

1

SEQUENCE LISTING

<110> EXTERNAUTICS S.P.A

<120> colon and rectal tumor markers and methos of use thereof

<130> 1297PCT

<160> 86

<170> PatentIn version 3.3

<210> 1

<211> 346

<212> PRT

<213> Homo sapiens

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Lys	Thr	Pro	Ala	Gln	Pro	Gln	Leu	Lys	Ala	Ala	Asn	Cys	Cys	Glu	Glu
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Val	Lys	Glu	Leu	Lys	Ala	Gln	Val	Ala	Asn	Leu	Ser	Ser	Leu	Leu	Ser
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Glu	Leu	Asn	Lys	Lys	Gln	Glu	Arg	Asp	Trp	Val	Ser	Val	Val	Met	Gln
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Asp	Ala	Glu	Ser	Lys	Tyr	Ser	Glu	Met	Asn	Asn	Gln	Ile	Asp	Ile	Met
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Gln	Leu	Gln	Ala	Ala	Gln	Thr	Val	Thr	Gln	Thr	Ser	Ala	Asp	Ala	Ile
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Tyr	Asp	Cys	Ser	Ser	Leu	Tyr	Gln	Lys	Asn	Tyr	Arg	Ile	Ser	Gly	Val
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Tyr	Lys	Leu	Pro	Pro	Asp	Asp	Phe	Leu	Gly	Ser	Pro	Glu	Leu	Glu	Val
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Phe	Cys	Asp	Met	Glu	Thr	Ser	Gly	Gly	Gly	Trp	Thr	Ile	Ile	Gln	Arg
				165					170					175	

2

Arg Lys Ser Gly Leu Val Ser Phe Tyr Arg Asp Trp Lys Gln Tyr Lys
180 185 190

Gln Gly Phe Gly Ser Ile Arg Gly Asp Phe Trp Leu Gly Asn Glu His
195 200 205

Ile His Arg Leu Ser Arg Gln Pro Thr Arg Leu Arg Val Glu Met Glu
210 215 220

Asp Trp Glu Gly Asn Leu Arg Tyr Ala Glu Tyr Ser His Phe Val Leu
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Gly Asn Glu Leu Asn Ser Tyr Arg Leu Phe Leu Gly Asn Tyr Thr Gly
245 250 255

Asn Val Gly Asn Asp Ala Leu Gln Tyr His Asn Asn Thr Ala Phe Ser
260 265 270

Thr Lys Asp Lys Asp Asn Asp Asn Cys Leu Asp Lys Cys Ala Gln Leu
275 280 285

Arg Lys Gly Gly Tyr Trp Tyr Asn Cys Cys Thr Asp Ser Asn Leu Asn
290 295 300

Gly Val Tyr Tyr Arg Leu Gly Glu His Asn Lys His Leu Asp Gly Ile
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Thr Trp Tyr Gly Trp His Gly Ser Thr Tyr Ser Leu Lys Arg Val Glu
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Met Lys Ile Arg Pro Glu Asp Phe Lys Pro
340 345

<210> 2
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<212> DNA
<213> Homo sapiens

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 <212> PRT
 <213> Homo sapiens

<400> 3

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Ile Met Gln Ser Glu Met Arg Glu Arg Gln Met Ala Met Gln Ile Ala
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Trp Ser Arg Glu Phe Leu Lys Tyr Phe Gly Thr Phe Phe Gly Leu Ala
 50 55 60

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

Leu Val Pro Ile Val Pro Leu Ser Phe Ile Leu Thr Tyr Gln Tyr Asp
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Leu Gly Tyr Gly Thr Leu Leu Glu Arg Met Lys Gly Glu Ala Glu Asp
 100 105 110

Ile Leu Glu Thr Glu Lys Ser Lys Leu Gln Leu Pro Arg Gly Met Ile
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Ile Asp Lys
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<210> 5
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<400> 5
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Met Lys Val His Met His Thr Lys Phe Cys Leu Ile Cys Leu Leu Thr
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Phe Ile Phe His His Cys Asn His Cys His Glu Glu His Asp His Gly
20           25           30

```

```

Pro Glu Ala Leu His Arg Gln His Arg Gly Met Thr Glu Leu Glu Pro
35           40           45

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Ser Lys Phe Ser Lys Gln Ala Ala Glu Asn Glu Lys Lys Tyr Tyr Ile
50           55           60

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Glu Lys Leu Phe Glu Arg Tyr Gly Glu Asn Gly Arg Leu Ser Phe Phe
65           70           75           80

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Gly Leu Glu Lys Leu Leu Thr Asn Leu Gly Leu Gly Glu Arg Lys Val
85           90           95

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Val Glu Ile Asn His Glu Asp Leu Gly His Asp His Val Ser His Leu
100          105          110

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6

Asp Ile Leu Ala Val Gln Glu Gly Lys His Phe His Ser His Asn His
 115 120 125

Gln His Ser His Asn His Leu Asn Ser Glu Asn Gln Thr Val Thr Ser
 130 135 140

Val Ser Thr Lys Arg Asn His Lys Cys Asp Pro Glu Lys Glu Thr Val
 145 150 155 160

Glu Val Ser Val Lys Ser Asp Asp Lys His Met His Asp His Asn His
 165 170 175

Arg Leu Arg His His His Arg Leu His His His Leu Asp His Asn Asn
 180 185 190

Thr His His Phe His Asn Asp Ser Ile Thr Pro Ser Glu Arg Gly Glu
 195 200 205

Pro Ser Asn Glu Pro Ser Thr Glu Thr Asn Lys Thr Gln Glu Gln Ser
 210 215 220

Asp Val Lys Leu Pro Lys Gly Lys Arg Lys Lys Lys Gly Arg Lys Ser
 225 230 235 240

Asn Glu Asn Ser Glu Val Ile Thr Pro Gly Phe Pro Pro Asn His Asp
 245 250 255

Gln Gly Glu Gln Tyr Glu His Asn Arg Val His Lys Pro Asp Arg Val
 260 265 270

His Asn Pro Gly His Ser His Val His Leu Pro Glu Arg Asn Gly His
 275 280 285

Asp Pro Gly Arg Gly His Gln Asp Leu Asp Pro Asp Asn Glu Gly Glu
 290 295 300

Leu Arg His Thr Arg Lys Arg Glu Ala Pro His Val Lys Asn Asn Ala
 305 310 315 320

Ile Ile Ser Leu Arg Lys Asp Leu Asn Glu Asp Asp His His His Glu
 325 330 335

Cys Leu Asn Val Thr Gln Leu Leu Lys Tyr Tyr Gly His Gly Ala Asn
 340 345 350

Ser Pro Ile Ser Thr Asp Leu Phe Thr Tyr Leu Cys Pro Ala Leu Leu
 355 360 365

Tyr Gln Ile Asp Ser Arg Leu Cys Ile Glu His Phe Asp Lys Leu Leu
 370 375 380

Val Glu Asp Ile Asn Lys Asp Lys Asn Leu Val Pro Glu Asp Glu Ala
 385 390 395 400

Asn Ile Gly Ala Ser Ala Trp Ile Cys Gly Ile Ile Ser Ile Thr Val
 405 410 415

Ile Ser Leu Leu Ser Leu Leu Gly Val Ile Leu Val Pro Ile Ile Asn
 420 425 430

Gln Gly Cys Phe Lys Phe Leu Leu Thr Phe Leu Val Ala Leu Ala Val
 435 440 445

Gly Thr Met Ser Gly Asp Ala Leu Leu His Leu Leu Pro His Ser Gln
 450 455 460

Gly Gly His Asp His Ser His Gln His Ala His Gly His Gly His Ser
 465 470 475 480

His Gly His Glu Ser Asn Lys Phe Leu Glu Glu Tyr Asp Ala Val Leu
 485 490 495

Lys Gly Leu Val Ala Leu Gly Gly Ile Tyr Leu Leu Phe Ile Ile Glu
 500 505 510

His Cys Ile Arg Met Phe Lys His Tyr Lys Gln Gln Arg Gly Lys Gln
 515 520 525

Lys Trp Phe Met Lys Gln Asn Thr Glu Glu Ser Thr Ile Gly Arg Lys
 530 535 540

Leu Ser Asp His Lys Leu Asn Asn Thr Pro Asp Ser Asp Trp Leu Gln
 545 550 555 560

Leu Lys Pro Leu Ala Gly Thr Asp Asp Ser Val Val Ser Glu Asp Arg
 565 570 575

Leu Asn Glu Thr Glu Leu Thr Asp Leu Glu Gly Gln Gln Glu Ser Pro
 580 585 590

Pro Lys Asn Tyr Leu Cys Ile Glu Glu Glu Lys Ile Ile Asp His Ser
 595 600 605

His Ser Asp Gly Leu His Thr Ile His Glu His Asp Leu His Ala Ala
 610 615 620

8

Ala His Asn His His Gly Glu Asn Lys Thr Val Leu Arg Lys His Asn
625 630 635 640

His Gln Trp His His Lys His Ser His His Ser His Gly Pro Cys His
645 650 655

Ser Gly Ser Asp Leu Lys Glu Thr Gly Ile Ala Asn Ile Ala Trp Met
660 665 670

Val Ile Met Gly Asp Gly Ile His Asn Phe Ser Asp Gly Leu Ala Ile
675 680 685

Gly Ala Ala Phe Ser Ala Gly Leu Thr Gly Gly Ile Ser Thr Ser Ile
690 695 700

Ala Val Phe Cys His Glu Leu Pro His Glu Leu Gly Asp Phe Ala Val
705 710 715 720

Leu Leu Lys Ala Gly Met Thr Val Lys Gln Ala Ile Val Tyr Asn Leu
725 730 735

Leu Ser Ala Met Met Ala Tyr Ile Gly Met Leu Ile Gly Thr Ala Val
740 745 750

Gly Gln Tyr Ala Asn Asn Ile Thr Leu Trp Ile Phe Ala Val Thr Ala
755 760 765

Gly Met Phe Leu Tyr Val Ala Leu Val Asp Met Leu Pro Glu Met Leu
770 775 780

His Gly Asp Gly Asp Asn Glu Glu His Gly Phe Cys Pro Val Gly Gln
785 790 795 800

Phe Ile Leu Gln Asn Leu Gly Leu Leu Phe Gly Phe Ala Ile Met Leu
805 810 815

Val Ile Ala Leu Tyr Glu Asp Lys Ile Val Phe Asp Ile Gln Phe
820 825 830

<210> 6

<211> 831

<212> PRT

<213> Homo sapiens

<400> 6

Met Lys Val His Met His Thr Lys Phe Cys Leu Ile Cys Leu Leu Thr
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			20					25					30		
Pro	Glu	Ala	Leu	His	Arg	Gln	His	Arg	Gly	Met	Thr	Glu	Leu	Glu	Pro
		35					40					45			
Ser	Lys	Phe	Ser	Lys	Gln	Ala	Ala	Glu	Asn	Glu	Lys	Lys	Tyr	Tyr	Ile
	50					55					60				
Glu	Lys	Leu	Phe	Glu	Arg	Tyr	Gly	Glu	Asn	Gly	Arg	Leu	Ser	Phe	Phe
65					70					75					80
Gly	Leu	Glu	Lys	Leu	Leu	Thr	Asn	Leu	Gly	Leu	Gly	Glu	Arg	Lys	Val
				85					90					95	
Val	Glu	Ile	Asn	His	Glu	Asp	Leu	Gly	His	Asp	His	Val	Ser	His	Leu
			100					105					110		
Asp	Ile	Leu	Ala	Val	Gln	Glu	Gly	Lys	His	Phe	His	Ser	His	Asn	His
		115					120					125			
Gln	His	Ser	His	Asn	His	Leu	Asn	Ser	Glu	Asn	Gln	Thr	Val	Thr	Ser
	130					135					140				
Val	Ser	Thr	Lys	Arg	Asn	His	Lys	Cys	Asp	Pro	Glu	Lys	Glu	Thr	Val
145					150					155					160
Glu	Val	Ser	Val	Lys	Ser	Asp	Asp	Lys	His	Met	His	Asp	His	Asn	His
				165					170					175	
Arg	Leu	Arg	His	His	His	Arg	Leu	His	His	His	Leu	Asp	His	Asn	Asn
			180					185					190		
Thr	His	His	Phe	His	Asn	Asp	Ser	Ile	Thr	Pro	Ser	Glu	Arg	Gly	Glu
	195						200					205			
Pro	Ser	Asn	Glu	Pro	Ser	Thr	Glu	Thr	Asn	Lys	Thr	Gln	Glu	Gln	Ser
	210					215					220				
Asp	Val	Lys	Leu	Pro	Lys	Gly	Lys	Arg	Lys	Lys	Lys	Gly	Arg	Lys	Ser
225					230					235					240
Asn	Glu	Asn	Ser	Glu	Val	Ile	Thr	Pro	Gly	Phe	Pro	Pro	Asn	His	Asp
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Gln	Gly	Glu	Gln	Tyr	Glu	His	Asn	Arg	Val	His	Lys	Pro	Asp	Arg	Val
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10

His Asn Pro Gly His Ser His Val His Leu Pro Glu Arg Asn Gly His
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Asp Pro Gly Arg Gly His Gln Asp Leu Asp Pro Asp Asn Glu Gly Glu
290 295 300

Leu Arg His Thr Arg Lys Arg Glu Ala Pro His Val Lys Asn Asn Ala
305 310 315 320

Ile Ile Ser Leu Arg Lys Asp Leu Asn Glu Asp Asp His His His Glu
325 330 335

Cys Leu Asn Val Thr Gln Leu Leu Lys Tyr Tyr Gly His Gly Ala Asn
340 345 350

Ser Pro Ile Ser Thr Asp Leu Phe Thr Tyr Leu Cys Pro Ala Leu Leu
355 360 365

Tyr Gln Ile Asp Ser Arg Leu Cys Ile Glu His Phe Asp Lys Leu Leu
370 375 380

Val	Glu	Asp	Ile	Asn	Lys	Asp	Lys	Asn	Leu	Val	Pro	Glu	Asp	Glu	Ala
385					390					395					400

Asn Ile Gly Ala Ser Ala Trp Ile Cys Gly Ile Ile Ser Ile Thr Val
405 410 415

Ile Ser Leu Leu Ser Leu Leu Gly Val Ile Leu Val Pro Ile Ile Asn
420 425 430

Gln Gly Cys Phe Lys Phe Leu Leu Thr Phe Leu Val Ala Leu Ala Val
435 440 445

Gly Thr Met Ser Gly Asp Ala Leu Leu His Leu Leu Pro His Ser Gln
450 455 460

Gly Gly His Asp His Ser His Gln His Ala His Gly His Gly His Ser
465 470 475 480

His Gly His Glu Ser Asn Lys Phe Leu Glu Glu Tyr Asp Ala Val Leu
485 490 495

Lys Gly Leu Val Ala Leu Gly Gly Ile Tyr Leu Leu Phe Ile Ile Glu
500 505 510

His Cys Ile Arg Met Phe Lys His Tyr Lys Gln Gln Arg Gly Lys Gln
515 520 525

Lys Trp Phe Met Lys Gln Asn Thr Glu Glu Ser Thr Ile Gly Arg Lys
 530 535 540

Leu Ser Asp His Lys Leu Asn Asn Thr Pro Asp Ser Asp Trp Leu Gln
 545 550 555 560

Leu Lys Pro Leu Ala Gly Thr Asp Asp Ser Val Val Ser Glu Asp Arg
 565 570 575

Leu Asn Glu Thr Glu Leu Thr Asp Leu Glu Gly Gln Gln Glu Ser Pro
 580 585 590

Pro Lys Asn Tyr Leu Cys Ile Glu Glu Glu Lys Ile Ile Asp His Ser
 595 600 605

His Ser Asp Gly Leu His Thr Ile His Glu His Asp Leu His Ala Ala
 610 615 620

Ala His Asn His His Gly Glu Asn Lys Thr Val Leu Arg Lys His Asn
 625 630 635 640

His Gln Trp His His Lys His Ser His His Ser His Gly Pro Cys His
 645 650 655

Ser Gly Ser Asp Leu Lys Glu Thr Gly Ile Ala Asn Ile Ala Trp Met
 660 665 670

Val Ile Met Gly Asp Gly Ile His Asn Phe Ser Asp Gly Leu Ala Ile
 675 680 685

Gly Ala Ala Phe Ser Ala Gly Leu Thr Gly Gly Ile Ser Thr Ser Ile
 690 695 700

Ala Val Phe Cys His Glu Leu Pro His Glu Leu Gly Asp Phe Ala Val
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Leu Leu Lys Ala Gly Met Thr Val Lys Gln Ala Ile Val Tyr Asn Leu
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Leu Ser Ala Met Met Ala Tyr Ile Gly Met Leu Ile Gly Thr Ala Val
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Gly Gln Tyr Ala Asn Asn Ile Thr Leu Trp Ile Phe Ala Val Thr Ala
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Gly Met Phe Leu Tyr Val Ala Leu Val Asp Met Leu Pro Glu Met Leu
 770 775 780

12

His Gly Asp Gly Asp Asn Glu Glu His Gly Phe Cys Pro Val Gly Gln
 785 790 795 800

Phe Ile Leu Gln Asn Leu Gly Leu Leu Phe Gly Phe Ala Ile Met Leu
 805 810 815

Val Ile Ala Leu Tyr Glu Asp Lys Ile Val Phe Asp Ile Gln Phe
 820 825 830

<210> 7

<211> 5227

<212> DNA

<213> Homo sapiens

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Ala Val Val Phe Ile Glu Asp Ala Ile Gln Tyr Arg Ser Ile Asn His
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Arg Val Asp Ala Ser Ser Met Trp Leu Tyr Arg Arg Tyr Tyr Ser Asn
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Val Cys Gln Arg Thr Leu Ser Phe Thr Ile Phe Leu Ile Leu Phe Leu
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Ala Phe Ile Glu Thr Pro Ser Ser Leu Thr Ser Thr Ala Asp Val Arg
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Tyr Arg Ala Ala Pro Trp Glu Pro Pro Cys Gly Leu Thr Glu Ser Val
115 120 125

