755 760 765

Gly Arg Val Leu Gln Arg Pro Arg Thr Cys Pro Gln Glu Val Tyr Glu
770 775 780

Leu Met Leu Gly Cys Trp Gln Arg Glu Pro His Met Arg Lys Asn Ile
785 790 795 800

Lys Gly Ile His Thr Leu Leu Gln Asn Leu Ala Lys Ala Ser Pro Val
805 810 815

Tyr Leu Asp Ile Leu Gly
820

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<211> 553
<212> PRT
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<400> 44

Met Ser Ser Trp Ile Arg Trp His Gly Pro Ala Met Ala Arg Leu Trp
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Gly Phe Cys Trp Leu Val Val Gly Phe Trp Arg Ala Ala Phe Ala Cys
20 25 30

Pro Thr Ser Cys Lys Cys Ser Ala Ser Arg Ile Trp Cys Ser Asp Pro
35 40 45

Ser Pro Gly Ile Val Ala Phe Pro Arg Leu Glu Pro Asn Ser Val Asp
50 55 60

Pro Glu Asn Ile Thr Glu Ile Phe Ile Ala Asn Gln Lys Arg Leu Glu
65 70 75 80

Ile Ile Asn Glu Asp Asp Val Glu Ala Tyr Val Gly Leu Arg Asn Leu
85 90 95

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

Lys Asn Ser Asn Leu Gln His Ile Asn Phe Thr Arg Asn Lys Leu Thr
115 120 125

Ser Leu Ser Arg Lys His Phe Arg His Leu Asp Leu Ser Glu Leu Ile
130 135 140

Leu Val Gly Asn Pro Phe Thr Cys Ser Cys Asp Ile Met Trp Ile Lys
145 150 155 160

Thr Leu Gln Glu Ala Lys Ser Ser Pro Asp Thr Gln Asp Leu Tyr Cys
165 170 175

Leu Asn Glu Ser Ser Lys Asn Ile Pro Leu Ala Asn Leu Gln Ile Pro
180 185 190

Asn Cys Gly Leu Pro Ser Ala Asn Leu Ala Ala Pro Asn Leu Thr Val
195 200 205

Glu 210	Gly 215	Lys 220	Ser 225	Ile 230	Thr 235	Leu 240	Ser 245	Cys 250	Ser 255	Val 260	Ala 265	Gly 270	Asp 275	Pro 280	
Val 225	Pro 230	Asn 235	Met 240	Tyr 245	Trp 250	Asp 255	Val 260	Gly 265	Asn 270	Leu 275	Val 280	Ser 285	Lys 290	His 295	Met 300
Asn 305	Glu 310	Thr 315	Ser 320	His 245	Thr 250	Gln 255	Gly 260	Ser 265	Leu 270	Arg 275	Ile 280	Thr 285	Asn 290	Ile 295	Ser 300
Ser 305	Asp 310	Asp 315	Ser 320	Gly 245	Lys 250	Gln 255	Ile 260	Ser 265	Cys 270	Val 275	Ala 280	Glu 285	Asn 290	Leu 295	Val 300
Gly 305	Glu 310	Asp 275	Gln 280	Asp 285	Ser 290	Val 295	Asn 300	Leu 305	Thr 310	Val 315	His 320	Phe 325	Ala 330	Pro 335	Thr 340
Ile 345	Thr 290	Phe 300	Leu 305	Glu 310	Ser 315	Pro 320	Thr 325	Ser 330	Asp 335	His 340	His 345	Trp 350	Cys 355	Ile 360	Pro 365
Phe 305	Thr 310	Val 315	Lys 320	Gly 325	Asn 330	Pro 335	Lys 340	Pro 345	Ala 350	Leu 355	Gln 360	Trp 365	Phe 370	Tyr 375	Asn 380
Gly 385	Ala 390	Ile 395	Leu 400	Asn 405	Glu 410	Ser 415	Lys 420	Tyr 425	Ile 430	Cys 435	Thr 440	Lys 445	Ile 450	His 455	Val 460
Thr 465	Asn 470	His 475	Thr 480	Glu 485	Tyr 490	His 495	Gly 500	Cys 505	Leu 510	Gln 515	Leu 520	Asp 525	Asn 530	Pro 535	Thr 540
His 545	Met 550	Asn 555	Asn 560	Gly 565	Asp 570	Tyr 575	Thr 580	Leu 585	Ile 590	Ala 595	Lys 600	Asn 605	Glu 610	Tyr 615	Gly 620
Lys 625	Asp 630	Glu 635	Lys 640	Gln 645	Ile 650	Ser 655	Ala 660	His 665	Phe 670	Met 675	Gly 680	Trp 685	Pro 690	Gly 695	Ile 700
Asp 385	Asp 390	Gly 395	Ala 400	Asn 405	Pro 410	Asn 415	Tyr 420	Pro 425	Asp 430	Val 435	Ile 440	Tyr 445	Glu 450	Asp 455	Tyr 460
Gly 465	Thr 470	Ala 475	Ala 480	Asn 485	Asp 490	Ile 495	Gly 500	Asp 505	Thr 510	Thr 515	Asn 520	Arg 525	Ser 530	Asn 535	Glu 540
Ile 545	Pro 550	Ser 555	Thr 420	Asp 425	Val 430	Thr 435	Asp 440	Lys 445	Thr 450	Gly 455	Arg 460	Glu 465	His 470	Leu 475	Ser 480
Val 485	Tyr 490	Ala 495	Val 500	Val 505	Val 510	Ile 515	Ala 520	Ser 525	Val 530	Val 535	Gly 540	Phe 545	Cys 550	Leu 555	Leu 560
Val 565	Met 570	Leu 575	Phe 580	Leu 585	Leu 590	Lys 595	Leu 600	Ala 605	Arg 610	His 615	Ser 620	Lys 625	Phe 630	Gly 635	Met 640
Lys 465	Asp 470	Phe 475	Ser 480	Trp 485	Phe 490	Gly 495	Phe 500	Gly 505	Lys 510	Val 515	Lys 520	Ser 525	Arg 530	Gln 535	Gly 540
Val 545	Gly 550	Pro 555	Ala 560	Ser 485	Val 490	Ile 495	Ser 500	Asn 505	Asp 510	Asp 515	Asp 520	Ser 525	Ala 530	Ser 535	Pro 540
Leu 545	His 550	His 555	Ile 500	Ser 505	Asn 510	Gly 515	Ser 520	Asn 525	Thr 530	Pro 535	Ser 540	Ser 545	Ser 550	Glu 555	Gly 560
Gly 565	Pro 570	Asp 575	Ala 580	Val 585	Ile 590	Ile 595	Gly 600	Met 605	Thr 610	Lys 615	Ile 620	Pro 625	Val 630	Ile 635	Glu 640

Asn Pro Gln Tyr Phe Gly Ile Thr Asn Ser Gln Leu Lys Pro Asp Thr
530 535 540

Trp Pro Arg Gly Ser Pro Lys Thr Ala
545 550

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<211> 537
<212> PRT
<213> Homo sapiens
<400> 45

Met Ser Ser Trp Ile Arg Trp His Gly Pro Ala Met Ala Arg Leu Trp
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Gly Phe Cys Trp Leu Val Val Gly Phe Trp Arg Ala Ala Phe Ala Cys
20 25 30

Pro Thr Ser Cys Lys Cys Ser Ala Ser Arg Ile Trp Cys Ser Asp Pro
35 40 45

Ser Pro Gly Ile Val Ala Phe Pro Arg Leu Glu Pro Asn Ser Val Asp
50 55 60

Pro Glu Asn Ile Thr Glu Ile Phe Ile Ala Asn Gln Lys Arg Leu Glu
65 70 75 80

Ile Ile Asn Glu Asp Asp Val Glu Ala Tyr Val Gly Leu Arg Asn Leu
85 90 95

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

Lys Asn Ser Asn Leu Gln His Ile Asn Phe Thr Arg Asn Lys Leu Thr
115 120 125

Ser Leu Ser Arg Lys His Phe Arg His Leu Asp Leu Ser Glu Leu Ile
130 135 140

Leu Val Gly Asn Pro Phe Thr Cys Ser Cys Asp Ile Met Trp Ile Lys
145 150 155 160

Thr Leu Gln Glu Ala Lys Ser Ser Pro Asp Thr Gln Asp Leu Tyr Cys
165 170 175

Leu Asn Glu Ser Ser Lys Asn Ile Pro Leu Ala Asn Leu Gln Ile Pro
180 185 190

Asn Cys Gly Leu Pro Ser Ala Asn Leu Ala Ala Pro Asn Leu Thr Val
195 200 205

Glu Glu Gly Lys Ser Ile Thr Leu Ser Cys Ser Val Ala Gly Asp Pro
210 215 220

Val Pro Asn Met Tyr Trp Asp Val Gly Asn Leu Val Ser Lys His Met
225 230 235 240

Asn Glu Thr Ser His Thr Gln Gly Ser Leu Arg Ile Thr Asn Ile Ser
245 250 255

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

Gly Glu Asp Gln Asp Ser Val Asn Leu Thr Val His Phe Ala Pro Thr
275 280 285

Ile Thr Phe Leu Glu Ser Pro Thr Ser Asp His His Trp Cys Ile Pro
290 295 300

Phe Thr Val Lys Gly Asn Pro Lys Pro Ala Leu Gln Trp Phe Tyr Asn
305 310 315 320

Gly Ala Ile Leu Asn Glu Ser Lys Tyr Ile Cys Thr Lys Ile His Val
325 330 335

Thr Asn His Thr Glu Tyr His Gly Cys Leu Gln Leu Asp Asn Pro Thr
340 345 350

His Met Asn Asn Gly Asp Tyr Thr Leu Ile Ala Lys Asn Glu Tyr Gly
355 360 365

Lys Asp Glu Lys Gln Ile Ser Ala His Phe Met Gly Trp Pro Gly Ile
370 375 380

Asp Asp Gly Ala Asn Pro Asn Tyr Pro Asp Val Ile Tyr Glu Asp Tyr
385 390 395 400

Gly Thr Ala Ala Asn Asp Ile Gly Asp Thr Thr Asn Arg Ser Asn Glu
405 410 415

Ile Pro Ser Thr Asp Val Thr Asp Lys Thr Gly Arg Glu His Leu Ser
420 425 430

Val Tyr Ala Val Val Val Ile Ala Ser Val Val Gly Phe Cys Leu Leu
435 440 445

Val Met Leu Phe Leu Leu Lys Leu Ala Arg His Ser Lys Phe Gly Met
450 455 460

Lys Gly Pro Ala Ser Val Ile Ser Asn Asp Asp Asp Ser Ala Ser Pro
465 470 475 480

Leu His His Ile Ser Asn Gly Ser Asn Thr Pro Ser Ser Ser Glu Gly
485 490 495

Gly Pro Asp Ala Val Ile Ile Gly Met Thr Lys Ile Pro Val Ile Glu
500 505 510

Asn Pro Gln Tyr Phe Gly Ile Thr Asn Ser Gln Leu Lys Pro Asp Thr
515 520 525

Trp Pro Arg Gly Ser Pro Lys Thr Ala
530 535

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<211> 1166

<212> PRT

<213> Homo sapiens

<400> 46

Met Ala Asn Asp Ser Pro Ala Lys Ser Leu Val Asp Ile Asp Leu Ser
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Ser Leu Arg Asp Pro Ala Gly Ile Phe Glu Leu Val Glu Val Val Gly

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		35					40					45			
Gln	Leu	Ala	Ala	Ile	Lys	Val	Met	Asp	Val	Thr	Glu	Asp	Glu	Glu	Glu
	50					55					60				
Glu	Ile	Lys	Leu	Glu	Ile	Asn	Met	Leu	Lys	Lys	Tyr	Ser	His	His	Arg
65						70					75				80
Asn	Ile	Ala	Thr	Tyr	Tyr	Gly	Ala	Phe	Ile	Lys	Lys	Ser	Pro	Pro	Gly
				85					90					95	
His	Asp	Asp	Gln	Leu	Trp	Leu	Val	Met	Glu	Phe	Cys	Gly	Ala	Gly	Ser
			100					105					110		
Ile	Thr	Asp	Leu	Val	Lys	Asn	Thr	Lys	Gly	Asn	Thr	Leu	Lys	Glu	Asp
		115					120					125			
Trp	Ile	Ala	Tyr	Ile	Ser	Arg	Glu	Ile	Leu	Arg	Gly	Leu	Ala	His	Leu
		130					135					140			
His	Ile	His	His	Val	Ile	His	Arg	Asp	Ile	Lys	Gly	Gln	Asn	Val	Leu
145						150					155				160
Leu	Thr	Glu	Asn	Ala	Glu	Val	Lys	Leu	Val	Asp	Phe	Gly	Val	Ser	Ala
				165					170					175	
Gln	Leu	Asp	Arg	Thr	Val	Gly	Arg	Arg	Asn	Thr	Phe	Ile	Gly	Thr	Pro
			180					185					190		
Tyr	Trp	Met	Ala	Pro	Glu	Val	Ile	Ala	Cys	Asp	Glu	Asn	Pro	Asp	Ala
		195					200						205		
Thr	Tyr	Asp	Tyr	Arg	Ser	Asp	Leu	Trp	Ser	Cys	Gly	Ile	Thr	Ala	Ile
		210					215					220			
Glu	Met	Ala	Glu	Gly	Ala	Pro	Pro	Leu	Cys	Asp	Met	His	Pro	Met	Arg
225						230					235				240
Ala	Leu	Phe	Leu	Ile	Pro	Arg	Asn	Pro	Pro	Pro	Arg	Leu	Lys	Ser	Lys
				245					250					255	
Lys	Trp	Ser	Lys	Lys	Phe	Phe	Ser	Phe	Ile	Glu	Gly	Cys	Leu	Val	Lys
			260					265					270		
Asn	Tyr	Met	Gln	Arg	Pro	Ser	Thr	Glu	Gln	Leu	Leu	Lys	His	Pro	Phe
		275					280						285		
Ile	Arg	Asp	Gln	Pro	Asn	Glu	Arg	Gln	Val	Arg	Ile	Gln	Leu	Lys	Asp
		290					295					300			
His	Ile	Asp	Arg	Thr	Arg	Lys	Lys	Arg	Gly	Glu	Lys	Asp	Glu	Thr	Glu
305							310					315			320
Tyr	Glu	Tyr	Ser	Gly	Ser	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Val	Pro	Glu
				325					330					335	
Glu	Gly	Glu	Pro	Ser	Ser	Ile	Val	Asn	Val	Pro	Gly	Glu	Ser	Thr	Leu
			340					345					350		

Arg	Arg	Asp	Phe	Leu	Arg	Leu	Gln	Gln	Glu	Asn	Lys	Glu	Arg	Ser	Glu	
		355					360					365				
Ala	Leu	Arg	Arg	Gln	Gln	Leu	Leu	Gln	Glu	Gln	Gln	Leu	Arg	Glu	Gln	
		370					375					380				
Glu	Glu	Tyr	Lys	Arg	Gln	Leu	Leu	Ala	Glu	Arg	Gln	Lys	Arg	Ile	Glu	
		385					390					395				
Gln	Gln	Lys	Glu	Gln	Arg	Arg	Arg	Leu	Glu	Glu	Gln	Gln	Arg	Arg	Glu	
				405							410			415		
Arg	Glu	Ala	Arg	Arg	Gln	Gln	Glu	Arg	Glu	Gln	Arg	Arg	Arg	Glu	Gln	
				420							425			430		
Glu	Glu	Lys	Arg	Arg	Leu	Glu	Glu	Leu	Glu	Arg	Arg	Arg	Lys	Glu	Glu	
				435									445			
Glu	Glu	Arg	Arg	Arg	Ala	Glu	Glu	Glu	Lys	Arg	Arg	Val	Glu	Arg	Glu	
				450									460			
Gln	Glu	Tyr	Ile	Arg	Arg	Gln	Leu	Glu	Glu	Glu	Gln	Arg	His	Leu	Glu	
				465									475			
Val	Leu	Gln	Gln	Gln	Leu	Leu	Gln	Glu	Gln	Ala	Met	Leu	Leu	His	Asp	
				485							490			495		
His	Arg	Arg	Pro	His	Pro	Gln	His	Ser	Gln	Gln	Pro	Pro	Pro	Pro	Gln	
				500							505			510		
Gln	Glu	Arg	Ser	Lys	Pro	Ser	Phe	His	Ala	Pro	Glu	Pro	Lys	Ala	His	
				515									525			
Tyr	Glu	Pro	Ala	Asp	Arg	Ala	Arg	Glu	Val	Pro	Val	Arg	Thr	Thr	Ser	
				530									540			
Arg	Ser	Pro	Val	Leu	Ser	Arg	Arg	Asp	Ser	Pro	Leu	Gln	Gly	Ser	Gly	
				545									555			
Gln	Gln	Asn	Ser	Gln	Ala	Gly	Gln	Arg	Asn	Ser	Thr	Ser	Ser	Ile	Glu	
				565									570			
Pro	Arg	Leu	Leu	Trp	Glu	Arg	Val	Glu	Lys	Leu	Val	Pro	Arg	Pro	Gly	
				580									590			
Ser	Gly	Ser	Ser	Ser	Gly	Ser	Ser	Asn	Ser	Gly	Ser	Gln	Pro	Gly	Ser	
				595									605			
His	Pro	Gly	Ser	Gln	Ser	Gly	Ser	Gly	Glu	Arg	Phe	Arg	Val	Arg	Ser	
				610									620			
Ser	Ser	Lys	Ser	Glu	Gly	Ser	Pro	Ser	Gln	Arg	Leu	Glu	Asn	Ala	Val	
				625									635			
Lys	Lys	Pro	Glu	Asp	Lys	Lys	Glu	Val	Phe	Arg	Pro	Leu	Lys	Pro	Ala	
				645									655			
Gly	Glu	Val	Asp	Leu	Thr	Ala	Leu	Ala	Lys	Glu	Leu	Arg	Ala	Val	Glu	
				660									670			

Asp	Val	Arg	Pro	Pro	His	Lys	Val	Thr	Asp	Tyr	Ser	Ser	Ser	Ser	Glu	675	680	685	
Glu	Ser	Gly	Thr	Thr	Asp	Glu	Glu	Asp	Asp	Asp	Val	Glu	Gln	Glu	Gly	690	695	700	
Ala	Asp	Glu	Ser	Thr	Ser	Gly	Pro	Glu	Asp	Thr	Arg	Ala	Ala	Ser	Ser	705	710	715	720
Leu	Asn	Leu	Ser	Asn	Gly	Glu	Thr	Glu	Ser	Val	Lys	Thr	Met	Ile	Val	725	730	735	
His	Asp	Asp	Val	Glu	Ser	Glu	Pro	Ala	Met	Thr	Pro	Ser	Lys	Glu	Gly	740	745	750	
Thr	Leu	Ile	Val	Arg	Gln	Thr	Gln	Ser	Ala	Ser	Ser	Thr	Leu	Gln	Lys	755	760	765	
His	Lys	Ser	Ser	Ser	Ser	Phe	Thr	Pro	Phe	Ile	Asp	Pro	Arg	Leu	Leu	770	775	780	
Gln	Ile	Ser	Pro	Ser	Ser	Gly	Thr	Thr	Val	Thr	Ser	Val	Val	Gly	Phe	785	790	795	800
Ser	Cys	Asp	Gly	Met	Arg	Pro	Glu	Ala	Ile	Arg	Gln	Asp	Pro	Thr	Arg	805	810	815	
Lys	Gly	Ser	Val	Val	Asn	Val	Asn	Pro	Thr	Asn	Thr	Arg	Pro	Gln	Ser	820	825	830	
Asp	Thr	Pro	Glu	Ile	Arg	Lys	Tyr	Lys	Lys	Arg	Phe	Asn	Ser	Glu	Ile	835	840	845	
Leu	Cys	Ala	Ala	Leu	Trp	Gly	Val	Asn	Leu	Leu	Val	Gly	Thr	Glu	Ser	850	855	860	
Gly	Leu	Met	Leu	Leu	Asp	Arg	Ser	Gly	Gln	Gly	Lys	Val	Tyr	Pro	Leu	865	870	875	880
Ile	Asn	Arg	Arg	Arg	Phe	Gln	Gln	Met	Asp	Val	Leu	Glu	Gly	Leu	Asn	885	890	895	
Val	Leu	Val	Thr	Ile	Ser	Gly	Lys	Lys	Asp	Lys	Leu	Arg	Val	Tyr	Tyr	900	905	910	
Leu	Ser	Trp	Leu	Arg	Asn	Lys	Ile	Leu	His	Asn	Asp	Pro	Glu	Val	Glu	915	920	925	
Lys	Lys	Gln	Gly	Trp	Thr	Thr	Val	Gly	Asp	Leu	Glu	Gly	Cys	Val	His	930	935	940	
Tyr	Lys	Val	Val	Lys	Tyr	Glu	Arg	Ile	Lys	Phe	Leu	Val	Ile	Ala	Leu	945	950	955	960
Lys	Ser	Ser	Val	Glu	Val	Tyr	Ala	Trp	Ala	Pro	Lys	Pro	Tyr	His	Lys	965	970	975	
Phe	Met	Ala	Phe	Lys	Ser	Phe	Gly	Glu	Leu	Val	His	Lys	Pro	Leu	Leu	980	985	990	
Val	Asp	Leu	Thr	Val	Glu	Glu	Gly	Gln	Arg	Leu	Lys	Val	Ile	Tyr	Gly				

995					1000					1005					
Ser	Cys	Ala	Gly	Phe	His	Ala	Val	Asp	Val	Asp	Ser	Gly	Ser	Val	
1010						1015					1020				
Tyr	Asp	Ile	Tyr	Leu	Pro	Thr	His	Val	Arg	Lys	Asn	Pro	His	Ser	
1025						1030					1035				
Met	Ile	Gln	Cys	Ser	Ile	Lys	Pro	His	Ala	Ile	Ile	Ile	Leu	Pro	
1040						1045					1050				
Asn	Thr	Asp	Gly	Met	Glu	Leu	Leu	Val	Cys	Tyr	Glu	Asp	Glu	Gly	
1055						1060					1065				
Val	Tyr	Val	Asn	Thr	Tyr	Gly	Arg	Ile	Thr	Lys	Asp	Val	Val	Leu	
1070						1075					1080				
Gln	Trp	Gly	Glu	Met	Pro	Thr	Ser	Val	Ala	Tyr	Ile	Arg	Ser	Asn	
1085						1090					1095				
Gln	Thr	Met	Gly	Trp	Gly	Glu	Lys	Ala	Ile	Glu	Ile	Arg	Ser	Val	
1100						1105					1110				
Glu	Thr	Gly	His	Leu	Asp	Gly	Val	Phe	Met	His	Lys	Arg	Ala	Gln	
1115						1120					1125				
Arg	Leu	Lys	Phe	Leu	Cys	Glu	Arg	Asn	Asp	Lys	Val	Phe	Phe	Ala	
1130						1135					1140				
Ser	Val	Arg	Ser	Gly	Gly	Ser	Ser	Gln	Val	Tyr	Phe	Met	Thr	Leu	
1145						1150					1155				
Gly	Arg	Thr	Ser	Leu	Leu	Ser	Trp								
1160						1165									
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Ser	Leu	Arg	Asp	Pro	Ala	Gly	Ile	Phe	Glu	Leu	Val	Glu	Val	Val	Gly
			20					25					30		
Asn	Gly	Thr	Tyr	Gly	Gln	Val	Tyr	Lys	Gly	Arg	His	Val	Lys	Thr	Gly
		35					40					45			
Gln	Leu	Ala	Ala	Ile	Lys	Val	Met	Asp	Val	Thr	Glu	Asp	Glu	Glu	Glu
	50					55					60				
Glu	Ile	Lys	Leu	Glu	Ile	Asn	Met	Leu	Lys	Lys	Tyr	Ser	His	His	Arg
65					70					75					80
Asn	Ile	Ala	Thr	Tyr	Tyr	Gly	Ala	Phe	Ile	Lys	Lys	Ser	Pro	Pro	Gly
				85					90					95	
His	Asp	Asp	Gln	Leu	Trp	Leu	Val	Met	Glu	Phe	Cys	Gly	Ala	Gly	Ser
			100					105					110		

Ile	Thr	Asp	Leu	Val	Lys	Asn	Thr	Lys	Gly	Asn	Thr	Leu	Lys	Glu	Asp	115	120	125
Trp	Ile	Ala	Tyr	Ile	Ser	Arg	Glu	Ile	Leu	Arg	Gly	Leu	Ala	His	Leu	130	135	140
His	Ile	His	His	Val	Ile	His	Arg	Asp	Ile	Lys	Gly	Gln	Asn	Val	Leu	145	150	155
Leu	Thr	Glu	Asn	Ala	Glu	Val	Lys	Leu	Val	Asp	Phe	Gly	Val	Ser	Ala	165	170	175
Gln	Leu	Asp	Arg	Thr	Val	Gly	Arg	Arg	Asn	Thr	Phe	Ile	Gly	Thr	Pro	180	185	190
Tyr	Trp	Met	Ala	Pro	Glu	Val	Ile	Ala	Cys	Asp	Glu	Asn	Pro	Asp	Ala	195	200	205
Thr	Tyr	Asp	Tyr	Arg	Ser	Asp	Leu	Trp	Ser	Cys	Gly	Ile	Thr	Ala	Ile	210	215	220
Glu	Met	Ala	Glu	Gly	Ala	Pro	Pro	Leu	Cys	Asp	Met	His	Pro	Met	Arg	225	230	235
Ala	Leu	Phe	Leu	Ile	Pro	Arg	Asn	Pro	Pro	Pro	Arg	Leu	Lys	Ser	Lys	245	250	255
Lys	Trp	Ser	Lys	Lys	Phe	Phe	Ser	Phe	Ile	Glu	Gly	Cys	Leu	Val	Lys	260	265	270
Asn	Tyr	Met	Gln	Arg	Pro	Ser	Thr	Glu	Gln	Leu	Leu	Lys	His	Pro	Phe	275	280	285
Ile	Arg	Asp	Gln	Pro	Asn	Glu	Arg	Gln	Val	Arg	Ile	Gln	Leu	Lys	Asp	290	295	300
His	Ile	Asp	Arg	Thr	Arg	Lys	Lys	Arg	Gly	Glu	Lys	Asp	Glu	Thr	Glu	305	310	315
Tyr	Glu	Tyr	Ser	Gly	Ser	Glu	Glu	Glu	Glu	Glu	Glu	Val	Pro	Glu	Gln	325	330	335
Glu	Gly	Glu	Pro	Ser	Ser	Ile	Val	Asn	Val	Pro	Gly	Glu	Ser	Thr	Leu	340	345	350
Arg	Arg	Asp	Phe	Leu	Arg	Leu	Gln	Gln	Glu	Asn	Lys	Glu	Arg	Ser	Glu	355	360	365
Ala	Leu	Arg	Arg	Gln	Gln	Leu	Leu	Gln	Glu	Gln	Gln	Leu	Arg	Glu	Gln	370	375	380
Glu	Glu	Tyr	Lys	Arg	Gln	Leu	Leu	Ala	Glu	Arg	Gln	Lys	Arg	Ile	Glu	385	390	395
Gln	Gln	Lys	Glu	Gln	Arg	Arg	Arg	Leu	Glu	Glu	Gln	Gln	Arg	Arg	Glu	405	410	415
Arg	Glu	Ala	Arg	Arg	Gln	Gln	Glu	Arg	Glu	Gln	Arg	Arg	Arg	Glu	Gln	420	425	430

Glu Glu Lys Arg Arg Leu Glu Glu Leu Glu Arg Arg Arg Lys Glu Glu
 435 440 445
 Glu Glu Arg Arg Arg Ala Glu Glu Glu Lys Arg Arg Val Glu Arg Glu
 450 455 460
 Gln Glu Tyr Ile Arg Arg Gln Leu Glu Glu Glu Gln Arg His Leu Glu
 465 470 475 480
 Val Leu Gln Gln Gln Leu Leu Gln Glu Gln Ala Met Leu Leu Glu Cys
 485 490 495
 Arg Trp Arg Glu Met Glu Glu His Arg Gln Ala Glu Arg Leu Gln Arg
 500 505 510
 Gln Leu Gln Gln Glu Gln Ala Tyr Leu Leu Ser Leu Gln His Asp His
 515 520 525
 Arg Arg Pro His Pro Gln His Ser Gln Gln Pro Pro Pro Pro Gln Gln
 530 535 540
 Glu Arg Ser Lys Pro Ser Phe His Ala Pro Glu Pro Lys Ala His Tyr
 545 550 555 560
 Glu Pro Ala Asp Arg Ala Arg Glu Val Glu Asp Arg Phe Arg Lys Thr
 565 570 575
 Asn His Ser Ser Pro Glu Ala Gln Ser Lys Gln Thr Gly Arg Val Leu
 580 585 590
 Glu Pro Pro Val Pro Ser Arg Ser Glu Ser Phe Ser Asn Gly Asn Ser
 595 600 605
 Glu Ser Val His Pro Ala Leu Gln Arg Pro Ala Glu Pro Gln Val Gln
 610 615 620
 Trp Ser His Leu Ala Ser Leu Lys Asn Asn Val Ser Pro Val Ser Arg
 625 630 635 640
 Ser His Ser Phe Ser Asp Pro Ser Pro Lys Phe Ala His His His Leu
 645 650 655
 Arg Ser Gln Asp Pro Cys Pro Pro Ser Arg Ser Glu Val Leu Ser Gln
 660 665 670
 Ser Ser Asp Ser Lys Ser Glu Ala Pro Asp Pro Thr Gln Lys Ala Trp
 675 680 685
 Ser Arg Ser Asp Ser Asp Glu Val Pro Pro Arg Val Pro Val Arg Thr
 690 695 700
 Thr Ser Arg Ser Pro Val Leu Ser Arg Arg Asp Ser Pro Leu Gln Gly
 705 710 715 720
 Ser Gly Gln Gln Asn Ser Gln Ala Gly Gln Arg Asn Ser Thr Ser Ser
 725 730 735
 Ile Glu Pro Arg Leu Leu Trp Glu Arg Val Glu Lys Leu Val Pro Arg
 740 745 750
 Pro Gly Ser Gly Ser Ser Ser Gly Ser Ser Asn Ser Gly Ser Gln Pro

755				760				765							
Gly	Ser	His	Pro	Gly	Ser	Gln	Ser	Gly	Ser	Gly	Glu	Arg	Phe	Arg	Val
770						775					780				
Arg	Ser	Ser	Ser	Lys	Ser	Glu	Gly	Ser	Pro	Ser	Gln	Arg	Leu	Glu	Asn
785					790					795					800
Ala	Val	Lys	Lys	Pro	Glu	Asp	Lys	Lys	Glu	Val	Phe	Arg	Pro	Leu	Lys
				805					810					815	
Pro	Ala	Gly	Glu	Val	Asp	Leu	Thr	Ala	Leu	Ala	Lys	Glu	Leu	Arg	Ala
			820					825					830		
Val	Glu	Asp	Val	Arg	Pro	Pro	His	Lys	Val	Thr	Asp	Tyr	Ser	Ser	Ser
		835					840					845			
Ser	Glu	Glu	Ser	Gly	Thr	Thr	Asp	Glu	Glu	Asp	Asp	Asp	Val	Glu	Gln
	850					855					860				
Glu	Gly	Ala	Asp	Glu	Ser	Thr	Ser	Gly	Pro	Glu	Asp	Thr	Arg	Ala	Ala
865					870					875					880
Ser	Ser	Leu	Asn	Leu	Ser	Asn	Gly	Glu	Thr	Glu	Ser	Val	Lys	Thr	Met
			885						890					895	
Ile	Val	His	Asp	Asp	Val	Glu	Ser	Glu	Pro	Ala	Met	Thr	Pro	Ser	Lys
			900					905					910		
Glu	Gly	Thr	Leu	Ile	Val	Arg	Gln	Thr	Gln	Ser	Ala	Ser	Ser	Thr	Leu
		915					920						925		
Gln	Lys	His	Lys	Ser	Ser	Ser	Ser	Phe	Thr	Pro	Phe	Ile	Asp	Pro	Arg
	930					935					940				
Leu	Leu	Gln	Ile	Ser	Pro	Ser	Ser	Gly	Thr	Thr	Val	Thr	Ser	Val	Val
945					950					955					960
Gly	Phe	Ser	Cys	Asp	Gly	Met	Arg	Pro	Glu	Ala	Ile	Arg	Gln	Asp	Pro
			965						970					975	
Thr	Arg	Lys	Gly	Ser	Val	Val	Asn	Val	Asn	Pro	Thr	Asn	Thr	Arg	Pro
			980						985					990	
Gln	Ser	Asp	Thr	Pro	Glu	Ile	Arg	Lys	Tyr	Lys	Lys	Arg	Phe	Asn	Ser
		995					1000						1005		
Glu	Ile	Leu	Cys	Ala	Ala	Leu	Trp	Gly	Val	Asn	Leu	Leu	Val	Gly	
	1010					1015					1020				
Thr	Glu	Ser	Gly	Leu	Met	Leu	Leu	Asp	Arg	Ser	Gly	Gln	Gly	Lys	
	1025					1030					1035				
Val	Tyr	Pro	Leu	Ile	Asn	Arg	Arg	Arg	Phe	Gln	Gln	Met	Asp	Val	
	1040					1045					1050				
Leu	Glu	Gly	Leu	Asn	Val	Leu	Val	Thr	Ile	Ser	Gly	Lys	Lys	Asp	
	1055					1060					1065				
Lys	Leu	Arg	Val	Tyr	Tyr	Leu	Ser	Trp	Leu	Arg	Asn	Lys	Ile	Leu	
	1070					1075					1080				

His Asn Asp Pro Glu Val Glu Lys Lys Gln Gly Trp Thr Thr Val
1085 1090 1095

Gly Asp Leu Glu Gly Cys Val His Tyr Lys Val Val Lys Tyr Glu
1100 1105 1110

Arg Ile Lys Phe Leu Val Ile Ala Leu Lys Ser Ser Val Glu Val
1115 1120 1125

Tyr Ala Trp Ala Pro Lys Pro Tyr His Lys Phe Met Ala Phe Lys
1130 1135 1140

Ser Phe Gly Glu Leu Val His Lys Pro Leu Leu Val Asp Leu Thr
1145 1150 1155

Val Glu Glu Gly Gln Arg Leu Lys Val Ile Tyr Gly Ser Cys Ala
1160 1165 1170

Gly Phe His Ala Val Asp Val Asp Ser Gly Ser Val Tyr Asp Ile
1175 1180 1185

Tyr Leu Pro Thr His Ile Gln Cys Ser Ile Lys Pro His Ala Ile
1190 1195 1200

Ile Ile Leu Pro Asn Thr Asp Gly Met Glu Leu Leu Val Cys Tyr
1205 1210 1215

Glu Asp Glu Gly Val Tyr Val Asn Thr Tyr Gly Arg Ile Thr Lys
1220 1225 1230

Asp Val Val Leu Gln Trp Gly Glu Met Pro Thr Ser Val Ala Tyr
1235 1240 1245

Ile Arg Ser Asn Gln Thr Met Gly Trp Gly Glu Lys Ala Ile Glu
1250 1255 1260

Ile Arg Ser Val Glu Thr Gly His Leu Asp Gly Val Phe Met His
1265 1270 1275

Lys Arg Ala Gln Arg Leu Lys Phe Leu Cys Glu Arg Asn Asp Lys
1280 1285 1290

Val Phe Phe Ala Ser Val Arg Ser Gly Gly Ser Ser Gln Val Tyr
1295 1300 1305

Phe Met Thr Leu Gly Arg Thr Ser Leu Leu Ser Trp
1310 1315 1320

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<211> 1212

<212> PRT

<213> Homo sapiens

<400> 48

Met Ala Asn Asp Ser Pro Ala Lys Ser Leu Val Asp Ile Asp Leu Ser
1 5 10 15

Ser Leu Arg Asp Pro Ala Gly Ile Phe Glu Leu Val Glu Val Val Gly
20 25 30

Asn Gly Thr Tyr Gly Gln Val Tyr Lys Gly Arg His Val Lys Thr Gly

35					40					45					
Gln	Leu	Ala	Ala	Ile	Lys	Val	Met	Asp	Val	Thr	Glu	Asp	Glu	Glu	Glu
50					55					60					
Glu	Ile	Lys	Leu	Glu	Ile	Asn	Met	Leu	Lys	Lys	Tyr	Ser	His	His	Arg
65					70					75					80
Asn	Ile	Ala	Thr	Tyr	Tyr	Gly	Ala	Phe	Ile	Lys	Lys	Ser	Pro	Pro	Gly
				85					90					95	
His	Asp	Asp	Gln	Leu	Trp	Leu	Val	Met	Glu	Phe	Cys	Gly	Ala	Gly	Ser
			100					105					110		
Ile	Thr	Asp	Leu	Val	Lys	Asn	Thr	Lys	Gly	Asn	Thr	Leu	Lys	Glu	Asp
		115					120					125			
Trp	Ile	Ala	Tyr	Ile	Ser	Arg	Glu	Ile	Leu	Arg	Gly	Leu	Ala	His	Leu
		130				135					140				
His	Ile	His	His	Val	Ile	His	Arg	Asp	Ile	Lys	Gly	Gln	Asn	Val	Leu
145					150					155					160
Leu	Thr	Glu	Asn	Ala	Glu	Val	Lys	Leu	Val	Asp	Phe	Gly	Val	Ser	Ala
			165						170					175	
Gln	Leu	Asp	Arg	Thr	Val	Gly	Arg	Arg	Asn	Thr	Phe	Ile	Gly	Thr	Pro
		180					185						190		
Tyr	Trp	Met	Ala	Pro	Glu	Val	Ile	Ala	Cys	Asp	Glu	Asn	Pro	Asp	Ala
		195					200					205			
Thr	Tyr	Asp	Tyr	Arg	Ser	Asp	Leu	Trp	Ser	Cys	Gly	Ile	Thr	Ala	Ile
		210				215					220				
Glu	Met	Ala	Glu	Gly	Ala	Pro	Pro	Leu	Cys	Asp	Met	His	Pro	Met	Arg
225					230					235					240
Ala	Leu	Phe	Leu	Ile	Pro	Arg	Asn	Pro	Pro	Pro	Arg	Leu	Lys	Ser	Lys
				245					250					255	
Lys	Trp	Ser	Lys	Lys	Phe	Phe	Ser	Phe	Ile	Glu	Gly	Cys	Leu	Val	Lys
			260					265					270		
Asn	Tyr	Met	Gln	Arg	Pro	Ser	Thr	Glu	Gln	Leu	Leu	Lys	His	Pro	Phe
		275					280					285			
Ile	Arg	Asp	Gln	Pro	Asn	Glu	Arg	Gln	Val	Arg	Ile	Gln	Leu	Lys	Asp
		290				295					300				
His	Ile	Asp	Arg	Thr	Arg	Lys	Lys	Arg	Gly	Glu	Lys	Asp	Glu	Thr	Glu
305					310					315					320
Tyr	Glu	Tyr	Ser	Gly	Ser	Glu	Glu	Glu	Glu	Glu	Glu	Val	Pro	Glu	Gln
				325				330						335	
Glu	Gly	Glu	Pro	Ser	Ser	Ile	Val	Asn	Val	Pro	Gly	Glu	Ser	Thr	Leu
			340					345					350		
Arg	Arg	Asp	Phe	Leu	Arg	Leu	Gln	Gln	Glu	Asn	Lys	Glu	Arg	Ser	Glu
		355					360					365			

Ala	Leu	Arg	Arg	Gln	Gln	Leu	Leu	Gln	Glu	Gln	Gln	Leu	Arg	Glu	Gln	370	375	380	
Glu	Glu	Tyr	Lys	Arg	Gln	Leu	Leu	Ala	Glu	Arg	Gln	Lys	Arg	Ile	Glu	385	390	395	400
Gln	Gln	Lys	Glu	Gln	Arg	Arg	Arg	Leu	Glu	Glu	Gln	Gln	Arg	Arg	Glu	405	410	415	
Arg	Glu	Ala	Arg	Arg	Gln	Gln	Glu	Arg	Glu	Gln	Arg	Arg	Arg	Glu	Gln	420	425	430	
Glu	Glu	Lys	Arg	Arg	Leu	Glu	Glu	Leu	Glu	Arg	Arg	Arg	Lys	Glu	Glu	435	440	445	
Glu	Glu	Arg	Arg	Arg	Ala	Glu	Glu	Glu	Lys	Arg	Arg	Val	Glu	Arg	Glu	450	455	460	
Gln	Glu	Tyr	Ile	Arg	Arg	Gln	Leu	Glu	Glu	Glu	Gln	Arg	His	Leu	Glu	465	470	475	480
Val	Leu	Gln	Gln	Gln	Leu	Leu	Gln	Glu	Gln	Ala	Met	Leu	Leu	His	Asp	485	490	495	
His	Arg	Arg	Pro	His	Pro	Gln	His	Ser	Gln	Gln	Pro	Pro	Pro	Pro	Gln	500	505	510	
Gln	Glu	Arg	Ser	Lys	Pro	Ser	Phe	His	Ala	Pro	Glu	Pro	Lys	Ala	His	515	520	525	
Tyr	Glu	Pro	Ala	Asp	Arg	Ala	Arg	Glu	Val	Glu	Asp	Arg	Phe	Arg	Lys	530	535	540	
Thr	Asn	His	Ser	Ser	Pro	Glu	Ala	Gln	Ser	Lys	Gln	Thr	Gly	Arg	Val	545	550	555	560
Leu	Glu	Pro	Pro	Val	Pro	Ser	Arg	Ser	Glu	Ser	Phe	Ser	Asn	Gly	Asn	565	570	575	
Ser	Glu	Ser	Val	His	Pro	Ala	Leu	Gln	Arg	Pro	Ala	Glu	Pro	Gln	Val	580	585	590	
Pro	Val	Arg	Thr	Thr	Ser	Arg	Ser	Pro	Val	Leu	Ser	Arg	Arg	Asp	Ser	595	600	605	
Pro	Leu	Gln	Gly	Ser	Gly	Gln	Gln	Asn	Ser	Gln	Ala	Gly	Gln	Arg	Asn	610	615	620	
Ser	Thr	Ser	Ser	Ile	Glu	Pro	Arg	Leu	Leu	Trp	Glu	Arg	Val	Glu	Lys	625	630	635	640
Leu	Val	Pro	Arg	Pro	Gly	Ser	Gly	Ser	Ser	Ser	Gly	Ser	Ser	Asn	Ser	645	650	655	
Gly	Ser	Gln	Pro	Gly	Ser	His	Pro	Gly	Ser	Gln	Ser	Gly	Ser	Gly	Glu	660	665	670	
Arg	Phe	Arg	Val	Arg	Ser	Ser	Ser	Lys	Ser	Glu	Gly	Ser	Pro	Ser	Gln	675	680	685	

Arg	Leu	Glu	Asn	Ala	Val	Lys	Lys	Pro	Glu	Asp	Lys	Lys	Glu	Val	Phe	690	695	700	
Arg	Pro	Leu	Lys	Pro	Ala	Gly	Glu	Val	Asp	Leu	Thr	Ala	Leu	Ala	Lys	705	710	715	720
Glu	Leu	Arg	Ala	Val	Glu	Asp	Val	Arg	Pro	Pro	His	Lys	Val	Thr	Asp	725	730	735	
Tyr	Ser	Ser	Ser	Ser	Glu	Glu	Ser	Gly	Thr	Thr	Asp	Glu	Glu	Asp	Asp	740	745	750	
Asp	Val	Glu	Gln	Glu	Gly	Ala	Asp	Glu	Ser	Thr	Ser	Gly	Pro	Glu	Asp	755	760	765	
Thr	Arg	Ala	Ala	Ser	Ser	Leu	Asn	Leu	Ser	Asn	Gly	Glu	Thr	Glu	Ser	770	775	780	
Val	Lys	Thr	Met	Ile	Val	His	Asp	Asp	Val	Glu	Ser	Glu	Pro	Ala	Met	785	790	795	800
Thr	Pro	Ser	Lys	Glu	Gly	Thr	Leu	Ile	Val	Arg	Gln	Thr	Gln	Ser	Ala	805	810	815	
Ser	Ser	Thr	Leu	Gln	Lys	His	Lys	Ser	Ser	Ser	Ser	Phe	Thr	Pro	Phe	820	825	830	
Ile	Asp	Pro	Arg	Leu	Leu	Gln	Ile	Ser	Pro	Ser	Ser	Gly	Thr	Thr	Val	835	840	845	
Thr	Ser	Val	Val	Gly	Phe	Ser	Cys	Asp	Gly	Met	Arg	Pro	Glu	Ala	Ile	850	855	860	
Arg	Gln	Asp	Pro	Thr	Arg	Lys	Gly	Ser	Val	Val	Asn	Val	Asn	Pro	Thr	865	870	875	880
Asn	Thr	Arg	Pro	Gln	Ser	Asp	Thr	Pro	Glu	Ile	Arg	Lys	Tyr	Lys	Lys	885	890	895	
Arg	Phe	Asn	Ser	Glu	Ile	Leu	Cys	Ala	Ala	Leu	Trp	Gly	Val	Asn	Leu	900	905	910	
Leu	Val	Gly	Thr	Glu	Ser	Gly	Leu	Met	Leu	Leu	Asp	Arg	Ser	Gly	Gln	915	920	925	
Gly	Lys	Val	Tyr	Pro	Leu	Ile	Asn	Arg	Arg	Arg	Phe	Gln	Gln	Met	Asp	930	935	940	
Val	Leu	Glu	Gly	Leu	Asn	Val	Leu	Val	Thr	Ile	Ser	Gly	Lys	Lys	Asp	945	950	955	960
Lys	Leu	Arg	Val	Tyr	Tyr	Leu	Ser	Trp	Leu	Arg	Asn	Lys	Ile	Leu	His	965	970	975	
Asn	Asp	Pro	Glu	Val	Glu	Lys	Lys	Gln	Gly	Trp	Thr	Thr	Val	Gly	Asp	980	985	990	
Leu	Glu	Gly	Cys	Val	His	Tyr	Lys	Val	Val	Lys	Tyr	Glu	Arg	Ile	Lys	995	1000	1005	
Phe	Leu	Val	Ile	Ala	Leu	Lys	Ser	Ser	Val	Glu	Val	Tyr	Ala	Trp					

1010	1015	1020
Ala Pro Lys Pro Tyr His	Lys Phe Met Ala Phe	Lys Ser Phe Gly
1025	1030	1035
Glu Leu Val His Lys Pro	Leu Leu Val Asp Leu	Thr Val Glu Glu
1040	1045	1050
Gly Gln Arg Leu Lys Val	Ile Tyr Gly Ser Cys	Ala Gly Phe His
1055	1060	1065
Ala Val Asp Val Asp Ser	Gly Ser Val Tyr Asp	Ile Tyr Leu Pro
1070	1075	1080
Thr His Ile Gln Cys Ser	Ile Lys Pro His Ala	Ile Ile Ile Leu
1085	1090	1095
Pro Asn Thr Asp Gly Met	Glu Leu Leu Val Cys	Tyr Glu Asp Glu
1100	1105	1110
Gly Val Tyr Val Asn Thr	Tyr Gly Arg Ile Thr	Lys Asp Val Val
1115	1120	1125
Leu Gln Trp Gly Glu Met	Pro Thr Ser Val Ala	Tyr Ile Arg Ser
1130	1135	1140
Asn Gln Thr Met Gly Trp	Gly Glu Lys Ala Ile	Glu Ile Arg Ser
1145	1150	1155
Val Glu Thr Gly His Leu	Asp Gly Val Phe Met	His Lys Arg Ala
1160	1165	1170
Gln Arg Leu Lys Phe Leu	Cys Glu Arg Asn Asp	Lys Val Phe Phe
1175	1180	1185
Ala Ser Val Arg Ser Gly	Gly Ser Ser Gln Val	Tyr Phe Met Thr
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Leu Gly Arg Thr Ser Leu	Leu Ser Trp	
1205	1210	
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Ser Leu Arg Asp Pro Ala Gly Ile Phe Glu Leu Val Glu Val Val Gly		
20 25 30		
Asn Gly Thr Tyr Gly Gln Val Tyr Lys Gly Arg His Val Lys Thr Gly		
35 40 45		
Gln Leu Ala Ala Ile Lys Val Met Asp Val Thr Glu Asp Glu Glu Glu		
50 55 60		
Glu Ile Lys Leu Glu Ile Asn Met Leu Lys Lys Tyr Ser His His Arg		
65 70 75 80		

Asn	Ile	Ala	Thr	Tyr	Tyr	Gly	Ala	Phe	Ile	Lys	Lys	Ser	Pro	Pro	Gly	
				85					90					95		
His	Asp	Asp	Gln	Leu	Trp	Leu	Val	Met	Glu	Phe	Cys	Gly	Ala	Gly	Ser	
			100					105					110			
Ile	Thr	Asp	Leu	Val	Lys	Asn	Thr	Lys	Gly	Asn	Thr	Leu	Lys	Glu	Asp	
		115					120					125				
Trp	Ile	Ala	Tyr	Ile	Ser	Arg	Glu	Ile	Leu	Arg	Gly	Leu	Ala	His	Leu	
	130					135					140					
His	Ile	His	His	Val	Ile	His	Arg	Asp	Ile	Lys	Gly	Gln	Asn	Val	Leu	
145					150					155					160	
Leu	Thr	Glu	Asn	Ala	Glu	Val	Lys	Leu	Val	Asp	Phe	Gly	Val	Ser	Ala	
				165					170					175		
Gln	Leu	Asp	Arg	Thr	Val	Gly	Arg	Arg	Asn	Thr	Phe	Ile	Gly	Thr	Pro	
			180					185					190			
Tyr	Trp	Met	Ala	Pro	Glu	Val	Ile	Ala	Cys	Asp	Glu	Asn	Pro	Asp	Ala	
		195					200					205				
Thr	Tyr	Asp	Tyr	Arg	Ser	Asp	Leu	Trp	Ser	Cys	Gly	Ile	Thr	Ala	Ile	
	210					215					220					
Glu	Met	Ala	Glu	Gly	Ala	Pro	Pro	Leu	Cys	Asp	Met	His	Pro	Met	Arg	
225					230					235					240	
Ala	Leu	Phe	Leu	Ile	Pro	Arg	Asn	Pro	Pro	Pro	Arg	Leu	Lys	Ser	Lys	
				245					250					255		
Lys	Trp	Ser	Lys	Lys	Phe	Phe	Ser	Phe	Ile	Glu	Gly	Cys	Leu	Val	Lys	
			260					265					270			
Asn	Tyr	Met	Gln	Arg	Pro	Ser	Thr	Glu	Gln	Leu	Leu	Lys	His	Pro	Phe	
		275					280					285				
Ile	Arg	Asp	Gln	Pro	Asn	Glu	Arg	Gln	Val	Arg	Ile	Gln	Leu	Lys	Asp	
	290					295					300					
His	Ile	Asp	Arg	Thr	Arg	Lys	Lys	Arg	Gly	Glu	Lys	Asp	Glu	Thr	Glu	
305					310					315					320	
Tyr	Glu	Tyr	Ser	Gly	Ser	Glu	Glu	Glu	Glu	Glu	Glu	Val	Pro	Glu	Gln	
				325					330					335		
Glu	Gly	Glu	Pro	Ser	Ser	Ile	Val	Asn	Val	Pro	Gly	Glu	Ser	Thr	Leu	
			340					345					350			
Arg	Arg	Asp	Phe	Leu	Arg	Leu	Gln	Gln	Glu	Asn	Lys	Glu	Arg	Ser	Glu	
		355					360					365				
Ala	Leu	Arg	Arg	Gln	Gln	Leu	Leu	Gln	Glu	Gln	Gln	Leu	Arg	Glu	Gln	
	370					375					380					
Glu	Glu	Tyr	Lys	Arg	Gln	Leu	Leu	Ala	Glu	Arg	Gln	Lys	Arg	Ile	Glu	
385					390					395					400	
Gln	Gln	Lys	Glu	Gln	Arg	Arg	Arg	Leu	Glu	Glu	Gln	Gln	Arg	Arg	Glu	

405										410					415				
Arg	Glu	Ala	Arg	Arg	Gln	Gln	Glu	Arg	Glu	Gln	Arg	Arg	Arg	Glu	Gln				
			420					425					430						
Glu	Glu	Lys	Arg	Arg	Leu	Glu	Glu	Leu	Glu	Arg	Arg	Arg	Lys	Glu	Glu				
		435					440					445							
Glu	Glu	Arg	Arg	Arg	Ala	Glu	Glu	Glu	Lys	Arg	Arg	Val	Glu	Arg	Glu				
	450					455				460									
Gln	Glu	Tyr	Ile	Arg	Arg	Gln	Leu	Glu	Glu	Glu	Gln	Arg	His	Leu	Glu				
465					470					475					480				
Val	Leu	Gln	Gln	Gln	Leu	Leu	Gln	Glu	Gln	Ala	Met	Leu	Leu	Glu	Cys				
				485					490					495					
Arg	Trp	Arg	Glu	Met	Glu	Glu	His	Arg	Gln	Ala	Glu	Arg	Leu	Gln	Arg				
			500					505					510						
Gln	Leu	Gln	Gln	Glu	Gln	Ala	Tyr	Leu	Leu	Ser	Leu	Gln	His	Asp	His				
		515					520					525							
Arg	Arg	Pro	His	Pro	Gln	His	Ser	Gln	Gln	Pro	Pro	Pro	Pro	Gln	Gln				
	530					535				540									
Glu	Arg	Ser	Lys	Pro	Ser	Phe	His	Ala	Pro	Glu	Pro	Lys	Ala	His	Tyr				
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Glu	Pro	Ala	Asp	Arg	Ala	Arg	Glu	Val	Glu	Asp	Arg	Phe	Arg	Lys	Thr				
				565					570					575					
Asn	His	Ser	Ser	Pro	Glu	Ala	Gln	Ser	Lys	Gln	Thr	Gly	Arg	Val	Leu				
			580					585					590						
Glu	Pro	Pro	Val	Pro	Ser	Arg	Ser	Glu	Ser	Phe	Ser	Asn	Gly	Asn	Ser				
		595					600					605							
Glu	Ser	Val	His	Pro	Ala	Leu	Gln	Arg	Pro	Ala	Glu	Pro	Gln	Val	Gln				
	610					615					620								
Trp	Ser	His	Leu	Ala	Ser	Leu	Lys	Asn	Asn	Val	Ser	Pro	Val	Ser	Arg				
625					630					635					640				
Ser	His	Ser	Phe	Ser	Asp	Pro	Ser	Pro	Lys	Phe	Ala	His	His	His	Leu				
				645					650					655					
Arg	Ser	Gln	Asp	Pro	Cys	Pro	Pro	Ser	Arg	Ser	Glu	Val	Leu	Ser	Gln				
			660					665					670						
Ser	Ser	Asp	Ser	Lys	Ser	Glu	Ala	Pro	Asp	Pro	Thr	Gln	Lys	Ala	Trp				
		675					680					685							
Ser	Arg	Ser	Asp	Ser	Asp	Glu	Val	Pro	Pro	Arg	Val	Pro	Val	Arg	Thr				
	690					695					700								
Thr	Ser	Arg	Ser	Pro	Val	Leu	Ser	Arg	Arg	Asp	Ser	Pro	Leu	Gln	Gly				
705					710					715					720				
Ser	Gly	Gln	Gln	Asn	Ser	Gln	Ala	Gly	Gln	Arg	Asn	Ser	Thr	Ser	Ser				
				725					730					735					