Glu Val Leu Cys Leu Leu Val Phe Ala Ala Asp Leu Ser Val Lys Gly
130 135 140

Tyr Leu Phe Gly Trp Ala His Phe Gln Lys Asn Leu Trp Leu Leu Gly
145 150 155 160

Tyr Leu Val Val Leu Val Val Ser Leu Val Asp Trp Thr Val Ser Leu
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Ile Cys Val Phe Leu Val Leu Asp Ala Asp Val Leu Pro Ala Glu Arg
 450 455 460

Asp Asp Phe Ile Leu Gly Ile Leu Asn Cys Val Phe Ile Val Tyr Tyr
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Leu Leu Glu Met Leu Leu Lys Val Phe Ala Leu Gly Leu Arg Gly Tyr
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Leu Ser Tyr Pro Ser Asn Val Phe Asp Gly Leu Leu Thr Val Val Leu
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Leu Val Leu Glu Ile Ser Thr Leu Ala Val Tyr Arg Leu Pro His Pro
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Gly Trp Arg Pro Glu Met Val Gly Leu Leu Ser Leu Trp Asp Met Thr
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Arg Met Leu Asn Met Leu Ile Val Phe Arg Phe Leu Arg Ile Ile Pro
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Ser Met Lys Leu Met Ala Val Val Ala Ser Thr Val Leu Gly Leu Val
 565 570 575

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

Pro Gly Asn Ser Ser Leu Ala Pro Ala Asn Gly Ser Ala Pro Cys Gly
 610 615 620

Ser Phe Glu Gln Leu Glu Tyr Trp Ala Asn Asn Phe Asp Asp Phe Ala
 625 630 635 640

Ala Ala Leu Val Thr Leu Trp Asn Leu Met Val Val Asn Asn Trp Gln
 645 650 655

Val Phe Leu Asp Ala Tyr Arg Arg Tyr Ser Gly Pro Trp Ser Lys Ile
 660 665 670

Tyr Phe Val Leu Trp Trp Leu Val Ser Ser Val Ile Trp Val Asn Leu
 675 680 685

21

Phe Leu Ala Leu Ile Leu Glu Asn Phe Leu His Lys Trp Asp Pro Arg
 690 695 700

Ser His Leu Gln Pro Leu Ala Gly Thr Pro Glu Ala Thr Tyr Gln Met
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Thr Val Glu Leu Leu Phe Arg Asp Ile Leu Glu Glu Pro Gly Glu Asp
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Arg Val Asp Ala Ser Ser Met Trp Leu Tyr Arg Arg Tyr Tyr Ser Asn
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Val Cys Gln Arg Thr Leu Ser Phe Thr Ile Phe Leu Ile Leu Phe Leu
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Ala Phe Ile Glu Thr Pro Ser Ser Leu Thr Ser Thr Ala Asp Val Arg
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Tyr Arg Ala Ala Pro Trp Glu Pro Pro Cys Gly Leu Thr Glu Ser Val
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Glu Val Leu Cys Leu Leu Val Phe Ala Ala Asp Leu Ser Val Lys Gly
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Tyr Leu Phe Gly Trp Ala His Phe Gln Lys Asn Leu Trp Leu Leu Gly
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Tyr Leu Val Val Leu Val Val Ser Leu Val Asp Trp Thr Val Ser Leu
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Gly Lys Gln Asp Asp Gly Gln Asp Arg Glu Arg Leu Thr Tyr Phe Gln
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Asn Asn Pro Asp Val Met Ile Pro Ala Tyr Ser Lys Asn Arg Ala Tyr
 275 280 285

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Gly Ser Leu Leu Ile Ser Phe Asn Leu Ser Val Phe Ile Ala Arg Lys
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Leu	Gln	Arg	Met	Asn	Ile	Tyr	Gln	Glu	Val	Phe	Leu	Ser	Ile	Leu	Tyr		
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Arg	Val	Leu	Pro	Ile	Gln	Lys	Tyr	Leu	Glu	Pro	Val	Tyr	Phe	Tyr	Ile		
145					150					155					160		
Tyr	Thr	Leu	Phe	Gly	Leu	Gln	Ala	Ile	Tyr	Val	Thr	Ala	Leu	Tyr	Ile		
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Thr	Ser	Trp	Leu	Leu	Ser	Gly	Thr	Trp	Leu	Ser	Gly	Leu	Leu	Ala	Ala		
			180					185					190				
Phe	Trp	Tyr	Val	Thr	Asn	Arg	Ile	Asp	Thr	Thr	Arg	Val	Glu	Phe	Thr		
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Ile	Pro	Leu	Arg	Glu	Asn	Trp	Ala	Leu	Pro	Phe	Phe	Ala	Ile	Gln	Ile		
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Ala	Ala	Ile	Thr	Tyr	Phe	Leu	Arg	Pro	Asn	Leu	Gln	Pro	Leu	Ser	Glu		
225					230					235					240		
Arg	Leu	Thr	Leu	Leu	Ala	Ile	Phe	Ile	Ser	Thr	Phe	Leu	Phe	Ser	Leu		
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Thr	Trp	Gln	Phe	Asn	Gln	Phe	Met	Met	Leu	Met	Gln	Ala	Leu	Val	Leu		
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Phe Thr Leu Asp Ser Leu Asp Met Leu Pro Ala Val Lys Ala Thr Trp
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Leu Tyr Gly Ile Gln Ile Thr Ser Leu Leu Leu Val Cys Ile Leu Gln
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Phe Phe Asn Ser Met Ile Leu Gly Ser Leu Leu Ile Ser Phe Asn Leu
 305 310 315 320

Ser Val Phe Ile Ala Arg Lys Leu Gln Lys Asn Leu Lys Thr Gly Ser
 325 330 335

Phe Leu Asn Arg Leu Gly Lys Leu Leu Leu His Leu Phe Met Val Leu
 340 345 350

Cys Leu Thr Leu Phe Leu Asn Asn Ile Ile Lys Lys Ile Leu Asn Leu
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Lys Ser Asp Glu His Ile Phe Lys Phe Leu Lys Ala Lys Phe Gly Leu
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Gly Ala Thr Arg Asp Phe Asp Ala Asn Leu Tyr Leu Cys Glu Glu Ala
 385 390 395 400

Phe Gly Leu Leu Pro Phe Asn Thr Phe Gly Arg Leu Ser Asp Thr Leu
 405 410 415

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 420 425 430

Phe Val Val Ala Phe His Asn Leu Ser Asp Ser Thr Asn Gln Gln Ser
 435 440 445

Val Gly Lys Met Glu Lys Gly Thr Val Asp Leu Lys Pro Glu Thr Ala
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Tyr Asn Leu Ile His Thr Ile Leu Phe Gly Phe Leu Ala Leu Ser Thr
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Met Arg Met Lys Tyr Leu Trp Thr Ser His Met Cys Val Phe Ala Ser
 485 490 495

Phe Gly Leu Cys Ser Pro Glu Ile Trp Glu Leu Leu Leu Lys Ser Val
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His Leu Tyr Asn Pro Lys Arg Ile Cys Ile Met Arg Tyr Ser Val Pro
 515 520 525

33

Ile Leu Ile Leu Leu Tyr Leu Cys Tyr Lys Phe Trp Pro Gly Met Met
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Asp Glu Leu Ser Glu Leu Arg Glu Phe Tyr Asp Pro Asp Thr Val Glu
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Leu Met Asn Trp Ile Asn Ser Asn Thr Pro Arg Lys Ala Val Phe Ala
 565 570 575

Gly Ser Met Gln Leu Leu Ala Gly Val Lys Leu Cys Thr Gly Arg Thr
 580 585 590

Leu Thr Asn His Pro His Tyr Glu Asp Ser Ser Leu Arg Glu Arg Thr
 595 600 605

Arg Ala Val Tyr Gln Ile Tyr Ala Lys Arg Ala Pro Glu Glu Val His
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Ala Leu Leu Arg Ser Phe Gly Thr Asp Tyr Val Ile Leu Glu Asp Ser
 625 630 635 640

Ile Cys Tyr Glu Arg Arg His Arg Arg Gly Cys Arg Leu Arg Asp Leu
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 660 665 670

Pro Asp Leu Lys Pro Ala Asp His Pro Arg Phe Cys Glu Glu Ile Lys
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<212> PRT

<213> Homo sapiens

<400> 16

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Ile Gly Gly Thr Pro Phe Ala Leu Asp Phe Leu His Leu Ser Thr Leu
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Pro Arg Tyr Met Lys Met Ile Tyr Gly Phe Leu Ile Leu Arg Lys Trp
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Ser Glu Lys Ser His Ser Glu Gln Ser Val Ala Cys Ile Thr Pro Thr
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<212> DNA
<213> Homo sapiens

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<212> DNA
<213> Homo sapiens

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<210> 21
 <211> 173
 <212> PRT
 <213> Homo sapiens

<400> 21

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

Asp Asp Pro Thr Leu Gly Gln Pro Asp Gln Ala Leu Phe His Ser Leu
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Asn Ser Ser Leu Ser Gln Ala Cys Ala Ser Pro Ser Met Glu Pro Leu
 65 70 75 80

Gly Val Met Pro Thr His Met Gly Gln Gly Arg Tyr Pro Val Gly Val
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40

Ser Asn Met Val Leu Arg Ile Leu Gly Phe Leu Val Asp Thr Ala Met
 100 105 110

Gly Asn Lys Leu Ile Gln Val Leu Leu Glu Asp Glu Thr Thr Glu Ser
 115 120 125

Ala Val Lys Leu Ser Leu Pro Met Gly Gln Glu Ala Leu Ile Thr Leu
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Lys Asp Gly Gln Gln Phe Val Ile Gln Ile Ser Asp Val Pro Gln Ser
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Ser Glu Asp Ile Tyr Phe Arg Glu Asn Asn Ala Asn Val
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<213> Homo sapiens

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Cys Leu Glu Pro His Asn Ala Gly Leu Phe Gly His Cys Gln Asn Val
20           25           30

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Lys Gly Pro Leu Leu Leu Tyr Asn Ala Glu Ser Lys Val Val Leu Val
35           40           45

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Gln Gly Pro Gln Lys Gln Trp Leu His Leu Ser Ala Ala Gln Cys Val
50           55           60

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Ala Lys Glu Arg Arg Pro Leu Asp Ala His Pro Pro Gln Pro Gly Val
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Leu Arg His Lys Gln Gly Lys Gln His Val Ser Phe Arg Arg Val Phe
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Leu Phe Lys Ile Ala Thr Pro Ala Arg Tyr Thr Val Thr Leu Gly Gly
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<213> Homo sapiens

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Lys Gly Pro Leu Leu Leu Tyr Asn Ala Glu Ser Lys Val Val Leu Val
 35 40 45

Gln Gly Pro Gln Lys Gln Trp Leu His Leu Ser Ala Ala Gln Cys Val
 50 55 60

43

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

Leu Phe Lys Ile Ala Thr Pro Ala Arg Tyr Thr Val Thr Leu Gly Gly
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Thr Ser Val Thr Val Lys Tyr Leu Arg Ser His Gly Tyr Met Ser Thr
210 215 220

Pro Pro Pro Val Lys Glu Tyr Leu Gln Asp Arg Met Glu Glu Thr Lys
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<212> DNA

<213> Homo sapiens

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His Tyr Ile Tyr Gln Arg Phe Arg Val Leu Glu Gln Gly Leu Glu Lys
35          40          45

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49

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50

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Phe Leu Leu Cys Gly Val Leu Tyr Val Val Tyr Ser Thr Gly Gly Gln
 325 330 335

Gly Pro His Arg Ile Thr Cys Ile Tyr Asp Pro Leu Gly Thr Ile Ser
 340 345 350

Glu Glu Asp Leu Pro Asn Leu Phe Phe Pro Lys Arg Pro Arg Ser His
 355 360 365

Ser Met Ile His Tyr Asn Pro Arg Asp Lys Gln Leu Tyr Ala Trp Asn
 370 375 380

Glu Gly Asn Gln Ile Ile Tyr Lys Leu Gln Thr Lys Arg Lys Leu Pro
 385 390 395 400

Leu Lys

<210> 28
 <211> 2786
 <212> DNA
 <213> Homo sapiens

<400> 28
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 aacagatgct ggaccaggga agctctctgc cacaggtcag tctacaaggc ctgagggacc 180
 aacttgccaa cagctggact tgatcactag ctggcaaact gagctcacgt atcgggtgga 240
 ataacaagcg gactttgctc tctgctgtgc aaaacgctgt ttttagagga tttgccacag 300
 cagcggatag agcaggagag caccaccgga gcccttgaga catccttgag aagagccaca 360
 gcataagaga ctgccctgct tgggtgtttg caggatgatg gtggcccttc gaggagcttc 420
 tgcattgctg gttctgttcc ttgcagcttt tctgccccg ccgcagtgtg cccaggaccc 480
 agccatggtg cattacatct accagcgctt tcgagtcttg gagcaagggc tggaaaaatg 540
 tacccaagca acgagggcac acattcaaga attccaagag ttctcaaaaa atatatctgt 600
 catgctggga agatgtcaga cctacacaag tgagtacaag agtgcagtgg gtaacttggc 660
 actgagagtt gaacgtgccc aacgggagat tgactacata caataccttc gagaggctga 720
 cgagtgcata gaatcagagg acaagacact ggagaaaatg ttgctccaag aagctgaaga 780
 agagaaaaag atccggactc tgctgaatgc aagctgtgac aacatgctga tgggcataaa 840

gtctttgaaa	atagtgaaga	agatgatgga	cacacatggc	tcttggatga	aagatgctgt	900
ctataactct	ccaaaggtgt	acttattaat	tggatccaga	aacaacactg	tttgggaatt	960
tgcaaacata	cgggcattca	tggaggataa	caccaagcca	gctccccgga	agcaaactct	1020
aacactttcc	tggcagggaa	caggccaagt	gatctacaaa	ggttttctat	tttttcataa	1080
ccaagcaact	tctaatagaga	taatcaaata	taacctgcag	aagaggactg	tggaagatcg	1140
aatgctgctc	ccaggagggg	taggccgagc	attggtttac	cagcactccc	cctcaactta	1200
cattgacctg	gctgtggatg	agcatgggct	ctgggccatc	cactctgggc	caggcaccca	1260
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cactatcagt	gaggaggact	tgcccaactt	gttcttcccc	aagagaccaa	gaagtcactc	1500
catgatccat	tacaacccca	gagataagca	gctctatgcc	tggaatgaag	gaaaccagat	1560
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aaagagcact	gtggcttttg	cagctgttct	acaggacagt	gaggctatag	ccccttcaca	1680
atatagtatc	cctctaataca	cacacaggaa	gagtgtgtag	aagtggaaat	acgtatgcct	1740
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aggaaagttt	caacaatgtc	cattactccc	ccaaacctcc	tggctctcaa	ggatgaccac	1860
attctgatac	agcctacttc	aagccttttg	ttttactgct	cccagcatt	tactgtaact	1920
ctgccatctt	ccctcccaca	attagagttg	tatgccagcc	cctaataatc	accactggct	1980
tttctctccc	ctggcctttg	ctgaagctct	tccctctttt	tcaaagtgtct	attgatattc	2040
tcccattttc	actgccaac	taaaatacta	ttaatatttc	tttcttttct	tttctttttt	2100
ttgagacaag	gtctcactat	gttgcccagg	ctggtctcaa	actccagagc	tcaagagatc	2160
ctcctgcctc	agcctcctaa	gtacctggga	ttacaggcat	gtgccaccac	acctggctta	2220
aaatactatt	tcttattgag	gtttaacctc	tatttcccct	agccctgtcc	ttccactaag	2280
cttggtagat	gtaataataa	agtgaaaata	ttaacatttg	aatatcgctt	tccaggtgtg	2340
gagtgtttgc	acatcattta	attctcgttt	cacctttgtg	aaacatgcac	aagtctttac	2400
agctgtcatt	ctagagttta	ggtgagtaac	acaattacaa	agtgaaagat	acagctagaa	2460
aatactacaa	atcccatagt	ttttccattg	ccaaggaag	catcaaatac	gtatgtttgt	2520
tcacctactc	ttatagtcaa	tgcgttcatc	gtttcagcct	aaaaataata	gtctgtccct	2580
ttagccagtt	ttcatgtctg	cacaagacct	ttcaataggc	ctttcaaata	ataattcctc	2640
cagaaaacca	gtctaagggt	gaggacccca	actctagcct	cctcttgtct	tgctgtcctc	2700