Ile Glu Pro Arg Leu Leu Trp Glu Arg Val Glu Lys Leu Val Pro Arg
 740 745 750
 Pro Gly Ser Gly Ser Ser Ser Gly Ser Ser Asn Ser Gly Ser Gln Pro
 755 760 765
 Gly Ser His Pro Gly Ser Gln Ser Gly Ser Gly Glu Arg Phe Arg Val
 770 775 780
 Arg Ser Ser Ser Lys Ser Glu Gly Ser Pro Ser Gln Arg Leu Glu Asn
 785 790 795 800
 Ala Val Lys Lys Pro Glu Asp Lys Lys Glu Val Phe Arg Pro Leu Lys
 805 810 815
 Pro Ala Gly Glu Val Asp Leu Thr Ala Leu Ala Lys Glu Leu Arg Ala
 820 825 830
 Val Glu Asp Val Arg Pro Pro His Lys Val Thr Asp Tyr Ser Ser Ser
 835 840 845
 Ser Glu Glu Ser Gly Thr Thr Asp Glu Glu Asp Asp Asp Val Glu Gln
 850 855 860
 Glu Gly Ala Asp Glu Ser Thr Ser Gly Pro Glu Asp Thr Arg Ala Ala
 865 870 875 880
 Ser Ser Leu Asn Leu Ser Asn Gly Glu Thr Glu Ser Val Lys Thr Met
 885 890 895
 Ile Val His Asp Asp Val Glu Ser Glu Pro Ala Met Thr Pro Ser Lys
 900 905 910
 Glu Gly Thr Leu Ile Val Arg Gln Ser Thr Val Asp Gln Lys Arg Ala
 915 920 925
 Ser His His Glu Ser Asn Gly Phe Ala Gly Arg Ile His Leu Leu Pro
 930 935 940
 Asp Leu Leu Gln Gln Ser His Ser Ser Ser Thr Ser Ser Thr Ser Ser
 945 950 955 960
 Ser Pro Ser Ser Ser Gln Pro Thr Pro Thr Met Ser Pro Gln Thr Pro
 965 970 975
 Gln Asp Lys Leu Thr Ala Asn Glu Thr Gln Ser Ala Ser Ser Thr Leu
 980 985 990
 Gln Lys His Lys Ser Ser Ser Ser Phe Thr Pro Phe Ile Asp Pro Arg
 995 1000 1005
 Leu Leu Gln Ile Ser Pro Ser Ser Gly Thr Thr Val Thr Ser Val
 1010 1015 1020
 Val Gly Phe Ser Cys Asp Gly Met Arg Pro Glu Ala Ile Arg Gln
 1025 1030 1035
 Asp Pro Thr Arg Lys Gly Ser Val Val Asn Val Asn Pro Thr Asn
 1040 1045 1050

Thr	Arg	Pro	Gln	Ser	Asp	Thr	Pro	Glu	Ile	Arg	Lys	Tyr	Lys	Lys
	1055					1060					1065			
Arg	Phe	Asn	Ser	Glu	Ile	Leu	Cys	Ala	Ala	Leu	Trp	Gly	Val	Asn
	1070					1075					1080			
Leu	Leu	Val	Gly	Thr	Glu	Ser	Gly	Leu	Met	Leu	Leu	Asp	Arg	Ser
	1085					1090					1095			
Gly	Gln	Gly	Lys	Val	Tyr	Pro	Leu	Ile	Asn	Arg	Arg	Arg	Phe	Gln
	1100					1105					1110			
Gln	Met	Asp	Val	Leu	Glu	Gly	Leu	Asn	Val	Leu	Val	Thr	Ile	Ser
	1115					1120					1125			
Gly	Lys	Lys	Asp	Lys	Leu	Arg	Val	Tyr	Tyr	Leu	Ser	Trp	Leu	Arg
	1130					1135					1140			
Asn	Lys	Ile	Leu	His	Asn	Asp	Pro	Glu	Val	Glu	Lys	Lys	Gln	Gly
	1145					1150					1155			
Trp	Thr	Thr	Val	Gly	Asp	Leu	Glu	Gly	Cys	Val	His	Tyr	Lys	Val
	1160					1165					1170			
Val	Lys	Tyr	Glu	Arg	Ile	Lys	Phe	Leu	Val	Ile	Ala	Leu	Lys	Ser
	1175					1180					1185			
Ser	Val	Glu	Val	Tyr	Ala	Trp	Ala	Pro	Lys	Pro	Tyr	His	Lys	Phe
	1190					1195					1200			
Met	Ala	Phe	Lys	Ser	Phe	Gly	Glu	Leu	Val	His	Lys	Pro	Leu	Leu
	1205					1210					1215			
Val	Asp	Leu	Thr	Val	Glu	Glu	Gly	Gln	Arg	Leu	Lys	Val	Ile	Tyr
	1220					1225					1230			
Gly	Ser	Cys	Ala	Gly	Phe	His	Ala	Val	Asp	Val	Asp	Ser	Gly	Ser
	1235					1240					1245			
Val	Tyr	Asp	Ile	Tyr	Leu	Pro	Thr	His	Val	Arg	Lys	Asn	Pro	His
	1250					1255					1260			
Ser	Met	Ile	Gln	Cys	Ser	Ile	Lys	Pro	His	Ala	Ile	Ile	Ile	Leu
	1265					1270					1275			
Pro	Asn	Thr	Asp	Gly	Met	Glu	Leu	Leu	Val	Cys	Tyr	Glu	Asp	Glu
	1280					1285					1290			
Gly	Val	Tyr	Val	Asn	Thr	Tyr	Gly	Arg	Ile	Thr	Lys	Asp	Val	Val
	1295					1300					1305			
Leu	Gln	Trp	Gly	Glu	Met	Pro	Thr	Ser	Val	Ala	Tyr	Ile	Arg	Ser
	1310					1315					1320			
Asn	Gln	Thr	Met	Gly	Trp	Gly	Glu	Lys	Ala	Ile	Glu	Ile	Arg	Ser
	1325					1330					1335			
Val	Glu	Thr	Gly	His	Leu	Asp	Gly	Val	Phe	Met	His	Lys	Arg	Ala
	1340					1345					1350			
Gln	Arg	Leu	Lys	Phe	Leu	Cys	Glu	Arg	Asn	Asp	Lys	Val	Phe	Phe

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 1370 1375 1380
 Leu Gly Arg Thr Ser Leu Leu Ser Trp
 1385 1390
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 Gly Leu Ser Arg Leu Pro Leu Pro Leu Leu Leu Leu Leu Ala Leu Gly
 20 25 30
 Thr Arg Gly Gly Cys Ala Ala Pro Ala Pro Ala Pro Arg Ala Glu Asp
 35 40 45
 Leu Ser Leu Gly Val Glu Trp Leu Ser Arg Phe Gly Tyr Leu Pro Pro
 50 55 60
 Ala Asp Pro Thr Thr Gly Gln Leu Gln Thr Gln Glu Glu Leu Ser Lys
 65 70 75 80
 Ala Ile Thr Ala Met Gln Gln Phe Gly Gly Leu Glu Ala Thr Gly Ile
 85 90 95
 Leu Asp Glu Ala Thr Leu Ala Leu Met Lys Thr Pro Arg Cys Ser Leu
 100 105 110
 Pro Asp Leu Pro Val Leu Thr Gln Ala Arg Arg Arg Arg Gln Ala Pro
 115 120 125
 Ala Pro Thr Lys Trp Asn Lys Arg Asn Leu Ser Trp Arg Val Arg Thr
 130 135 140
 Phe Pro Arg Asp Ser Pro Leu Gly His Asp Thr Val Arg Ala Leu Met
 145 150 155 160
 Tyr Tyr Ala Leu Lys Val Trp Ser Asp Ile Ala Pro Leu Asn Phe His
 165 170 175
 Glu Val Ala Gly Ser Ala Ala Asp Ile Gln Ile Asp Phe Ser Lys Ala
 180 185 190
 Asp His Asn Asp Gly Tyr Pro Phe Asp Gly Pro Gly Gly Thr Val Ala
 195 200 205
 His Ala Phe Phe Pro Gly His His His Thr Ala Gly Asp Thr His Phe
 210 215 220
 Asp Asp Asp Glu Ala Trp Thr Phe Arg Ser Ser Asp Ala His Gly Met
 225 230 235 240
 Asp Leu Phe Ala Val Ala Val His Glu Phe Gly His Ala Ile Gly Leu
 245 250 255

Ser His Val Ala Ala Ala His Ser Ile Met Arg Pro Tyr Tyr Gln Gly
 260 265 270
 Pro Val Gly Asp Pro Leu Arg Tyr Gly Leu Pro Tyr Glu Asp Lys Val
 275 280 285
 Arg Val Trp Gln Leu Tyr Gly Val Arg Glu Ser Val Ser Pro Thr Ala
 290 295 300
 Gln Pro Glu Glu Pro Pro Leu Leu Pro Glu Pro Pro Asp Asn Arg Ser
 305 310 315 320
 Ser Ala Pro Pro Arg Lys Asp Val Pro His Arg Cys Ser Thr His Phe
 325 330 335
 Asp Ala Val Ala Gln Ile Arg Gly Glu Ala Phe Phe Phe Lys Gly Lys
 340 345 350
 Tyr Phe Trp Arg Leu Thr Arg Asp Arg His Leu Val Ser Leu Gln Pro
 355 360 365
 Ala Gln Met His Arg Phe Trp Arg Gly Leu Pro Leu His Leu Asp Ser
 370 375 380
 Val Asp Ala Val Tyr Glu Arg Thr Ser Asp His Lys Ile Val Phe Phe
 385 390 395 400
 Lys Gly Asp Arg Tyr Trp Val Phe Lys Asp Asn Asn Val Glu Glu Gly
 405 410 415
 Tyr Pro Arg Pro Val Ser Asp Phe Ser Leu Pro Pro Gly Gly Ile Asp
 420 425 430
 Ala Ala Phe Ser Trp Ala His Asn Asp Arg Thr Tyr Phe Phe Lys Asp
 435 440 445
 Gln Leu Tyr Trp Arg Tyr Asp Asp His Thr Arg His Met Asp Pro Gly
 450 455 460
 Tyr Pro Ala Gln Ser Pro Leu Trp Arg Gly Val Pro Ser Thr Leu Asp
 465 470 475 480
 Asp Ala Met Arg Trp Ser Asp Gly Ala Ser Tyr Phe Phe Arg Gly Gln
 485 490 495
 Glu Tyr Trp Lys Val Leu Asp Gly Glu Leu Glu Val Ala Pro Gly Tyr
 500 505 510
 Pro Gln Ser Thr Ala Arg Asp Trp Leu Val Cys Gly Asp Ser Gln Ala
 515 520 525
 Asp Gly Ser Val Ala Ala Gly Val Asp Ala Ala Glu Gly Pro Arg Ala
 530 535 540
 Pro Pro Gly Gln His Asp Gln Ser Arg Ser Glu Asp Gly Tyr Glu Val
 545 550 555 560
 Cys Ser Cys Thr Ser Gly Ala Ser Ser Pro Pro Gly Ala Pro Gly Pro
 565 570 575
 Leu Val Ala Ala Thr Met Leu Leu Leu Leu Pro Pro Leu Ser Pro Gly

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Ala Leu Trp Thr Ala Ala Gln Ala Leu Thr Leu					
	595		600		
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Ala Ala Val Val Arg Cys Gln Glu Gln Ala Gln Thr Thr Asp Trp Arg					
	20		25		30
Ala Thr Leu Lys Thr Ile Arg Asn Gly Val His Lys Ile Asp Thr Tyr					
	35		40		45
Leu Asn Ala Ala Leu Asp Leu Leu Gly Gly Glu Asp Gly Leu Cys Gln					
	50		55		60
Tyr Lys Cys Ser Asp Gly Ser Lys Pro Phe Pro Arg Tyr Gly Tyr Lys					
65		70		75	80
Pro Ser Pro Pro Asn Gly Cys Gly Ser Pro Leu Phe Gly Val His Leu					
	85		90		95
Asn Ile Gly Ile Pro Ser Leu Thr Lys Cys Cys Asn Gln His Asp Arg					
	100		105		110
Cys Tyr Glu Thr Cys Gly Lys Ser Lys Asn Asp Cys Asp Glu Glu Phe					
	115		120		125
Gln Tyr Cys Leu Ser Lys Ile Cys Arg Asp Val Gln Lys Thr Leu Gly					
	130		135		140
Leu Thr Gln His Val Gln Ala Cys Glu Thr Thr Val Glu Leu Leu Phe					
	145		150		155
Asp Ser Val Ile His Leu Gly Cys Lys Pro Tyr Leu Asp Ser Gln Arg					
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Ala Ala Cys Arg Cys His Tyr Glu Glu Lys Thr Asp Leu					
	180		185		
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Pro Arg Arg Thr Pro Gln Ser Ile Pro Tyr Gln Asp Leu Pro His Leu					
	20		25		30
Val Asn Ala Asp Gly Gln Tyr Leu Phe Cys Arg Tyr Trp Lys Pro Thr					
	35		40		45
Gly Thr Pro Lys Ala Leu Ile Phe Val Ser His Gly Ala Gly Glu His					

50					55					60					
Ser	Gly	Arg	Tyr	Glu	Glu	Leu	Ala	Arg	Met	Leu	Met	Gly	Leu	Asp	Leu
65				70					75					80	
Leu	Val	Phe	Ala	His	Asp	His	Val	Gly	His	Gly	Gln	Ser	Glu	Gly	Glu
				85					90					95	
Arg	Met	Val	Val	Ser	Asp	Phe	His	Val	Phe	Val	Arg	Asp	Val	Leu	Gln
			100					105					110		
His	Val	Asp	Ser	Met	Gln	Lys	Asp	Tyr	Pro	Gly	Leu	Pro	Val	Phe	Leu
		115					120					125			
Leu	Gly	His	Ser	Met	Gly	Gly	Ala	Ile	Ala	Ile	Leu	Thr	Ala	Ala	Glu
	130					135					140				
Arg	Pro	Gly	His	Phe	Ala	Gly	Met	Val	Leu	Ile	Ser	Pro	Leu	Val	Leu
145					150					155					160
Ala	Asn	Pro	Glu	Ser	Ala	Thr	Thr	Phe	Lys	Val	Leu	Ala	Ala	Lys	Val
				165					170					175	
Leu	Asn	Leu	Val	Leu	Pro	Asn	Leu	Ser	Leu	Gly	Pro	Ile	Asp	Ser	Ser
			180					185					190		
Val	Leu	Ser	Arg	Asn	Lys	Thr	Glu	Val	Asp	Ile	Tyr	Asn	Ser	Asp	Pro
		195					200					205			
Leu	Ile	Cys	Arg	Ala	Gly	Leu	Lys	Val	Cys	Phe	Gly	Ile	Gln	Leu	Leu
	210					215					220				
Asn	Ala	Val	Ser	Arg	Val	Glu	Arg	Ala	Leu	Pro	Lys	Leu	Thr	Val	Pro
225					230					235					240
Phe	Leu	Leu	Leu	Gln	Gly	Ser	Ala	Asp	Arg	Leu	Cys	Asp	Ser	Lys	Gly
				245					250					255	
Ala	Tyr	Leu	Leu	Met	Glu	Leu	Ala	Lys	Ser	Gln	Asp	Lys	Thr	Leu	Lys
			260					265					270		
Ile	Tyr	Glu	Gly	Ala	Tyr	His	Val	Leu	His	Lys	Glu	Leu	Pro	Glu	Val
		275					280					285			
Thr	Asn	Ser	Val	Phe	His	Glu	Ile	Asn	Met	Trp	Val	Ser	Gln	Arg	Thr
	290					295					300				
Ala	Thr	Ala	Gly	Thr	Ala	Ser	Pro	Pro							
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1				5					10					15	
Gln	Asp	Leu	Pro	His	Leu	Val	Asn	Ala	Asp	Gly	Gln	Tyr	Leu	Phe	Cys
			20					25					30		

Arg	Tyr	Trp	Lys	Pro	Thr	Gly	Thr	Pro	Lys	Ala	Leu	Ile	Phe	Val	Ser		
		35					40					45					
His	Gly	Ala	Gly	Glu	His	Ser	Gly	Arg	Tyr	Glu	Glu	Leu	Ala	Arg	Met		
	50					55					60						
Leu	Met	Gly	Leu	Asp	Leu	Leu	Val	Phe	Ala	His	Asp	His	Val	Gly	His		
65					70					75					80		
Gly	Gln	Ser	Glu	Gly	Glu	Arg	Met	Val	Val	Ser	Asp	Phe	His	Val	Phe		
				85					90					95			
Val	Arg	Asp	Val	Leu	Gln	His	Val	Asp	Ser	Met	Gln	Lys	Asp	Tyr	Pro		
			100					105					110				
Gly	Leu	Pro	Val	Phe	Leu	Leu	Gly	His	Ser	Met	Gly	Gly	Ala	Ile	Ala		
		115					120					125					
Ile	Leu	Thr	Ala	Ala	Glu	Arg	Pro	Gly	His	Phe	Ala	Gly	Met	Val	Leu		
	130					135					140						
Ile	Ser	Pro	Leu	Val	Leu	Ala	Asn	Pro	Glu	Ser	Ala	Thr	Thr	Phe	Lys		
145					150					155					160		
Val	Leu	Ala	Ala	Lys	Val	Leu	Asn	Leu	Val	Leu	Pro	Asn	Leu	Ser	Leu		
				165					170					175			
Gly	Pro	Ile	Asp	Ser	Ser	Val	Leu	Ser	Arg	Asn	Lys	Thr	Glu	Val	Asp		
			180					185					190				
Ile	Tyr	Asn	Ser	Asp	Pro	Leu	Ile	Cys	Arg	Ala	Gly	Leu	Lys	Val	Cys		
	195					200						205					
Phe	Gly	Ile	Gln	Leu	Leu	Asn	Ala	Val	Ser	Arg	Val	Glu	Arg	Ala	Leu		
	210					215					220						
Pro	Lys	Leu	Thr	Val	Pro	Phe	Leu	Leu	Leu	Gln	Gly	Ser	Ala	Asp	Arg		
225					230					235					240		
Leu	Cys	Asp	Ser	Lys	Gly	Ala	Tyr	Leu	Leu	Met	Glu	Leu	Ala	Lys	Ser		
				245					250					255			
Gln	Asp	Lys	Thr	Leu	Lys	Ile	Tyr	Glu	Gly	Ala	Tyr	His	Val	Leu	His		
			260					265					270				
Lys	Glu	Leu	Pro	Glu	Val	Thr	Asn	Ser	Val	Phe	His	Glu	Ile	Asn	Met		
	275						280					285					
Trp	Val	Ser	Gln	Arg	Thr	Ala	Thr	Ala	Gly	Thr	Ala	Ser	Pro	Pro			
	290					295					300						
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<212>	PRT																
<213>	Homo sapiens																
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Met	Ser	Ala	Asn	Ala	Thr	Leu	Lys	Pro	Leu	Cys	Pro	Ile	Leu	Glu	Gln		
1				5					10					15			
Met	Ser	Arg	Leu	Gln	Ser	His	Ser	Asn	Thr	Ser	Ile	Arg	Tyr	Ile	Asp		
			20					25					30				

His	Ala	Ala	Val	Leu	Leu	His	Gly	Leu	Ala	Ser	Leu	Leu	Gly	Leu	Val	35	40	45	
Glu	Asn	Gly	Val	Ile	Leu	Phe	Val	Val	Gly	Cys	Arg	Met	Arg	Gln	Thr	50	55	60	
Val	Val	Thr	Thr	Trp	Val	Leu	His	Leu	Ala	Leu	Ser	Asp	Leu	Leu	Ala	65	70	75	80
Ser	Ala	Ser	Leu	Pro	Phe	Phe	Thr	Tyr	Phe	Leu	Ala	Val	Gly	His	Ser	85	90	95	
Trp	Glu	Leu	Gly	Thr	Thr	Phe	Cys	Lys	Leu	His	Ser	Ser	Ile	Phe	Phe	100	105	110	
Leu	Asn	Met	Phe	Ala	Ser	Gly	Phe	Leu	Leu	Ser	Ala	Ile	Ser	Leu	Asp	115	120	125	
Arg	Cys	Leu	Gln	Val	Val	Arg	Pro	Val	Trp	Ala	Gln	Asn	His	Arg	Thr	130	135	140	
Val	Ala	Ala	Ala	His	Lys	Val	Cys	Leu	Val	Leu	Trp	Ala	Leu	Ala	Val	145	150	155	160
Leu	Asn	Thr	Val	Pro	Tyr	Phe	Val	Phe	Arg	Asp	Thr	Ile	Ser	Arg	Leu	165	170	175	
Asp	Gly	Arg	Ile	Met	Cys	Tyr	Tyr	Asn	Val	Leu	Leu	Leu	Asn	Pro	Gly	180	185	190	
Pro	Asp	Arg	Asp	Ala	Thr	Cys	Asn	Ser	Arg	Gln	Val	Ala	Leu	Ala	Val	195	200	205	
Ser	Lys	Phe	Leu	Leu	Ala	Phe	Leu	Val	Pro	Leu	Ala	Ile	Ile	Ala	Ser	210	215	220	
Ser	His	Ala	Ala	Val	Ser	Leu	Arg	Leu	Gln	His	Arg	Gly	Arg	Arg	Arg	225	230	235	240
Pro	Gly	Arg	Phe	Val	Arg	Leu	Val	Ala	Ala	Val	Val	Ala	Ala	Phe	Ala	245	250	255	
Leu	Cys	Trp	Gly	Pro	Tyr	His	Val	Phe	Ser	Leu	Leu	Glu	Ala	Arg	Ala	260	265	270	
His	Ala	Asn	Pro	Gly	Leu	Arg	Pro	Leu	Val	Trp	Arg	Gly	Leu	Pro	Phe	275	280	285	
Val	Thr	Ser	Leu	Ala	Phe	Phe	Asn	Ser	Val	Ala	Asn	Pro	Val	Leu	Tyr	290	295	300	
Val	Leu	Thr	Cys	Pro	Asp	Met	Leu	Arg	Lys	Leu	Arg	Arg	Ser	Leu	Arg	305	310	315	320
Thr	Val	Leu	Glu	Ser	Val	Leu	Val	Asp	Asp	Ser	Glu	Leu	Gly	Gly	Ala	325	330	335	
Gly	Ser	Ser	Arg	Arg	Arg	Arg	Thr	Ser	Ser	Thr	Ala	Arg	Ser	Ala	Ser	340	345	350	

Pro Leu Ala Leu Cys Ser Arg Pro Glu Glu Pro Arg Gly Pro Ala Arg
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Leu Leu Gly Trp Leu Leu Gly Ser Cys Ala Ala Ser Pro Gln Thr Gly
370 375 380

Pro Leu Asn Arg Ala Leu Ser Ser Thr Ser Ser
385 390 395

<210> 55

<211> 331

<212> PRT

<213> Homo sapiens

<400> 55

Met Trp Leu Trp Glu Asp Gln Gly Gly Leu Leu Gly Pro Phe Ser Phe
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Leu Leu Leu Val Leu Leu Leu Val Thr Arg Ser Pro Val Asn Ala Cys
20 25 30

Leu Leu Thr Gly Ser Leu Phe Val Leu Leu Arg Val Phe Ser Phe Glu
35 40 45

Pro Val Pro Ser Cys Arg Ala Leu Gln Val Leu Lys Pro Arg Asp Arg
50 55 60

Ile Ser Ala Ile Ala His Arg Gly Gly Ser His Asp Ala Pro Glu Asn
65 70 75 80

Thr Leu Ala Ala Ile Arg Gln Ala Ala Lys Asn Gly Ala Thr Gly Val
85 90 95

Glu Leu Asp Ile Glu Phe Thr Ser Asp Gly Ile Pro Val Leu Met His
100 105 110

Asp Asn Thr Val Asp Arg Thr Thr Asp Gly Thr Gly Arg Leu Cys Asp
115 120 125

Leu Thr Phe Glu Gln Ile Arg Lys Leu Asn Pro Ala Ala Asn His Arg
130 135 140

Leu Arg Asn Asp Phe Pro Asp Glu Lys Ile Pro Thr Leu Arg Glu Ala
145 150 155 160

Val Ala Glu Cys Leu Asn His Asn Leu Thr Ile Phe Phe Asp Val Lys
165 170 175

Gly His Ala His Lys Ala Thr Glu Ala Leu Lys Lys Met Tyr Met Glu
180 185 190

Phe Pro Gln Leu Tyr Asn Asn Ser Val Val Cys Ser Phe Leu Pro Glu
195 200 205

Val Ile Tyr Lys Met Arg Gln Thr Asp Arg Asp Val Ile Thr Ala Leu
210 215 220

Thr His Arg Pro Trp Ser Leu Ser His Thr Gly Asp Gly Lys Pro Arg
225 230 235 240

Tyr Asp Thr Phe Trp Lys His Phe Ile Phe Val Met Met Asp Ile Leu
245 250 255

Leu Asp Trp Ser Met His Asn Ile Leu Trp Tyr Leu Cys Gly Ile Ser
260 265 270

Ala Phe Leu Met Gln Lys Asp Phe Val Ser Pro Ala Tyr Leu Lys Lys
275 280 285

Trp Ser Ala Lys Gly Ile Gln Val Val Gly Trp Thr Val Asn Thr Phe
290 295 300

Asp Glu Lys Ser Tyr Tyr Gln Ser His Leu Gly Ser Ser Tyr Ile Thr
305 310 315 320

Asp Ser Met Val Glu Asp Cys Glu Pro His Phe
325 330

<210> 56

<211> 451

<212> PRT

<213> Homo sapiens

<400> 56

Met Val Ser Arg Asp Gln Ala His Leu Gly Pro Lys Tyr Val Gly Leu
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Trp Asp Phe Lys Ser Arg Thr Asp Glu Glu Leu Ser Phe Arg Ala Gly
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Asp Val Phe His Val Ala Arg Lys Glu Glu Gln Trp Trp Trp Ala Thr
35 40 45

Leu Leu Asp Glu Ala Gly Gly Ala Val Ala Gln Gly Tyr Val Pro His
50 55 60

Asn Tyr Leu Ala Glu Arg Glu Thr Val Glu Ser Glu Pro Trp Phe Phe
65 70 75 80

Gly Cys Ile Ser Arg Ser Glu Ala Val Arg Arg Leu Gln Ala Glu Gly
85 90 95

Asn Ala Thr Gly Ala Phe Leu Ile Arg Val Ser Glu Lys Pro Ser Ala
100 105 110

Asp Tyr Val Leu Ser Val Arg Asp Thr Gln Ala Val Arg His Tyr Lys
115 120 125

Ile Trp Arg Arg Ala Gly Gly Arg Leu His Leu Asn Glu Ala Val Ser
130 135 140

Phe Leu Ser Leu Pro Glu Leu Val Asn Tyr His Arg Ala Gln Ser Leu
145 150 155 160

Ser His Gly Leu Arg Leu Ala Ala Pro Cys Arg Lys His Glu Pro Glu
165 170 175

Pro Leu Pro His Trp Asp Asp Trp Glu Arg Pro Arg Glu Glu Phe Thr
180 185 190

Leu Cys Arg Lys Leu Gly Ser Gly Tyr Phe Gly Glu Val Phe Glu Gly
195 200 205

Leu Trp Lys Asp Arg Val Gln Val Ala Ile Lys Val Ile Ser Arg Asp

210					215					220					
Asn	Leu	Leu	His	Gln	Gln	Met	Leu	Gln	Ser	Glu	Ile	Gln	Ala	Met	Lys
225					230					235					240
Lys	Leu	Arg	His	Lys	His	Ile	Leu	Ala	Leu	Tyr	Ala	Val	Val	Ser	Val
				245					250					255	
Gly	Asp	Pro	Val	Tyr	Ile	Ile	Thr	Glu	Leu	Met	Ala	Lys	Gly	Ser	Leu
			260					265					270		
Leu	Glu	Leu	Leu	Arg	Asp	Ser	Asp	Glu	Lys	Val	Leu	Pro	Val	Ser	Glu
			275				280					285			
Leu	Leu	Asp	Ile	Ala	Trp	Gln	Val	Ala	Glu	Gly	Met	Cys	Tyr	Leu	Glu
			290			295					300				
Ser	Gln	Asn	Tyr	Ile	His	Arg	Asp	Leu	Ala	Ala	Arg	Asn	Ile	Leu	Val
305					310					315					320
Gly	Glu	Asn	Thr	Leu	Cys	Lys	Val	Gly	Asp	Phe	Gly	Leu	Ala	Arg	Leu
				325					330					335	
Ile	Lys	Glu	Asp	Val	Tyr	Leu	Ser	His	Asp	His	Asn	Ile	Pro	Tyr	Lys
			340					345					350		
Trp	Thr	Ala	Pro	Glu	Ala	Leu	Ser	Arg	Gly	His	Tyr	Ser	Thr	Lys	Ser
			355				360					365			
Asp	Val	Trp	Ser	Phe	Gly	Ile	Leu	Leu	His	Glu	Met	Phe	Ser	Arg	Gly
			370			375					380				
Gln	Val	Pro	Tyr	Pro	Gly	Met	Ser	Asn	His	Glu	Ala	Phe	Leu	Arg	Val
385					390					395					400
Asp	Ala	Gly	Tyr	Arg	Met	Pro	Cys	Pro	Leu	Glu	Cys	Pro	Pro	Ser	Val
				405					410					415	
His	Lys	Leu	Met	Leu	Thr	Cys	Trp	Cys	Arg	Asp	Pro	Glu	Gln	Arg	Pro
			420					425					430		
Cys	Phe	Lys	Ala	Leu	Arg	Glu	Arg	Leu	Ser	Ser	Phe	Thr	Ser	Tyr	Glu
			435				440					445			

Asn Pro Thr
450

<210> 57
 <211> 208
 <212> PRT
 <213> Homo sapiens
 <400> 57

Met	Ala	Thr	Ser	Ala	Val	Pro	Ser	Asp	Asn	Leu	Pro	Thr	Tyr	Lys	Leu
1				5					10					15	
Val	Val	Val	Gly	Asp	Gly	Gly	Val	Gly	Lys	Ser	Ala	Leu	Thr	Ile	Gln
			20					25					30		
Phe	Phe	Gln	Lys	Ile	Phe	Val	Pro	Asp	Tyr	Asp	Pro	Thr	Ile	Glu	Asp
		35					40					45			

Ser Tyr Leu Lys His Thr Glu Ile Asp Asn Gln Trp Ala Ile Leu Asp
 50 55 60
 Val Leu Asp Thr Ala Gly Gln Glu Glu Phe Ser Ala Met Arg Glu Gln
 65 70 75 80
 Tyr Met Arg Thr Gly Asp Gly Phe Leu Ile Val Tyr Ser Val Thr Asp
 85 90 95
 Lys Ala Ser Phe Glu His Val Asp Arg Phe His Gln Leu Ile Leu Arg
 100 105 110
 Val Lys Asp Arg Glu Ser Phe Pro Met Ile Leu Val Ala Asn Lys Val
 115 120 125
 Asp Leu Met His Leu Arg Lys Ile Thr Arg Glu Gln Gly Lys Glu Met
 130 135 140
 Ala Thr Lys His Asn Ile Pro Tyr Ile Glu Thr Ser Ala Lys Asp Pro
 145 150 155 160
 Pro Leu Asn Val Asp Lys Ala Phe His Asp Leu Val Arg Val Ile Arg
 165 170 175
 Gln Gln Ile Pro Glu Lys Ser Gln Lys Lys Lys Lys Thr Lys Trp
 180 185 190
 Arg Gly Asp Arg Ala Thr Gly Thr His Lys Leu Gln Cys Val Ile Leu
 195 200 205
 <210> 58
 <211> 1044
 <212> PRT
 <213> Homo sapiens
 <400> 58
 Met Pro Ala Ala Gly Ser Asn Glu Pro Asp Gly Val Leu Ser Tyr Gln
 1 5 10 15
 Arg Pro Asp Glu Glu Ala Val Val Asp Gln Gly Gly Thr Ser Thr Ile
 20 25 30
 Leu Asn Ile His Tyr Glu Lys Glu Glu Leu Glu Gly His Arg Thr Leu
 35 40 45
 Tyr Val Gly Val Arg Met Pro Leu Gly Arg Gln Ser His Arg His His
 50 55 60
 Arg Thr His Gly Gln Lys His Arg Arg Arg Gly Arg Gly Lys Gly Ala
 65 70 75 80
 Ser Gln Gly Glu Glu Gly Leu Glu Ala Leu Ala His Asp Thr Pro Ser
 85 90 95
 Gln Arg Val Gln Phe Ile Leu Gly Thr Glu Glu Asp Glu Glu His Val
 100 105 110
 Pro His Glu Leu Phe Thr Glu Leu Asp Glu Ile Cys Met Lys Glu Gly
 115 120 125
 Glu Asp Ala Glu Trp Lys Glu Thr Ala Arg Trp Leu Lys Phe Glu Glu
 130 135 140

Asp	Val	Glu	Asp	Gly	Gly	Glu	Arg	Trp	Ser	Lys	Pro	Tyr	Val	Ala	Thr	
145					150					155					160	
Leu	Ser	Leu	His	Ser	Leu	Phe	Glu	Leu	Arg	Ser	Cys	Leu	Ile	Asn	Gly	
				165					170					175		
Thr	Val	Leu	Leu	Asp	Met	His	Ala	Asn	Ser	Ile	Glu	Glu	Ile	Ser	Asp	
			180					185					190			
Leu	Ile	Leu	Asp	Gln	Gln	Glu	Leu	Ser	Ser	Asp	Leu	Asn	Asp	Ser	Met	
		195					200					205				
Arg	Val	Lys	Val	Arg	Glu	Ala	Leu	Leu	Lys	Lys	His	His	His	Gln	Asn	
	210					215					220					
Glu	Lys	Lys	Arg	Asn	Asn	Leu	Ile	Pro	Ile	Val	Arg	Ser	Phe	Ala	Glu	
225					230					235					240	
Val	Gly	Lys	Lys	Gln	Ser	Asp	Pro	His	Leu	Met	Asp	Lys	His	Gly	Gln	
				245					250					255		
Thr	Val	Ser	Pro	Gln	Ser	Val	Pro	Thr	Thr	Asn	Leu	Glu	Val	Lys	Asn	
			260					265					270			
Gly	Val	Asn	Cys	Glu	His	Ser	Pro	Val	Asp	Leu	Ser	Lys	Val	Asp	Leu	
		275					280					285				
His	Phe	Met	Lys	Lys	Ile	Pro	Thr	Gly	Ala	Glu	Ala	Ser	Asn	Val	Leu	
	290					295					300					
Val	Gly	Glu	Val	Asp	Ile	Leu	Asp	Arg	Pro	Ile	Val	Ala	Phe	Val	Arg	
305					310					315					320	
Leu	Ser	Pro	Ala	Val	Leu	Leu	Ser	Gly	Leu	Thr	Glu	Val	Pro	Ile	Pro	
				325					330					335		
Thr	Arg	Phe	Leu	Phe	Ile	Leu	Leu	Gly	Pro	Val	Gly	Lys	Gly	Gln	Gln	
			340					345					350			
Tyr	His	Glu	Ile	Gly	Arg	Ser	Met	Ala	Thr	Ile	Met	Thr	Asp	Glu	Ile	
		355					360					365				
Phe	His	Asp	Val	Ala	Tyr	Lys	Ala	Lys	Glu	Arg	Asp	Asp	Leu	Leu	Ala	
	370					375					380					
Gly	Ile	Asp	Glu	Phe	Leu	Asp	Gln	Val	Thr	Val	Leu	Pro	Pro	Gly	Glu	
385					390					395					400	
Trp	Asp	Pro	Ser	Ile	Arg	Ile	Glu	Pro	Pro	Lys	Asn	Val	Pro	Ser	Gln	
				405					410					415		
Glu	Lys	Arg	Lys	Met	Pro	Gly	Val	Pro	Asn	Gly	Asn	Val	Cys	His	Ile	
			420					425					430			
Glu	Gln	Glu	Pro	His	Gly	Gly	His	Ser	Gly	Pro	Glu	Leu	Gln	Arg	Thr	
		435					440					445				
Gly	Arg	Leu	Phe	Gly	Gly	Leu	Val	Leu	Asp	Ile	Lys	Arg	Lys	Ala	Pro	
	450					455					460					

Trp	Tyr	Trp	Ser	Asp	Tyr	Arg	Asp	Ala	Leu	Ser	Leu	Gln	Cys	Leu	Ala	
465					470					475					480	
Ser	Phe	Leu	Phe	Leu	Tyr	Cys	Ala	Cys	Met	Ser	Pro	Val	Ile	Thr	Phe	
				485					490					495		
Gly	Gly	Leu	Leu	Gly	Glu	Ala	Thr	Glu	Gly	Arg	Ile	Ser	Ala	Ile	Glu	
			500					505					510			
Ser	Leu	Phe	Gly	Ala	Ser	Met	Thr	Gly	Ile	Ala	Tyr	Ser	Leu	Phe	Ala	
		515					520					525				
Gly	Gln	Ala	Leu	Thr	Ile	Leu	Gly	Ser	Thr	Gly	Pro	Val	Leu	Val	Phe	
	530					535					540					
Glu	Lys	Ile	Leu	Phe	Lys	Phe	Cys	Lys	Asp	Tyr	Ala	Leu	Ser	Tyr	Leu	
545					550					555					560	
Ser	Leu	Arg	Ala	Cys	Ile	Gly	Leu	Trp	Thr	Ala	Phe	Leu	Cys	Ile	Val	
				565					570					575		
Leu	Val	Ala	Thr	Asp	Ala	Ser	Ser	Leu	Val	Cys	Tyr	Ile	Thr	Arg	Phe	
			580					585					590			
Thr	Glu	Glu	Ala	Phe	Ala	Ser	Leu	Ile	Cys	Ile	Ile	Phe	Ile	Tyr	Glu	
		595					600					605				
Ala	Ile	Glu	Lys	Leu	Ile	His	Leu	Ala	Glu	Thr	Tyr	Pro	Ile	His	Met	
	610					615					620					
His	Ser	Gln	Leu	Asp	His	Leu	Ser	Leu	Tyr	Tyr	Cys	Arg	Cys	Thr	Leu	
625					630					635					640	
Pro	Glu	Asn	Pro	Asn	Asn	His	Thr	Leu	Gln	Tyr	Trp	Lys	Asp	His	Asn	
				645					650					655		
Ile	Val	Thr	Ala	Glu	Val	His	Trp	Ala	Asn	Leu	Thr	Val	Ser	Glu	Cys	
			660					665					670			
Gln	Glu	Met	His	Gly	Glu	Phe	Met	Gly	Ser	Ala	Cys	Gly	His	His	Gly	
		675					680					685				
Pro	Tyr	Thr	Pro	Asp	Val	Leu	Phe	Trp	Ser	Cys	Ile	Leu	Phe	Phe	Thr	
	690					695					700					
Thr	Phe	Ile	Leu	Ser	Ser	Thr	Leu	Lys	Thr	Phe	Lys	Thr	Ser	Arg	Tyr	
705					710					715					720	
Phe	Pro	Thr	Arg	Val	Arg	Ser	Met	Val	Ser	Asp	Phe	Ala	Val	Phe	Leu	
				725					730					735		
Thr	Ile	Phe	Thr	Met	Val	Ile	Ile	Asp	Phe	Leu	Ile	Gly	Val	Pro	Ser	
			740					745					750			
Pro	Lys	Leu	Gln	Val	Pro	Ser	Val	Phe	Lys	Pro	Thr	Arg	Asp	Asp	Arg	
		755					760					765				
Gly	Trp	Ile	Ile	Asn	Pro	Ile	Gly	Pro	Asn	Pro	Trp	Trp	Thr	Val	Ile	
	770					775					780					
Ala	Ala	Ile	Ile	Pro	Ala	Leu	Leu	Cys	Thr	Ile	Leu	Ile	Phe	Met	Asp	

785		790		795		800
Gln Gln Ile Thr	Ala Val Ile Ile	Asn Arg Lys Glu His Lys	Leu Lys			
	805	810	815			
Lys Gly Cys Gly	Tyr His Leu Asp	Leu Leu Met Val Ala	Ile Met Leu			
	820	825	830			
Gly Val Cys Ser	Ile Met Gly	Leu Pro Trp Phe	Val Ala Ala Thr	Val		
	835	840	845			
Leu Ser Ile Thr	His Val Asn Ser	Leu Lys Leu Glu Ser	Glu Cys Ser			
	850	855	860			
Ala Pro Gly Glu	Gln Pro Lys Phe	Leu Gly Ile Arg	Glu Gln Arg	Val		
	865	870	875	880		
Thr Gly Leu Met	Ile Phe Val Leu	Met Gly Cys Ser	Val Phe Met	Thr		
	885	890	895			
Ala Ile Leu Lys	Phe Ile Pro Met	Pro Val Leu Tyr	Gly Val Phe	Leu		
	900	905	910			
Tyr Met Gly Val	Ser Ser Leu Gln	Gly Ile Gln Phe	Phe Asp Arg	Leu		
	915	920	925			
Lys Leu Phe Gly	Met Pro Ala Lys	His Gln Pro Asp	Phe Ile Tyr	Leu		
	930	935	940			
Arg His Val Pro	Leu Arg Lys Val	His Leu Phe Thr	Leu Ile Gln	Leu		
	945	950	955	960		
Thr Cys Leu Val	Leu Leu Trp Val	Ile Lys Ala Ser	Pro Ala Ala	Ile		
	965	970	975			
Val Phe Pro Met	Met Val Leu Ala	Leu Val Phe Val	Arg Lys Val	Met		
	980	985	990			
Asp Leu Cys Phe	Ser Lys Arg Glu	Leu Ser Trp Leu	Asp Asp	Leu Met		
	995	1000	1005			
Pro Glu Ser Lys	Lys Lys Lys	Leu Asp Asp	Ala Lys Lys	Lys Ala		
	1010	1015	1020			
Lys Glu Glu Glu	Val Ile Val	Leu Ala Pro Thr	Val Tyr Leu	Gly		
	1025	1030	1035			
Ala Ser Asn Tyr	Arg Thr					
	1040					
<210>	59					
<211>	915					
<212>	PRT					
<213>	Homo sapiens					
<400>	59					
Met Ala Arg Arg	Ser Ser Phe Gln	Ser Cys Gln Ile	Ile Ser Leu	Phe		
1	5	10	15			
Thr Phe Ala Val	Gly Val Asn Ile	Cys Leu Gly Phe	Thr Ala His	Arg		
	20	25	30			

Ile	Lys	Arg	Ala	Glu	Gly	Trp	Glu	Glu	Gly	Pro	Pro	Thr	Val	Leu	Ser	35	40	45	
Asp	Ser	Pro	Trp	Thr	Asn	Ile	Ser	Gly	Ser	Cys	Lys	Gly	Arg	Cys	Phe	50	55	60	
Glu	Leu	Gln	Glu	Ala	Gly	Pro	Pro	Asp	Cys	Arg	Cys	Asp	Asn	Leu	Cys	65	70	75	80
Lys	Ser	Tyr	Thr	Ser	Cys	Cys	His	Asp	Phe	Asp	Glu	Leu	Cys	Leu	Lys	85	90	95	
Thr	Ala	Arg	Gly	Trp	Glu	Cys	Thr	Lys	Asp	Arg	Cys	Gly	Glu	Val	Arg	100	105	110	
Asn	Glu	Glu	Asn	Ala	Cys	His	Cys	Ser	Glu	Asp	Cys	Leu	Ala	Arg	Gly	115	120	125	
Asp	Cys	Cys	Thr	Asn	Tyr	Gln	Val	Val	Cys	Lys	Gly	Glu	Ser	His	Trp	130	135	140	
Val	Asp	Asp	Asp	Cys	Glu	Glu	Ile	Lys	Ala	Ala	Glu	Cys	Pro	Ala	Gly	145	150	155	160
Phe	Val	Arg	Pro	Pro	Leu	Ile	Ile	Phe	Ser	Val	Asp	Gly	Phe	Arg	Ala	165	170	175	
Ser	Tyr	Met	Lys	Lys	Gly	Ser	Lys	Val	Met	Pro	Asn	Ile	Glu	Lys	Leu	180	185	190	
Arg	Ser	Cys	Gly	Thr	His	Ser	Pro	Tyr	Met	Arg	Pro	Val	Tyr	Pro	Thr	195	200	205	
Lys	Thr	Phe	Pro	Asn	Leu	Tyr	Thr	Leu	Ala	Thr	Gly	Leu	Tyr	Pro	Glu	210	215	220	
Ser	His	Gly	Ile	Val	Gly	Asn	Ser	Met	Tyr	Asp	Pro	Val	Phe	Asp	Ala	225	230	235	240
Thr	Phe	His	Leu	Arg	Gly	Arg	Glu	Lys	Phe	Asn	His	Arg	Trp	Trp	Gly	245	250	255	
Gly	Gln	Pro	Leu	Trp	Ile	Thr	Ala	Thr	Lys	Gln	Gly	Val	Lys	Ala	Gly	260	265	270	
Thr	Phe	Phe	Trp	Ser	Val	Val	Ile	Pro	His	Glu	Arg	Arg	Ile	Leu	Thr	275	280	285	
Ile	Leu	Gln	Trp	Leu	Thr	Leu	Pro	Asp	His	Glu	Arg	Pro	Ser	Val	Tyr	290	295	300	
Ala	Phe	Tyr	Ser	Glu	Gln	Pro	Asp	Phe	Ser	Gly	His	Lys	Tyr	Gly	Pro	305	310	315	320
Phe	Gly	Pro	Glu	Glu	Ser	Ser	Tyr	Gly	Ser	Pro	Phe	Thr	Pro	Ala	Lys	325	330	335	
Arg	Pro	Lys	Arg	Lys	Val	Ala	Pro	Lys	Arg	Arg	Gln	Glu	Arg	Pro	Val	340	345	350	
Ala	Pro	Pro	Lys	Lys	Arg	Arg	Arg	Lys	Ile	His	Arg	Met	Asp	His	Tyr				

355					360					365					
Ala	Ala	Glu	Thr	Arg	Gln	Asp	Lys	Met	Thr	Asn	Pro	Leu	Arg	Glu	Ile
370					375					380					
Asp	Lys	Ile	Val	Gly	Gln	Leu	Met	Asp	Gly	Leu	Lys	Gln	Leu	Lys	Leu
385					390					395					400
His	Arg	Cys	Val	Asn	Val	Ile	Phe	Val	Gly	Asp	His	Gly	Met	Glu	Asp
405					410					415					
Val	Thr	Cys	Asp	Arg	Thr	Glu	Phe	Leu	Ser	Asn	Tyr	Leu	Thr	Asn	Val
420					425					430					
Asp	Asp	Ile	Thr	Leu	Val	Pro	Gly	Thr	Leu	Gly	Arg	Ile	Arg	Ser	Lys
435					440					445					
Phe	Ser	Asn	Asn	Ala	Lys	Tyr	Asp	Pro	Lys	Ala	Ile	Ile	Ala	Asn	Leu
450					455					460					
Thr	Cys	Lys	Lys	Pro	Asp	Gln	His	Phe	Lys	Pro	Tyr	Leu	Lys	Gln	His
465					470					475					480
Leu	Pro	Lys	Arg	Leu	His	Tyr	Ala	Asn	Asn	Arg	Arg	Ile	Glu	Asp	Ile
485					490					495					
His	Leu	Leu	Val	Glu	Arg	Arg	Trp	His	Val	Ala	Arg	Lys	Pro	Leu	Asp
500					505					510					
Val	Tyr	Lys	Lys	Pro	Ser	Gly	Lys	Cys	Phe	Phe	Gln	Gly	Asp	His	Gly
515					520					525					
Phe	Asp	Asn	Lys	Val	Asn	Ser	Met	Gln	Thr	Val	Phe	Val	Gly	Tyr	Gly
530					535					540					
Ser	Thr	Phe	Lys	Tyr	Lys	Thr	Lys	Val	Pro	Pro	Phe	Glu	Asn	Ile	Glu
545					550					555					560
Leu	Tyr	Asn	Val	Met	Cys	Asp	Leu	Leu	Gly	Leu	Lys	Pro	Ala	Pro	Asn
565					570					575					
Asn	Gly	Thr	His	Gly	Ser	Leu	Asn	His	Leu	Leu	Arg	Thr	Asn	Thr	Phe
580					585					590					
Arg	Pro	Thr	Met	Pro	Glu	Glu	Val	Thr	Arg	Pro	Asn	Tyr	Pro	Gly	Ile
595					600					605					
Met	Tyr	Leu	Gln	Ser	Asp	Phe	Asp	Leu	Gly	Cys	Thr	Cys	Asp	Asp	Lys
610					615					620					
Val	Glu	Pro	Lys	Asn	Lys	Leu	Asp	Glu	Leu	Asn	Lys	Arg	Leu	His	Thr
625					630					635					640
Lys	Gly	Ser	Thr	Glu	Glu	Arg	His	Leu	Leu	Tyr	Gly	Arg	Pro	Ala	Val
645					650					655					
Leu	Tyr	Arg	Thr	Arg	Tyr	Asp	Ile	Leu	Tyr	His	Thr	Asp	Phe	Glu	Ser
660					665					670					
Gly	Tyr	Ser	Glu	Ile	Phe	Leu	Met	Pro	Leu	Trp	Thr	Ser	Tyr	Thr	Val
675					680					685					

Ser Lys Gln Ala Glu Val Ser Ser Val Pro Asp His Leu Thr Ser Cys
690 695 700

Val Arg Pro Asp Val Arg Val Ser Pro Ser Phe Ser Gln Asn Cys Leu
705 710 715 720

Ala Tyr Lys Asn Asp Lys Gln Met Ser Tyr Gly Phe Leu Phe Pro Pro
725 730 735

Tyr Leu Ser Ser Ser Pro Glu Ala Lys Tyr Asp Ala Phe Leu Val Thr
740 745 750

Asn Met Val Pro Met Tyr Pro Ala Phe Lys Arg Val Trp Asn Tyr Phe
755 760 765

Gln Arg Val Leu Val Lys Lys Tyr Ala Ser Glu Arg Asn Gly Val Asn
770 775 780

Val Ile Ser Gly Pro Ile Phe Asp Tyr Asp Tyr Asp Gly Leu His Asp
785 790 795 800

Thr Glu Asp Lys Ile Lys Gln Tyr Val Glu Gly Ser Ser Ile Pro Val
805 810 815

Pro Thr His Tyr Tyr Ser Ile Ile Thr Ser Cys Leu Asp Phe Thr Gln
820 825 830

Pro Ala Asp Lys Cys Asp Gly Pro Leu Ser Val Ser Ser Phe Ile Leu
835 840 845

Pro His Arg Pro Asp Asn Glu Glu Ser Cys Asn Ser Ser Glu Asp Glu
850 855 860

Ser Lys Trp Val Glu Glu Leu Met Lys Met His Thr Ala Arg Val Arg
865 870 875 880

Asp Ile Glu His Leu Thr Ser Leu Asp Phe Phe Arg Lys Thr Ser Arg
885 890 895

Ser Tyr Pro Glu Ile Leu Thr Leu Lys Thr Tyr Leu His Thr Tyr Glu
900 905 910

Ser Glu Ile
915

<210> 60

<211> 626

<212> PRT

<213> Homo sapiens

<400> 60

Met Asp Glu Gln Glu Ala Leu Asn Ser Ile Met Asn Asp Leu Val Ala
1 5 10 15

Leu Gln Met Asn Arg Arg His Arg Met Pro Gly Tyr Glu Thr Met Lys
20 25 30

Asn Lys Asp Thr Gly His Ser Asn Arg Gln Ser Asp Val Arg Ile Lys
35 40 45

Phe Glu His Asn Gly Glu Arg Arg Ile Ile Ala Phe Ser Arg Pro Val

50					55					60					
Lys 65	Tyr	Glu	Asp	Val	Glu 70	His	Lys	Val	Thr	Thr 75	Val	Phe	Gly	Gln	Pro 80
Leu	Asp	Leu	His	Tyr 85	Met	Asn	Asn	Glu	Leu 90	Ser	Ile	Leu	Leu	Lys 95	Asn
Gln	Asp	Asp	Leu 100	Asp	Lys	Ala	Ile	Asp 105	Ile	Leu	Asp	Arg	Ser 110	Ser	Ser
Met	Lys 115	Ser	Leu	Arg	Ile	Leu	Leu 120	Leu	Ser	Gln	Asp	Arg	Asn 125	His	Asn
Ser 130	Ser	Ser	Pro	His	Ser	Gly 135	Val	Ser	Arg	Gln	Val 140	Arg	Ile	Lys	Ala
Ser 145	Gln	Ser	Ala	Gly	Asp 150	Ile	Asn	Thr	Ile	Tyr 155	Gln	Pro	Pro	Glu	Pro 160
Arg	Ser	Arg	His	Leu 165	Ser	Val	Ser	Ser	Gln 170	Asn	Pro	Gly	Arg	Ser 175	Ser
Pro	Pro	Pro	Gly 180	Tyr	Val	Pro	Glu	Arg 185	Gln	Gln	His	Ile	Ala 190	Arg	Gln
Gly	Ser 195	Tyr	Thr	Ser	Ile	Asn	Ser 200	Glu	Gly	Glu	Phe	Ile 205	Pro	Glu	Thr
Ser 210	Glu	Gln	Cys	Met	Leu	Asp 215	Pro	Leu	Ser	Ser	Ala 220	Glu	Asn	Ser	Leu
Ser 225	Gly	Ser	Cys	Gln	Ser 230	Leu	Asp	Arg	Ser	Ala 235	Asp	Ser	Pro	Ser	Phe 240
Arg	Lys	Ser	Arg	Met 245	Ser	Arg	Ala	Gln	Ser 250	Phe	Pro	Asp	Asn 255	Arg	Gln
Glu	Tyr	Ser	Asp 260	Arg	Glu	Thr	Gln	Leu 265	Tyr	Asp	Lys	Gly	Val 270	Lys	Gly
Gly	Thr 275	Tyr	Pro	Arg	Arg	Tyr	His 280	Val	Ser	Val	His	His 285	Lys	Asp	Tyr
Ser 290	Asp	Gly	Arg	Arg	Thr	Phe 295	Pro	Arg	Ile	Arg	Arg 300	His	Gln	Gly	Asn
Leu 305	Phe	Thr	Leu	Val	Pro 310	Ser	Ser	Arg	Ser	Leu 315	Ser	Thr	Asn	Gly	Glu 320
Asn	Met	Gly	Leu	Ala 325	Val	Gln	Tyr	Leu	Asp 330	Pro	Arg	Gly	Arg	Leu 335	Arg
Ser	Ala	Asp	Ser 340	Glu	Asn	Ala	Leu	Ser 345	Val	Gln	Glu	Arg	Asn 350	Val	Pro
Thr	Lys 355	Ser	Pro	Ser	Ala	Pro	Ile 360	Asn	Trp	Arg	Arg	Gly	Lys 365	Leu	Leu
Gly 370	Gln	Gly	Ala	Phe	Gly	Arg 375	Val	Tyr	Leu	Cys	Tyr 380	Asp	Val	Asp	Thr