tgtttctctc tttctgcttt aaattcaata aaagtgcac tgagcaaata acctcatcag 2760

gttatatttg cccacatacc ctaagc 2786

<210> 29

<211> 1328

<212> PRT

<213> Homo sapiens

<400> 29

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

Arg Leu Ala Val Leu Pro Glu Asp Arg Leu Gln Met Lys Trp Arg Glu
35 40 45

Ser Glu Gly Ser Gly Leu Gly Tyr Leu Val Gln Val Lys Pro Met Ala
50 55 60

Gly Asp Ser Glu Gln Glu Val Ile Leu Thr Thr Lys Thr Pro Lys Ala
65 70 75 80

Thr Val Gly Gly Leu Ser Pro Ser Lys Gly Tyr Thr Leu Gln Ile Phe
85 90 95

Glu Leu Thr Gly Ser Gly Arg Phe Leu Leu Ala Arg Arg Glu Phe Val
100 105 110

Ile Glu Asp Leu Lys Ser Ser Ser Leu Asp Arg Ser Ser Gln Arg Pro
115 120 125

Leu Gly Ser Gly Ala Pro Glu Pro Thr Pro Ser His Thr Gly Ser Pro
130 135 140

Asp Pro Glu Gln Ala Ser Glu Pro Gln Val Ala Phe Thr Pro Ser Gln
145 150 155 160

Asp Pro Arg Thr Pro Gly Gly Ser Glu Trp Arg Glu Thr Gly Pro Gln
165 170 175

Phe Arg Cys Leu Pro Pro Val Pro Ala Asp Met Val Phe Leu Val Asp
180 185 190

Gly Ser Trp Ser Ile Gly His Ser His Phe Gln Gln Val Lys Asp Phe
195 200 205

53

Leu Ala Ser Val Ile Ala Pro Phe Glu Ile Gly Pro Asp Lys Val Gln
 210 215 220

Val Gly Leu Thr Gln Tyr Ser Gly Asp Ala Gln Thr Glu Trp Asp Leu
 225 230 235 240

Asn Ser Leu Ser Thr Lys Glu Gln Val Leu Ala Ala Val Arg Arg Leu
 245 250 255

Arg Tyr Lys Gly Gly Asn Thr Phe Thr Gly Leu Ala Leu Thr His Val
 260 265 270

Leu Gly Gln Asn Leu Gln Pro Ala Ala Gly Leu Arg Pro Glu Ala Ala
 275 280 285

Lys Val Val Ile Leu Val Thr Asp Gly Lys Ser Gln Asp Asp Val His
 290 295 300

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

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

Pro Arg Asp Ile Thr Val His Ser Val Leu Asp Phe Leu Gln Leu Gly
 340 345 350

Ala Leu Ala Gly Leu Leu Ser Arg Leu Ile Cys Gln Arg Leu Gln Gly
 355 360 365

Gly Ser Pro Arg Gln Gly Pro Ala Ala Ala Pro Ala Leu Asp Thr Leu
 370 375 380

Pro Ala Pro Thr Ser Leu Val Leu Ser Gln Val Thr Ser Ser Ser Ile
 385 390 395 400

Arg Leu Ser Trp Thr Pro Ala Pro Arg His Pro Leu Lys Tyr Leu Ile
 405 410 415

Val Trp Arg Ala Ser Arg Gly Gly Thr Pro Arg Glu Val Val Val Glu
 420 425 430

Gly Pro Ala Ala Ser Thr Glu Leu His Asn Leu Ala Ser Arg Thr Glu
 435 440 445

Tyr Leu Val Ser Val Phe Pro Ile Tyr Glu Gly Gly Val Gly Glu Gly
 450 455 460

Leu Arg Gly Leu Val Thr Thr Ala Pro Leu Pro Pro Pro Arg Ala Leu
 465 470 475 480

Thr Leu Ala Ala Val Thr Pro Arg Thr Val His Leu Thr Trp Gln Pro
 485 490 495

Ser Ala Gly Ala Thr His Tyr Leu Val Arg Cys Ser Pro Ala Ser Pro
 500 505 510

Lys Gly Glu Glu Glu Arg Glu Val Gln Val Gly Arg Pro Glu Val
 515 520 525

Leu Leu Asp Gly Leu Glu Pro Gly Arg Asp Tyr Glu Val Ser Val Gln
 530 535 540

Ser Leu Arg Gly Pro Glu Gly Ser Glu Ala Arg Gly Ile Arg Ala Arg
 545 550 555 560

Thr Pro Thr Leu Ala Pro Pro Arg His Leu Gly Phe Ser Asp Val Ser
 565 570 575

His Asp Ala Ala Arg Val Phe Trp Glu Gly Ala Pro Arg Pro Val Arg
 580 585 590

Leu Val Arg Val Thr Tyr Val Ser Ser Glu Gly Gly His Ser Gly Gln
 595 600 605

Thr Glu Ala Pro Gly Asn Ala Thr Ser Ala Thr Leu Gly Pro Leu Ser
 610 615 620

Ser Ser Thr Thr Tyr Thr Val Arg Val Thr Cys Leu Tyr Pro Gly Gly
 625 630 635 640

Gly Ser Ser Thr Leu Thr Gly Arg Val Thr Thr Lys Lys Ala Pro Ser
 645 650 655

Pro Ser Gln Leu Ser Met Thr Glu Leu Pro Gly Asp Ala Val Gln Leu
 660 665 670

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

Trp Thr Pro Leu Gly Glu Gly Lys Ala His Glu Ile Ser Val Pro Gly
 690 695 700

Asn Leu Gly Thr Ala Val Leu Pro Gly Leu Gly Arg His Thr Glu Tyr
 705 710 715 720

Asp Val Thr Ile Leu Ala Tyr Tyr Arg Asp Gly Ala Arg Ser Asp Pro
 725 730 735

Val Ser Leu Arg Tyr Thr Pro Ser Thr Val Ser Arg Ser Pro Pro Ser
 740 745 750

Asn Leu Ala Leu Ala Ser Glu Thr Pro Asp Ser Leu Gln Val Ser Trp
 755 760 765

Thr Pro Pro Leu Gly Arg Val Leu His Tyr Trp Leu Thr Tyr Ala Pro
 770 775 780

Ala Ser Gly Leu Gly Pro Glu Lys Ser Val Ser Val Pro Gly Ala Arg
 785 790 795 800

Ser His Val Thr Leu Pro Asp Leu Gln Ala Ala Thr Lys Tyr Arg Val
 805 810 815

Leu Val Ser Ala Ile Tyr Ala Ala Gly Arg Ser Glu Ala Val Ser Ala
 820 825 830

Thr Gly Gln Thr Ala Cys Pro Ala Leu Arg Pro Asp Gly Ser Leu Pro
 835 840 845

Gly Phe Asp Leu Met Val Ala Phe Ser Leu Val Glu Lys Ala Tyr Ala
 850 855 860

Ser Ile Arg Gly Val Ala Met Glu Pro Ser Ala Phe Gly Gly Thr Pro
 865 870 875 880

Thr Phe Thr Leu Phe Lys Asp Ala Gln Leu Thr Arg Arg Val Ser Asp
 885 890 895

Val Tyr Pro Ala Pro Leu Pro Pro Glu His Thr Ile Val Phe Leu Val
 900 905 910

Arg Leu Leu Pro Glu Thr Pro Arg Glu Ala Phe Ala Leu Trp Gln Met
 915 920 925

Thr Ala Glu Asp Phe Gln Pro Leu Leu Gly Val Leu Leu Asp Ala Gly
 930 935 940

Lys Lys Ser Leu Thr Tyr Phe His Arg Asp Pro Arg Ala Ala Leu Gln
 945 950 955 960

Glu Ala Thr Phe Asp Pro Gln Glu Val Arg Lys Ile Phe Phe Gly Ser
 965 970 975

Phe His Lys Val His Val Ala Val Gly Arg Ser Lys Val Arg Leu Tyr
 980 985 990

Val Asp Cys Arg Lys Val Ala Glu Arg Pro Leu Gly Glu Met Gly Ser
 995 1000 1005

Pro Pro Ala Ala Gly Phe Val Thr Leu Gly Arg Leu Ala Lys Ala
 1010 1015 1020

Arg Gly Pro Arg Ser Ser Ser Ala Ala Phe Gln Leu Gln Met Leu
 1025 1030 1035

Gln Ile Val Cys Ser Asp Thr Trp Ala Asp Glu Asp Arg Cys Cys
 1040 1045 1050

Glu Leu Pro Ala Ser Arg Asp Gly Glu Thr Cys Pro Ala Phe Val
 1055 1060 1065

Ser Ala Cys Ser Cys Ser Ser Glu Thr Pro Gly Pro Pro Gly Pro
 1070 1075 1080

Gln Gly Pro Pro Gly Leu Pro Gly Arg Asn Gly Thr Pro Gly Glu
 1085 1090 1095

Gln Gly Phe Pro Gly Pro Arg Gly Glu Pro Gly Pro Pro Gly Gln
 1100 1105 1110

Met Gly Pro Glu Gly Pro Gly Gly Gln Gln Gly Ser Pro Gly Thr
 1115 1120 1125

Gln Gly Arg Ala Val Gln Gly Pro Val Gly Pro Pro Gly Val Lys
 1130 1135 1140

Gly Glu Lys Gly Asp His Gly Leu Pro Gly Leu Gln Gly His Pro
 1145 1150 1155

Gly His Gln Gly Ile Pro Gly Arg Val Gly Leu Gln Gly Pro Lys
 1160 1165 1170

Gly Met Arg Gly Leu Glu Gly Thr Ala Gly Leu Pro Gly Pro Gly
 1175 1180 1185

Pro Arg Gly Phe Gln Gly Met Ala Gly Ala Arg Gly Thr Ser Gly
 1190 1195 1200

Glu Arg Gly Pro Pro Gly Thr Val Gly Pro Thr Gly Leu Pro Gly
 1205 1210 1215

Pro Lys Gly Glu Arg Gly Glu Lys Gly Glu Pro Gln Ser Leu Ala
 1220 1225 1230

Thr Leu Tyr Gln Leu Val Ser Gln Ala Cys Glu Ser Ala Ile Gln
 1235 1240 1245

Thr His Val Ser Lys Phe Asp Ser Phe His Glu Asn Thr Arg Pro
 1250 1255 1260

Pro Met Pro Ile Leu Glu Gln Lys Leu Glu Pro Gly Thr Glu Pro
 1265 1270 1275

Leu Gly Ser Pro Gly Thr Arg Ser Lys Ala Leu Val Pro Gly Glu
 1280 1285 1290

Trp Gly Arg Gly Gly Arg His Leu Glu Gly Arg Gly Glu Pro Gly
 1295 1300 1305

Ala Val Gly Gln Met Gly Ser Pro Gly Gln Gln Gly Ala Ser Thr
 1310 1315 1320

Gln Gly Leu Trp Glu
 1325

<210> 30

<211> 1278

<212> PRT

<213> Homo sapiens

<400> 30

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

Arg Leu Ala Val Leu Pro Glu Asp Arg Leu Gln Met Lys Trp Arg Glu
 35 40 45

Ser Glu Gly Ser Gly Leu Gly Tyr Leu Val Gln Val Lys Pro Met Ala
 50 55 60

Gly Asp Ser Glu Gln Glu Val Ile Leu Thr Thr Lys Thr Pro Lys Ala
 65 70 75 80

Thr Val Gly Gly Leu Ser Pro Ser Lys Gly Tyr Thr Leu Gln Ile Phe
 85 90 95

Glu 100	Leu 101	Thr 102	Gly 103	Ser 104	Gly 105	Arg 106	Phe 107	Leu 108	Leu 109	Ala 110	Arg 111	Arg 112	Glu 113	Phe 114	Val 115
Ile 116	Glu 117	Asp 118	Leu 119	Lys 120	Ser 121	Ser 122	Ser 123	Leu 124	Asp 125	Arg 126	Ser 127	Ser 128	Gln 129	Arg 130	Pro 131
Leu 132	Gly 133	Ser 134	Gly 135	Ala 136	Pro 137	Glu 138	Pro 139	Thr 140	Pro 141	Ser 142	His 143	Thr 144	Gly 145	Ser 146	Pro 147
Asp 148	Pro 149	Glu 150	Gln 151	Ala 152	Ser 153	Glu 154	Pro 155	Gln 156	Val 157	Ala 158	Phe 159	Thr 160	Pro 161	Ser 162	Gln 163
Asp 164	Pro 165	Arg 166	Thr 167	Pro 168	Gly 169	Gly 170	Ser 171	Glu 172	Trp 173	Arg 174	Glu 175	Thr 176	Gly 177	Pro 178	Gln 179
Phe 180	Arg 181	Cys 182	Leu 183	Pro 184	Pro 185	Val 186	Pro 187	Ala 188	Asp 189	Met 190	Val 191	Phe 192	Leu 193	Val 194	Asp 195
Gly 196	Ser 197	Trp 198	Ser 199	Ile 200	Gly 201	His 202	Ser 203	His 204	Phe 205	Gln 206	Gln 207	Val 208	Lys 209	Asp 210	Phe 211
Leu 212	Ala 213	Ser 214	Val 215	Ile 216	Ala 217	Pro 218	Phe 219	Glu 220	Ile 221	Gly 222	Pro 223	Asp 224	Lys 225	Val 226	Gln 227
Val 228	Gly 229	Leu 230	Thr 231	Gln 232	Tyr 233	Ser 234	Gly 235	Asp 236	Ala 237	Gln 238	Thr 239	Glu 240	Trp 241	Asp 242	Leu 243
Asn 244	Ser 245	Leu 246	Ser 247	Thr 248	Lys 249	Glu 250	Gln 251	Val 252	Leu 253	Ala 254	Ala 255	Val 256	Arg 257	Arg 258	Leu 259
Arg 260	Tyr 261	Lys 262	Gly 263	Gly 264	Asn 265	Thr 266	Phe 267	Thr 268	Gly 269	Leu 270	Ala 271	Leu 272	Thr 273	His 274	Val 275
Leu 276	Gly 277	Gln 278	Asn 279	Leu 280	Gln 281	Pro 282	Ala 283	Ala 284	Gly 285	Leu 286	Arg 287	Pro 288	Glu 289	Ala 290	Ala 291
Lys 292	Val 293	Val 294	Ile 295	Leu 296	Val 297	Thr 298	Asp 299	Gly 300	Lys 301	Ser 302	Gln 303	Asp 304	Asp 305	Val 306	His 307
Thr 308	Ala 309	Ala 310	Arg 311	Val 312	Leu 313	Lys 314	Asp 315	Leu 316	Gly 317	Val 318	Asn 319	Val 320	Phe 321	Ala 322	Val 323
Gly 324	Val 325	Lys 326	Asn 327	Ala 328	Asp 329	Glu 330	Ala 331	Glu 332	Leu 333	Arg 334	Leu 335	Leu 336	Ala 337	Ser 338	Pro 339
Pro 340	Arg 341	Asp 342	Ile 343	Thr 344	Val 345	His 346	Ser 347	Val 348	Leu 349	Asp 350	Phe 351	Leu 352	Gln 353	Leu 354	Gly 355

Ala Leu Ala Gly Leu Leu Ser Arg Leu Ile Cys Gln Arg Leu Gln Gly
 355 360 365

Gly Ser Pro Arg Gln Gly Pro Ala Ala Ala Pro Ala Leu Asp Thr Leu
 370 375 380

Pro Ala Pro Thr Ser Leu Val Leu Ser Gln Val Thr Ser Ser Ser Ile
 385 390 395 400

Arg Leu Ser Trp Thr Pro Ala Pro Arg His Pro Leu Lys Tyr Leu Ile
 405 410 415

Val Trp Arg Ala Ser Arg Gly Gly Thr Pro Arg Glu Val Val Val Glu
 420 425 430

Gly Pro Ala Ala Ser Thr Glu Leu His Asn Leu Ala Ser Arg Thr Glu
 435 440 445

Tyr Leu Val Ser Val Phe Pro Ile Tyr Glu Gly Gly Val Gly Glu Gly
 450 455 460

Leu Arg Gly Leu Val Thr Thr Ala Pro Leu Pro Pro Pro Arg Ala Leu
 465 470 475 480

Thr Leu Ala Ala Val Thr Pro Arg Thr Val His Leu Thr Trp Gln Pro
 485 490 495

Ser Ala Gly Ala Thr His Tyr Leu Val Arg Cys Ser Pro Ala Ser Pro
 500 505 510

Lys Gly Glu Glu Glu Glu Arg Glu Val Gln Val Gly Arg Pro Glu Val
 515 520 525

Leu Leu Asp Gly Leu Glu Pro Gly Arg Asp Tyr Glu Val Ser Val Gln
 530 535 540

Ser Leu Arg Gly Pro Glu Gly Ser Glu Ala Arg Gly Ile Arg Ala Arg
 545 550 555 560

Thr Pro Thr Leu Ala Pro Pro Arg His Leu Gly Phe Ser Asp Val Ser
 565 570 575

His Asp Ala Ala Arg Val Phe Trp Glu Gly Ala Pro Arg Pro Val Arg
 580 585 590

Leu Val Arg Val Thr Tyr Val Ser Ser Glu Gly Gly His Ser Gly Gln
 595 600 605

Thr	Glu	Ala	Pro	Gly	Asn	Ala	Thr	Ser	Ala	Thr	Leu	Gly	Pro	Leu	Ser	610	615	620	
Ser	Ser	Thr	Thr	Tyr	Thr	Val	Arg	Val	Thr	Cys	Leu	Tyr	Pro	Gly	Gly	625	630	635	640
Gly	Ser	Ser	Thr	Leu	Thr	Gly	Arg	Val	Thr	Thr	Lys	Lys	Ala	Pro	Ser	645	650	655	
Pro	Ser	Gln	Leu	Ser	Met	Thr	Glu	Leu	Pro	Gly	Asp	Ala	Val	Gln	Leu	660	665	670	
Ala	Trp	Val	Ala	Ala	Ala	Pro	Ser	Gly	Val	Leu	Val	Tyr	Gln	Ile	Thr	675	680	685	
Trp	Thr	Pro	Leu	Gly	Glu	Gly	Lys	Ala	His	Glu	Ile	Ser	Val	Pro	Gly	690	695	700	
Asn	Leu	Gly	Thr	Ala	Val	Leu	Pro	Gly	Leu	Gly	Arg	His	Thr	Glu	Tyr	705	710	715	720
Asp	Val	Thr	Ile	Leu	Ala	Tyr	Tyr	Arg	Asp	Gly	Ala	Arg	Ser	Asp	Pro	725	730	735	
Val	Ser	Leu	Arg	Tyr	Thr	Pro	Ser	Thr	Val	Ser	Arg	Ser	Pro	Pro	Ser	740	745	750	
Asn	Leu	Ala	Leu	Ala	Ser	Glu	Thr	Pro	Asp	Ser	Leu	Gln	Val	Ser	Trp	755	760	765	
Thr	Pro	Pro	Leu	Gly	Arg	Val	Leu	His	Tyr	Trp	Leu	Thr	Tyr	Ala	Pro	770	775	780	
Ala	Ser	Gly	Leu	Gly	Pro	Glu	Lys	Ser	Val	Ser	Val	Pro	Gly	Ala	Arg	785	790	795	800
Ser	His	Val	Thr	Leu	Pro	Asp	Leu	Gln	Ala	Ala	Thr	Lys	Tyr	Arg	Val	805	810	815	
Leu	Val	Ser	Ala	Ile	Tyr	Ala	Ala	Gly	Arg	Ser	Glu	Ala	Val	Ser	Ala	820	825	830	
Thr	Gly	Gln	Thr	Ala	Cys	Pro	Ala	Leu	Arg	Pro	Asp	Gly	Ser	Leu	Pro	835	840	845	
Gly	Phe	Asp	Leu	Met	Val	Ala	Phe	Ser	Leu	Val	Glu	Lys	Ala	Tyr	Ala	850	855	860	

61

Ser Ile Arg Gly Val Ala Met Glu Pro Ser Ala Phe Gly Gly Thr Pro
865 870 875 880

Thr Phe Thr Leu Phe Lys Asp Ala Gln Leu Thr Arg Arg Val Ser Asp
885 890 895

Val Tyr Pro Ala Pro Leu Pro Pro Glu His Thr Ile Val Phe Leu Val
900 905 910

Arg Leu Leu Pro Glu Thr Pro Arg Glu Ala Phe Ala Leu Trp Gln Met
915 920 925

Thr Ala Glu Asp Phe Gln Pro Leu Leu Gly Val Leu Leu Asp Ala Gly
930 935 940

Lys Lys Ser Leu Thr Tyr Phe His Arg Asp Pro Arg Ala Ala Leu Gln
945 950 955 960

Glu Ala Thr Phe Asp Pro Gln Glu Val Arg Lys Ile Phe Phe Gly Ser
965 970 975

Phe His Lys Val His Val Ala Val Gly Arg Ser Lys Val Arg Leu Tyr
980 985 990

Val Asp Cys Arg Lys Val Ala Glu Arg Pro Leu Gly Glu Met Gly Ser
995 1000 1005

Pro Pro Ala Ala Gly Phe Val Thr Leu Gly Arg Leu Ala Lys Ala
1010 1015 1020

Arg Gly Pro Arg Ser Ser Ser Ala Ala Phe Gln Leu Gln Met Leu
1025 1030 1035

Gln Ile Val Cys Ser Asp Thr Trp Ala Asp Glu Asp Arg Cys Cys
1040 1045 1050

Glu Leu Pro Ala Ser Arg Asp Gly Glu Thr Cys Pro Ala Phe Val
1055 1060 1065

Ser Ala Cys Ser Cys Ser Ser Glu Thr Pro Gly Pro Pro Gly Pro
1070 1075 1080

Gln Gly Pro Pro Gly Pro Pro Gly Val Lys Gly Glu Lys Gly Asp
1085 1090 1095

His Gly Leu Pro Gly Leu Gln Gly His Pro Gly His Gln Gly Ile
1100 1105 1110

Pro Gly Arg Val Gly Leu Gln Gly Pro Lys Gly Met Arg Gly Leu
 1115 1120 1125

Glu Gly Thr Ala Gly Leu Pro Gly Pro Gly Pro Arg Gly Phe Gln
 1130 1135 1140

Gly Met Ala Gly Ala Arg Gly Thr Ser Gly Glu Arg Gly Pro Pro
 1145 1150 1155

Gly Thr Val Gly Pro Thr Gly Leu Pro Gly Pro Lys Gly Glu Arg
 1160 1165 1170

Gly Glu Lys Gly Glu Pro Gln Ser Leu Ala Thr Leu Tyr Gln Leu
 1175 1180 1185

Val Ser Gln Ala Cys Glu Ser Ala Ile Gln Thr His Val Ser Lys
 1190 1195 1200

Phe Asp Ser Phe His Glu Asn Thr Arg Pro Pro Met Pro Ile Leu
 1205 1210 1215

Glu Gln Lys Leu Glu Pro Gly Thr Glu Pro Leu Gly Ser Pro Gly
 1220 1225 1230

Thr Arg Ser Lys Ala Leu Val Pro Gly Glu Trp Gly Arg Gly Gly
 1235 1240 1245

Arg His Leu Glu Gly Arg Gly Glu Pro Gly Ala Val Gly Gln Met
 1250 1255 1260

Gly Ser Pro Gly Gln Gln Gly Ala Ser Thr Gln Gly Leu Trp Glu
 1265 1270 1275

<210> 31
 <211> 1283
 <212> PRT
 <213> Homo sapiens

<400> 31

Met Ser Ser Gly Asp Pro Ala His Leu Gly Leu Cys Leu Trp Leu Trp
 1 5 10 15

Leu Gly Ala Thr Leu Gly Arg Glu Gln Val Gln Ala Ser Gly Leu Leu
 20 25 30

Arg Leu Ala Val Leu Pro Glu Asp Arg Leu Gln Met Lys Trp Arg Glu
 35 40 45

63

Ser Glu Gly Ser Gly Leu Gly Tyr Leu Val Gln Val Lys Pro Met Ala
 50 55 60

Gly Asp Ser Glu Gln Glu Val Ile Leu Thr Thr Lys Thr Pro Lys Ala
 65 70 75 80

Thr Val Gly Gly Leu Ser Pro Ser Lys Gly Tyr Thr Leu Gln Ile Phe
 85 90 95

Glu Leu Thr Gly Ser Gly Arg Phe Leu Leu Ala Arg Arg Glu Phe Val
 100 105 110

Ile Glu Asp Leu Lys Ser Ser Ser Leu Asp Arg Ser Ser Gln Arg Pro
 115 120 125

Leu Gly Ser Gly Ala Pro Glu Pro Thr Pro Ser His Thr Gly Ser Pro
 130 135 140

Asp Pro Glu Gln Ala Ser Glu Pro Gln Val Ala Phe Thr Pro Ser Gln
 145 150 155 160

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

Pro Ala Asp Met Val Phe Leu Val Asp Gly Ser Trp Ser Ile Gly His
 180 185 190

Ser His Phe Gln Gln Val Lys Asp Phe Leu Ala Ser Val Ile Ala Pro
 195 200 205

Phe Glu Ile Gly Pro Asp Lys Val Gln Val Gly Leu Thr Gln Tyr Ser
 210 215 220

Gly Asp Ala Gln Thr Glu Trp Asp Leu Asn Ser Leu Ser Thr Lys Glu
 225 230 235 240

Gln Val Leu Ala Ala Val Arg Arg Leu Arg Tyr Lys Gly Gly Asn Thr
 245 250 255

Phe Thr Gly Leu Ala Leu Thr His Val Leu Gly Gln Asn Leu Gln Pro
 260 265 270

Ala Ala Gly Leu Arg Pro Glu Ala Ala Lys Val Val Ile Leu Val Thr
 275 280 285

Asp Gly Lys Ser Gln Asp Asp Val His Thr Ala Ala Arg Val Leu Lys
 290 295 300

Asp Leu Gly Val Asn Val Phe Ala Val Gly Val Lys Asn Ala Asp Glu
 305 310 315 320

Ala Glu Leu Arg Leu Leu Ala Ser Pro Pro Arg Asp Ile Thr Val His
 325 330 335

Ser Val Leu Asp Phe Leu Gln Leu Gly Ala Leu Ala Gly Leu Leu Ser
 340 345 350

Arg Leu Ile Cys Gln Arg Leu Gln Gly Gly Ser Pro Arg Gln Gly Pro
 355 360 365

Ala Ala Ala Pro Ala Leu Asp Thr Leu Pro Ala Pro Thr Ser Leu Val
 370 375 380

Leu Ser Gln Val Thr Ser Ser Ser Ile Arg Leu Ser Trp Thr Pro Ala
 385 390 395 400

Pro Arg His Pro Leu Lys Tyr Leu Ile Val Trp Arg Ala Ser Arg Gly
 405 410 415

Gly Thr Pro Arg Glu Val Val Val Glu Gly Pro Ala Ala Ser Thr Glu
 420 425 430

Leu His Asn Leu Ala Ser Arg Thr Glu Tyr Leu Val Ser Val Phe Pro
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Leu Lys Val Lys Cys His Ala Ser Glu Asn Glu Asp Pro Val Val Leu
20          25          30

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Trp Lys Phe Pro Glu Asp Phe Gly Asp Gln Glu Ile Leu Gln Ser Val
 35 40 45

Pro Lys Phe Cys Phe Pro Phe Asp Val Glu Arg Val Ser Gln Asn Gln
 50 55 60

Val Gly Gln His Phe Thr Phe Val Leu Thr Asp Ile Glu Ser Lys Gln
 65 70 75 80

Arg Phe Gly Phe Cys Arg Leu Thr Ser Gly Gly Thr Ile Cys Leu Cys
 85 90 95

Ile Leu Ser Tyr Leu Pro Trp Phe Glu Val Tyr Tyr Lys Leu Leu Asn
 100 105 110

Thr Leu Ala Asp Tyr Leu Ala Lys Glu Leu Glu Asn Asp Leu Asn Glu
 115 120 125

Thr Leu Arg Ser Leu Tyr Asn His Pro Val Pro Lys Ala Asn Thr Pro
 130 135 140

Val Asn Leu Ser Val His Ser Tyr Phe Ile Ala Pro Asp Val Thr Gly
 145 150 155 160

Leu Pro Thr Ile Pro Glu Ser Arg Asn Leu Thr Glu Tyr Phe Val Ala
 165 170 175

Val Asp Val Asn Asn Met Leu Gln Leu Tyr Ala Ser Met Leu His Glu
 180 185 190

Arg Arg Ile Val Ile Ile Ser Ser Lys Leu Ser Thr Leu Thr Ala Cys
 195 200 205

Ile His Gly Ser Ala Ala Leu Leu Tyr Pro Met Tyr Trp Gln His Ile
 210 215 220

Tyr Ile Pro Val Leu Pro Pro His Leu Leu Asp Tyr Cys Cys Ala Pro
 225 230 235 240

Met Pro Tyr Leu Ile Gly Ile His Ser Ser Leu Ile Glu Arg Val Lys
 245 250 255

Asn Lys Ser Leu Glu Asp Val Val Met Leu Asn Val Asp Thr Asn Thr
 260 265 270

Leu Glu Ser Pro Phe Ser Asp Leu Asn Asn Leu Pro Ser Asp Val Val
 275 280 285

76

Ser Ala Leu Lys Asn Lys Leu Lys Lys Gln Ser Thr Ala Thr Gly Asp
 290 295 300

Gly Val Ala Arg Ala Phe Leu Arg Ala Gln Ala Ala Leu Phe Gly Ser
 305 310 315 320

Tyr Arg Asp Ala Leu Arg Tyr Lys Pro Gly Glu Pro Ile Thr Phe Cys
 325 330 335

Glu Glu Ser Phe Val Lys His Arg Ser Ser Val Met Lys Gln Phe Leu
 340 345 350

Glu Thr Ala Ile Asn Leu Gln Leu Phe Lys Gln Phe Ile Asp Gly Arg
 355 360 365

Leu Ala Lys Leu Asn Ala Gly Arg Gly Phe Ser Asp Val Phe Glu Glu
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Glu Ile Thr Ser Gly Gly Phe Cys Gly Gly Lys Asp Lys Leu Gln Tyr
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Asp Tyr Pro Phe Ser Gln
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<211> 426

<212> PRT

<213> Homo sapiens

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Trp Lys Phe Pro Glu Asp Phe Gly Asp Gln Glu Ile Leu Gln Ser Val
 35 40 45

Pro Lys Phe Cys Phe Pro Phe Asp Val Glu Arg Val Ser Gln Asn Gln
 50 55 60

Val Gly Gln His Phe Thr Phe Val Leu Thr Asp Ile Glu Ser Lys Gln
 65 70 75 80

Arg Phe Gly Phe Cys Arg Leu Thr Ser Gly Gly Thr Ile Cys Leu Cys
 85 90 95

Ile Leu Ser Tyr Leu Pro Trp Phe Glu Val Tyr Tyr Lys Leu Leu Asn
 100 105 110

Thr Leu Ala Asp Tyr Leu Ala Lys Glu Leu Glu Asn Asp Leu Asn Glu
 115 120 125

Thr Leu Arg Ser Leu Tyr Asn His Pro Val Pro Lys Ala Asn Thr Pro
 130 135 140

Val Asn Leu Ser Val Asn Gln Glu Ile Phe Ile Ala Cys Glu Gln Val
 145 150 155 160

Leu Lys Asp Gln Pro Ala Leu Val Pro His Ser Tyr Phe Ile Ala Pro
 165 170 175

Asp Val Thr Gly Leu Pro Thr Ile Pro Glu Ser Arg Asn Leu Thr Glu
 180 185 190

Tyr Phe Val Ala Val Asp Val Asn Asn Met Leu Gln Leu Tyr Ala Ser
 195 200 205

Met Leu His Glu Arg Arg Ile Val Ile Ile Ser Ser Lys Leu Ser Thr
 210 215 220

Leu Thr Ala Cys Ile His Gly Ser Ala Ala Leu Leu Tyr Pro Met Tyr
 225 230 235 240

Trp Gln His Ile Tyr Ile Pro Val Leu Pro Pro His Leu Leu Asp Tyr
 245 250 255

Cys Cys Ala Pro Met Pro Tyr Leu Ile Gly Ile His Ser Ser Leu Ile
 260 265 270

Glu Arg Val Lys Asn Lys Ser Leu Glu Asp Val Val Met Leu Asn Val
 275 280 285

Asp Thr Asn Thr Leu Glu Ser Pro Phe Ser Asp Leu Asn Asn Leu Pro
 290 295 300

Ser Asp Val Val Ser Ala Leu Lys Asn Lys Leu Lys Lys Gln Ser Thr
 305 310 315 320

Ala Thr Gly Asp Gly Val Ala Arg Ala Phe Leu Arg Ala Gln Ala Ala
 325 330 335

Leu Phe Gly Ser Tyr Arg Asp Ala Leu Arg Tyr Lys Pro Gly Glu Pro
 340 345 350

Ile Thr Phe Cys Glu Glu Ser Phe Val Lys His Arg Ser Ser Val Met
 355 360 365

Lys Gln Phe Leu Glu Thr Ala Ile Asn Leu Gln Leu Phe Lys Gln Phe
 370 375 380

Ile Asp Gly Arg Leu Ala Lys Leu Asn Ala Gly Arg Gly Phe Ser Asp
 385 390 395 400

Val Phe Glu Glu Glu Ile Thr Ser Gly Gly Phe Cys Gly Gly Lys Asp
 405 410 415

Lys Leu Gln Tyr Asp Tyr Pro Phe Ser Gln
 420 425

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 <213> Homo sapiens

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Leu Lys Val Lys Cys His Ala Ser Glu Asn Glu Asp Pro Val Val Leu
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Trp Lys Phe Pro Glu Asp Phe Gly Asp Gln Glu Ile Leu Gln Ser Val
 35 40 45

Pro Lys Phe Cys Phe Pro Phe Asp Val Glu Arg Val Ser Gln Asn Gln
 50 55 60

Val Gly Gln His Phe Thr Phe Val Leu Thr Asp Ile Glu Ser Lys Gln
 65 70 75 80

Arg Phe Gly Phe Cys Arg Leu Thr Ser Gly Gly Thr Ile Cys Leu Cys
 85 90 95

Ile Leu Ser Tyr Leu Pro Trp Phe Glu Val Tyr Tyr Lys Leu Leu Asn
 100 105 110

Thr Leu Ala Asp Tyr Leu Ala Lys Glu Leu Glu Asn Asp Leu Asn Glu
 115 120 125

Thr Leu Arg Ser Leu Tyr Asn His Pro Val Pro Lys Ala Asn Thr Pro
 130 135 140

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

80

Val Phe Glu Glu Glu Ile Thr Ser Gly Gly Phe Cys Gly Gly Lys Asp
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Lys Leu Gln Tyr Asp Tyr Pro Phe Ser Gln
420 425

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Ser Asn Pro Val Val Leu Trp Lys Phe Pro Glu Asp Phe Gly Asp Gln
20 25 30

Glu Ile Leu Gln Ser Val Pro Lys Phe Cys Phe Pro Phe Asp Val Glu
35 40 45

Arg Val Ser Gln Asn Gln Val Gly Gln His Phe Thr Phe Val Leu Thr
50 55 60

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

Gly Thr Ile Cys Leu Cys Ile Leu Ser Tyr Leu Pro Trp Phe Glu Val
85 90 95

Tyr Tyr Lys Leu Leu Asn Thr Leu Ala Asp Tyr Leu Ala Lys Glu Leu
100 105 110

Glu Asn Asp Leu Asn Glu Thr Leu Arg Ser Leu Tyr Asn His Pro Val
115 120 125

Pro Lys Ala Asn Thr Pro Val Asn Leu Ser Val His Ser Tyr Phe Ile
130 135 140

Ala Pro Asp Val Thr Gly Leu Pro Thr Ile Pro Glu Ser Arg Asn Leu
145 150 155 160

Thr Glu Tyr Phe Val Ala Val Asp Val Asn Asn Met Leu Gln Leu Tyr
165 170 175

Ala Ser Met Leu His Glu Arg Arg Ile Val Ile Ile Ser Ser Lys Leu
180 185 190

81

Ser Thr Leu Thr Ala Cys Ile His Gly Ser Ala Ala Leu Leu Tyr Pro
 195 200 205

Met Tyr Trp Gln His Ile Tyr Ile Pro Val Leu Pro Pro His Leu Leu
 210 215 220

Asp Tyr Cys Cys Ala Pro Met Pro Tyr Leu Ile Gly Ile His Ser Ser
 225 230 235 240

Leu Ile Glu Arg Val Lys Asn Lys Ser Leu Glu Asp Val Val Met Leu
 245 250 255

Asn Val Asp Thr Asn Thr Leu Glu Ser Pro Phe Ser Asp Leu Asn Asn
 260 265 270

Leu Pro Ser Asp Val Val Ser Ala Leu Lys Asn Lys Leu Lys Lys Gln
 275 280 285

Ser Thr Ala Thr Gly Asp Gly Val Ala Arg Ala Phe Leu Arg Ala Gln
 290 295 300

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

Glu Pro Ile Thr Phe Cys Glu Glu Ser Phe Val Lys His Arg Ser Ser
 325 330 335

Val Met Lys Gln Phe Leu Glu Thr Ala Ile Asn Leu Gln Leu Phe Lys
 340 345 350

Gln Phe Ile Asp Gly Arg Leu Ala Lys Leu Asn Ala Gly Arg Gly Phe
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Ser Asp Val Phe Glu Glu Glu Ile Thr Ser Gly Gly Phe Cys Gly Gly
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Lys Asp Lys Leu Gln Tyr Asp Tyr Pro Phe Ser Gln
 385 390 395