Gly Arg Glu Leu Ala Ser Lys Gln Val Gln Phe Asp Pro Asp Ser Pro
385 390 395 400

Glu Thr Ser Lys Glu Val Ser Ala Leu Glu Cys Glu Ile Gln Leu Leu
405 410 415

Lys Asn Leu Gln His Glu Arg Ile Val Gln Tyr Tyr Gly Cys Leu Arg
420 425 430

Asp Arg Ala Glu Lys Thr Leu Thr Ile Phe Met Glu Tyr Met Pro Gly
435 440 445

Gly Ser Val Lys Asp Gln Leu Lys Ala Tyr Gly Ala Leu Thr Glu Ser
450 455 460

Val Thr Arg Lys Tyr Thr Arg Gln Ile Leu Glu Gly Met Ser Tyr Leu
465 470 475 480

His Ser Asn Met Ile Val His Arg Asp Ile Lys Gly Ala Asn Ile Leu
485 490 495

Arg Asp Ser Ala Gly Asn Val Lys Leu Gly Asp Phe Gly Ala Ser Lys
500 505 510

Arg Leu Gln Thr Ile Cys Met Ser Gly Thr Gly Met Arg Ser Val Thr
515 520 525

Gly Thr Pro Tyr Trp Met Ser Pro Glu Val Ile Ser Gly Glu Gly Tyr
530 535 540

Gly Arg Lys Ala Asp Val Trp Ser Leu Gly Cys Thr Val Val Glu Met
545 550 555 560

Leu Thr Glu Lys Pro Pro Trp Ala Glu Tyr Glu Ala Met Ala Ala Ile
565 570 575

Phe Lys Ile Ala Thr Gln Pro Thr Asn Pro Gln Leu Pro Ser His Ile
580 585 590

Ser Glu His Gly Arg Asp Phe Leu Arg Arg Ile Phe Val Glu Ala Arg
595 600 605

Gln Arg Pro Ser Ala Glu Glu Leu Leu Thr His His Phe Ala Gln Leu
610 615 620

Met Tyr
625

<210> 61
<211> 657
<212> PRT
<213> Homo sapiens
<400> 61

Met Asp Glu Gln Glu Ala Leu Asn Ser Ile Met Asn Asp Leu Val Ala
1 5 10 15

Leu Gln Met Asn Arg Arg His Arg Met Pro Gly Tyr Glu Thr Met Lys
20 25 30

Asn Lys Asp Thr Gly His Ser Asn Arg Gln Lys Lys His Asn Ser Ser

35					40					45					
Ser	Ser	Ala	Leu	Leu	Asn	Ser	Pro	Thr	Val	Thr	Thr	Ser	Ser	Cys	Ala
	50					55					60				
Gly	Ala	Ser	Glu	Lys	Lys	Lys	Phe	Leu	Ser	Asp	Val	Arg	Ile	Lys	Phe
65				70						75				80	
Glu	His	Asn	Gly	Glu	Arg	Arg	Ile	Ile	Ala	Phe	Ser	Arg	Pro	Val	Lys
				85					90					95	
Tyr	Glu	Asp	Val	Glu	His	Lys	Val	Thr	Thr	Val	Phe	Gly	Gln	Pro	Leu
			100					105					110		
Asp	Leu	His	Tyr	Met	Asn	Asn	Glu	Leu	Ser	Ile	Leu	Leu	Lys	Asn	Gln
		115					120					125			
Asp	Asp	Leu	Asp	Lys	Ala	Ile	Asp	Ile	Leu	Asp	Arg	Ser	Ser	Ser	Met
	130					135					140				
Lys	Ser	Leu	Arg	Ile	Leu	Leu	Leu	Ser	Gln	Asp	Arg	Asn	His	Asn	Ser
145					150					155					160
Ser	Ser	Pro	His	Ser	Gly	Val	Ser	Arg	Gln	Val	Arg	Ile	Lys	Ala	Ser
				165					170					175	
Gln	Ser	Ala	Gly	Asp	Ile	Asn	Thr	Ile	Tyr	Gln	Pro	Pro	Glu	Pro	Arg
			180					185					190		
Ser	Arg	His	Leu	Ser	Val	Ser	Ser	Gln	Asn	Pro	Gly	Arg	Ser	Ser	Pro
		195					200					205			
Pro	Pro	Gly	Tyr	Val	Pro	Glu	Arg	Gln	Gln	His	Ile	Ala	Arg	Gln	Gly
	210					215					220				
Ser	Tyr	Thr	Ser	Ile	Asn	Ser	Glu	Gly	Glu	Phe	Ile	Pro	Glu	Thr	Ser
225					230					235					240
Glu	Gln	Cys	Met	Leu	Asp	Pro	Leu	Ser	Ser	Ala	Glu	Asn	Ser	Leu	Ser
			245						250					255	
Gly	Ser	Cys	Gln	Ser	Leu	Asp	Arg	Ser	Ala	Asp	Ser	Pro	Ser	Phe	Arg
			260					265					270		
Lys	Ser	Arg	Met	Ser	Arg	Ala	Gln	Ser	Phe	Pro	Asp	Asn	Arg	Gln	Glu
		275					280					285			
Tyr	Ser	Asp	Arg	Glu	Thr	Gln	Leu	Tyr	Asp	Lys	Gly	Val	Lys	Gly	Gly
	290					295					300				
Thr	Tyr	Pro	Arg	Arg	Tyr	His	Val	Ser	Val	His	His	Lys	Asp	Tyr	Ser
305					310					315					320
Asp	Gly	Arg	Arg	Thr	Phe	Pro	Arg	Ile	Arg	Arg	His	Gln	Gly	Asn	Leu
				325					330					335	
Phe	Thr	Leu	Val	Pro	Ser	Ser	Arg	Ser	Leu	Ser	Thr	Asn	Gly	Glu	Asn
			340					345					350		
Met	Gly	Leu	Ala	Val	Gln	Tyr	Leu	Asp	Pro	Arg	Gly	Arg	Leu	Arg	Ser
		355					360					365			

<213> Homo sapiens

<400> 62

Met Ile Asn Ser Thr Ser Thr Gln Pro Pro Asp Glu Ser Cys Ser Gln
1 5 10 15

Asn Leu Leu Ile Thr Gln Gln Ile Ile Pro Val Leu Tyr Cys Met Val
20 25 30

Phe Ile Ala Gly Ile Leu Leu Asn Gly Val Ser Gly Trp Ile Phe Phe
35 40 45

Tyr Val Pro Ser Ser Lys Ser Phe Ile Ile Tyr Leu Lys Asn Ile Val
50 55 60

Ile Ala Asp Phe Val Met Ser Leu Thr Phe Pro Phe Lys Ile Leu Gly
65 70 75 80

Asp Ser Gly Leu Gly Pro Trp Gln Leu Asn Val Phe Val Cys Arg Val
85 90 95

Ser Ala Val Leu Phe Tyr Val Asn Met Tyr Val Ser Ile Val Phe Phe
100 105 110

Gly Leu Ile Ser Phe Asp Arg Tyr Tyr Lys Ile Val Lys Pro Leu Trp
115 120 125

Thr Ser Phe Ile Gln Ser Val Ser Tyr Ser Lys Leu Leu Ser Val Ile
130 135 140

Val Trp Met Leu Met Leu Leu Leu Ala Val Pro Asn Ile Ile Leu Thr
145 150 155 160

Asn Gln Ser Val Arg Glu Val Thr Gln Ile Lys Cys Ile Glu Leu Lys
165 170 175

Ser Glu Leu Gly Arg Lys Trp His Lys Ala Ser Asn Tyr Ile Phe Val
180 185 190

Ala Ile Phe Trp Ile Val Phe Leu Leu Leu Ile Val Phe Tyr Thr Ala
195 200 205

Ile Thr Lys Lys Ile Phe Lys Ser His Leu Lys Ser Ser Arg Asn Ser
210 215 220

Thr Ser Val Lys Lys Lys Ser Ser Arg Asn Ile Phe Ser Ile Val Phe
225 230 235 240

Val Phe Phe Val Cys Phe Val Pro Tyr His Ile Ala Arg Ile Pro Tyr
245 250 255

Thr Lys Ser Gln Thr Glu Ala His Tyr Ser Cys Gln Ser Lys Glu Ile
260 265 270

Leu Arg Tyr Met Lys Glu Phe Thr Leu Leu Leu Ser Ala Ala Asn Val
275 280 285

Cys Leu Asp Pro Ile Ile Tyr Phe Phe Leu Cys Gln Pro Phe Arg Glu
290 295 300

Ile Leu Cys Lys Lys Leu His Ile Pro Leu Lys Ala Gln Asn Asp Leu
305 310 315 320

Asp Ile Ser Arg Ile Lys Arg Gly Asn Thr Thr Leu Glu Ser Thr Asp
325 330 335

Thr Leu

<210> 63
<211> 506
<212> PRT
<213> Homo sapiens
<400> 63

Met Asp Asp Tyr Met Val Leu Arg Met Ile Gly Glu Gly Ser Phe Gly
1 5 10 15

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

Lys Glu Ile Arg Leu Pro Lys Ser Phe Ser Asn Thr Gln Asn Ser Arg
35 40 45

Lys Glu Ala Val Leu Leu Ala Lys Met Lys His Pro Asn Ile Val Ala
50 55 60

Phe Lys Glu Ser Phe Glu Ala Glu Gly His Leu Tyr Ile Val Met Glu
65 70 75 80

Tyr Cys Asp Gly Gly Asp Leu Met Gln Lys Ile Lys Gln Gln Lys Gly
85 90 95

Lys Leu Phe Pro Glu Asp Met Ile Leu Asn Trp Phe Thr Gln Met Cys
100 105 110

Leu Gly Val Asn His Ile His Lys Lys Arg Val Leu His Arg Asp Ile
115 120 125

Lys Ser Lys Asn Ile Phe Leu Thr Gln Asn Gly Lys Val Lys Leu Gly
130 135 140

Asp Phe Gly Ser Ala Arg Leu Leu Ser Asn Pro Met Ala Phe Ala Cys
145 150 155 160

Thr Tyr Val Gly Thr Pro Tyr Tyr Val Pro Pro Glu Ile Trp Glu Asn
165 170 175

Leu Pro Tyr Asn Asn Lys Ser Asp Ile Trp Ser Leu Gly Cys Ile Leu
180 185 190

Tyr Glu Leu Cys Thr Leu Lys His Pro Phe Gln Ala Asn Ser Trp Lys
195 200 205

Asn Leu Ile Leu Lys Val Cys Gln Gly Cys Ile Ser Pro Leu Pro Ser
210 215 220

His Tyr Ser Tyr Glu Leu Gln Phe Leu Val Lys Gln Met Phe Lys Arg
225 230 235 240

Asn Pro Ser His Arg Pro Ser Ala Thr Thr Leu Leu Ser Arg Gly Ile
245 250 255

Val Ala Arg Leu Val Gln Lys Cys Leu Pro Pro Glu Ile Ile Met Glu

260					265					270					
Tyr	Gly	Glu	Glu	Val	Leu	Glu	Glu	Ile	Lys	Asn	Ser	Lys	His	Asn	Thr
		275					280					285			
Pro	Arg	Lys	Lys	Thr	Asn	Pro	Ser	Arg	Ile	Arg	Ile	Ala	Leu	Gly	Asn
		290					295					300			
Glu	Ala	Ser	Thr	Val	Gln	Glu	Glu	Glu	Gln	Asp	Arg	Lys	Gly	Ser	His
305							310					315			320
Thr	Asp	Leu	Glu	Ser	Ile	Asn	Glu	Asn	Leu	Val	Glu	Ser	Ala	Leu	Arg
				325					330					335	
Arg	Val	Asn	Arg	Glu	Glu	Lys	Gly	Asn	Lys	Ser	Val	His	Leu	Arg	Lys
				340					345					350	
Ala	Ser	Ser	Pro	Asn	Leu	His	Arg	Arg	Gln	Trp	Glu	Lys	Asn	Val	Pro
				355					360					365	
Asn	Thr	Ala	Leu	Thr	Ala	Leu	Glu	Asn	Ala	Ser	Ile	Leu	Thr	Ser	Ser
				370					375					380	
Leu	Thr	Ala	Glu	Asp	Asp	Arg	Gly	Gly	Ser	Val	Ile	Lys	Tyr	Ser	Lys
385									390					395	400
Asn	Thr	Thr	Arg	Lys	Gln	Trp	Leu	Lys	Glu	Thr	Pro	Asp	Thr	Leu	Leu
				405					410					415	
Asn	Ile	Leu	Lys	Asn	Ala	Asp	Leu	Ser	Leu	Ala	Phe	Gln	Thr	Tyr	Thr
				420					425					430	
Ile	Tyr	Arg	Pro	Gly	Ser	Glu	Gly	Phe	Leu	Lys	Gly	Pro	Leu	Ser	Glu
				435					440					445	
Glu	Thr	Glu	Ala	Ser	Asp	Ser	Val	Asp	Gly	Gly	His	Asp	Ser	Val	Ile
				450					455					460	
Leu	Asp	Pro	Glu	Arg	Leu	Glu	Pro	Gly	Leu	Asp	Glu	Glu	Asp	Thr	Asp
465									470					475	480
Phe	Glu	Glu	Glu	Asp	Asp	Asn	Pro	Asp	Trp	Val	Ser	Glu	Leu	Lys	Lys
				485					490					495	
Arg	Ala	Gly	Trp	Gln	Gly	Leu	Cys	Asp	Arg						
				500					505						
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Met	Asp	Asp	Tyr	Met	Val	Leu	Arg	Met	Ile	Gly	Glu	Gly	Ser	Phe	Gly
1				5					10					15	
Arg	Ala	Leu	Leu	Val	Gln	His	Glu	Ser	Ser	Asn	Gln	Met	Phe	Ala	Met
				20					25					30	
Lys	Glu	Ile	Arg	Leu	Pro	Lys	Ser	Phe	Ser	Asn	Thr	Gln	Asn	Ser	Arg
				35					40					45	

Lys	Glu	Ala	Val	Leu	Leu	Ala	Lys	Met	Lys	His	Pro	Asn	Ile	Val	Ala		
50						55					60						
Phe	Lys	Glu	Ser	Phe	Glu	Ala	Glu	Gly	His	Leu	Tyr	Ile	Val	Met	Glu		
65					70					75					80		
Tyr	Cys	Asp	Gly	Gly	Asp	Leu	Met	Gln	Lys	Ile	Lys	Gln	Gln	Lys	Gly		
			85						90					95			
Lys	Leu	Phe	Pro	Glu	Asp	Met	Ile	Leu	Asn	Trp	Phe	Thr	Gln	Met	Cys		
			100					105					110				
Leu	Gly	Val	Asn	His	Ile	His	Lys	Lys	Arg	Val	Leu	His	Arg	Asp	Ile		
		115					120					125					
Lys	Ser	Lys	Asn	Ile	Phe	Leu	Thr	Gln	Asn	Gly	Lys	Val	Lys	Leu	Gly		
	130					135					140						
Asp	Phe	Gly	Ser	Ala	Arg	Leu	Leu	Ser	Asn	Pro	Met	Ala	Phe	Ala	Cys		
145					150					155					160		
Thr	Tyr	Val	Gly	Thr	Pro	Tyr	Tyr	Val	Pro	Pro	Glu	Ile	Trp	Glu	Asn		
				165					170					175			
Leu	Pro	Tyr	Asn	Asn	Lys	Ser	Asp	Ile	Trp	Ser	Leu	Gly	Cys	Ile	Leu		
			180					185					190				
Tyr	Glu	Leu	Cys	Thr	Leu	Lys	His	Pro	Phe	Gln	Ala	Asn	Ser	Trp	Lys		
	195						200					205					
Asn	Leu	Ile	Leu	Lys	Val	Cys	Gln	Gly	Cys	Ile	Ser	Pro	Leu	Pro	Ser		
	210					215					220						
His	Tyr	Ser	Tyr	Glu	Leu	Gln	Phe	Leu	Val	Lys	Gln	Met	Phe	Lys	Arg		
225					230					235					240		
Asn	Pro	Ser	His	Arg	Pro	Ser	Ala	Thr	Thr	Leu	Leu	Ser	Arg	Gly	Ile		
				245					250					255			
Val	Ala	Arg	Leu	Val	Gln	Lys	Cys	Leu	Pro	Pro	Glu	Ile	Ile	Met	Glu		
			260					265					270				
Tyr	Gly	Glu	Glu	Val	Leu	Glu	Glu	Ile	Lys	Asn	Ser	Lys	His	Asn	Thr		
	275						280					285					
Pro	Arg	Lys	Lys	Thr	Asn	Pro	Ser	Arg	Ile	Arg	Ile	Ala	Leu	Gly	Asn		
	290				295						300						
Glu	Ala	Ser	Thr	Val	Gln	Glu	Glu	Glu	Gln	Asp	Arg	Lys	Gly	Ser	His		
305					310					315					320		
Thr	Asp	Leu	Glu	Ser	Ile	Asn	Glu	Asn	Leu	Val	Glu	Ser	Ala	Leu	Arg		
				325					330					335			
Arg	Val	Asn	Arg	Glu	Glu	Lys	Gly	Asn	Lys	Ser	Val	His	Leu	Arg	Lys		
			340					345					350				
Ala	Ser	Ser	Pro	Asn	Leu	His	Arg	Arg	Gln	Trp	Glu	Lys	Asn	Val	Pro		
		355					360					365					
Asn	Thr	Ala	Leu	Thr	Ala	Leu	Glu	Asn	Ala	Ser	Ile	Leu	Thr	Ser	Ser		

370		375		380
Leu Thr Ala Glu Asp Asp Arg Gly Gly Ser Val Ile Lys Tyr Ser Lys				
385		390		400
Asn Thr Thr Arg Lys Gln Trp Leu Lys Glu Thr Pro Asp Thr Leu Leu				
	405		410	415
Asn Ile Leu Lys Asn Ala Asp Leu Ser Leu Ala Phe Gln Thr Tyr Thr				
	420		425	430
Ile Tyr Arg Pro Gly Ser Glu Gly Phe Leu Lys Gly Pro Leu Ser Glu				
	435		440	445
Glu Thr Glu Ala Ser Asp Ser Val Asp Gly Gly His Asp Ser Val Ile				
	450		455	460
Leu Asp Pro Glu Arg Leu Glu Pro Gly Leu Asp Glu Glu Asp Thr Asp				
465		470		480
Phe Glu Glu Glu Asp Asp Asn Pro Asp Trp Val Ser Glu Leu Lys Lys				
	485		490	495
Arg Ala Gly Trp Gln Gly Leu Cys Asp Arg				
	500		505	
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Met Ile Leu Phe Lys Gln Ala Thr Tyr Phe Ile Ser Leu Phe Ala Thr				
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Val Ser Cys Gly Cys Leu Thr Gln Leu Tyr Glu Asn Ala Phe Phe Arg				
	20		25	30
Gly Gly Asp Val Ala Ser Met Tyr Thr Pro Asn Ala Gln Tyr Cys Gln				
	35		40	45
Met Arg Cys Thr Phe His Pro Arg Cys Leu Leu Phe Ser Phe Leu Pro				
	50		55	60
Ala Ser Ser Ile Asn Asp Met Glu Lys Arg Phe Gly Cys Phe Leu Lys				
65		70		80
Asp Ser Val Thr Gly Thr Leu Pro Lys Val His Arg Thr Gly Ala Val				
	85		90	95
Ser Gly His Ser Leu Lys Gln Cys Gly His Gln Ile Ser Ala Cys His				
	100		105	110
Arg Asp Ile Tyr Lys Gly Val Asp Met Arg Gly Val Asn Phe Asn Val				
	115		120	125
Ser Lys Val Ser Ser Val Glu Glu Cys Gln Lys Arg Cys Thr Ser Asn				
	130		135	140
Ile Arg Cys Gln Phe Phe Ser Tyr Ala Thr Gln Thr Phe His Lys Ala				
145		150		160

Glu	Tyr	Arg	Asn	Asn	Cys	Leu	Leu	Lys	Tyr	Ser	Pro	Gly	Gly	Thr	Pro		
				165					170					175			
Thr	Ala	Ile	Lys	Val	Leu	Ser	Asn	Val	Glu	Ser	Gly	Phe	Ser	Leu	Lys		
			180					185					190				
Pro	Cys	Ala	Leu	Ser	Glu	Ile	Gly	Cys	His	Met	Asn	Ile	Phe	Gln	His		
		195					200					205					
Leu	Ala	Phe	Ser	Asp	Val	Asp	Val	Ala	Arg	Val	Leu	Thr	Pro	Asp	Ala		
	210					215					220						
Phe	Val	Cys	Arg	Thr	Ile	Cys	Thr	Tyr	His	Pro	Asn	Cys	Leu	Phe	Phe		
225					230					235					240		
Thr	Phe	Tyr	Thr	Asn	Val	Trp	Lys	Ile	Glu	Ser	Gln	Arg	Asn	Val	Cys		
				245					250					255			
Leu	Leu	Lys	Thr	Ser	Glu	Ser	Gly	Thr	Pro	Ser	Ser	Ser	Thr	Pro	Gln		
			260					265					270				
Glu	Asn	Thr	Ile	Ser	Gly	Tyr	Ser	Leu	Leu	Thr	Cys	Lys	Arg	Thr	Leu		
		275					280					285					
Pro	Glu	Pro	Cys	His	Ser	Lys	Ile	Tyr	Pro	Gly	Val	Asp	Phe	Gly	Gly		
	290					295					300						
Glu	Glu	Leu	Asn	Val	Thr	Phe	Val	Lys	Gly	Val	Asn	Val	Cys	Gln	Glu		
305					310					315					320		
Thr	Cys	Thr	Lys	Met	Ile	Arg	Cys	Gln	Phe	Phe	Thr	Tyr	Ser	Leu	Leu		
				325					330					335			
Pro	Glu	Asp	Cys	Lys	Glu	Glu	Lys	Cys	Lys	Cys	Phe	Leu	Arg	Leu	Ser		
			340					345					350				
Met	Asp	Gly	Ser	Pro	Thr	Arg	Ile	Ala	Tyr	Gly	Thr	Gln	Gly	Ser	Ser		
		355					360					365					
Gly	Tyr	Ser	Leu	Arg	Leu	Cys	Asn	Thr	Gly	Asp	Asn	Ser	Val	Cys	Thr		
	370					375					380						
Thr	Lys	Thr	Ser	Thr	Arg	Ile	Val	Gly	Gly	Thr	Asn	Ser	Ser	Trp	Gly		
385					390					395					400		
Glu	Trp	Pro	Trp	Gln	Val	Ser	Leu	Gln	Val	Lys	Leu	Thr	Ala	Gln	Arg		
				405					410					415			
His	Leu	Cys	Gly	Gly	Ser	Leu	Ile	Gly	His	Gln	Trp	Val	Leu	Thr	Ala		
			420					425					430				
Ala	His	Cys	Phe	Asp	Gly	Leu	Pro	Leu	Gln	Asp	Val	Trp	Arg	Ile	Tyr		
		435					440					445					
Ser	Gly	Ile	Leu	Asn	Leu	Ser	Asp	Ile	Thr	Lys	Asp	Thr	Pro	Phe	Ser		
	450					455					460						
Gln	Ile	Lys	Glu	Ile	Ile	Ile	His	Gln	Asn	Tyr	Lys	Val	Ser	Glu	Gly		
465					470					475					480		
Asn	His	Asp	Ile	Ala	Leu	Ile	Lys	Leu	Gln	Ala	Pro	Leu	Asn	Tyr	Thr		

				485				490				495					
Glu	Phe	Gln	Lys	Pro	Ile	Cys	Leu	Pro	Ser	Lys	Gly	Asp	Thr	Ser	Thr		
			500				505						510				
Ile	Tyr	Thr	Asn	Cys	Trp	Val	Thr	Gly	Trp	Gly	Phe	Ser	Lys	Glu	Lys		
			515				520						525				
Gly	Glu	Ile	Gln	Asn	Ile	Leu	Gln	Lys	Val	Asn	Ile	Pro	Leu	Val	Thr		
			530				535						540				
Asn	Glu	Glu	Cys	Gln	Lys	Arg	Tyr	Gln	Asp	Tyr	Lys	Ile	Thr	Gln	Arg		
545						550						555			560		
Met	Val	Cys	Ala	Gly	Tyr	Lys	Glu	Gly	Gly	Lys	Asp	Ala	Cys	Lys	Gly		
				565				570						575			
Asp	Ser	Gly	Gly	Pro	Leu	Val	Cys	Lys	His	Asn	Gly	Met	Trp	Arg	Leu		
			580				585						590				
Val	Gly	Ile	Thr	Ser	Trp	Gly	Glu	Gly	Cys	Ala	Arg	Arg	Glu	Gln	Pro		
			595				600						605				
Gly	Val	Tyr	Thr	Lys	Val	Ala	Glu	Tyr	Met	Asp	Trp	Ile	Leu	Glu	Lys		
			610				615						620				
Thr	Gln	Ser	Ser	Asp	Gly	Lys	Ala	Gln	Met	Gln	Ser	Pro	Ala				
625						630						635					
<210>		66															
<211>		379															
<212>		PRT															
<213>		Homo sapiens															
<400>		66															
Met	Ala	Ala	Thr	Glu	Gly	Val	Gly	Glu	Ala	Ala	Gln	Gly	Gly	Glu	Pro		
1				5				10						15			
Gly	Gln	Pro	Ala	Gln	Pro	Pro	Pro	Gln	Pro	His	Pro	Pro	Pro	Pro	Gln		
			20				25						30				
Gln	Gln	His	Lys	Glu	Glu	Met	Ala	Ala	Glu	Ala	Gly	Glu	Ala	Val	Ala		
			35				40						45				
Ser	Pro	Met	Asp	Asp	Gly	Phe	Val	Ser	Leu	Asp	Ser	Pro	Ser	Tyr	Val		
			50				55						60				
Leu	Tyr	Arg	Asp	Arg	Ala	Glu	Trp	Ala	Asp	Ile	Asp	Pro	Val	Pro	Gln		
65						70						75			80		
Asn	Asp	Gly	Pro	Asn	Pro	Val	Val	Gln	Ile	Ile	Tyr	Ser	Asp	Lys	Phe		
				85						90						95	
Arg	Asp	Val	Tyr	Asp	Tyr	Phe	Arg	Ala	Val	Leu	Gln	Arg	Asp	Glu	Arg		
			100						105						110		
Ser	Glu	Arg	Ala	Phe	Lys	Leu	Thr	Arg	Asp	Ala	Ile	Glu	Leu	Asn	Ala		
			115						120						125		
Ala	Asn	Tyr	Thr	Val	Trp	His	Phe	Arg	Arg	Val	Leu	Leu	Lys	Ser	Leu		
			130						135						140		

Gln Lys Asp Leu His Glu Glu Met Asn Tyr Ile Thr Ala Ile Ile Glu
 145 150 155 160
 Glu Gln Pro Lys Asn Tyr Gln Val Trp His His Arg Arg Val Leu Val
 165 170 175
 Glu Trp Leu Arg Asp Pro Ser Gln Glu Leu Glu Phe Ile Ala Asp Ile
 180 185 190
 Leu Asn Gln Asp Ala Lys Asn Tyr His Ala Trp Gln His Arg Gln Trp
 195 200 205
 Val Ile Gln Glu Phe Lys Leu Trp Asp Asn Glu Leu Gln Tyr Val Asp
 210 215 220
 Gln Leu Leu Lys Glu Asp Val Arg Asn Asn Ser Val Trp Asn Gln Arg
 225 230 235 240
 Tyr Phe Val Ile Ser Asn Thr Thr Gly Tyr Asn Asp Arg Ala Val Leu
 245 250 255
 Glu Arg Glu Val Gln Tyr Thr Leu Glu Met Ile Lys Leu Val Pro His
 260 265 270
 Asn Glu Ser Ala Trp Asn Tyr Leu Lys Gly Ile Leu Gln Asp Arg Gly
 275 280 285
 Leu Ser Lys Tyr Pro Asn Leu Leu Asn Gln Leu Leu Asp Leu Gln Pro
 290 295 300
 Ser His Ser Ser Pro Tyr Leu Ile Ala Phe Leu Val Asp Ile Tyr Glu
 305 310 315 320
 Asp Met Leu Glu Asn Gln Cys Asp Asn Lys Glu Asp Ile Leu Asn Lys
 325 330 335
 Ala Leu Glu Leu Cys Glu Ile Leu Ala Lys Glu Lys Asp Thr Ile Arg
 340 345 350
 Lys Glu Tyr Trp Arg Tyr Ile Gly Arg Ser Leu Gln Ser Lys His Ser
 355 360 365
 Thr Glu Asn Asp Ser Pro Thr Asn Val Gln Gln
 370 375