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<212> DNA

<213> Homo sapiens

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<210> 42
 <211> 2197
 <212> DNA
 <213> Homo sapiens

<400> 42
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<210> 43
<211> 211
<212> PRT
<213> Homo sapiens

<400> 43

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

Thr Gln Lys Gly Thr Ala Arg Gly Val Val Gly Phe Lys Gly Cys Ser
 35 40 45

Ser Ser Ser Ser Tyr Pro Ala Gln Ile Ser Tyr Leu Val Ser Pro Pro
 50 55 60

Gly Val Ser Ile Ala Ser Tyr Ser Arg Val Cys Arg Ser Tyr Leu Cys
 65 70 75 80

Asn Asn Leu Thr Asn Leu Glu Pro Phe Val Lys Leu Lys Ala Ser Thr
 85 90 95

Pro Lys Ser Ile Thr Ser Ala Ser Cys Ser Cys Pro Thr Cys Val Gly
 100 105 110

Glu His Met Lys Asp Cys Leu Pro Asn Phe Val Thr Thr Asn Ser Cys
 115 120 125

Pro Leu Ala Ala Ser Thr Cys Tyr Ser Ser Thr Leu Lys Phe Gln Ala
 130 135 140

Gly Phe Leu Asn Thr Thr Phe Leu Leu Met Gly Cys Ala Arg Glu His
 145 150 155 160

Asn Gln Leu Leu Ala Asp Phe His His Ile Gly Ser Ile Lys Val Thr
 165 170 175

Glu Val Leu Asn Ile Leu Glu Lys Ser Gln Ile Val Gly Ala Ala Ser
 180 185 190

Ser Arg Gln Asp Pro Ala Trp Gly Val Val Leu Gly Leu Leu Phe Ala
 195 200 205

Phe Arg Asp
 210

<210> 44

<211> 246

<212> PRT

<213> Homo sapiens

<400> 44

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

<210> 45
 <211> 705
 <212> DNA
 <213> Homo sapiens

<400> 45
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 gttgtgggct ttaaaggctg cagctcgtct tcgtcttacc ctgcgcaa at ctctacctt 180
 gtttccccac ccggagtgtc cattgcctcc tacagtgcgc tctgccggtc ttatctctgc 240
 aacaacctca ccaatttga gccttttgtg aaactcaagg ccagcactcc taagtctatc 300
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 aattttgtca ccactaattc ttgccccttg gctgcttcta cgtgttacag ttccacctta 420
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<210> 46
 <211> 2022
 <212> DNA
 <213> Homo sapiens

<400> 46
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 ctgactactg ctccatcctt tttttttttt tttttttttt tttgcttgag gatttcactt 780

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<210> 47
<211> 131
<212> PRT
<213> Homo sapiens
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<400> 47

Met Phe Leu Gly Leu Val Gly Leu Arg Thr Lys Gly Arg Arg Trp Ile
1 5 10 15

Ser Ser Trp Ser Glu Gly Glu Asp Arg Gly Gln Ser Pro Glu Gly Val
20 25 30

Leu Leu Thr Trp Val Phe Gly Thr Lys Cys Val Met His Pro Cys Glu
35 40 45

Glu Thr Thr Lys Gln Ala Leu Cys Glu Gln Gln Gly Cys Leu Phe His
 50 55 60

Leu Gly Ala Asp Glu Leu Ser Pro Lys Arg Glu Ser Ala Gln Ser Ile
 65 70 75 80

Ser Phe Lys Trp Glu Asn Ser Ile Tyr Leu His Ala Thr Leu Phe Leu
 85 90 95

Ile Gly Glu Tyr Leu His Leu Ala Phe Tyr Tyr Phe Leu Leu Val Leu
 100 105 110

Tyr Ile Leu Cys Ser Phe Leu Ser Tyr Cys Leu Leu Leu Trp Leu Gly
 115 120 125

Ser Phe Leu
 130

<210> 48
 <211> 2950
 <212> DNA
 <213> Homo sapiens

<400> 48
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<210> 49
 <211> 132
 <212> PRT
 <213> Homo sapiens

<400> 49

Met Ser Gln Gly Arg His Leu Leu Glu Phe Leu Pro Leu Tyr Ile Ala
 1 5 10 15

Phe Met Leu Arg Gly Val Cys Arg Ile Asp Ala Gly Ser Leu Asn Pro
 20 25 30

Glu Leu Phe Leu Pro Met Leu His Glu Glu Asp Trp Cys Trp Glu Ile
 35 40 45

Ala Gly His Val Asp Ser Gln Glu Leu Phe Val Gly Leu Phe Ser Ser
 50 55 60

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

Tyr Asp Ser Val Phe Gln Leu Ser Leu Asp Arg Met Arg His Thr Arg
 85 90 95

Ser Met Ala Arg Val Glu Arg Leu Arg His Arg Lys Ala Ile Gln Lys
 100 105 110

Lys Thr Gln Leu Val His His Leu Leu Phe Lys Gly Trp Ala Ser Asp
 115 120 125

Glu Thr Glu Ile
 130

<210> 50
 <211> 399
 <212> DNA
 <213> Homo sapiens

<400> 50

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gaagaggatt ggtgttgga gatagctggc catgtggact cccaagagtt attcgttggt 180

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<210> 51
<211> 431
<212> PRT
<213> Homo sapiens

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<400> 51

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Met Arg Arg Leu Arg Arg Leu Ala His Leu Val Leu Phe Cys Pro Phe
1          5          10          15

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```

Ser Lys Arg Leu Gln Gly Arg Leu Pro Gly Leu Arg Val Arg Cys Ile
          20          25          30

```

```

Phe Leu Ala Trp Leu Gly Val Phe Ala Gly Ser Trp Leu Val Tyr Val
          35          40          45

```

```

His Tyr Ser Ser Tyr Ser Glu Arg Cys Arg Gly His Val Cys Gln Val
          50          55          60

```

```

Val Ile Cys Asp Gln Tyr Arg Lys Gly Ile Ile Ser Gly Ser Val Cys
65          70          75          80

```

```

Gln Asp Leu Cys Glu Leu His Met Val Glu Trp Arg Thr Cys Leu Ser
          85          90          95

```

```

Val Ala Pro Gly Gln Gln Val Tyr Ser Gly Leu Trp Arg Asp Lys Asp
          100          105          110

```

```

Val Thr Ile Lys Cys Gly Ile Glu Glu Thr Leu Asp Ser Lys Ala Arg
          115          120          125

```

```

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

```

```

Arg Gly Thr Ser Ile Lys Glu Phe Arg Glu Met Thr Leu Ser Phe Leu
145          150          155          160

```

```

Lys Ala Asn Leu Gly Asp Leu Pro Ser Leu Pro Ala Leu Val Gly Gln
          165          170          175

```

```

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

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Glu Ala Lys Ser Val Trp Ala Leu Leu Gln Arg Asn Glu Phe Leu Leu
 195 200 205

Leu Leu Ser Leu Gln Glu Lys Glu His Ala Ser Arg Leu Leu Gly Tyr
 210 215 220

Cys Gly Asp Leu Tyr Leu Thr Glu Gly Val Pro His Gly Ala Trp His
 225 230 235 240

Ala Ala Ala Leu Pro Pro Leu Leu Arg Pro Leu Leu Pro Pro Ala Leu
 245 250 255

Gln Gly Ala Leu Gln Gln Trp Leu Gly Pro Ala Trp Pro Trp Arg Ala
 260 265 270

Lys Ile Ala Ile Gly Leu Leu Glu Phe Val Glu Glu Leu Phe His Gly
 275 280 285

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

Tyr Thr Ala Thr Tyr Asp Phe Lys Met Ala Asp Leu Gln Gln Val Ala
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Pro Glu Ala Thr Val Arg Arg Phe Leu Gln Gly Arg Arg Cys Glu His
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Ser Thr Asp Cys Thr Tyr Gly Arg Asp Cys Arg Ala Pro Cys Asp Arg
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Leu Met Arg Gln Cys Lys Gly Asp Leu Ile Gln Pro Asn Leu Ala Lys
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Val Cys Ala Leu Leu Arg Gly Tyr Leu Leu Pro Gly Ala Pro Ala Asp
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Leu Arg Glu Glu Leu Gly Thr Gln Leu Arg Thr Cys Thr Thr Leu Ser
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Gly Leu Ala Ser Gln Val Glu Ala His His Ser Leu Val Leu Ser His
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<212> PRT

<213> Homo sapiens

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Glu Leu Val Leu Phe Asp Lys Pro Thr Arg Gly Thr Ser Ile Lys Glu
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Phe Arg Glu Met Thr Leu Ser Phe Leu Lys Ala Asn Leu Gly Asp Leu
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Pro Ser Leu Pro Ala Leu Val Gly Gln Val Leu Leu Met Ala Asp Phe
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Asn Lys Asp Asn Arg Val Ser Leu Ala Glu Ala Lys Ser Val Trp Ala
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Leu Leu Gln Arg Asn Glu Phe Leu Leu Leu Ser Leu Gln Glu Lys
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Glu His Ala Ser Arg Leu Leu Gly Tyr Cys Gly Asp Leu Tyr Leu Thr
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Glu Gly Val Pro His Gly Ala Trp His Ala Ala Ala Leu Pro Pro Leu
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Leu Arg Pro Leu Leu Pro Pro Ala Leu Gln Gly Ala Leu Gln Gln Trp
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Leu Gly Pro Ala Trp Pro Trp Arg Ala Lys Ile Ala Ile Gly Leu Leu
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Glu Phe Val Glu Glu Leu Phe His Gly Ser Tyr Gly Thr Phe Tyr Met
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Cys Glu Thr Thr Leu Ala Asn Val Gly Tyr Thr Ala Thr Tyr Asp Phe
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Lys Met Ala Asp Leu Gln Gln Val Ala Pro Glu Ala Thr Val Arg Arg
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Phe Leu Gln Gly Arg Arg Cys Glu His Ser Thr Asp Cys Thr Tyr Gly
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Arg Asp Cys Arg Ala Pro Cys Asp Arg Leu Met Arg Gln Cys Lys Gly
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Asp Leu Ile Gln Pro Asn Leu Ala Lys Val Cys Ala Leu Leu Arg Gly
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Tyr Leu Leu Pro Gly Ala Pro Ala Asp Leu Arg Glu Glu Leu Gly Thr
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Gln Leu Arg Thr Cys Thr Thr Leu Ser Gly Leu Ala Ser Gln Val Glu
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Ala His His Ser Leu Val Leu Ser His Leu Lys Thr Leu Leu Trp Lys
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Lys Ile Ser Asn Thr Lys Tyr Ser
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<212> DNA

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<211> 2778

<212> PRT

<213> Homo sapiens

<400> 55

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Leu Val Leu Tyr Asn Phe Ser Ala Asn Thr Trp Glu Ser Trp Asp Leu
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Ser Pro Ala Pro Ala Ala Arg His Ser His Val Ala Val Ala Trp Ala
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Gly Ser Leu Val Leu Met Gly Gly Glu Leu Ala Asp Gly Ser Leu Thr
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Asn Asp Val Trp Ala Phe Ser Pro Leu Gly Arg Gly His Trp Glu Leu
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Leu Ala Pro Pro Ala Ser Ser Ser Ser Gly Pro Pro Gly Leu Ala Gly
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His Ala Ala Ala Leu Val Asp Asp Val Trp Leu Tyr Val Ser Gly Gly
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Arg Thr Pro His Asp Leu Phe Ser Ser Gly Leu Phe Arg Phe Arg Leu
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Asp Ser Thr Ser Gly Gly Tyr Trp Glu Gln Val Ile Pro Ala Gly Gly
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Arg Pro Pro Ala Ala Thr Gly His Ser Met Val Phe His Ala Pro Ser
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Arg Ala Leu Leu Val His Gly Gly His Arg Pro Ser Thr Ala Arg Phe
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Ser Val Arg Val Asn Ser Thr Glu Leu Phe His Val Asp Arg His Val
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Trp Thr Thr Leu Lys Gly Arg Asp Gly Leu Gln Gly Pro Arg Glu Arg
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Ala Phe His Thr Ala Ser Val Leu Gly Asn Tyr Met Val Val Tyr Gly
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Gly Asn Val His Thr His Tyr Gln Glu Glu Lys Cys Tyr Glu Asp Gly
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Ile Phe Phe Tyr His Leu Gly Cys His Gln Trp Val Ser Gly Ala Glu
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Leu Ala Pro Pro Gly Thr Pro Glu Gly Arg Ala Ala Pro Pro Ser Gly
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Arg Tyr Ser His Val Ala Ala Val Leu Gly Gly Ser Val Leu Leu Val
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Ala Gly Gly Tyr Ser Gly Arg Pro Arg Gly Asp Leu Met Ala Tyr Lys
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Val Pro Pro Phe Val Phe Gln Ala Pro Ala Pro Asp Tyr His Leu Asp
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Tyr Cys Ser Met Tyr Thr Asp His Ser Val Cys Ser Arg Asp Pro Glu
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Cys Ser Trp Cys Gln Gly Ala Cys Gln Ala Ala Pro Pro Pro Gly Thr
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Pro Leu Gly Ala Cys Pro Ala Ala Ser Cys Leu Gly Leu Gly Arg Leu
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Pro Arg Gly Pro Gly Thr Leu Gly Trp Cys Val His Asn Glu Ser Cys
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Leu Pro Arg Pro Glu Gln Ala Arg Cys Arg Gly Glu Gln Ile Ser Gly
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Thr Val Gly Trp Trp Gly Pro Ala Pro Val Phe Val Thr Ser Leu Glu
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Ala Cys Val Thr Gln Ser Phe Leu Pro Gly Leu His Leu Leu Thr Phe
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Gln Gln Pro Pro Asn Thr Ser Gln Pro Asp Lys Glu Glu Val Gly Arg
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Trp Val Ala His Gln Glu Lys Glu Thr Arg Arg Leu Gln Arg Pro Gly
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Ser Ala Arg Leu Phe Pro Leu Pro Gly Arg Asp His Lys Tyr Ala Val
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Glu Ile Gln Gly Gln Leu Asn Gly Ser Ala Gly Pro Gly His Ser Glu
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Leu Thr Leu Leu Trp Asp Arg Thr Gly Val Pro Gly Gly Ser Glu Ile
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Ser Phe Phe Phe Leu Glu Pro Tyr Arg Ser Ser Ser Cys Thr Ser Tyr
 770 775 780

Ser Ser Cys Leu Gly Cys Leu Ala Asp Gln Gly Cys Gly Trp Cys Leu
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Thr Ser Ala Thr Cys His Leu Arg Gln Gly Gly Ala His Cys Gly Asp
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Asp Gly Ala Gly Gly Ser Leu Leu Val Leu Val Pro Thr Leu Cys Pro
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Leu Cys Glu Glu His Arg Asp Cys His Ala Cys Thr Gln Asp Pro Phe
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Cys Glu Trp His Gln Ser Thr Ser Arg Lys Gly Asp Ala Ala Cys Ser
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Pro Leu Cys Ser Gln Arg Leu Thr Cys Glu Asp Cys Leu Ala Asn Ser
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Ser Gln Cys Ala Trp Cys Gln Ser Thr His Thr Cys Phe Leu Phe Ala
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Ala Tyr Leu Ala Arg Tyr Pro His Gly Gly Cys Arg Gly Trp Asp Asp
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Ser Val His Ser Glu Pro Arg Cys Arg Ser Cys Asp Gly Phe Leu Thr
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Cys His Glu Cys Leu Gln Ser His Glu Cys Gly Trp Cys Gly Asn Glu
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Asp Asn Pro Thr Leu Gly Arg Cys Leu Gln Gly Asp Phe Ser Gly Pro
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Leu Gly Gly Gly Asn Cys Ser Leu Trp Val Gly Glu Gly Leu Gly Leu
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Pro Val Ala Leu Pro Ala Arg Trp Ala Tyr Ala Arg Cys Pro Asp Val
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Asp Glu Cys Arg Leu Gly Leu Ala Arg Cys His Pro Arg Ala Thr
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104

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Ser	Gly	Gly	Phe	Gly	Gly	Val	Ala	Leu	Gly	Arg	Leu	Leu	Ala	Leu
1790						1795					1800			
Thr	Leu	Pro	Pro	Asp	Pro	Cys	Arg	Leu	Leu	Ser	Ser	Pro	Glu	Ala
1805						1810					1815			
Cys	Asn	Gln	Ser	Gly	Ala	Cys	Thr	Trp	Cys	His	Gly	Ala	Cys	Leu
1820						1825					1830			
Ser	Gly	Asp	Gln	Ala	His	Arg	Leu	Gly	Cys	Gly	Gly	Ser	Pro	Cys
1835						1840					1845			
Ser	Pro	Met	Pro	Arg	Ser	Pro	Glu	Glu	Cys	Arg	Arg	Leu	Arg	Thr
1850						1855					1860			
Cys	Ser	Glu	Cys	Leu	Ala	Arg	His	Pro	Arg	Thr	Leu	Gln	Pro	Gly
1865						1870					1875			
Asp	Gly	Glu	Ala	Ser	Thr	Pro	Arg	Cys	Lys	Trp	Cys	Thr	Asn	Cys
1880						1885					1890			
Pro	Glu	Gly	Ala	Cys	Ile	Gly	Arg	Asn	Gly	Ser	Cys	Thr	Ser	Glu
1895						1900					1905			
Asn	Asp	Cys	Arg	Ile	Asn	Gln	Arg	Glu	Val	Phe	Trp	Ala	Gly	Asn
1910						1915					1920			
Cys	Ser	Glu	Ala	Ala	Cys	Gly	Ala	Ala	Asp	Cys	Glu	Gln	Cys	Thr
1925						1930					1935			
Arg	Glu	Gly	Lys	Cys	Met	Trp	Thr	Arg	Gln	Phe	Lys	Arg	Thr	Gly
1940						1945					1950			
Glu	Thr	Arg	Arg	Ile	Leu	Ser	Val	Gln	Pro	Thr	Tyr	Asp	Trp	Thr
1955						1960					1965			
Cys	Phe	Ser	His	Ser	Leu	Leu	Asn	Val	Ser	Pro	Met	Pro	Val	Glu
1970						1975					1980			