<210> 67

<211> 288

<212> PRT

<213> Homo sapiens

<400> 67

Met Ser Cys Thr Val Arg Asp Val Tyr Asp Tyr Phe Arg Ala Val Leu
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 Gln Arg Asp Glu Arg Ser Glu Arg Ala Phe Lys Leu Thr Arg Asp Ala
 20 25 30
 Ile Glu Leu Asn Ala Ala Asn Tyr Thr Val Trp His Phe Arg Arg Val
 35 40 45
 Leu Leu Lys Ser Leu Gln Lys Asp Leu His Glu Glu Met Asn Tyr Ile
 50 55 60

Thr Ala Ile Ile Glu Glu Gln Pro Lys Asn Tyr Gln Val Trp His His
65 70 75 80

Arg Arg Val Leu Val Glu Trp Leu Arg Asp Pro Ser Gln Glu Leu Glu
85 90 95

Phe Ile Ala Asp Ile Leu Asn Gln Asp Ala Lys Asn Tyr His Ala Trp
100 105 110

Gln His Arg Gln Trp Val Ile Gln Glu Phe Lys Leu Trp Asp Asn Glu
115 120 125

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

Val Trp Asn Gln Arg Tyr Phe Val Ile Ser Asn Thr Thr Gly Tyr Asn
145 150 155 160

Asp Arg Ala Val Leu Glu Arg Glu Val Gln Tyr Thr Leu Glu Met Ile
165 170 175

Lys Leu Val Pro His Asn Glu Ser Ala Trp Asn Tyr Leu Lys Gly Ile
180 185 190

Leu Gln Asp Arg Gly Leu Ser Lys Tyr Pro Asn Leu Leu Asn Gln Leu
195 200 205

Leu Asp Leu Gln Pro Ser His Ser Ser Pro Tyr Leu Ile Ala Phe Leu
210 215 220

Val Asp Ile Tyr Glu Asp Met Leu Glu Asn Gln Cys Asp Asn Lys Glu
225 230 235 240

Asp Ile Leu Asn Lys Ala Leu Glu Leu Cys Glu Ile Leu Ala Lys Glu
245 250 255

Lys Asp Thr Ile Arg Lys Glu Tyr Trp Arg Tyr Ile Gly Arg Ser Leu
260 265 270

Gln Ser Lys His Ser Thr Glu Asn Asp Ser Pro Thr Asn Val Gln Gln
275 280 285

<210> 68

<211> 312

<212> PRT

<213> Homo sapiens

<400> 68

Met Ala Ala Thr Glu Gly Val Gly Glu Ala Ala Gln Gly Gly Glu Pro
1 5 10 15

Gly Gln Pro Ala Gln Pro Pro Pro Gln Pro His Pro Pro Pro Pro Gln
20 25 30

Gln Gln His Lys Glu Glu Met Ala Ala Glu Ala Gly Glu Ala Val Ala
35 40 45

Ser Pro Met Asp Asp Gly Phe Val Ser Leu Asp Ser Pro Ser Tyr Val
50 55 60

Leu Tyr Arg His Phe Arg Arg Val Leu Leu Lys Ser Leu Gln Lys Asp

65		70		75		80
Leu His Glu Glu Met	Asn Tyr Ile Thr Ala Ile Ile Glu Glu Gln Pro					
85	90					95
Lys Asn Tyr Gln Val Trp His His Arg Arg Val Leu Val Glu Trp Leu						
100	105					110
Arg Asp Pro Ser Gln Glu Leu Glu Phe Ile Ala Asp Ile Leu Asn Gln						
115	120					125
Asp Ala Lys Asn Tyr His Ala Trp Gln His Arg Gln Trp Val Ile Gln						
130	135					140
Glu Phe Lys Leu Trp Asp Asn Glu Leu Gln Tyr Val Asp Gln Leu Leu						
145	150					155
Lys Glu Asp Val Arg Asn Asn Ser Val Trp Asn Gln Arg Tyr Phe Val						
165	170					175
Ile Ser Asn Thr Thr Gly Tyr Asn Asp Arg Ala Val Leu Glu Arg Glu						
180	185					190
Val Gln Tyr Thr Leu Glu Met Ile Lys Leu Val Pro His Asn Glu Ser						
195	200					205
Ala Trp Asn Tyr Leu Lys Gly Ile Leu Gln Asp Arg Gly Leu Ser Lys						
210	215					220
Tyr Pro Asn Leu Leu Asn Gln Leu Leu Asp Leu Gln Pro Ser His Ser						
225	230					235
Ser Pro Tyr Leu Ile Ala Phe Leu Val Asp Ile Tyr Glu Asp Met Leu						
245	250					255
Glu Asn Gln Cys Asp Asn Lys Glu Asp Ile Leu Asn Lys Ala Leu Glu						
260	265					270
Leu Cys Glu Ile Leu Ala Lys Glu Lys Asp Thr Ile Arg Lys Glu Tyr						
275	280					285
Trp Arg Tyr Ile Gly Arg Ser Leu Gln Ser Lys His Ser Thr Glu Asn						
290	295					300
Asp Ser Pro Thr Asn Val Gln Gln						
305	310					

<210> 69

<211> 311

<212> PRT

<213> Homo sapiens

<220>

<221> misc_feature

<222> (290)..(290)

<223> Xaa can be any naturally occurring amino acid

<400> 69

Met Ala Ala Thr Glu Gly Val Gly Glu Ala Ala Gln Gly Gly Glu Pro
1 5 10 15

Arg Gln Leu Glu Gln Pro Pro Pro Gln Pro His Pro Pro Leu Pro Gln

20							25					30				
Glu	Gln	His	Glu	Glu	Glu	Met	Ala	Ala	Glu	Ala	Gly	Glu	Ala	Val	Ala	
		35					40					45				
Ser	Pro	Met	Asp	Asp	Gly	Phe	Leu	Ser	Leu	Asp	Ser	Pro	Ser	Tyr	Val	
	50					55					60					
Pro	Tyr	Arg	His	Phe	Arg	Arg	Val	Leu	Leu	Lys	Ser	Leu	Gln	Lys	Asp	
65					70					75				80		
Leu	His	Glu	Glu	Met	Asn	Tyr	Ile	Thr	Glu	Ile	Ile	Glu	Gly	Gln	Pro	
				85					90					95		
Lys	Asn	Tyr	Leu	Val	Cys	His	Asn	Arg	Arg	Val	Ile	Val	Glu	Trp	Leu	
			100				105						110			
Arg	Asp	Pro	Ser	Gln	Glu	Pro	Glu	Phe	Ile	Asp	Asn	Ile	Leu	Asn	Gln	
		115					120					125				
Asp	Ala	Lys	Asn	Tyr	His	Ala	Trp	Gln	His	Arg	Gln	Trp	Val	Ile	Gln	
	130					135					140					
Glu	Phe	Lys	Leu	Trp	Asp	Asn	Glu	Leu	Gln	Tyr	Val	Asp	Gln	Leu	Leu	
145					150					155				160		
Lys	Glu	Asp	Val	Arg	Asn	Asn	Ser	Val	Trp	Asn	Arg	Arg	Tyr	Phe	Val	
				165					170					175		
Ile	Ser	Asn	Thr	Thr	Gly	Tyr	Asn	Asp	Cys	Ala	Val	Leu	Glu	Arg	Glu	
			180				185						190			
Val	Gln	Tyr	Thr	Leu	Glu	Met	Ile	Gln	Leu	Val	Pro	His	Asn	Ser	Ser	
		195					200					205				
Trp	Asn	Tyr	Leu	Lys	Gly	Ile	Leu	Gln	Asp	Arg	Gly	Leu	Ser	Lys	Tyr	
	210					215					220					
Pro	Asn	Leu	Leu	Asn	Gln	Leu	Leu	Asp	Leu	Gln	Pro	Ser	His	Ser	Ser	
225				230						235				240		
Pro	Tyr	Leu	Ile	Ala	Phe	Leu	Val	Gly	Ile	Tyr	Glu	Asp	Met	Leu	Glu	
				245					250					255		
Asn	Gln	Cys	Val	Asn	Lys	Glu	Asp	Ile	Leu	Asn	Asn	Ala	Leu	Gly	Leu	
			260				265						270			
Cys	Glu	Ile	Leu	Ala	Lys	Glu	Lys	Asp	Met	Ile	Arg	Lys	Glu	Tyr	Trp	
		275					280					285				
Arg	Xaa	Ile	Gly	Arg	Ser	Phe	Gln	Ser	Lys	His	Ser	Thr	Glu	Asn	Asp	
	290					295					300					
Ser	Pro	Thr	Asn	Val	Gln	Gln										
305					310											

<210> 70
 <211> 2555
 <212> PRT
 <213> Homo sapiens
 <400> 70

Met	Thr	Ala	Ile	Thr	His	Gly	Ser	Pro	Val	Gly	Gly	Asn	Asp	Ser	Gln	1	5	10	15
Gly	Gln	Val	Leu	Asp	Gly	Gln	Ser	Gln	His	Leu	Phe	Gln	Gln	Asn	Gln	20	25	30	
Thr	Ser	Ser	Pro	Asp	Ser	Ser	Asn	Glu	Asn	Ser	Val	Ala	Thr	Pro	Pro	35	40	45	
Pro	Glu	Glu	Gln	Gly	Gln	Gly	Asp	Ala	Pro	Pro	Gln	His	Glu	Asp	Glu	50	55	60	
Glu	Pro	Ala	Phe	Pro	His	Thr	Glu	Leu	Ala	Asn	Leu	Asp	Asp	Met	Ile	65	70	75	80
Asn	Arg	Pro	Arg	Trp	Val	Val	Pro	Val	Leu	Pro	Lys	Gly	Glu	Leu	Glu	85	90	95	
Val	Leu	Leu	Glu	Ala	Ala	Ile	Asp	Leu	Ser	Val	Lys	Gly	Leu	Asp	Val	100	105	110	
Lys	Ser	Glu	Ala	Cys	Gln	Arg	Phe	Phe	Arg	Asp	Gly	Leu	Thr	Ile	Ser	115	120	125	
Phe	Thr	Lys	Ile	Leu	Met	Asp	Glu	Ala	Val	Ser	Gly	Trp	Lys	Phe	Glu	130	135	140	
Ile	His	Arg	Cys	Ile	Ile	Asn	Asn	Thr	His	Arg	Leu	Val	Glu	Leu	Cys	145	150	155	160
Val	Ala	Lys	Leu	Ser	Gln	Asp	Trp	Phe	Pro	Leu	Leu	Glu	Leu	Leu	Ala	165	170	175	
Met	Ala	Leu	Asn	Pro	His	Cys	Lys	Phe	His	Ile	Tyr	Asn	Gly	Thr	Arg	180	185	190	
Pro	Cys	Glu	Leu	Ile	Ser	Ser	Asn	Ala	Gln	Leu	Pro	Glu	Asp	Glu	Leu	195	200	205	
Phe	Ala	Arg	Ser	Ser	Asp	Pro	Arg	Ser	Pro	Lys	Gly	Trp	Leu	Val	Asp	210	215	220	
Leu	Ile	Asn	Lys	Phe	Gly	Thr	Leu	Asn	Gly	Phe	Gln	Ile	Leu	His	Asp	225	230	235	240
Arg	Phe	Phe	Asn	Gly	Ser	Ala	Leu	Asn	Ile	Gln	Ile	Ile	Ala	Ala	Leu	245	250	255	
Ile	Lys	Pro	Phe	Gly	Gln	Cys	Tyr	Glu	Phe	Leu	Ser	Gln	His	Thr	Leu	260	265	270	
Lys	Lys	Tyr	Phe	Ile	Pro	Val	Ile	Glu	Ile	Val	Pro	His	Leu	Leu	Glu	275	280	285	
Asn	Leu	Thr	Asp	Glu	Glu	Leu	Lys	Lys	Glu	Ala	Lys	Asn	Glu	Ala	Lys	290	295	300	
Asn	Asp	Ala	Leu	Ser	Met	Ile	Ile	Lys	Ser	Leu	Lys	Asn	Leu	Ala	Ser	305	310	315	320
Arg	Ile	Ser	Gly	Gln	Asp	Glu	Thr	Ile	Lys	Asn	Leu	Glu	Ile	Phe	Arg				

325					330					335					
Leu	Lys	Met	Ile	Leu	Arg	Leu	Leu	Gln	Ile	Ser	Ser	Phe	Asn	Gly	Lys
			340					345					350		
Met	Asn	Ala	Leu	Asn	Glu	Ile	Asn	Lys	Val	Ile	Ser	Ser	Val	Ser	Tyr
		355					360					365			
Tyr	Thr	His	Arg	His	Ser	Asn	Pro	Glu	Glu	Glu	Glu	Trp	Leu	Thr	Ala
	370					375					380				
Glu	Arg	Met	Ala	Glu	Trp	Ile	Gln	Gln	Asn	Asn	Ile	Leu	Ser	Ile	Val
385						390					395				400
Leu	Gln	Asp	Ser	Leu	His	Gln	Pro	Gln	Tyr	Val	Glu	Lys	Leu	Glu	Lys
				405					410					415	
Ile	Leu	Arg	Phe	Val	Ile	Lys	Glu	Lys	Ala	Leu	Thr	Leu	Gln	Asp	Leu
			420					425					430		
Asp	Asn	Ile	Trp	Ala	Ala	Gln	Ala	Gly	Lys	His	Glu	Ala	Ile	Val	Lys
		435					440					445			
Asn	Val	His	Asp	Leu	Leu	Ala	Lys	Leu	Ala	Trp	Asp	Phe	Ser	Pro	Gly
	450					455					460				
Gln	Leu	Asp	His	Leu	Phe	Asp	Cys	Phe	Lys	Ala	Ser	Trp	Thr	Asn	Ala
465						470					475				480
Ser	Lys	Lys	Gln	Arg	Glu	Lys	Leu	Leu	Glu	Leu	Ile	Arg	Arg	Leu	Ala
				485					490					495	
Glu	Asp	Asp	Lys	Asp	Gly	Val	Met	Ala	His	Lys	Val	Leu	Asn	Leu	Leu
			500					505					510		
Trp	Asn	Leu	Ala	Gln	Ser	Asp	Asp	Val	Pro	Val	Asp	Ile	Met	Asp	Leu
		515					520					525			
Ala	Leu	Ser	Ala	His	Ile	Lys	Ile	Leu	Asp	Tyr	Ser	Cys	Ser	Gln	Asp
	530					535					540				
Arg	Asp	Ala	Gln	Lys	Ile	Gln	Trp	Ile	Asp	His	Phe	Ile	Glu	Glu	Leu
545						550					555				560
Arg	Thr	Asn	Asp	Lys	Trp	Val	Ile	Pro	Ala	Leu	Lys	Gln	Ile	Arg	Glu
				565					570					575	
Ile	Cys	Ser	Leu	Phe	Gly	Glu	Ala	Ser	Gln	Asn	Leu	Ser	Gln	Thr	Gln
			580					585					590		
Arg	Ser	Pro	His	Ile	Phe	Tyr	Arg	His	Asp	Leu	Ile	Asn	Gln	Leu	Gln
		595					600					605			
Gln	Asn	His	Ala	Leu	Val	Thr	Leu	Val	Ala	Glu	Asn	Leu	Ala	Thr	Tyr
	610					615					620				
Met	Asn	Ser	Ile	Arg	Leu	Tyr	Ala	Gly	Asp	His	Glu	Asp	Tyr	Asp	Pro
625						630					635				640
Gln	Thr	Val	Arg	Leu	Gly	Ser	Arg	Tyr	Ser	His	Val	Gln	Glu	Val	Gln
				645					650					655	

Glu	Arg	Leu	Asn	Phe	Leu	Arg	Phe	Leu	Leu	Lys	Asp	Gly	Gln	Leu	Trp	660	665	670	
Leu	Cys	Ala	Pro	Gln	Ala	Lys	Gln	Ile	Trp	Lys	Cys	Leu	Ala	Glu	Asn	675	680	685	
Ala	Val	Tyr	Leu	Cys	Asp	Arg	Glu	Ala	Cys	Phe	Lys	Trp	Tyr	Ser	Lys	690	695	700	
Leu	Met	Gly	Asp	Glu	Pro	Asp	Leu	Asp	Pro	Asp	Ile	Asn	Lys	Asp	Phe	705	710	715	720
Phe	Glu	Ser	Asn	Val	Leu	Gln	Leu	Asp	Pro	Ser	Leu	Leu	Thr	Glu	Asn	725	730	735	
Gly	Met	Lys	Cys	Phe	Glu	Arg	Phe	Phe	Lys	Ala	Val	Asn	Cys	Arg	Glu	740	745	750	
Arg	Lys	Leu	Ile	Ala	Lys	Arg	Arg	Ser	Tyr	Met	Met	Asp	Asp	Leu	Glu	755	760	765	
Leu	Ile	Gly	Leu	Asp	Tyr	Leu	Trp	Arg	Val	Val	Ile	Gln	Ser	Ser	Asp	770	775	780	
Glu	Ile	Ala	Asn	Arg	Ala	Ile	Asp	Leu	Leu	Lys	Glu	Ile	Tyr	Thr	Asn	785	790	795	800
Leu	Gly	Pro	Arg	Leu	Lys	Ala	Asn	Gln	Val	Val	Ile	His	Glu	Asp	Phe	805	810	815	
Ile	Gln	Ser	Cys	Phe	Asp	Arg	Leu	Lys	Ala	Ser	Tyr	Asp	Thr	Leu	Cys	820	825	830	
Val	Phe	Asp	Gly	Asp	Lys	Asn	Ser	Ile	Asn	Cys	Ala	Arg	Gln	Glu	Ala	835	840	845	
Ile	Arg	Met	Val	Arg	Val	Leu	Thr	Val	Ile	Lys	Glu	Tyr	Ile	Asn	Glu	850	855	860	
Cys	Asp	Ser	Asp	Tyr	His	Lys	Glu	Arg	Met	Ile	Leu	Pro	Met	Ser	Arg	865	870	875	880
Ala	Phe	Arg	Gly	Lys	His	Leu	Ser	Leu	Ile	Val	Arg	Phe	Pro	Asn	Gln	885	890	895	
Gly	Arg	Gln	Val	Asp	Glu	Leu	Asp	Ile	Trp	Ser	His	Thr	Asn	Asp	Thr	900	905	910	
Ile	Gly	Ser	Val	Arg	Arg	Cys	Ile	Val	Asn	Arg	Ile	Lys	Ala	Asn	Val	915	920	925	
Ala	His	Lys	Lys	Ile	Glu	Leu	Phe	Val	Gly	Gly	Glu	Leu	Ile	Asp	Ser	930	935	940	
Glu	Asp	Asp	Arg	Lys	Leu	Ile	Gly	Gln	Leu	Asn	Leu	Lys	Asp	Lys	Ser	945	950	955	960
Leu	Ile	Thr	Ala	Lys	Leu	Thr	Gln	Ile	Asn	Phe	Asn	Met	Pro	Ser	Ser	965	970	975	

Pro	Asp	Ser	Ser	Ser	Asp	Ser	Ser	Thr	Ala	Ser	Pro	Gly	Asn	His	Arg	980	985	990
Asn	His	Tyr	Asn	Asp	Gly	Pro	Asn	Leu	Glu	Val	Glu	Ser	Cys	Leu	Pro	995	1000	1005
Gly	Val	Ile	Met	Ser	Val	His	Pro	Arg	Tyr	Ile	Ser	Phe	Leu	Trp		1010	1015	1020
Gln	Val	Ala	Asp	Leu	Gly	Ser	Asn	Leu	Asn	Met	Pro	Pro	Leu	Arg		1025	1030	1035
Asp	Gly	Ala	Arg	Val	Leu	Met	Lys	Leu	Met	Pro	Pro	Asp	Arg	Thr		1040	1045	1050
Ala	Val	Glu	Lys	Leu	Arg	Ala	Val	Cys	Leu	Asp	His	Ala	Lys	Leu		1055	1060	1065
Gly	Glu	Gly	Lys	Leu	Ser	Pro	Pro	Leu	Asp	Ser	Leu	Phe	Phe	Gly		1070	1075	1080
Pro	Ser	Ala	Ser	Gln	Val	Leu	Tyr	Leu	Thr	Glu	Val	Val	Tyr	Ala		1085	1090	1095
Leu	Leu	Met	Pro	Ala	Gly	Val	Pro	Leu	Thr	Asp	Gly	Ser	Ser	Asp		1100	1105	1110
Phe	Gln	Val	His	Phe	Leu	Lys	Ser	Gly	Gly	Leu	Pro	Leu	Val	Leu		1115	1120	1125
Ser	Met	Leu	Ile	Arg	Asn	Asn	Phe	Leu	Pro	Asn	Thr	Asp	Met	Glu		1130	1135	1140
Thr	Arg	Arg	Gly	Ala	Tyr	Leu	Asn	Ala	Leu	Lys	Ile	Ala	Lys	Leu		1145	1150	1155
Leu	Leu	Thr	Ala	Ile	Gly	Tyr	Gly	His	Val	Arg	Ala	Val	Ala	Glu		1160	1165	1170
Ala	Cys	Gln	Pro	Val	Val	Asp	Gly	Thr	Asp	Pro	Ile	Thr	Gln	Ile		1175	1180	1185
Asn	Gln	Val	Thr	His	Asp	Gln	Ala	Val	Val	Leu	Gln	Ser	Ala	Leu		1190	1195	1200
Gln	Ser	Ile	Pro	Asn	Pro	Ser	Ser	Glu	Cys	Val	Leu	Arg	Asn	Glu		1205	1210	1215
Ser	Ile	Leu	Leu	Ala	Gln	Glu	Ile	Ser	Asn	Glu	Ala	Ser	Arg	Tyr		1220	1225	1230
Met	Pro	Asp	Ile	Cys	Val	Ile	Arg	Ala	Ile	Gln	Lys	Ile	Ile	Trp		1235	1240	1245
Ala	Ser	Ala	Cys	Gly	Ala	Leu	Gly	Leu	Val	Phe	Ser	Pro	Asn	Glu		1250	1255	1260
Glu	Ile	Thr	Lys	Ile	Tyr	Gln	Met	Thr	Thr	Asn	Gly	Ser	Asn	Lys		1265	1270	1275
Leu	Glu	Val	Glu	Asp	Glu	Gln	Val	Cys	Cys	Glu	Ala	Leu	Glu	Val				

1280						1285					1290			
Met	Thr	Leu	Cys	Phe	Ala	Leu	Leu	Pro	Thr	Ala	Leu	Asp	Ala	Leu
1295						1300					1305			
Ser	Lys	Glu	Lys	Ala	Trp	Gln	Thr	Phe	Ile	Ile	Asp	Leu	Leu	Leu
1310						1315					1320			
His	Cys	Pro	Ser	Lys	Thr	Val	Arg	Gln	Leu	Ala	Gln	Glu	Gln	Phe
1325						1330					1335			
Phe	Leu	Met	Cys	Thr	Arg	Cys	Cys	Met	Gly	His	Arg	Pro	Leu	Leu
1340						1345					1350			
Phe	Phe	Ile	Thr	Leu	Leu	Phe	Thr	Ile	Leu	Gly	Ser	Thr	Ala	Arg
1355						1360					1365			
Glu	Lys	Gly	Lys	Tyr	Ser	Gly	Asp	Tyr	Phe	Thr	Leu	Leu	Arg	His
1370						1375					1380			
Leu	Leu	Asn	Tyr	Ala	Tyr	Asn	Gly	Asn	Ile	Asn	Ile	Pro	Asn	Ala
1385						1390					1395			
Glu	Val	Leu	Leu	Val	Ser	Glu	Ile	Asp	Trp	Leu	Lys	Arg	Ile	Arg
1400						1405					1410			
Asp	Asn	Val	Lys	Asn	Thr	Gly	Glu	Thr	Gly	Val	Glu	Glu	Pro	Ile
1415						1420					1425			
Leu	Glu	Gly	His	Leu	Gly	Val	Thr	Lys	Glu	Leu	Leu	Ala	Phe	Gln
1430						1435					1440			
Thr	Ser	Glu	Lys	Lys	Tyr	His	Phe	Gly	Cys	Glu	Lys	Gly	Gly	Ala
1445						1450					1455			
Asn	Leu	Ile	Lys	Glu	Leu	Ile	Asp	Asp	Phe	Ile	Phe	Pro	Ala	Ser
1460						1465					1470			
Lys	Val	Tyr	Leu	Gln	Tyr	Leu	Arg	Ser	Gly	Glu	Leu	Pro	Ala	Glu
1475						1480					1485			
Gln	Ala	Ile	Pro	Val	Cys	Ser	Ser	Pro	Val	Thr	Ile	Asn	Ala	Gly
1490						1495					1500			
Phe	Glu	Leu	Leu	Val	Ala	Leu	Ala	Ile	Gly	Cys	Val	Arg	Asn	Leu
1505						1510					1515			
Lys	Gln	Ile	Val	Asp	Cys	Leu	Thr	Glu	Met	Tyr	Tyr	Met	Gly	Thr
1520						1525					1530			
Ala	Ile	Thr	Thr	Cys	Glu	Ala	Leu	Thr	Glu	Trp	Glu	Tyr	Leu	Pro
1535						1540					1545			
Pro	Val	Gly	Pro	Arg	Pro	Pro	Lys	Gly	Phe	Val	Gly	Leu	Lys	Asn
1550						1555					1560			
Ala	Gly	Ala	Thr	Cys	Tyr	Met	Asn	Ser	Val	Ile	Gln	Gln	Leu	Tyr
1565						1570					1575			
Met	Ile	Pro	Ser	Ile	Arg	Asn	Ser	Ile	Leu	Ala	Ile	Glu	Gly	Thr
1580						1585					1590			

Gly	Ser	Asp	Leu	His	Asp	Asp	Met	Phe	Gly	Asp	Glu	Lys	Gln	Asp
1595						1600					1605			
Ser	Glu	Ser	Asn	Val	Asp	Pro	Arg	Asp	Asp	Val	Phe	Gly	Tyr	Pro
1610						1615					1620			
His	Gln	Phe	Glu	Asp	Lys	Pro	Ala	Leu	Ser	Lys	Thr	Glu	Asp	Arg
1625						1630					1635			
Lys	Glu	Tyr	Asn	Ile	Gly	Val	Leu	Arg	His	Leu	Gln	Val	Ile	Phe
1640						1645					1650			
Gly	His	Leu	Ala	Ala	Ser	Gln	Leu	Gln	Tyr	Tyr	Val	Pro	Arg	Gly
1655						1660					1665			
Phe	Trp	Lys	Gln	Phe	Arg	Leu	Trp	Gly	Glu	Pro	Val	Asn	Leu	Arg
1670						1675					1680			
Glu	Gln	His	Asp	Ala	Leu	Glu	Phe	Phe	Asn	Ser	Leu	Val	Asp	Ser
1685						1690					1695			
Leu	Asp	Glu	Ala	Leu	Lys	Ala	Leu	Gly	His	Pro	Ala	Ile	Leu	Ser
1700						1705					1710			
Lys	Val	Leu	Gly	Gly	Ser	Phe	Ala	Asp	Gln	Lys	Ile	Cys	Gln	Gly
1715						1720					1725			
Cys	Pro	His	Arg	Tyr	Glu	Cys	Glu	Glu	Ser	Phe	Thr	Thr	Leu	Asn
1730						1735					1740			
Val	Asp	Ile	Arg	Asn	His	Gln	Asn	Leu	Leu	Asp	Ser	Leu	Glu	Gln
1745						1750					1755			
Tyr	Ile	Lys	Gly	Asp	Leu	Leu	Glu	Gly	Ala	Asn	Ala	Tyr	His	Cys
1760						1765					1770			
Glu	Lys	Cys	Asp	Lys	Lys	Val	Asp	Thr	Val	Lys	Arg	Leu	Leu	Ile
1775						1780					1785			
Lys	Lys	Leu	Pro	Arg	Val	Leu	Ala	Ile	Gln	Leu	Lys	Arg	Phe	Asp
1790						1795					1800			
Tyr	Asp	Trp	Glu	Arg	Glu	Cys	Ala	Ile	Lys	Phe	Asn	Asp	Tyr	Phe
1805						1810					1815			
Glu	Phe	Pro	Arg	Glu	Leu	Asp	Met	Gly	Pro	Tyr	Thr	Val	Ala	Gly
1820						1825					1830			
Val	Ala	Asn	Leu	Glu	Arg	Asp	Asn	Val	Asn	Ser	Glu	Asn	Glu	Leu
1835						1840					1845			
Ile	Glu	Gln	Lys	Glu	Gln	Ser	Asp	Asn	Glu	Thr	Ala	Gly	Gly	Thr
1850						1855					1860			
Lys	Tyr	Arg	Leu	Val	Gly	Val	Leu	Val	His	Ser	Gly	Gln	Ala	Ser
1865						1870					1875			
Gly	Gly	His	Tyr	Tyr	Ser	Tyr	Ile	Ile	Gln	Arg	Asn	Gly	Lys	Asp
1880						1885					1890			

Asp	Gln	Thr	Asp	His	Trp	Tyr	Lys	Phe	Asp	Asp	Gly	Asp	Val	Thr
1895						1900					1905			
Glu	Cys	Lys	Met	Asp	Asp	Asp	Glu	Glu	Met	Lys	Asn	Gln	Cys	Phe
1910						1915					1920			
Gly	Gly	Glu	Tyr	Met	Gly	Glu	Val	Phe	Asp	His	Met	Met	Lys	Arg
1925						1930					1935			
Met	Ser	Tyr	Arg	Arg	Gln	Lys	Arg	Trp	Trp	Asn	Ala	Tyr	Ile	Leu
1940						1945					1950			
Phe	Tyr	Glu	Gln	Met	Asp	Met	Ile	Asp	Glu	Asp	Asp	Glu	Met	Ile
1955						1960					1965			
Arg	Tyr	Ile	Ser	Glu	Leu	Thr	Ile	Ala	Arg	Pro	His	Gln	Ile	Ile
1970						1975					1980			
Met	Ser	Pro	Ala	Ile	Glu	Arg	Ser	Val	Arg	Lys	Gln	Asn	Val	Lys
1985						1990					1995			
Phe	Met	His	Asn	Arg	Leu	Gln	Tyr	Ser	Leu	Glu	Tyr	Phe	Gln	Phe
2000						2005					2010			
Val	Lys	Lys	Leu	Leu	Thr	Cys	Asn	Gly	Val	Tyr	Leu	Asn	Pro	Ala
2015						2020					2025			
Pro	Gly	Gln	Asp	Tyr	Leu	Leu	Pro	Glu	Ala	Glu	Glu	Ile	Thr	Met
2030						2035					2040			
Ile	Ser	Ile	Gln	Leu	Ala	Ala	Arg	Phe	Leu	Phe	Thr	Thr	Gly	Phe
2045						2050					2055			
His	Thr	Lys	Lys	Ile	Val	Arg	Gly	Pro	Ala	Ser	Asp	Trp	Tyr	Asp
2060						2065					2070			
Ala	Leu	Cys	Val	Leu	Leu	Arg	His	Ser	Lys	Asn	Val	Arg	Phe	Trp
2075						2080					2085			
Phe	Thr	His	Asn	Val	Leu	Phe	Asn	Val	Ser	Asn	Arg	Phe	Ser	Glu
2090						2095					2100			
Tyr	Leu	Leu	Glu	Cys	Pro	Ser	Ala	Glu	Val	Arg	Gly	Ala	Phe	Ala
2105						2110					2115			
Lys	Leu	Ile	Val	Phe	Ile	Ala	His	Phe	Ser	Leu	Gln	Asp	Gly	Ser
2120						2125					2130			
Cys	Pro	Ser	Pro	Phe	Ala	Ser	Pro	Gly	Pro	Ser	Ser	Gln	Ala	Cys
2135						2140					2145			
Asp	Asn	Leu	Ser	Leu	Ser	Asp	His	Leu	Leu	Arg	Ala	Thr	Leu	Asn
2150						2155					2160			
Leu	Leu	Arg	Arg	Glu	Val	Ser	Glu	His	Gly	His	His	Leu	Gln	Gln
2165						2170					2175			
Tyr	Phe	Asn	Leu	Phe	Val	Met	Tyr	Ala	Asn	Leu	Gly	Val	Ala	Glu
2180						2185					2190			
Lys	Thr	Gln	Leu	Leu	Lys	Leu	Asn	Val	Pro	Ala	Thr	Phe	Met	Leu

2195						2200						2205			
Val	Ser	Leu	Asp	Glu	Gly	Pro	Gly	Pro	Pro	Ile	Lys	Tyr	Gln	Tyr	
2210						2215					2220				
Ala	Glu	Leu	Gly	Lys	Leu	Tyr	Ser	Val	Val	Ser	Gln	Leu	Ile	Arg	
2225						2230					2235				
Cys	Cys	Asn	Val	Ser	Ser	Thr	Met	Gln	Ser	Ser	Ile	Asn	Gly	Asn	
2240						2245					2250				
Pro	Pro	Leu	Pro	Asn	Pro	Phe	Gly	Asp	Leu	Asn	Leu	Ser	Gln	Pro	
2255						2260					2265				
Ile	Met	Pro	Ile	Gln	Gln	Asn	Val	Leu	Asp	Ile	Leu	Phe	Val	Arg	
2270						2275					2280				
Thr	Ser	Tyr	Val	Lys	Lys	Ile	Ile	Glu	Asp	Cys	Ser	Asn	Ser	Glu	
2285						2290					2295				
Asp	Thr	Ile	Lys	Leu	Leu	Arg	Phe	Cys	Ser	Trp	Glu	Asn	Pro	Gln	
2300						2305					2310				
Phe	Ser	Ser	Thr	Val	Leu	Ser	Glu	Leu	Leu	Trp	Gln	Val	Ala	Tyr	
2315						2320					2325				
Ser	Tyr	Thr	Tyr	Glu	Leu	Arg	Pro	Tyr	Leu	Asp	Leu	Leu	Phe	Gln	
2330						2335					2340				
Ile	Leu	Leu	Ile	Glu	Asp	Ser	Trp	Gln	Thr	His	Arg	Ile	His	Asn	
2345						2350					2355				
Ala	Leu	Lys	Gly	Ile	Pro	Asp	Asp	Arg	Asp	Gly	Leu	Phe	Asp	Thr	
2360						2365					2370				
Ile	Gln	Arg	Ser	Lys	Asn	His	Tyr	Gln	Lys	Arg	Ala	Tyr	Gln	Cys	
2375						2380					2385				
Ile	Lys	Cys	Met	Val	Ala	Leu	Phe	Ser	Ser	Cys	Pro	Val	Ala	Tyr	
2390						2395					2400				
Gln	Ile	Leu	Gln	Gly	Asn	Gly	Asp	Leu	Lys	Arg	Lys	Trp	Thr	Trp	
2405						2410					2415				
Ala	Val	Glu	Trp	Leu	Gly	Asp	Glu	Leu	Glu	Arg	Arg	Pro	Tyr	Thr	
2420						2425					2430				
Gly	Asn	Pro	Gln	Tyr	Ser	Tyr	Asn	Asn	Trp	Ser	Pro	Pro	Val	Gln	
2435						2440					2445				
Ser	Asn	Glu	Thr	Ala	Asn	Gly	Tyr	Phe	Leu	Glu	Arg	Ser	His	Ser	
2450						2455					2460				
Ala	Arg	Met	Thr	Leu	Ala	Lys	Ala	Cys	Glu	Leu	Cys	Pro	Glu	Glu	
2465						2470					2475				
Glu	Pro	Asp	Asp	Gln	Asp	Ala	Pro	Asp	Glu	His	Glu	Pro	Ser	Pro	
2480						2485					2490				
Ser	Glu	Asp	Ala	Pro	Leu	Tyr	Pro	His	Ser	Pro	Ala	Ser	Gln	Tyr	
2495						2500					2505				

Gln Gln Asn Asn His Val His Gly Gln Pro Tyr Thr Gly Pro Ala
2510 2515 2520

Ala His His Leu Asn Asn Pro Gln Lys Thr Gly Gln Arg Thr Gln
2525 2530 2535

Glu Asn Tyr Glu Gly Asn Glu Glu Val Ser Ser Pro Gln Met Lys
2540 2545 2550

Asp Gln
2555

<210> 71

<211> 574

<212> PRT

<213> Homo sapiens

<400> 71

Met Glu Ala Ser Leu Gly Ile Gln Met Asp Glu Pro Met Ala Phe Ser
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Pro Gln Arg Asp Arg Phe Gln Ala Glu Gly Ser Leu Lys Lys Asn Glu
20 25 30

Gln Asn Phe Lys Leu Ala Gly Val Lys Lys Asp Ile Glu Lys Leu Tyr
35 40 45

Glu Ala Val Pro Gln Leu Ser Asn Val Phe Lys Ile Glu Asp Lys Ile
50 55 60

Gly Glu Gly Thr Phe Ser Ser Val Tyr Leu Ala Thr Ala Gln Leu Gln
65 70 75 80

Val Gly Pro Glu Glu Lys Ile Ala Leu Lys His Leu Ile Pro Thr Ser
85 90 95

His Pro Ile Arg Ile Ala Ala Glu Leu Gln Cys Leu Thr Val Ala Gly
100 105 110

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

His Val Val Ile Ala Met Pro Tyr Leu Glu His Glu Ser Phe Leu Asp
130 135 140

Ile Leu Asn Ser Leu Ser Phe Gln Glu Val Arg Glu Tyr Met Leu Asn
145 150 155 160

Leu Phe Lys Ala Leu Lys Arg Ile His Gln Phe Gly Ile Val His Arg
165 170 175

Asp Val Lys Pro Ser Asn Phe Leu Tyr Asn Arg Arg Leu Lys Lys Tyr
180 185 190

Ala Leu Val Asp Phe Gly Leu Ala Gln Gly Thr His Asp Thr Lys Ile
195 200 205

Glu Leu Leu Lys Phe Val Gln Ser Glu Ala Gln Gln Glu Arg Cys Ser
210 215 220

Gln Asn Lys Ser His Ile Ile Thr Gly Asn Lys Ile Pro Leu Ser Gly

225					230					235				240	
Pro	Val	Pro	Lys	Glu	Leu	Asp	Gln	Gln	Ser	Thr	Thr	Lys	Ala	Ser	Val
				245					250					255	
Lys	Arg	Pro	Tyr	Thr	Asn	Ala	Gln	Ile	Gln	Ile	Lys	Gln	Gly	Lys	Asp
			260					265					270		
Gly	Lys	Glu	Gly	Ser	Val	Gly	Leu	Ser	Val	Gln	Arg	Ser	Val	Phe	Gly
		275					280					285			
Glu	Arg	Asn	Phe	Asn	Ile	His	Ser	Ser	Ile	Ser	His	Glu	Ser	Pro	Ala
	290					295					300				
Val	Lys	Leu	Met	Lys	Gln	Ser	Lys	Thr	Val	Asp	Val	Leu	Ser	Arg	Lys
305					310					315					320
Leu	Ala	Thr	Lys	Lys	Lys	Ala	Ile	Ser	Thr	Lys	Val	Met	Asn	Ser	Ala
				325						330				335	
Val	Met	Arg	Lys	Thr	Ala	Ser	Ser	Cys	Pro	Ala	Ser	Leu	Thr	Cys	Asp
			340					345					350		
Cys	Tyr	Ala	Thr	Asp	Lys	Val	Cys	Ser	Ile	Cys	Leu	Ser	Arg	Arg	Gln
		355					360					365			
Gln	Val	Ala	Pro	Arg	Ala	Gly	Thr	Pro	Gly	Phe	Arg	Ala	Pro	Glu	Val
	370					375					380				
Leu	Thr	Lys	Cys	Pro	Asn	Gln	Thr	Thr	Ala	Ile	Asp	Met	Trp	Ser	Ala
385					390					395					400
Gly	Val	Ile	Phe	Leu	Ser	Leu	Leu	Ser	Gly	Arg	Tyr	Pro	Phe	Tyr	Lys
				405					410					415	
Ala	Ser	Asp	Asp	Leu	Thr	Ala	Leu	Ala	Gln	Ile	Met	Thr	Ile	Arg	Gly
			420					425					430		
Ser	Arg	Glu	Thr	Ile	Gln	Ala	Ala	Lys	Thr	Phe	Gly	Lys	Ser	Ile	Leu
		435					440					445			
Cys	Ser	Lys	Glu	Val	Pro	Ala	Gln	Asp	Leu	Arg	Lys	Leu	Cys	Glu	Arg
	450					455					460				
Leu	Arg	Gly	Met	Asp	Ser	Ser	Thr	Pro	Lys	Leu	Thr	Ser	Asp	Ile	Gln
465					470					475					480
Gly	His	Ala	Ser	His	Gln	Pro	Ala	Ile	Ser	Glu	Lys	Thr	Asp	His	Lys
				485					490					495	
Ala	Ser	Cys	Leu	Val	Gln	Thr	Pro	Pro	Gly	Gln	Tyr	Ser	Gly	Asn	Ser
			500					505					510		
Phe	Lys	Lys	Gly	Asp	Ser	Asn	Ser	Cys	Glu	His	Cys	Phe	Asp	Glu	Tyr
		515					520					525			
Asn	Thr	Asn	Leu	Glu	Gly	Trp	Asn	Glu	Val	Pro	Asp	Glu	Ala	Tyr	Asp
	530					535					540				
Leu	Leu	Asp	Lys	Leu	Leu	Asp	Leu	Asn	Pro	Ala	Ser	Arg	Ile	Thr	Ala
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Glu Glu Ala Leu Leu His Pro Phe Phe Lys Asp Met Ser Leu
565 570

<210> 72
<211> 165
<212> PRT
<213> Homo sapiens
<400> 72

Met Val Asn Pro Thr Val Phe Phe Asp Ile Ala Val Asp Gly Glu Pro
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Leu Gly Arg Val Ser Phe Glu Leu Phe Ala Asp Lys Val Pro Lys Thr
20 25 30

Ala Glu Asn Phe Arg Ala Leu Ser Thr Gly Glu Lys Gly Phe Gly Tyr
35 40 45

Lys Gly Ser Cys Phe His Arg Ile Ile Pro Gly Phe Met Cys Gln Gly
50 55 60

Gly Asp Phe Thr Arg His Asn Gly Thr Gly Gly Lys Ser Ile Tyr Gly
65 70 75 80

Glu Lys Phe Glu Asp Glu Asn Phe Ile Leu Lys His Thr Gly Pro Gly
85 90 95

Ile Leu Ser Met Ala Asn Ala Gly Pro Asn Thr Asn Gly Ser Gln Phe
100 105 110

Phe Ile Cys Thr Ala Lys Thr Glu Trp Leu Asp Gly Lys His Val Val
115 120 125

Phe Gly Lys Val Lys Glu Gly Met Asn Ile Val Glu Ala Met Glu Arg
130 135 140

Phe Gly Ser Arg Asn Gly Lys Thr Ser Lys Lys Ile Thr Ile Ala Asp
145 150 155 160

Cys Gly Gln Leu Glu
165

<210> 73
<211> 1621
<212> PRT
<213> Homo sapiens
<400> 73

Met Ala Lys Ser Gly Gly Cys Gly Ala Gly Ala Gly Val Gly Gly Gly
1 5 10 15

Asn Gly Ala Leu Thr Trp Val Asn Asn Ala Ala Lys Lys Glu Glu Ser
20 25 30

Glu Thr Ala Asn Lys Asn Asp Ser Ser Lys Lys Leu Ser Val Glu Arg
35 40 45

Val Tyr Gln Lys Lys Thr Gln Leu Glu His Ile Leu Leu Arg Pro Asp
50 55 60

Thr Tyr Ile Gly Ser Val Glu Pro Leu Thr Gln Phe Met Trp Val Tyr
65 70 75 80

Asp	Glu	Asp	Val	Gly	Met	Asn	Cys	Arg	Glu	Val	Thr	Phe	Val	Pro	Gly	
				85					90					95		
Leu	Tyr	Lys	Ile	Phe	Asp	Glu	Ile	Leu	Val	Asn	Ala	Ala	Asp	Asn	Lys	
			100					105					110			
Gln	Arg	Asp	Lys	Asn	Met	Thr	Cys	Ile	Lys	Val	Ser	Ile	Asp	Pro	Glu	
		115					120					125				
Ser	Asn	Ile	Ile	Ser	Ile	Trp	Asn	Asn	Gly	Lys	Gly	Ile	Pro	Val	Val	
	130					135					140					
Glu	His	Lys	Val	Glu	Lys	Val	Tyr	Val	Pro	Ala	Leu	Ile	Phe	Gly	Gln	
145					150					155					160	
Leu	Leu	Thr	Ser	Ser	Asn	Tyr	Asp	Asp	Asp	Glu	Lys	Lys	Val	Thr	Gly	
				165					170					175		
Gly	Arg	Asn	Gly	Tyr	Gly	Ala	Lys	Leu	Cys	Asn	Ile	Phe	Ser	Thr	Lys	
			180					185					190			
Phe	Thr	Val	Glu	Thr	Ala	Cys	Lys	Glu	Tyr	Lys	His	Ser	Phe	Lys	Gln	
		195					200					205				
Thr	Trp	Met	Asn	Asn	Met	Met	Lys	Thr	Ser	Glu	Ala	Lys	Ile	Lys	His	
	210					215					220					
Phe	Asp	Gly	Glu	Asp	Tyr	Thr	Cys	Ile	Thr	Phe	Gln	Pro	Asp	Leu	Ser	
225					230					235					240	
Lys	Phe	Lys	Met	Glu	Lys	Leu	Asp	Lys	Asp	Ile	Val	Ala	Leu	Met	Thr	
			245					250						255		
Arg	Arg	Ala	Tyr	Asp	Leu	Ala	Gly	Ser	Cys	Arg	Gly	Val	Lys	Val	Met	
			260					265					270			
Phe	Asn	Gly	Lys	Lys	Leu	Pro	Val	Asn	Gly	Phe	Arg	Ser	Tyr	Val	Asp	
		275					280					285				
Leu	Tyr	Val	Lys	Asp	Lys	Leu	Asp	Glu	Thr	Gly	Val	Ala	Leu	Lys	Val	
	290					295					300					
Ile	His	Glu	Leu	Ala	Asn	Glu	Arg	Trp	Asp	Val	Cys	Leu	Thr	Leu	Ser	
305					310					315					320	
Glu	Lys	Gly	Phe	Gln	Gln	Ile	Ser	Phe	Val	Asn	Ser	Ile	Ala	Thr	Thr	
				325					330					335		
Lys	Gly	Gly	Arg	His	Val	Asp	Tyr	Val	Val	Asp	Gln	Val	Val	Gly	Lys	
			340					345					350			
Leu	Ile	Glu	Val	Val	Lys	Lys	Lys	Asn	Lys	Ala	Gly	Val	Ser	Val	Lys	
		355					360					365				
Pro	Phe	Gln	Val	Lys	Asn	His	Ile	Trp	Val	Phe	Ile	Asn	Cys	Leu	Ile	
	370					375					380					
Glu	Asn	Pro	Thr	Phe	Asp	Ser	Gln	Thr	Lys	Glu	Asn	Met	Thr	Leu	Gln	
385					390					395					400	

Pro	Lys	Ser	Phe	Gly	Ser	Lys	Cys	Gln	Leu	Ser	Glu	Lys	Phe	Phe	Lys	
				405					410						415	
Ala	Ala	Ser	Asn	Cys	Gly	Ile	Val	Glu	Ser	Ile	Leu	Asn	Trp	Val	Lys	
				420				425					430			
Phe	Lys	Ala	Gln	Thr	Gln	Leu	Asn	Lys	Lys	Cys	Ser	Ser	Val	Lys	Tyr	
		435					440					445				
Ser	Lys	Ile	Lys	Gly	Ile	Pro	Lys	Leu	Asp	Asp	Ala	Asn	Asp	Ala	Gly	
	450					455					460					
Gly	Lys	His	Ser	Leu	Glu	Cys	Thr	Leu	Ile	Leu	Thr	Glu	Gly	Asp	Ser	
465					470					475					480	
Ala	Lys	Ser	Leu	Ala	Val	Ser	Gly	Leu	Gly	Val	Ile	Gly	Arg	Asp	Arg	
				485					490					495		
Tyr	Gly	Val	Phe	Pro	Leu	Arg	Gly	Lys	Ile	Leu	Asn	Val	Arg	Glu	Ala	
			500					505					510			
Ser	His	Lys	Gln	Ile	Met	Glu	Asn	Ala	Glu	Ile	Asn	Asn	Ile	Ile	Lys	
		515					520					525				
Ile	Val	Gly	Leu	Gln	Tyr	Lys	Lys	Ser	Tyr	Asp	Asp	Ala	Glu	Ser	Leu	
	530					535					540					
Lys	Thr	Leu	Arg	Tyr	Gly	Lys	Ile	Met	Ile	Met	Thr	Asp	Gln	Asp	Gln	
545					550					555					560	
Asp	Gly	Ser	His	Ile	Lys	Gly	Leu	Leu	Ile	Asn	Phe	Ile	His	His	Asn	
				565					570					575		
Trp	Pro	Ser	Leu	Leu	Lys	His	Gly	Phe	Leu	Glu	Glu	Phe	Ile	Thr	Pro	
			580					585					590			
Ile	Val	Lys	Ala	Ser	Lys	Asn	Lys	Gln	Glu	Leu	Ser	Phe	Tyr	Ser	Ile	
		595					600					605				
Pro	Glu	Phe	Asp	Glu	Trp	Lys	Lys	His	Ile	Glu	Asn	Gln	Lys	Ala	Trp	
	610					615					620					
Lys	Ile	Lys	Tyr	Tyr	Lys	Gly	Leu	Gly	Thr	Ser	Thr	Ala	Lys	Glu	Ala	
625					630					635					640	
Lys	Glu	Tyr	Phe	Ala	Asp	Met	Glu	Arg	His	Arg	Ile	Leu	Phe	Arg	Tyr	
				645					650					655		
Ala	Gly	Pro	Glu	Asp	Asp	Ala	Ala	Ile	Thr	Leu	Ala	Phe	Ser	Lys	Lys	
			660					665					670			
Lys	Ile	Asp	Asp	Arg	Lys	Glu	Trp	Leu	Thr	Asn	Phe	Met	Glu	Asp	Arg	
		675					680					685				
Arg	Gln	Arg	Arg	Leu	His	Gly	Leu	Pro	Glu	Gln	Phe	Leu	Tyr	Gly	Thr	
						695					700					
Ala	Thr	Lys	His	Leu	Thr	Tyr	Asn	Asp	Phe	Ile	Asn	Lys	Glu	Leu	Ile	
705					710					715					720	
Leu	Phe	Ser	Asn	Ser	Asp	Asn	Glu	Arg	Ser	Ile	Pro	Ser	Leu	Val	Asp	

725					730					735					
Gly	Phe	Lys	Pro	Gly	Gln	Arg	Lys	Val	Leu	Phe	Thr	Cys	Phe	Lys	Arg
			740					745					750		
Asn	Asp	Lys	Arg	Glu	Val	Lys	Val	Ala	Gln	Leu	Ala	Gly	Ser	Val	Ala
		755					760					765			
Glu	Met	Ser	Ala	Tyr	His	His	Gly	Glu	Gln	Ala	Leu	Met	Met	Thr	Ile
	770					775					780				
Val	Asn	Leu	Ala	Gln	Asn	Phe	Val	Gly	Ser	Asn	Asn	Ile	Asn	Leu	Leu
785						790					795				800
Gln	Pro	Ile	Gly	Gln	Phe	Gly	Thr	Arg	Leu	His	Gly	Gly	Lys	Asp	Ala
				805					810					815	
Ala	Ser	Pro	Arg	Tyr	Ile	Phe	Thr	Met	Leu	Ser	Thr	Leu	Ala	Arg	Leu
			820					825					830		
Leu	Phe	Pro	Ala	Val	Asp	Asp	Asn	Leu	Leu	Lys	Phe	Leu	Tyr	Asp	Asp
		835					840					845			
Asn	Gln	Arg	Val	Glu	Pro	Glu	Trp	Tyr	Ile	Pro	Ile	Ile	Pro	Met	Val
	850					855					860				
Leu	Ile	Asn	Gly	Ala	Glu	Gly	Ile	Gly	Thr	Gly	Trp	Ala	Cys	Lys	Leu
865						870					875				880
Pro	Asn	Tyr	Asp	Ala	Arg	Glu	Ile	Val	Asn	Asn	Val	Arg	Arg	Met	Leu
				885					890					895	
Asp	Gly	Leu	Asp	Pro	His	Pro	Met	Leu	Pro	Asn	Tyr	Lys	Asn	Phe	Lys
			900					905					910		
Gly	Thr	Ile	Gln	Glu	Leu	Gly	Gln	Asn	Gln	Tyr	Ala	Val	Ser	Gly	Glu
		915					920					925			
Ile	Phe	Val	Val	Asp	Arg	Asn	Thr	Val	Glu	Ile	Thr	Glu	Leu	Pro	Val
	930					935					940				
Arg	Thr	Trp	Thr	Gln	Val	Tyr	Lys	Glu	Gln	Val	Leu	Glu	Pro	Met	Leu
945						950					955				960
Asn	Gly	Thr	Asp	Lys	Thr	Pro	Ala	Leu	Ile	Ser	Asp	Tyr	Lys	Glu	Tyr
				965					970					975	
His	Thr	Asp	Thr	Thr	Val	Lys	Phe	Val	Val	Lys	Met	Thr	Glu	Glu	Lys
			980					985					990		
Leu	Ala	Gln	Ala	Glu	Ala	Ala	Gly	Leu	His	Lys	Val	Phe	Lys	Leu	Gln
		995					1000					1005			
Thr	Thr	Leu	Thr	Cys	Asn	Ser	Met	Val	Leu	Phe	Asp	His	Met	Gly	
	1010					1015					1020				
Cys	Leu	Lys	Lys	Tyr	Glu	Thr	Val	Gln	Asp	Ile	Leu	Lys	Glu	Phe	
	1025					1030					1035				
Phe	Asp	Leu	Arg	Leu	Ser	Tyr	Tyr	Gly	Leu	Arg	Lys	Glu	Trp	Leu	
	1040					1045					1050				