Ser 1985	Ser	Pro	Pro	Leu	Pro	Cys 1990	Pro	Thr	Pro	Cys	His 1995	Leu	Leu	Pro
Asn 2000	Cys	Thr	Ser	Cys	Leu	Asp 2005	Ser	Lys	Gly	Ala	Asp 2010	Gly	Gly	Trp
Gln 2015	His	Cys	Val	Trp	Ser	Ser 2020	Ser	Leu	Gln	Gln	Cys 2025	Leu	Ser	Pro
Ser 2030	Tyr	Leu	Pro	Leu	Arg	Cys 2035	Met	Ala	Gly	Gly	Cys 2040	Gly	Arg	Leu
Leu 2045	Arg	Gly	Pro	Glu	Ser	Cys 2050	Ser	Leu	Gly	Cys	Ala 2055	Gln	Ala	Thr
Gln 2060	Cys	Ala	Leu	Cys	Leu	Arg 2065	Arg	Pro	His	Cys	Gly 2070	Trp	Cys	Ala
Trp 2075	Gly	Gly	Gln	Asp	Gly	Gly 2080	Gly	Arg	Cys	Met	Glu 2085	Gly	Gly	Leu
Ser 2090	Gly	Pro	Arg	Asp	Gly	Leu 2095	Thr	Cys	Gly	Arg	Pro 2100	Gly	Ala	Ser
Trp 2105	Ala	Phe	Leu	Ser	Cys	Pro 2110	Pro	Glu	Asp	Glu	Cys 2115	Ala	Asn	Gly
His 2120	His	Asp	Cys	Asn	Glu	Thr 2125	Gln	Asn	Cys	His	Asp 2130	Gln	Pro	His
Gly 2135	Tyr	Glu	Cys	Ser	Cys	Lys 2140	Thr	Gly	Tyr	Thr	Met 2145	Asp	Asn	Met
Thr 2150	Gly	Leu	Cys	Arg	Pro	Val 2155	Cys	Ala	Gln	Gly	Cys 2160	Val	Asn	Gly
Ser 2165	Cys	Val	Glu	Pro	Asp	His 2170	Cys	Arg	Cys	His	Phe 2175	Gly	Phe	Val
Gly 2180	Arg	Asn	Cys	Ser	Thr	Glu 2185	Cys	Arg	Cys	Asn	Arg 2190	His	Ser	Glu
Cys 2195	Ala	Gly	Val	Gly	Ala	Arg 2200	Asp	His	Cys	Leu	Leu 2205	Cys	Arg	Asn
His 2210	Thr	Lys	Gly	Ser	His	Cys 2215	Glu	Gln	Cys	Leu	Pro 2220	Leu	Phe	Val

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

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Ala	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Ala	Asp	Gly	Gly	Pro	Arg	Gly
2465						2470					2475			
Ala	Gly	Asp	Pro	Gly	Gly	Ala	Gly	Ala	Ser	Ser	Gly	Pro	Gly	Ala
2480						2485					2490			
Pro	Ala	Glu	Pro	Arg	Val	Arg	Glu	Val	Trp	Pro	Arg	Gly	Leu	Ile
2495						2500					2505			
Thr	Tyr	Val	Thr	Val	Thr	Glu	Pro	Ser	Ala	Val	Leu	Val	Val	Arg
2510						2515					2520			
Gly	Val	Arg	Asp	Arg	Leu	Val	Ile	Thr	Tyr	Pro	His	Glu	His	His
2525						2530					2535			
Ala	Leu	Lys	Ser	Ser	Arg	Phe	Tyr	Leu	Leu	Leu	Leu	Gly	Val	Gly
2540						2545					2550			
Asp	Pro	Ser	Gly	Pro	Gly	Ala	Asn	Gly	Ser	Ala	Asp	Ser	Gln	Gly
2555						2560					2565			
Leu	Leu	Phe	Phe	Arg	Gln	Asp	Gln	Ala	His	Ile	Asp	Leu	Phe	Val
2570						2575					2580			
Phe	Phe	Ser	Val	Phe	Phe	Ser	Cys	Phe	Phe	Leu	Phe	Leu	Ser	Leu
2585						2590					2595			
Cys	Val	Leu	Leu	Trp	Lys	Ala	Lys	Gln	Ala	Leu	Asp	Gln	Arg	Gln
2600						2605					2610			
Glu	Gln	Arg	Arg	His	Leu	Gln	Glu	Met	Thr	Lys	Met	Ala	Ser	Arg
2615						2620					2625			
Pro	Phe	Ala	Lys	Val	Thr	Val	Cys	Phe	Pro	Pro	Asp	Pro	Thr	Ala
2630						2635					2640			
Pro	Ala	Ser	Ala	Trp	Lys	Pro	Ala	Gly	Leu	Pro	Pro	Pro	Ala	Phe
2645						2650					2655			
Arg	Arg	Ser	Glu	Pro	Phe	Leu	Ala	Pro	Leu	Leu	Leu	Thr	Gly	Ala
2660						2665					2670			
Gly	Gly	Pro	Trp	Gly	Pro	Met	Gly	Gly	Gly	Cys	Cys	Pro	Pro	Ala
2675						2680					2685			
Ile	Pro	Ala	Thr	Thr	Ala	Gly	Leu	Arg	Ala	Gly	Pro	Ile	Thr	Leu
2690						2695					2700			

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Glu Pro Thr Glu Asp Gly Met Ala Gly Val Ala Thr Leu Leu Leu
 2705 2710 2715

Gln Leu Pro Gly Gly Pro His Ala Pro Asn Gly Ala Cys Leu Gly
 2720 2725 2730

Ser Ala Leu Val Thr Leu Arg His Arg Leu His Glu Tyr Cys Gly
 2735 2740 2745

Gly Gly Gly Gly Ala Gly Gly Ser Gly His Gly Thr Gly Ala Gly
 2750 2755 2760

Arg Lys Gly Leu Leu Ser Gln Asp Asn Leu Thr Ser Met Ser Leu
 2765 2770 2775

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 <211> 2319
 <212> PRT
 <213> Homo sapiens

<400> 56

Met Val Val Tyr Gly Gly Asn Val His Thr His Tyr Gln Glu Glu Lys
 1 5 10 15

Cys Tyr Glu Asp Gly Ile Phe Phe Tyr His Leu Gly Cys His Gln Trp
 20 25 30

Val Ser Gly Ala Glu Leu Ala Pro Pro Gly Thr Pro Glu Gly Arg Ala
 35 40 45

Ala Pro Pro Ser Gly Arg Tyr Ser His Val Ala Ala Val Leu Gly Gly
 50 55 60

Ser Val Leu Leu Val Ala Gly Gly Tyr Ser Gly Arg Pro Arg Gly Asp
 65 70 75 80

Leu Met Ala Tyr Lys Val Pro Pro Phe Val Phe Gln Ala Pro Ala Pro
 85 90 95

Asp Tyr His Leu Asp Tyr Cys Ser Met Tyr Thr Asp His Ser Val Cys
 100 105 110

Ser Arg Asp Pro Glu Cys Ser Trp Cys Gln Gly Ala Cys Gln Ala Ala
 115 120 125

Pro Pro Pro Gly Thr Pro Leu Gly Ala Cys Pro Ala Ala Ser Cys Leu
 130 135 140

Gly Leu Gly Arg Leu Leu Gly Asp Cys Gln Ala Cys Leu Ala Phe Ser
 145 150 155 160

Ser Pro Thr Ala Pro Pro Arg Gly Pro Gly Thr Leu Gly Trp Cys Val
 165 170 175

His Asn Glu Ser Cys Leu Pro Arg Pro Glu Gln Ala Arg Cys Arg Gly
 180 185 190

Glu Gln Ile Ser Gly Thr Val Gly Trp Trp Gly Pro Ala Pro Val Phe
 195 200 205

Val Thr Ser Leu Glu Ala Cys Val Thr Gln Ser Phe Leu Pro Gly Leu
 210 215 220

His Leu Leu Thr Phe Gln Gln Pro Pro Asn Thr Ser Gln Pro Asp Lys
 225 230 235 240

Glu Glu Val Gly Arg Trp Val Ala His Gln Glu Lys Glu Thr Arg Arg
 245 250 255

Leu Gln Arg Pro Gly Ser Ala Arg Leu Phe Pro Leu Pro Gly Arg Asp
 260 265 270

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

Pro Gly His Ser Glu Leu Thr Leu Leu Trp Asp Arg Thr Gly Val Pro
 290 295 300

Gly Gly Ser Glu Ile Ser Phe Phe Phe Leu Glu Pro Tyr Arg Ser Ser
 305 310 315 320

Ser Cys Thr Ser Tyr Ser Ser Cys Leu Gly Cys Leu Ala Asp Gln Gly
 325 330 335

Cys Gly Trp Cys Leu Thr Ser Ala Thr Cys His Leu Arg Gln Gly Gly
 340 345 350

Ala His Cys Gly Asp Asp Gly Ala Gly Gly Ser Leu Leu Val Leu Val
 355 360 365

Pro Thr Leu Cys Pro Leu Cys Glu Glu His Arg Asp Cys His Ala Cys
 370 375 380

Thr Gln Asp Pro Phe Cys Glu Trp His Gln Ser Thr Ser Arg Lys Gly
 385 390 395 400

Asp Ala Ala Cys Ser Arg Arg Gly Arg Gly Arg Gly Ala Leu Lys Ser
 405 410 415

Pro Glu Glu Cys Pro Pro Leu Cys Ser Gln Arg Leu Thr Cys Glu Asp
 420 425 430

Cys Leu Ala Asn Ser Ser Gln Cys Ala Trp Cys Gln Ser Thr His Thr
 435 440 445

Cys Phe Leu Phe Ala Ala Tyr Leu Ala Arg Tyr Pro His Gly Gly Cys
 450 455 460

Arg Gly Trp Asp Asp Ser Val His Ser Glu Pro Arg Cys Arg Ser Cys
 465 470 475 480

Asp Gly Phe Leu Thr Cys His Glu Cys Leu Gln Ser His Glu Cys Gly
 485 490 495

Trp Cys Gly Asn Glu Asp Asn Pro Thr Leu Gly Arg Cys Leu Gln Gly
 500 505 510

Asp Phe Ser Gly Pro Leu Gly Gly Gly Asn Cys Ser Leu Trp Val Gly
 515 520 525

Glu Gly Leu Gly Leu Pro Val Ala Leu Pro Ala Arg Trp Ala Tyr Ala
 530 535 540

Arg Cys Pro Asp Val Asp Glu Cys Arg Leu Gly Leu Ala Arg Cys His
 545 550 555 560

Pro Arg Ala Thr Cys Leu Asn Thr Pro Leu Ser Tyr Glu Cys His Cys
 565 570 575

Gln Arg Gly Tyr Gln Gly Asp Gly Ile Ser His Cys Asn Arg Thr Cys
 580 585 590

Leu Glu Asp Cys Gly His Gly Val Cys Ser Gly Pro Pro Asp Phe Thr
 595 600 605

Cys Val Cys Asp Leu Gly Trp Thr Ser Asp Leu Pro Pro Pro Thr Pro
 610 615 620

Ala Pro Gly Pro Pro Ala Pro Arg Cys Ser Arg Asp Cys Gly Cys Ser
 625 630 635 640

Phe His Ser His Cys Arg Lys Arg Gly Pro Gly Phe Cys Asp Glu Cys
 645 650 655

Gln Asp Trp Thr Trp Gly Glu His Cys Glu Arg Cys Arg Pro Gly Ser
 660 665 670

Phe Gly Asn Ala Thr Gly Ser Arg Gly Cys Arg Pro Cys Gln Cys Asn
 675 680 685

Gly His Gly Asp Pro Arg Arg Gly His Cys Asp Asn Leu Ser Gly Leu
 690 695 700

Cys Phe Cys Gln Asp His Thr Glu Gly Ala His Cys Gln Leu Cys Ser
 705 710 715 720

Pro Gly Tyr Tyr Gly Asp Pro Arg Ala Gly Gly Ser Cys Phe Arg Glu
 725 730 735

Cys Gly Gly Arg Ala Leu Leu Thr Asn Val Ser Ser Val Ala Leu Gly
 740 745 750

Ser Arg Arg Val Gly Gly Leu Leu Pro Pro Gly Gly Gly Ala Ala Arg
 755 760 765

Ala Gly Pro Gly Leu Ser Tyr Cys Val Trp Val Val Ser Ala Thr Glu
 770 775 780

Glu Leu Gln Pro Cys Ala Pro Gly Thr Leu Cys Pro Pro Leu Thr Leu
 785 790 795 800

Thr Phe Ser Pro Asp Ser Ser Thr Pro Cys Thr Leu Ser Tyr Val Leu
 805 810 815

Ala Phe Asp Gly Phe Pro Arg Phe Leu Asp Thr Gly Val Val Gln Ser
 820 825 830

Asp Arg Ser Leu Ile Ala Ala Phe Cys Gly Gln Arg Arg Asp Arg Pro
 835 840 845

Leu Thr Val Gln Ala Leu Ser Gly Leu Leu Val Leu His Trp Glu Ala
 850 855 860

Asn Gly Ser Ser Ser Trp Gly Phe Asn Ala Ser Val Gly Ser Ala Arg
 865 870 875 880

Cys Gly Ser Gly Gly Pro Gly Ser Cys Pro Val Pro Gln Glu Cys Val
 885 890 895

Pro Gln Asp Gly Ala Ala Gly Ala Gly Leu Cys Arg Cys Pro Gln Gly
 900 905 910

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Trp	Ala	Gly	Pro	His	Cys	Arg	Met	Ala	Leu	Cys	Pro	Glu	Asn	Cys	Asn
	915						920					925			
Ala	His	Thr	Gly	Ala	Gly	Thr	Cys	Asn	Gln	Ser	Leu	Gly	Val	Cys	Ile
	930					935					940				
Cys	Ala	Glu	Gly	Phe	Gly	Gly	Pro	Asp	Cys	Ala	Thr	Lys	Leu	Asp	Gly
945					950					955					960
Gly	Gln	Leu	Val	Trp	Glu	Thr	Leu	Met	Asp	Ser	Arg	Leu	Ser	Ala	Asp
				965					970					975	
Thr	Ala	Ser	Arg	Phe	Leu	His	Arg	Leu	Gly	His	Thr	Met	Val	Asp	Gly
			980					985					990		
Pro	Asp	Ala	Thr	Leu	Trp	Met	Phe	Gly	Gly	Leu	Gly	Leu	Pro	Gln	Gly
	995						1000					1005			
Leu	Leu	Gly	Asn	Leu	Tyr	Arg	Tyr	Ser	Val	Ser	Glu	Arg	Arg	Trp	
1010						1015					1020				
Thr	Gln	Met	Leu	Ala	Gly	Ala	Glu	Asp	Gly	Gly	Pro	Gly	Pro	Ser	
1025						1030					1035				
Pro	Arg	Ser	Phe	His	Ala	Ala	Ala	Tyr	Val	Pro	Ala	Gly	Arg	Gly	
1040						1045					1050				
Ala	Met	Tyr	Leu	Leu	Gly	Gly	Leu	Thr	Ala	Gly	Gly	Val	Thr	Arg	
1055						1060					1065				
Asp	Phe	Trp	Val	Leu	Asn	Leu	Thr	Thr	Leu	Gln	Trp	Arg	Gln	Glu	
1070						1075					1080				
Lys	Ala	Pro	Gln	Thr	Val	Glu	Leu	Pro	Ala	Val	Ala	Gly	His	Thr	
1085						1090					1095				
Leu	Thr	Ala	Arg	Arg	Gly	Leu	Ser	Leu	Leu	Leu	Val	Gly	Gly	Tyr	
1100						1105					1110				
Ser	Pro	Glu	Asn	Gly	Phe	Asn	Gln	Gln	Leu	Leu	Glu	Tyr	Gln	Leu	
1115						1120					1125				
Ala	Thr	Gly	Thr	Trp	Val	Ser	Gly	Ala	Gln	Ser	Gly	Thr	Pro	Pro	
1130						1135					1140				
Thr	Gly	Leu	Tyr	Gly	His	Ser	Ala	Val	Tyr	His	Glu	Ala	Thr	Asp	
1145						1150					1155				

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Ser	Leu	Tyr	Val	Phe	Gly	Gly	Phe	Arg	Phe	His	Val	Glu	Leu	Ala
1160						1165					1170			
Ala	Pro	Ser	Pro	Glu	Leu	Tyr	Ser	Leu	His	Cys	Pro	Asp	Arg	Thr
1175						1180					1185			
Trp	Ser	Leu	Leu	Ala	Pro	Ser	Gln	Gly	Ala	Lys	Arg	Asp	Arg	Met
1190						1195					1200			
Arg	Asn	Val	Arg	Gly	Ser	Ser	Arg	Gly	Leu	Gly	Gln	Val	Pro	Gly
1205						1210					1215			
Glu	Gln	Pro	Gly	Ser	Trp	Gly	Phe	Arg	Glu	Val	Arg	Lys	Lys	Met
1220						1225					1230			
Ala	Leu	Trp	Ala	Ala	Leu	Ala	Gly	Thr	Gly	Gly	Phe	Leu	Glu	Glu
1235						1240					1245			
Ile	Ser	Pro	His	Leu	Lys	Glu	Pro	Arg	Pro	Arg	Leu	Phe	His	Ala
1250						1255					1260			
Ser	Ala	Leu	Leu	Gly	Asp	Thr	Met	Val	Val	Leu	Gly	Gly	Arg	Ser
1265						1270					1275			
Asp	Pro	Asp	Glu	Phe	Ser	Ser	Asp	Val	Leu	Leu	Tyr	Gln	Val	Asn
1280						1285					1290			
Cys	Asn	Ala	Trp	Leu	Leu	Pro	Asp	Leu	Thr	Arg	Ser	Ala	Ser	Val
1295						1300					1305			
Gly	Pro	Pro	Met	Glu	Glu	Ser	Val	Ala	His	Ala	Val	Ala	Ala	Val
1310						1315					1320			
Gly	Ser	Arg	Leu	Tyr	Ile	Ser	Gly	Gly	Phe	Gly	Gly	Val	Ala	Leu
1325						1330					1335			
Gly	Arg	Leu	Leu	Ala	Leu	Thr	Leu	Pro	Pro	Asp	Pro	Cys	Arg	Leu
1340						1345					1350			
Leu	Ser	Ser	Pro	Glu	Ala	Cys	Asn	Gln	Ser	Gly	Ala	Cys	Thr	Trp
1355						1360					1365			
Cys	His	Gly	Ala	Cys	Leu	Ser	Gly	Asp	Gln	Ala	His	Arg	Leu	Gly
1370						1375					1380			
Cys	Gly	Gly	Ser	Pro	Cys	Ser	Pro	Met	Pro	Arg	Ser	Pro	Glu	Glu
1385						1390					1395			

Cys Arg	Arg Leu Arg Thr	Cys	Ser Glu Cys Leu	Ala	Arg His Pro
1400		1405		1410	
Arg Thr	Leu Gln Pro Gly Asp	Gly Glu Ala Ser	Thr	Pro Arg Cys	
1415		1420		1425	
Lys Trp	Cys Thr Asn Cys Pro	Glu Gly Ala Cys	Ile	Gly Arg Asn	
1430		1435		1440	
Gly Ser	Cys Thr Ser Glu Asn	Asp Cys Arg Ile	Asn	Gln Arg Glu	
1445		1450		1455	
Val Phe	Trp Ala Gly Asn Cys	Ser Glu Ala Ala	Cys	Gly Ala Ala	
1460		1465		1470	
Asp Cys	Glu Gln Cys Thr Arg	Glu Gly Lys Cys	Met	Trp Thr Arg	
1475		1480		1485	
Gln Phe	Lys Arg Thr Gly Glu	Thr Arg Arg Ile	Leu	Ser Val Gln	
1490		1495		1500	
Pro Thr	Tyr Asp Trp Thr Cys	Phe Ser His Ser	Leu	Leu Asn Val	
1505		1510		1515	
Ser Pro	Met Pro Val Glu Ser	Ser Pro Pro Leu	Pro	Cys Pro Thr	
1520		1525		1530	
Pro Cys	His Leu Leu Pro Asn	Cys Thr Ser Cys	Leu	Asp Ser Lys	
1535		1540		1545	
Gly Ala	Asp Gly Gly Trp Gln	His Cys Val Trp	Ser	Ser Ser Leu	
1550		1555		1560	
Gln Gln	Cys Leu Ser Pro Ser	Tyr Leu Pro Leu	Arg	Cys Met Ala	
1565		1570		1575	
Gly Gly	Cys Gly Arg Leu Leu	Arg Gly Pro Glu	Ser	Cys Ser Leu	
1580		1585		1590	
Gly Cys	Ala Gln Ala Thr Gln	Cys Ala Leu Cys	Leu	Arg Arg Pro	
1595		1600		1605	
His Cys	Gly Trp Cys Ala Trp	Gly Gly Gln Asp	Gly	Gly Gly Arg	
1610		1615		1620	
Cys Met	Glu Gly Gly Leu Ser	Gly Pro Arg Asp	Gly	Leu Thr Cys	
1625		1630		1635	

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

Thr Gly 1880	Thr Cys Gln Gly 1885	Ser Ser Pro Ser Asp Arg 1890	Arg Asp Cys
Tyr Lys 1895	Tyr Gln Cys Ala Lys 1900	Cys Arg Glu Ser Phe 1905	His Gly Ser
Pro Leu 1910	Gly Gly Gln Gln Cys 1915	Tyr Arg Leu Ile Ser 1920	Val Glu Gln
Glu Cys 1925	Cys Leu Asp Pro Thr 1930	Ser Gln Thr Asn Cys 1935	Phe His Glu
Pro Lys 1940	Arg Arg Ala Leu Gly 1945	Pro Gly Arg Thr Val 1950	Leu Phe Gly
Val Gln 1955	Pro Lys Phe Thr Asn 1960	Val Asp Ile Arg Leu 1965	Thr Leu Asp
Val Thr 1970	Phe Gly Ala Val Asp 1975	Leu Tyr Val Ser Thr 1980	Ser Tyr Asp
Thr Phe 1985	Val Val Arg Val Ala 1990	Pro Asp Thr Gly Val 1995	His Thr Val
His Ile 2000	Gln Pro Pro Pro Ala 2005	Pro Pro Pro Pro Pro 2010	Pro Pro Ala
Asp Gly 2015	Gly Pro Arg Gly Ala 2020	Gly Asp Pro Gly Gly 2025	Ala Gly Ala
Ser Ser 2030	Gly Pro Gly Ala Pro 2035	Ala Glu Pro Arg Val 2040	Arg Glu Val
Trp Pro 2045	Arg Gly Leu Ile Thr 2050	Tyr Val Thr Val Thr 2055	Glu Pro Ser
Ala Val 2060	Leu Val Val Arg Gly 2065	Val Arg Asp Arg Leu 2070	Val Ile Thr
Tyr Pro 2075	His Glu His His Ala 2080	Leu Lys Ser Ser Arg 2085	Phe Tyr Leu
Leu Leu 2090	Leu Gly Val Gly Asp 2095	Pro Ser Gly Pro Gly 2100	Ala Asn Gly
Ser Ala 2105	Asp Ser Gln Gly Leu 2110	Leu Phe Phe Arg Gln 2115	Asp Gln Ala

120

His Ile Asp Leu Phe Val Phe Phe Ser Val Phe Phe Ser Cys Phe
 2120 2125 2130

Phe Leu Phe Leu Ser Leu Cys Val Leu Leu Trp Lys Ala Lys Gln
 2135 2140 2145

Ala Leu Asp Gln Arg Gln Glu Gln Arg Arg His Leu Gln Glu Met
 2150 2155 2160

Thr Lys Met Ala Ser Arg Pro Phe Ala Lys Val Thr Val Cys Phe
 2165 2170 2175

Pro Pro Asp Pro Thr Ala Pro Ala Ser Ala Trp Lys Pro Ala Gly
 2180 2185 2190

Leu Pro Pro Pro Ala Phe Arg Arg Ser Glu Pro Phe Leu Ala Pro
 2195 2200 2205

Leu Leu Leu Thr Gly Ala Gly Gly Pro Trp Gly Pro Met Gly Gly
 2210 2215 2220

Gly Cys Cys Pro Pro Ala Ile Pro Ala Thr Thr Ala Gly Leu Arg
 2225 2230 2235

Ala Gly Pro Ile Thr Leu Glu Pro Thr Glu Asp Gly Met Ala Gly
 2240 2245 2250

Val Ala Thr Leu Leu Leu Gln Leu Pro Gly Gly Pro His Ala Pro
 2255 2260 2265

Asn Gly Ala Cys Leu Gly Ser Ala Leu Val Thr Leu Arg His Arg
 2270 2275 2280

Leu His Glu Tyr Cys Gly Gly Gly Gly Gly Ala Gly Gly Ser Gly
 2285 2290 2295

His Gly Thr Gly Ala Gly Arg Lys Gly Leu Leu Ser Gln Asp Asn
 2300 2305 2310

Leu Thr Ser Met Ser Leu
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<210> 57

<211> 2386

<212> PRT

<213> Homo sapiens

<400> 57

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

Thr Asp Val Ser Leu Val Tyr Arg Gly Phe Ile Tyr Pro Met Leu Pro
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Gly Gly Pro Gly Gly Pro Gly Ala Glu Asp Val Ala Val Trp Thr Arg
 275 280 285

Ala Gln Arg Leu His Val Leu Ala Arg Met Ala Arg Gly Pro Asp Thr
 290 295 300

Glu Asn Met Glu Glu Val Gly Arg Trp Val Ala His Gln Glu Lys Glu
 305 310 315 320

Thr Arg Arg Leu Gln Arg Pro Gly Ser Ala Arg Leu Phe Pro Leu Pro
 325 330 335

Gly Arg Asp His Lys Tyr Ala Val Glu Ile Gln Gly Gln Leu Asn Gly
 340 345 350

Ser Ala Gly Pro Gly His Ser Glu Leu Thr Leu Leu Trp Asp Arg Thr
 355 360 365

Gly Val Pro Gly Gly Ser Glu Ile Ser Phe Phe Phe Leu Glu Pro Tyr
 370 375 380

Arg Ser Ser Ser Cys Thr Ser Tyr Ser Ser Cys Leu Gly Cys Leu Ala
 385 390 395 400

Asp Gln Gly Cys Gly Trp Cys Leu Thr Ser Ala Thr Cys His Leu Arg
 405 410 415

Gln Gly Gly Ala His Cys Gly Asp Asp Gly Ala Gly Gly Ser Leu Leu
 420 425 430

Val Leu Val Pro Thr Leu Cys Pro Leu Cys Glu Glu His Arg Asp Cys
 435 440 445

His Ala Cys Thr Gln Asp Pro Phe Cys Glu Trp His Gln Ser Thr Ser
 450 455 460

Arg Lys Gly Asp Ala Ala Cys Ser Arg Arg Gly Arg Gly Arg Gly Ala
 465 470 475 480

Leu Lys Ser Pro Glu Glu Cys Pro Pro Leu Cys Ser Gln Arg Leu Thr
 485 490 495

Cys Glu Asp Cys Leu Ala Asn Ser Ser Gln Cys Ala Trp Cys Gln Ser
 500 505 510

123

Thr His Thr Cys Phe Leu Phe Ala Ala Tyr Leu Ala Arg Tyr Pro His
 515 520 525

Gly Gly Cys Arg Gly Trp Asp Asp Ser Val His Ser Glu Pro Arg Cys
 530 535 540

Arg Ser Cys Asp Gly Phe Leu Thr Cys His Glu Cys Leu Gln Ser His
 545 550 555 560

Glu Cys Gly Trp Cys Gly Asn Glu Asp Asn Pro Thr Leu Gly Arg Cys
 565 570 575

Leu Gln Gly Asp Phe Ser Gly Pro Leu Gly Gly Gly Asn Cys Ser Leu
 580 585 590

Trp Val Gly Glu Gly Leu Gly Leu Pro Val Ala Leu Pro Ala Arg Trp
 595 600 605

Ala Tyr Ala Arg Cys Pro Asp Val Asp Glu Cys Arg Leu Gly Leu Ala
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Arg Cys His Pro Arg Ala Thr Cys Leu Asn Thr Pro Leu Ser Tyr Glu
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Cys His Cys Gln Arg Gly Tyr Gln Gly Asp Gly Ile Ser His Cys Asn
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Arg Thr Cys Leu Glu Asp Cys Gly His Gly Val Cys Ser Gly Pro Pro
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Asp Phe Thr Cys Val Cys Asp Leu Gly Trp Thr Ser Asp Leu Pro Pro
 675 680 685

Pro Thr Pro Ala Pro Gly Pro Pro Ala Pro Arg Cys Ser Arg Asp Cys
 690 695 700

Gly Cys Ser Phe His Ser His Cys Arg Lys Arg Gly Pro Gly Phe Cys
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Asp Glu Cys Gln Asp Trp Thr Trp Gly Glu His Cys Glu Arg Cys Arg
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Pro Gly Ser Phe Gly Asn Ala Thr Gly Ser Arg Gly Cys Arg Pro Cys
 740 745 750

Gln Cys Asn Gly His Gly Asp Pro Arg Arg Gly His Cys Asp Asn Leu
 755 760 765

Ser Gly Leu Cys Phe Cys Gln Asp His Thr Glu Gly Ala His Cys Gln
 770 775 780

Leu Cys Ser Pro Gly Tyr Tyr Gly Asp Pro Arg Ala Gly Gly Ser Cys
 785 790 795 800

Phe Arg Glu Cys Gly Gly Arg Ala Leu Leu Thr Asn Val Ser Ser Val
 805 810 815

Ala Leu Gly Ser Arg Arg Val Gly Gly Leu Leu Pro Pro Gly Gly Gly
 820 825 830

Ala Ala Arg Ala Gly Pro Gly Leu Ser Tyr Cys Val Trp Val Val Ser
 835 840 845

Ala Thr Glu Glu Leu Gln Pro Cys Ala Pro Gly Thr Leu Cys Pro Pro
 850 855 860

Leu Thr Leu Thr Phe Ser Pro Asp Ser Ser Thr Pro Cys Thr Leu Ser
 865 870 875 880

Tyr Val Leu Ala Phe Asp Gly Phe Pro Arg Phe Leu Asp Thr Gly Val
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Val Gln Ser Asp Arg Ser Leu Ile Ala Ala Phe Cys Gly Gln Arg Arg
 900 905 910

Asp Arg Pro Leu Thr Val Gln Ala Leu Ser Gly Leu Leu Val Leu His
 915 920 925

Trp Glu Ala Asn Gly Ser Ser Ser Trp Gly Phe Asn Ala Ser Val Gly
 930 935 940

Ser Ala Arg Cys Gly Ser Gly Gly Pro Gly Ser Cys Pro Val Pro Gln
 945 950 955 960

Glu Cys Val Pro Gln Asp Gly Ala Ala Gly Ala Gly Leu Cys Arg Cys
 965 970 975

Pro Gln Gly Trp Ala Gly Pro His Cys Arg Met Ala Leu Cys Pro Glu
 980 985 990

Asn Cys Asn Ala His Thr Gly Ala Gly Thr Cys Asn Gln Ser Leu Gly
 995 1000 1005

Val Cys Ile Cys Ala Glu Gly Phe Gly Gly Pro Asp Cys Ala Thr
 1010 1015 1020

125

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

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Gly	Ala	Lys	Arg	Asp	Arg	Met	Arg	Asn	Val	Arg	Gly	Ser	Ser	Arg
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Gly	Leu	Gly	Gln	Val	Pro	Gly	Glu	Gln	Pro	Gly	Ser	Trp	Gly	Phe
1280						1285					1290			
Arg	Glu	Val	Arg	Lys	Lys	Met	Ala	Leu	Trp	Ala	Ala	Leu	Ala	Gly
1295						1300					1305			
Thr	Gly	Gly	Phe	Leu	Glu	Glu	Ile	Ser	Pro	His	Leu	Lys	Glu	Pro
1310						1315					1320			
Arg	Pro	Arg	Leu	Phe	His	Ala	Ser	Ala	Leu	Leu	Gly	Asp	Thr	Met
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Val	Val	Leu	Gly	Gly	Arg	Ser	Asp	Pro	Asp	Glu	Phe	Ser	Ser	Asp
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Val	Leu	Leu	Tyr	Gln	Val	Asn	Cys	Asn	Ala	Trp	Leu	Leu	Pro	Asp
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Leu	Thr	Arg	Ser	Ala	Ser	Val	Gly	Pro	Pro	Met	Glu	Glu	Ser	Val
1370						1375					1380			
Ala	His	Ala	Val	Ala	Ala	Val	Gly	Ser	Arg	Leu	Tyr	Ile	Ser	Gly
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Gly	Phe	Gly	Gly	Val	Ala	Leu	Gly	Arg	Leu	Leu	Ala	Leu	Thr	Leu
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Pro	Pro	Asp	Pro	Cys	Arg	Leu	Leu	Ser	Ser	Pro	Glu	Ala	Cys	Asn
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Gln	Ser	Gly	Ala	Cys	Thr	Trp	Cys	His	Gly	Ala	Cys	Leu	Ser	Gly
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Asp	Gln	Ala	His	Arg	Leu	Gly	Cys	Gly	Gly	Ser	Pro	Cys	Ser	Pro
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Met	Pro	Arg	Ser	Pro	Glu	Glu	Cys	Arg	Arg	Leu	Arg	Thr	Cys	Ser
1460						1465					1470			
Glu	Cys	Leu	Ala	Arg	His	Pro	Arg	Thr	Leu	Gln	Pro	Gly	Asp	Gly
1475						1480					1485			
Glu	Ala	Ser	Thr	Pro	Arg	Cys	Lys	Trp	Cys	Thr	Asn	Cys	Pro	Glu
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Gly	Ala	Cys	Ile	Gly	Arg	Asn	Gly	Ser	Cys	Thr	Ser	Glu	Asn	Asp
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Cys	Arg	Ile	Asn	Gln	Arg	Glu	Val	Phe	Trp	Ala	Gly	Asn	Cys	Ser
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Glu	Ala	Ala	Cys	Gly	Ala	Ala	Asp	Cys	Glu	Gln	Cys	Thr	Arg	Glu
1535						1540					1545			
Gly	Lys	Cys	Met	Trp	Thr	Arg	Gln	Phe	Lys	Arg	Thr	Gly	Glu	Thr
1550						1555					1560			
Arg	Arg	Ile	Leu	Ser	Val	Gln	Pro	Thr	Tyr	Asp	Trp	Thr	Cys	Phe
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Ser	His	Ser	Leu	Leu	Asn	Val	Ser	Pro	Met	Pro	Val	Glu	Ser	Ser
1580						1585					1590			
Pro	Pro	Leu	Pro	Cys	Pro	Thr	Pro	Cys	His	Leu	Leu	Pro	Asn	Cys
1595						1600					1605			
Thr	Ser	Cys	Leu	Asp	Ser	Lys	Gly	Ala	Asp	Gly	Gly	Trp	Gln	His
1610						1615					1620			
Cys	Val	Trp	Ser	Ser	Ser	Leu	Gln	Gln	Cys	Leu	Ser	Pro	Ser	Tyr
1625						1630					1635			
Leu	Pro	Leu	Arg	Cys	Met	Ala	Gly	Gly	Cys	Gly	Arg	Leu	Leu	Arg
1640						1645					1650			
Gly	Pro	Glu	Ser	Cys	Ser	Leu	Gly	Cys	Ala	Gln	Ala	Thr	Gln	Cys
1655						1660					1665			
Ala	Leu	Cys	Leu	Arg	Arg	Pro	His	Cys	Gly	Trp	Cys	Ala	Trp	Gly
1670						1675					1680			
Gly	Gln	Asp	Gly	Gly	Gly	Arg	Cys	Met	Glu	Gly	Gly	Leu	Ser	Gly
1685						1690					1695			
Pro	Arg	Asp	Gly	Leu	Thr	Cys	Gly	Arg	Pro	Gly	Ala	Ser	Trp	Ala
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Phe	Leu	Ser	Cys	Pro	Pro	Glu	Asp	Glu	Cys	Ala	Asn	Gly	His	His
1715						1720					1725			
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Glu Cys 1745	Ser Cys Lys Thr Gly 1750	Tyr Thr Met Asp Asn 1755	Met Thr Gly
Leu Cys 1760	Arg Pro Val Cys Ala 1765	Gln Gly Cys Val Asn 1770	Gly Ser Cys
Val Glu 1775	Pro Asp His Cys Arg 1780	Cys His Phe Gly Phe 1785	Val Gly Arg
Asn Cys 1790	Ser Thr Glu Cys Arg 1795	Cys Asn Arg His Ser 1800	Glu Cys Ala
Gly Val 1805	Gly Ala Arg Asp His 1810	Cys Leu Leu Cys Arg 1815	Asn His Thr
Lys Gly 1820	Ser His Cys Glu Gln 1825	Cys Leu Pro Leu Phe 1830	Val Gly Ser
Ala Val 1835	Gly Gly Gly Thr Cys 1840	Arg Pro Cys His Ala 1845	Phe Cys Arg
Gly Asn 1850	Ser His Ile Cys Ile 1855	Ser Arg Lys Glu Leu 1860	Gln Met Ser
Lys Gly 1865	Glu Pro Lys Lys Tyr 1870	Ser Leu Asp Pro Glu 1875	Glu Ile Glu
Asn Trp 1880	Val Thr Glu Gly Pro 1885	Ser Glu Asp Glu Ala 1890	Val Cys Val
Asn Cys 1895	Gln Asn Asn Ser Tyr 1900	Gly Glu Lys Cys Glu 1905	Ser Cys Leu
Gln Gly 1910	Tyr Phe Leu Leu Asp 1915	Gly Lys Cys Thr Lys 1920	Cys Gln Cys
Asn Gly 1925	His Ala Asp Thr Cys 1930	Asn Glu Gln Asp Gly 1935	Thr Gly Cys
Pro Cys 1940	Gln Asn Asn Thr Glu 1945	Thr Gly Thr Cys Gln 1950	Gly Ser Ser
Pro Ser 1955	Asp Arg Arg Asp Cys 1960	Tyr Lys Tyr Gln Cys 1965	Ala Lys Cys
Arg Glu 1970	Ser Phe His Gly Ser 1975	Pro Leu Gly Gly Gln 1980	Gln Cys Tyr