Val	Gly	Met	Leu	Gly	Ala	Glu	Ser	Thr	Lys	Leu	Asn	Asn	Gln	Ala
	1055					1060					1065			
Arg	Phe	Ile	Leu	Glu	Lys	Ile	Gln	Gly	Lys	Ile	Thr	Ile	Glu	Asn
	1070					1075					1080			
Arg	Ser	Lys	Lys	Asp	Leu	Ile	Gln	Met	Leu	Val	Gln	Arg	Gly	Tyr
	1085					1090					1095			
Glu	Ser	Asp	Pro	Val	Lys	Ala	Trp	Lys	Glu	Ala	Gln	Glu	Lys	Ala
	1100					1105					1110			
Ala	Glu	Glu	Asp	Glu	Thr	Gln	Asn	Gln	His	Asp	Asp	Ser	Ser	Ser
	1115					1120					1125			
Asp	Ser	Gly	Thr	Pro	Ser	Gly	Pro	Asp	Phe	Asn	Tyr	Ile	Leu	Asn
	1130					1135					1140			
Met	Ser	Leu	Trp	Ser	Leu	Thr	Lys	Glu	Lys	Val	Glu	Glu	Leu	Ile
	1145					1150					1155			
Lys	Gln	Arg	Asp	Ala	Lys	Gly	Arg	Glu	Val	Asn	Asp	Leu	Lys	Arg
	1160					1165					1170			
Lys	Ser	Pro	Ser	Asp	Leu	Trp	Lys	Glu	Asp	Leu	Ala	Ala	Phe	Val
	1175					1180					1185			
Glu	Glu	Leu	Asp	Lys	Val	Glu	Ser	Gln	Glu	Arg	Glu	Asp	Val	Leu
	1190					1195					1200			
Ala	Gly	Met	Ser	Gly	Lys	Ala	Ile	Lys	Gly	Lys	Val	Gly	Lys	Pro
	1205					1210					1215			
Lys	Val	Lys	Lys	Leu	Gln	Leu	Glu	Glu	Thr	Met	Pro	Ser	Pro	Tyr
	1220					1225					1230			
Gly	Arg	Arg	Ile	Ile	Pro	Glu	Ile	Thr	Ala	Met	Lys	Ala	Asp	Ala
	1235					1240					1245			
Ser	Lys	Lys	Leu	Leu	Lys	Lys	Lys	Lys	Gly	Asp	Leu	Asp	Thr	Ala
	1250					1255					1260			
Ala	Val	Lys	Val	Glu	Phe	Asp	Glu	Glu	Phe	Ser	Gly	Ala	Pro	Val
	1265					1270					1275			
Glu	Gly	Ala	Gly	Glu	Glu	Ala	Leu	Thr	Pro	Ser	Val	Pro	Ile	Asn
	1280					1285					1290			
Lys	Gly	Pro	Lys	Pro	Lys	Arg	Glu	Lys	Lys	Glu	Pro	Gly	Thr	Arg
	1295					1300					1305			
Val	Arg	Lys	Thr	Pro	Thr	Ser	Ser	Gly	Lys	Pro	Ser	Ala	Lys	Lys
	1310					1315					1320			
Val	Lys	Lys	Arg	Asn	Pro	Trp	Ser	Asp	Asp	Glu	Ser	Lys	Ser	Glu
	1325					1330					1335			
Ser	Asp	Leu	Glu	Glu	Thr	Glu	Pro	Val	Val	Ile	Pro	Arg	Asp	Ser
	1340					1345					1350			

Leu	Leu	Arg	Arg	Ala	Ala	Ala	Glu	Arg	Pro	Lys	Tyr	Thr	Phe	Asp	
	1355					1360					1365				
Phe	Ser	Glu	Glu	Glu	Asp	Asp	Asp	Ala	Asp	Asp	Asp	Asp	Asp	Asp	
	1370					1375					1380				
Asn	Asn	Asp	Leu	Glu	Glu	Leu	Lys	Val	Lys	Ala	Ser	Pro	Ile	Thr	
	1385					1390					1395				
Asn	Asp	Gly	Glu	Asp	Glu	Phe	Val	Pro	Ser	Asp	Gly	Leu	Asp	Lys	
	1400					1405					1410				
Asp	Glu	Tyr	Thr	Phe	Ser	Pro	Gly	Lys	Ser	Lys	Ala	Thr	Pro	Glu	
	1415					1420					1425				
Lys	Ser	Leu	His	Asp	Lys	Lys	Ser	Gln	Asp	Phe	Gly	Asn	Leu	Phe	
	1430					1435					1440				
Ser	Phe	Pro	Ser	Tyr	Ser	Gln	Lys	Ser	Glu	Asp	Asp	Ser	Ala	Lys	
	1445					1450					1455				
Phe	Asp	Ser	Asn	Glu	Glu	Asp	Ser	Ala	Ser	Val	Phe	Ser	Pro	Ser	
	1460					1465					1470				
Phe	Gly	Leu	Lys	Gln	Thr	Asp	Lys	Val	Pro	Ser	Lys	Thr	Val	Ala	
	1475					1480					1485				
Ala	Lys	Lys	Gly	Lys	Pro	Ser	Ser	Asp	Thr	Val	Pro	Lys	Pro	Lys	
	1490					1495					1500				
Arg	Ala	Pro	Lys	Gln	Lys	Lys	Val	Val	Glu	Ala	Val	Asn	Ser	Asp	
	1505					1510					1515				
Ser	Asp	Ser	Glu	Phe	Gly	Ile	Pro	Lys	Lys	Thr	Thr	Thr	Pro	Lys	
	1520					1525					1530				
Gly	Lys	Gly	Arg	Gly	Ala	Lys	Lys	Arg	Lys	Ala	Ser	Gly	Ser	Glu	
	1535					1540					1545				
Asn	Glu	Gly	Asp	Tyr	Asn	Pro	Gly	Arg	Lys	Thr	Ser	Lys	Thr	Thr	
	1550					1555					1560				
Ser	Lys	Lys	Pro	Lys	Lys	Thr	Ser	Phe	Asp	Gln	Asp	Ser	Asp	Val	
	1565					1570					1575				
Asp	Ile	Phe	Pro	Ser	Asp	Phe	Pro	Thr	Glu	Pro	Pro	Ser	Leu	Pro	
	1580					1585					1590				
Arg	Thr	Gly	Arg	Ala	Arg	Lys	Glu	Val	Lys	Tyr	Phe	Ala	Glu	Ser	
	1595					1600					1605				
Asp	Glu	Glu	Glu	Asp	Asp	Val	Asp	Phe	Ala	Met	Phe	Asn			
	1610					1615					1620				
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Leu Asn Glu Cys Lys Gln Leu Asn Glu Asn Gln Val Arg Thr Leu Cys
 20 25 30
 Glu Lys Ala Lys Glu Ile Leu Thr Lys Glu Ser Asn Val Gln Glu Val
 35 40 45
 Arg Cys Pro Val Thr Val Cys Gly Asp Val His Gly Gln Phe His Asp
 50 55 60
 Leu Met Glu Leu Phe Arg Ile Gly Gly Lys Ser Pro Asp Thr Asn Tyr
 65 70 75 80
 Leu Phe Met Gly Asp Tyr Val Asp Arg Gly Tyr Tyr Ser Val Glu Thr
 85 90 95
 Val Thr Leu Leu Val Ala Leu Lys Val Arg Tyr Pro Glu Arg Ile Thr
 100 105 110
 Ile Leu Arg Gly Asn His Glu Ser Arg Gln Ile Thr Gln Val Tyr Gly
 115 120 125
 Phe Tyr Asp Glu Cys Leu Arg Lys Tyr Gly Asn Ala Asn Val Trp Lys
 130 135 140
 Tyr Phe Thr Asp Leu Phe Asp Tyr Leu Pro Leu Thr Ala Leu Val Asp
 145 150 155 160
 Gly Gln Ile Phe Cys Leu His Gly Gly Leu Ser Pro Ser Ile Asp Thr
 165 170 175
 Leu Asp His Ile Arg Ala Leu Asp Arg Leu Gln Glu Val Pro His Glu
 180 185 190
 Gly Pro Met Cys Asp Leu Leu Trp Ser Asp Pro Asp Asp Arg Gly Gly
 195 200 205
 Trp Gly Ile Ser Pro Arg Gly Ala Gly Tyr Thr Phe Gly Gln Asp Ile
 210 215 220
 Ser Glu Thr Phe Asn His Ala Asn Gly Leu Thr Leu Val Ser Arg Ala
 225 230 235 240
 His Gln Leu Val Met Glu Gly Tyr Asn Trp Cys His Asp Arg Asn Val
 245 250 255
 Val Thr Ile Phe Ser Ala Pro Asn Tyr Cys Tyr Arg Cys Gly Asn Gln
 260 265 270
 Ala Ala Ile Met Glu Leu Asp Asp Thr Leu Lys Tyr Ser Phe Leu Gln
 275 280 285
 Phe Asp Pro Ala Pro Arg Arg Gly Glu Pro His Val Thr Arg Arg Thr
 290 295 300
 Pro Asp Tyr Phe Leu
 305

<210> 75
 <211> 309
 <212> PRT

<213> Homo sapiens

<400> 75

Met Asp Asp Lys Ala Phe Thr Lys Glu Leu Asp Gln Trp Val Glu Gln
1 5 10 15

Leu Asn Glu Cys Lys Gln Leu Asn Glu Asn Gln Val Arg Thr Leu Cys
20 25 30

Glu Lys Ala Lys Glu Ile Leu Thr Lys Glu Ser Asn Val Gln Glu Val
35 40 45

Arg Cys Pro Val Thr Val Cys Gly Asp Val His Gly Gln Phe His Asp
50 55 60

Leu Met Glu Leu Phe Arg Ile Gly Gly Lys Ser Pro Asp Thr Asn Tyr
65 70 75 80

Leu Phe Met Gly Asp Tyr Val Asp Arg Gly Tyr Tyr Ser Val Glu Thr
85 90 95

Val Thr Leu Leu Val Ala Leu Lys Val Arg Tyr Pro Glu Arg Ile Thr
100 105 110

Ile Leu Arg Gly Asn His Glu Ser Arg Gln Ile Thr Gln Val Tyr Gly
115 120 125

Phe Tyr Asp Glu Cys Leu Arg Lys Tyr Gly Asn Ala Asn Val Trp Lys
130 135 140

Tyr Phe Thr Asp Leu Phe Asp Tyr Leu Pro Leu Thr Ala Leu Val Asp
145 150 155 160

Gly Gln Ile Phe Cys Leu His Gly Gly Leu Ser Pro Ser Ile Asp Thr
165 170 175

Leu Asp His Ile Arg Ala Leu Asp Arg Leu Gln Glu Val Pro His Glu
180 185 190

Gly Pro Met Cys Asp Leu Leu Trp Ser Asp Pro Asp Asp Arg Gly Gly
195 200 205

Trp Gly Ile Ser Pro Arg Gly Ala Gly Tyr Thr Phe Gly Gln Asp Ile
210 215 220

Ser Glu Thr Phe Asn His Ala Asn Gly Leu Thr Leu Val Ser Arg Ala
225 230 235 240

His Gln Leu Val Met Glu Gly Tyr Asn Trp Cys His Asp Arg Asn Val
245 250 255

Val Thr Ile Phe Ser Ala Pro Asn Tyr Cys Tyr Arg Cys Gly Asn Gln
260 265 270

Ala Ala Ile Met Glu Leu Asp Asp Thr Leu Lys Tyr Ser Phe Leu Gln
275 280 285

Phe Asp Pro Ala Pro Arg Arg Gly Glu Pro His Val Thr Arg Arg Thr
290 295 300

Pro Asp Tyr Phe Leu
305

<210> 76
 <211> 443
 <212> PRT
 <213> Homo sapiens
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 Met Ala Ala Ser Pro His Thr Leu Ser Ser Arg Leu Leu Thr Gly Cys
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 Val Gly Gly Ser Val Trp Tyr Leu Glu Arg Arg Thr Ile Gln Asp Ser
 20 25 30
 Pro His Lys Phe Leu His Leu Leu Arg Asn Val Asn Lys Gln Trp Ile
 35 40 45
 Thr Phe Gln His Phe Ser Phe Leu Lys Arg Met Tyr Val Thr Gln Leu
 50 55 60
 Asn Arg Ser His Asn Gln Gln Val Arg Pro Lys Pro Glu Pro Val Ala
 65 70 75 80
 Ser Pro Phe Leu Glu Lys Thr Ser Ser Gly Gln Ala Lys Ala Glu Ile
 85 90 95
 Tyr Glu Met Arg Pro Leu Ser Pro Pro Ser Leu Ser Leu Ser Arg Lys
 100 105 110
 Pro Asn Glu Lys Glu Leu Ile Glu Leu Glu Pro Asp Ser Val Ile Glu
 115 120 125
 Asp Ser Ile Asp Val Gly Lys Glu Thr Lys Glu Glu Lys Arg Trp Lys
 130 135 140
 Glu Met Lys Leu Gln Val Tyr Asp Leu Pro Gly Ile Leu Ala Arg Leu
 145 150 155 160
 Ser Lys Ile Lys Leu Thr Ala Leu Val Val Ser Thr Thr Ala Ala Gly
 165 170 175
 Phe Ala Leu Ala Pro Gly Pro Phe Asp Trp Pro Cys Phe Leu Leu Thr
 180 185 190
 Ser Val Gly Thr Gly Leu Ala Ser Cys Ala Ala Asn Ser Ile Asn Gln
 195 200 205
 Phe Phe Glu Val Pro Phe Asp Ser Asn Met Asn Arg Thr Lys Asn Arg
 210 215 220
 Pro Leu Val Arg Gly Gln Ile Ser Pro Leu Leu Ala Val Ser Phe Ala
 225 230 235 240
 Thr Cys Cys Ala Val Pro Gly Val Ala Ile Leu Thr Leu Gly Val Asn
 245 250 255
 Pro Leu Thr Gly Ala Leu Gly Leu Phe Asn Ile Phe Leu Tyr Thr Cys
 260 265 270
 Cys Tyr Thr Pro Leu Lys Arg Ile Ser Ile Ala Asn Thr Trp Val Gly
 275 280 285
 Ala Val Val Gly Ala Ile Pro Pro Val Met Gly Trp Thr Ala Ala Thr

290					295					300					
Gly	Ser	Leu	Asp	Ala	Gly	Ala	Phe	Leu	Leu	Gly	Gly	Ile	Leu	Tyr	Ser
305					310					315					320
Trp	Gln	Phe	Pro	His	Phe	Asn	Ala	Leu	Ser	Trp	Gly	Leu	Arg	Glu	Asp
				325					330					335	
Tyr	Ser	Arg	Gly	Gly	Tyr	Cys	Met	Met	Ser	Val	Thr	His	Pro	Gly	Leu
			340					345					350		
Cys	Arg	Arg	Val	Ala	Leu	Arg	His	Cys	Leu	Ala	Leu	Leu	Val	Leu	Ser
			355				360					365			
Ala	Ala	Ala	Pro	Val	Leu	Asp	Ile	Thr	Thr	Trp	Thr	Phe	Pro	Ile	Met
			370			375					380				
Ala	Leu	Pro	Ile	Asn	Ala	Tyr	Ile	Ser	Tyr	Leu	Gly	Phe	Arg	Phe	Tyr
385				390						395					400
Val	Asp	Ala	Asp	Arg	Arg	Ser	Ser	Arg	Arg	Leu	Phe	Phe	Cys	Ser	Leu
				405					410					415	
Trp	His	Leu	Pro	Leu	Leu	Leu	Leu	Leu	Met	Leu	Thr	Cys	Lys	Arg	Pro
			420					425					430		
Ser	Gly	Gly	Gly	Asp	Ala	Gly	Pro	Pro	Pro	Ser					
			435				440								
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<212> PRT															
<213> Homo sapiens															
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1				5					10					15	
Asp	Tyr	Gly	Asp	Ala	Thr	Pro	Cys	Gln	Lys	Val	Asn	Glu	Arg	Ala	Phe
			20					25					30		
Gly	Ala	Gln	Leu	Leu	Pro	Pro	Leu	Tyr	Ser	Leu	Val	Phe	Val	Ile	Gly
			35				40					45			
Leu	Val	Gly	Asn	Ile	Leu	Val	Val	Leu	Val	Leu	Val	Gln	Tyr	Lys	Arg
	50					55					60				
Leu	Lys	Asn	Met	Thr	Ser	Ile	Tyr	Leu	Leu	Asn	Leu	Ala	Ile	Ser	Asp
65				70					75					80	
Leu	Leu	Phe	Leu	Phe	Thr	Leu	Pro	Phe	Trp	Ile	Asp	Tyr	Lys	Leu	Lys
				85					90					95	
Asp	Asp	Trp	Val	Phe	Gly	Asp	Ala	Met	Cys	Lys	Ile	Leu	Ser	Gly	Phe
			100				105						110		
Tyr	Tyr	Thr	Gly	Leu	Tyr	Ser	Glu	Ile	Phe	Phe	Ile	Ile	Leu	Leu	Thr
			115				120					125			
Ile	Asp	Arg	Tyr	Leu	Ala	Ile	Val	His	Ala	Val	Phe	Ala	Leu	Arg	Ala
	130					135					140				

Arg Thr Val Thr Phe Gly Val Ile Thr Ser Ile Ile Ile Trp Ala Leu
 145 150 155 160
 Ala Ile Leu Ala Ser Met Pro Gly Leu Tyr Phe Ser Lys Thr Gln Trp
 165 170 175
 Glu Phe Thr His His Thr Cys Ser Leu His Phe Pro His Glu Ser Leu
 180 185 190
 Arg Glu Trp Lys Leu Phe Gln Ala Leu Lys Leu Asn Leu Phe Gly Leu
 195 200 205
 Val Leu Pro Leu Leu Val Met Ile Ile Cys Tyr Thr Gly Ile Ile Lys
 210 215 220
 Ile Leu Leu Arg Arg Pro Asn Glu Lys Lys Ser Lys Ala Val Arg Leu
 225 230 235 240
 Ile Phe Val Ile Met Ile Ile Phe Phe Leu Phe Trp Thr Pro Tyr Asn
 245 250 255
 Leu Thr Ile Leu Ile Ser Val Phe Gln Asp Phe Leu Phe Thr His Glu
 260 265 270
 Cys Glu Gln Ser Arg His Leu Asp Leu Ala Val Gln Val Thr Glu Val
 275 280 285
 Ile Ala Tyr Thr His Cys Cys Val Asn Pro Val Ile Tyr Ala Phe Val
 290 295 300
 Gly Glu Arg Phe Arg Lys Tyr Leu Arg Gln Leu Phe His Arg Arg Val
 305 310 315 320
 Ala Val His Leu Val Lys Trp Leu Pro Phe Leu Ser Val Asp Arg Leu
 325 330 335
 Glu Arg Val Ser Ser Thr Ser Pro Ser Thr Gly Glu His Glu Leu Ser
 340 345 350
 Ala Gly Phe
 355
 <210> 78
 <211> 326
 <212> PRT
 <213> Homo sapiens
 <400> 78
 Met Ala Ser Lys Val Ser Cys Leu Tyr Val Leu Thr Val Val Cys Trp
 1 5 10 15
 Ala Ser Ala Leu Trp Tyr Leu Ser Ile Thr Arg Pro Thr Ser Ser Tyr
 20 25 30
 Thr Gly Ser Lys Pro Phe Ser His Leu Thr Val Ala Arg Lys Asn Phe
 35 40 45
 Thr Phe Gly Asn Ile Arg Thr Arg Pro Ile Asn Pro His Ser Phe Glu
 50 55 60
 Phe Leu Ile Asn Glu Pro Asn Lys Cys Glu Lys Asn Ile Pro Phe Leu
 65 70 75 80

Val Ile Leu Ile Ser Thr Thr His Lys Glu Phe Asp Ala Arg Gln Ala
 85 90 95
 Ile Arg Glu Thr Trp Gly Asp Glu Asn Asn Phe Lys Gly Ile Lys Ile
 100 105 110
 Ala Thr Leu Phe Leu Leu Gly Lys Asn Ala Asp Pro Val Leu Asn Gln
 115 120 125
 Met Val Glu Gln Glu Ser Gln Ile Phe His Asp Ile Ile Val Glu Asp
 130 135 140
 Phe Ile Asp Ser Tyr His Asn Leu Thr Leu Lys Thr Leu Met Gly Met
 145 150 155 160
 Arg Trp Val Ala Thr Phe Cys Ser Lys Ala Lys Tyr Val Met Lys Thr
 165 170 175
 Asp Ser Asp Ile Phe Val Asn Met Asp Asn Leu Ile Tyr Lys Leu Leu
 180 185 190
 Lys Pro Ser Thr Lys Pro Arg Arg Arg Tyr Phe Thr Gly Tyr Val Ile
 195 200 205
 Asn Gly Gly Pro Ile Arg Asp Val Arg Ser Lys Trp Tyr Met Pro Arg
 210 215 220
 Asp Leu Tyr Pro Asp Ser Asn Tyr Pro Pro Phe Cys Ser Gly Thr Gly
 225 230 235 240
 Tyr Ile Phe Ser Ala Asp Val Ala Glu Leu Ile Tyr Lys Thr Ser Leu
 245 250 255
 His Thr Arg Leu Leu His Leu Glu Asp Val Tyr Val Gly Leu Cys Leu
 260 265 270
 Arg Lys Leu Gly Ile His Pro Phe Gln Asn Ser Gly Phe Asn His Trp
 275 280 285
 Lys Met Ala Tyr Ser Leu Cys Arg Tyr Arg Arg Val Ile Thr Val His
 290 295 300
 Gln Ile Ser Pro Glu Glu Met His Arg Ile Trp Asn Asp Met Ser Ser
 305 310 315 320
 Lys Lys His Leu Arg Cys
 325

<210> 79
 <211> 581
 <212> PRT
 <213> Homo sapiens
 <400> 79

Met Gly Glu Lys Met Ala Glu Glu Glu Arg Phe Pro Asn Thr Thr His
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 Glu Gly Phe Asn Val Thr Leu His Thr Thr Leu Val Val Thr Thr Lys
 20 25 30
 Leu Val Leu Pro Thr Pro Gly Lys Pro Ile Leu Pro Val Gln Thr Gly

35					40					45					
Glu	Gln	Ala	Gln	Gln	Glu	Glu	Gln	Ser	Ser	Gly	Met	Thr	Ile	Phe	Phe
50					55					60					
Ser	Leu	Leu	Val	Leu	Ala	Ile	Cys	Ile	Ile	Leu	Val	His	Leu	Leu	Ile
65				70						75					80
Arg	Tyr	Arg	Leu	His	Phe	Leu	Pro	Glu	Ser	Val	Ala	Val	Val	Ser	Leu
				85					90					95	
Gly	Ile	Leu	Met	Gly	Ala	Val	Ile	Lys	Ile	Ile	Glu	Phe	Lys	Lys	Leu
			100					105					110		
Ala	Asn	Trp	Lys	Glu	Glu	Glu	Met	Phe	Arg	Pro	Asn	Met	Phe	Phe	Leu
			115				120					125			
Leu	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Glu	Ser	Gly	Tyr	Ser	Leu	His	Lys
			130			135					140				
Gly	Asn	Phe	Phe	Gln	Asn	Ile	Gly	Ser	Ile	Thr	Leu	Phe	Ala	Val	Phe
145					150					155					160
Gly	Thr	Ala	Ile	Ser	Ala	Phe	Val	Val	Gly	Gly	Gly	Ile	Tyr	Phe	Leu
				165					170					175	
Gly	Gln	Ala	Asp	Val	Ile	Ser	Lys	Leu	Asn	Met	Thr	Asp	Ser	Phe	Ala
			180					185					190		
Phe	Gly	Ser	Leu	Ile	Ser	Ala	Val	Asp	Pro	Val	Ala	Thr	Ile	Ala	Ile
			195				200					205			
Phe	Asn	Ala	Leu	His	Val	Asp	Pro	Val	Leu	Asn	Met	Leu	Val	Phe	Gly
			210			215					220				
Glu	Ser	Ile	Leu	Asn	Asp	Ala	Val	Ser	Ile	Val	Leu	Thr	Asn	Thr	Ala
225					230					235					240
Glu	Gly	Leu	Thr	Arg	Lys	Asn	Met	Ser	Asp	Val	Ser	Gly	Trp	Gln	Thr
				245					250					255	
Phe	Leu	Gln	Ala	Leu	Asp	Tyr	Phe	Leu	Lys	Met	Phe	Phe	Gly	Ser	Ala
			260					265					270		
Ala	Leu	Gly	Thr	Leu	Thr	Gly	Leu	Ile	Ser	Ala	Leu	Val	Leu	Lys	His
			275				280					285			
Ile	Asp	Leu	Arg	Lys	Thr	Pro	Ser	Leu	Glu	Phe	Gly	Met	Met	Ile	Ile
	290					295					300				
Phe	Ala	Tyr	Leu	Pro	Tyr	Gly	Leu	Ala	Glu	Gly	Ile	Ser	Leu	Ser	Gly
305					310					315					320
Ile	Met	Ala	Ile	Leu	Phe	Ser	Gly	Ile	Val	Met	Ser	His	Tyr	Thr	His
				325					330					335	
His	Asn	Leu	Ser	Pro	Val	Thr	Gln	Ile	Leu	Met	Gln	Gln	Thr	Leu	Arg
			340					345					350		
Thr	Val	Ala	Phe	Leu	Cys	Glu	Thr	Cys	Val	Phe	Ala	Phe	Leu	Gly	Leu
			355				360					365			

Ser Ile Phe Ser Phe Pro His Lys Phe Glu Ile Ser Phe Val Ile Trp
 370 375 380
 Cys Ile Val Leu Val Leu Phe Gly Arg Ala Val Asn Ile Phe Pro Leu
 385 390 395 400
 Ser Tyr Leu Leu Asn Phe Phe Arg Asp His Lys Ile Thr Pro Lys Met
 405 410 415
 Met Phe Ile Met Trp Phe Ser Gly Leu Arg Gly Ala Ile Pro Tyr Ala
 420 425 430
 Leu Ser Leu His Leu Asp Leu Glu Pro Met Glu Lys Arg Gln Leu Ile
 435 440 445
 Gly Thr Thr Thr Ile Val Ile Val Leu Phe Thr Ile Leu Leu Leu Gly
 450 455 460
 Gly Ser Thr Met Pro Leu Ile Arg Leu Met Asp Ile Glu Asp Ala Lys
 465 470 475 480
 Ala His Arg Arg Asn Lys Lys Asp Val Asn Leu Ser Lys Thr Glu Lys
 485 490 495
 Met Gly Asn Thr Val Glu Ser Glu His Leu Ser Glu Leu Thr Glu Glu
 500 505 510
 Glu Tyr Glu Ala His Tyr Ile Arg Arg Gln Asp Leu Lys Gly Phe Val
 515 520 525
 Trp Leu Asp Ala Lys Tyr Leu Asn Pro Phe Phe Thr Arg Arg Leu Thr
 530 535 540
 Gln Glu Asp Leu His His Gly Arg Ile Gln Met Lys Thr Leu Thr Asn
 545 550 555 560
 Lys Trp Tyr Glu Glu Val Arg Gln Gly Pro Ser Gly Ser Glu Asp Asp
 565 570 575
 Glu Gln Glu Leu Leu
 580

<210> 80

<211> 342

<212> PRT

<213> Homo sapiens

<400> 80

Met Ala Glu His Asp Tyr His Glu Asp Tyr Gly Phe Ser Ser Phe Asn
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Asp Ser Ser Gln Glu Glu His Gln Asp Phe Leu Gln Phe Ser Lys Val
 20 25 30

Phe Leu Pro Cys Met Tyr Leu Val Val Phe Val Cys Gly Leu Val Gly
 35 40 45

Asn Ser Leu Val Leu Val Ile Ser Ile Phe Tyr His Lys Leu Gln Ser
 50 55 60

Leu Thr Asp Val Phe Leu Val Asn Leu Pro Leu Ala Asp Leu Val Phe

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	ctgtttgcag tggctgtcc	19
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	gtggtcagct aaaggaatc	19
<210>	88	
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gaagctgcgg cacaaacac	19
<210> 89	
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<400> 89	
agaaatggcg accaaacac	19
<210> 90	
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agcatgaggg ttaaagtgc	19
<210> 91	
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ctgcagtgtt ttatcggac	19
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<400> 92	
ttccttgtct ggaagctgc	19
<210> 93	
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<400> 93	
gaccccttgg gactcaggc	19
<210> 94	
<211> 19	
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<400> 94	
agctcagaat gacctagac	19
<210> 95	
<211> 19	
<212> DNA	
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<223>	Target Knock-Down sequence	
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<210>	96	
<211>	19	
<212>	DNA	
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<223>	Target Knock-Down sequence	
<400>	96	
	catctgcacc tatcacccc	19
<210>	97	
<211>	19	
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<223>	Target Knock-Down sequence	
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	tggctaagag atccatctc	19
<210>	98	
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	atgaactctg tgatccagc	19
<210>	99	
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	ttcagtgcct aacagtggc	19
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	gcatgaatat tgtggaggc	19
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	agcatgatga tagttcctc	19
<210>	102	
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