Arg Leu 1985	Ile Ser Val Glu Gln 1990	Glu Cys Cys Leu Asp 1995	Pro Thr Ser
Gln Thr 2000	Asn Cys Phe His Glu 2005	Pro Lys Arg Arg Ala 2010	Leu Gly Pro
Gly Arg 2015	Thr Val Leu Phe Gly 2020	Val Gln Pro Lys Phe 2025	Thr Asn Val
Asp Ile 2030	Arg Leu Thr Leu Asp 2035	Val Thr Phe Gly Ala 2040	Val Asp Leu
Tyr Val 2045	Ser Thr Ser Tyr Asp 2050	Thr Phe Val Val Arg 2055	Val Ala Pro
Asp Thr 2060	Gly Val His Thr Val 2065	His Ile Gln Pro Pro 2070	Pro Ala Pro
Pro Pro 2075	Pro Pro Pro Pro Ala 2080	Asp Gly Gly Pro Arg 2085	Gly Ala Gly
Asp Pro 2090	Gly Gly Ala Gly Ala 2095	Ser Ser Gly Pro Gly 2100	Ala Pro Ala
Glu Pro 2105	Arg Val Arg Glu Val 2110	Trp Pro Arg Gly Leu 2115	Ile Thr Tyr
Val Thr 2120	Val Thr Glu Pro Ser 2125	Ala Val Leu Val Val 2130	Arg Gly Val
Arg Asp 2135	Arg Leu Val Ile Thr 2140	Tyr Pro His Glu His 2145	His Ala Leu
Lys Ser 2150	Ser Arg Phe Tyr Leu 2155	Leu Leu Leu Gly Val 2160	Gly Asp Pro
Ser Gly 2165	Pro Gly Ala Asn Gly 2170	Ser Ala Asp Ser Gln 2175	Gly Leu Leu
Phe Phe 2180	Arg Gln Asp Gln Ala 2185	His Ile Asp Leu Phe 2190	Val Phe Phe
Ser Val 2195	Phe Phe Ser Cys Phe 2200	Phe Leu Phe Leu Ser 2205	Leu Cys Val
Leu Leu 2210	Trp Lys Ala Lys Gln 2215	Ala Leu Asp Gln Arg 2220	Gln Glu Gln

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Arg Arg His Leu Gln Glu Met Thr Lys Met Ala Ser Arg Pro Phe
2225 2230 2235

Ala Lys Val Thr Val Cys Phe Pro Pro Asp Pro Thr Ala Pro Ala
2240 2245 2250

Ser Ala Trp Lys Pro Ala Gly Leu Pro Pro Pro Ala Phe Arg Arg
2255 2260 2265

Ser Glu Pro Phe Leu Ala Pro Leu Leu Leu Thr Gly Ala Gly Gly
2270 2275 2280

Pro Trp Gly Pro Met Gly Gly Gly Cys Cys Pro Pro Ala Ile Pro
2285 2290 2295

Ala Thr Thr Ala Gly Leu Arg Ala Gly Pro Ile Thr Leu Glu Pro
2300 2305 2310

Thr Glu Asp Gly Met Ala Gly Val Ala Thr Leu Leu Leu Gln Leu
2315 2320 2325

Pro Gly Gly Pro His Ala Pro Asn Gly Ala Cys Leu Gly Ser Ala
2330 2335 2340

Leu Val Thr Leu Arg His Arg Leu His Glu Tyr Cys Gly Gly Gly
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Gly Gly Ala Gly Gly Ser Gly His Gly Thr Gly Ala Gly Arg Lys
2360 2365 2370

Gly Leu Leu Ser Gln Asp Asn Leu Thr Ser Met Ser Leu
2375 2380 2385

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<213> Homo sapiens

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<210> 61
<211> 409
<212> PRT
<213> Homo sapiens

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<400> 61
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Met Glu Glu Ser Trp Glu Ala Ala Pro Gly Gly Gln Ala Gly Ala Glu
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Leu Pro Met Glu Pro Val Gly Ser Leu Val Pro Thr Leu Glu Gln Pro
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Gln Val Pro Ala Lys Val Arg Gln Pro Glu Gly Pro Glu Ser Ser Pro
 35 40 45

Ser Pro Ala Gly Ala Val Glu Lys Ala Ala Gly Ala Gly Leu Glu Pro
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Ser Ser Lys Lys Lys Pro Pro Ser Pro Arg Pro Gly Ser Pro Arg Val
 65 70 75 80

Pro Pro Leu Ser Leu Gly Tyr Gly Val Cys Pro Glu Pro Pro Ser Pro
 85 90 95

Gly Pro Ala Leu Val Lys Leu Pro Arg Asn Gly Glu Ala Pro Gly Ala
 100 105 110

Glu Pro Ala Pro Ser Ala Trp Ala Pro Met Glu Leu Gln Val Asp Val
 115 120 125

Arg Val Lys Pro Val Gly Ala Ala Gly Gly Ser Ser Thr Pro Ser Pro
 130 135 140

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

Phe Ser Arg His Ala Asp Pro Ala His Gln Leu Leu Leu Arg Ala Pro
 165 170 175

Ser Gln Gly Gly Thr Trp Gly Arg Arg Ser Pro Leu Ala Ala Ala Arg
 180 185 190

Thr Glu Ser Gly Cys Asp Ala Glu Gly Arg Ala Ser Pro Ala Glu Gly
 195 200 205

Ser Ala Gly Ser Pro Gly Ser Pro Thr Cys Cys Arg Cys Lys Glu Leu
 210 215 220

Gly Leu Glu Lys Glu Asp Ala Ala Leu Leu Pro Arg Ala Gly Leu Asp
 225 230 235 240

Gly Asp Glu Lys Leu Pro Arg Ala Val Thr Leu Thr Gly Leu Pro Met
 245 250 255

Tyr Val Lys Ser Leu Tyr Trp Ala Leu Ala Phe Met Ala Val Leu Leu
 260 265 270

150

Ala Val Ser Gly Val Val Ile Val Val Leu Ala Ser Arg Ala Gly Ala
275 280 285

Arg Cys Gln Gln Cys Pro Pro Gly Trp Val Leu Ser Glu Glu His Cys
290 295 300

Tyr Tyr Phe Ser Ala Glu Ala Gln Ala Trp Glu Ala Ser Gln Ala Phe
305 310 315 320

Cys Ser Ala Tyr His Ala Thr Leu Pro Leu Leu Ser His Thr Gln Asp
325 330 335

Phe Leu Gly Arg Tyr Pro Val Ser Arg His Ser Trp Val Gly Ala Trp
340 345 350

Arg Gly Pro Gln Gly Trp His Trp Ile Asp Glu Ala Pro Leu Pro Pro
355 360 365

Gln Leu Leu Pro Glu Asp Gly Glu Asp Asn Leu Asp Ile Asn Cys Gly
370 375 380

Ala Leu Glu Glu Gly Thr Leu Val Ala Ala Asn Cys Ser Thr Pro Arg
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Pro Trp Val Cys Ala Lys Gly Thr Gln
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<210> 62
<211> 314
<212> PRT
<213> Homo sapiens

<400> 62

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

Gln Val Pro Ala Lys Val Arg Gln Pro Glu Gly Pro Glu Ser Ser Pro
35 40 45

Ser Pro Ala Gly Ala Val Glu Lys Ala Ala Gly Ala Gly Leu Glu Pro
50 55 60

Ser Ser Lys Lys Lys Pro Pro Ser Pro Arg Pro Gly Ser Pro Arg Val
65 70 75 80

151

Pro Pro Leu Ser Leu Gly Tyr Gly Val Cys Pro Glu Pro Pro Ser Pro
85 90 95

Gly Pro Ala Leu Val Lys Leu Pro Arg Asn Gly Glu Ala Pro Gly Ala
100 105 110

Glu Pro Ala Pro Ser Ala Trp Ala Pro Met Glu Leu Gln Val Asp Val
115 120 125

Arg Val Lys Pro Val Gly Ala Ala Gly Gly Ser Ser Thr Pro Ser Pro
130 135 140

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

Phe Ser Arg His Ala Asp Pro Ala His Gln Leu Leu Leu Arg Ala Pro
165 170 175

Ser Gln Gly Gly Thr Trp Gly Arg Arg Ser Pro Leu Ala Ala Ala Arg
180 185 190

Thr Glu Ser Gly Cys Asp Ala Glu Gly Arg Ala Ser Pro Ala Glu Gly
195 200 205

Ser Ala Gly Ser Pro Gly Ser Pro Thr Cys Cys Arg Cys Lys Glu Leu
210 215 220

Gly Leu Glu Lys Glu Asp Ala Ala Leu Leu Pro Arg Ala Gly Leu Asp
225 230 235 240

Gly Asp Glu Lys Leu Pro Arg Ala Val Thr Leu Thr Asp Ser Leu Arg
245 250 255

Thr Ala Arg Thr Ile Trp Ile Ser Thr Val Gly Pro Trp Arg Lys Ala
260 265 270

Arg Trp Trp Leu Gln Thr Ala Ala Leu Gln Asp Pro Gly Ser Val Pro
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Asp Ala Ala Pro Pro Thr Gly Glu Ala Ser
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<211> 1544

<212> DNA

<213> Homo sapiens

<400> 63

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<210> 64

<211> 1192

<212> DNA

<213> Homo sapiens


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<400> 64
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<210> 65
<211> 518
<212> PRT
<213> Homo sapiens

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<400> 65

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

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```

Ile Ile Asn Tyr Met Val Val Met Gly Val Val Leu Tyr Leu Gly Lys
35              40              45

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Lys Phe Leu Gln Pro Lys His Lys Thr Gly Asn Tyr Lys Lys Asp Phe
50              55              60

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154

Leu	Cys	Gly	Leu	Gly	Ile	Thr	Leu	Ile	Ser	Trp	Phe	Thr	Ser	Leu	Val
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Tyr	Leu	Ala	Lys	Ser	Thr	Lys	Lys	Thr	Met	Leu	Thr	Leu	Thr	Leu	Val
			260					265					270		
Cys	Ala	Ile	Thr	Phe	Leu	Leu	Val	Cys	Ser	Gly	Thr	Phe	Phe	Pro	Tyr
		275					280					285			
Ser	Ser	Asn	Pro	Ala	Asn	Pro	Lys	Pro	Lys	Arg	Val	Phe	Leu	Gln	His
	290					295					300				
Met	Thr	Arg	Thr	Phe	His	Asp	Leu	Glu	Gly	Asn	Ala	Val	Lys	Arg	Asp
305					310					315					320

155

Ser Gly Ile Trp Ile Asn Gly Phe Asp Tyr Thr Gly Ile Ser His Ile
 325 330 335

Thr Pro His Ile Pro Glu Ile Asn Asp Ser Ile Arg Ala His Cys Glu
 340 345 350

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

Leu Ile Arg Lys Asn Trp Tyr Leu Pro Ala Pro Glu Val Ser Pro Arg
 370 375 380

Asn Pro Pro His Phe Arg Leu Ile Ser Lys Glu Gln Thr Pro Trp Asp
 385 390 395 400

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

Tyr Val Arg Ala His Lys Gly Ser Thr Leu Ser Gln Trp Ser Leu Gly
 420 425 430

Asn Gly Thr Pro Val Thr Ser Lys Gly Gly Asp Tyr Phe Val Phe Tyr
 435 440 445

Ser His Gly Leu Gln Ala Ser Ala Trp Gln Phe Trp Ile Glu Val Gln
 450 455 460

Val Ser Glu Glu His Pro Glu Gly Met Val Thr Val Ala Ile Ala Ala
 465 470 475 480

His Tyr Leu Ser Gly Glu Asp Lys Arg Ser Pro Gln Leu Asp Ala Leu
 485 490 495

Lys Glu Lys Phe Pro Asp Trp Thr Phe Pro Ser Ala Trp Val Cys Thr
 500 505 510

Tyr Asp Leu Phe Val Phe
 515

<210> 66
 <211> 904
 <212> PRT
 <213> Homo sapiens

<400> 66

Met Glu Trp Gly Ser Glu Ser Ala Ala Val Arg Arg His Arg Val Gly
 1 5 10 15

156

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

Ala Phe Ile Asn Leu Glu Ala Ala Gly Val Gly Gly Lys Glu Leu Val
 275 280 285

Phe Gln Thr Gly Pro Glu Asn Pro Trp Leu Val Gln Ala Tyr Val Ser
 290 295 300

Ala Ala Lys His Pro Phe Ala Ser Val Val Ala Gln Glu Val Phe Gln
 305 310 315 320

Ser Gly Ile Ile Pro Ser Asp Thr Asp Phe Arg Ile Tyr Arg Asp Phe
 325 330 335

Gly Asn Ile Pro Gly Ile Asp Leu Ala Phe Ile Glu Asn Gly Tyr Ile
 340 345 350

Tyr His Thr Lys Tyr Asp Thr Ala Asp Arg Ile Leu Thr Asp Ser Ile
 355 360 365

Gln Arg Ala Gly Asp Asn Ile Leu Ala Val Leu Lys His Leu Ala Thr
 370 375 380

Ser Asp Met Leu Ala Ala Ala Ser Lys Tyr Arg His Gly Asn Met Val
 385 390 395 400

Phe Phe Asp Val Leu Gly Leu Phe Val Ile Ala Tyr Pro Ser Arg Ile
 405 410 415

Gly Ser Ile Ile Asn Tyr Met Val Val Met Gly Val Val Leu Tyr Leu
 420 425 430

Gly Lys Lys Phe Leu Gln Pro Lys His Lys Thr Gly Asn Tyr Lys Lys
 435 440 445

Asp Phe Leu Cys Gly Leu Gly Ile Thr Leu Ile Ser Trp Phe Thr Ser
 450 455 460

Leu Val Thr Val Leu Ile Ile Ala Val Phe Ile Ser Leu Ile Gly Gln
 465 470 475 480

Ser Leu Ser Trp Tyr Asn His Phe Tyr Val Ser Val Cys Leu Tyr Gly
 485 490 495

Thr Ala Thr Val Ala Lys Ile Ile Leu Ile His Thr Leu Ala Lys Arg
 500 505 510

Phe Tyr Tyr Met Asn Ala Ser Ala Gln Tyr Leu Gly Glu Val Phe Phe
 515 520 525

158

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

159

Trp Asp Ser Ile Lys Leu Thr Phe Glu Ala Thr Gly Pro Ser His Met
785 790 795 800

Ser Phe Tyr Val Arg Ala His Lys Gly Ser Thr Leu Ser Gln Trp Ser
805 810 815

Leu Gly Asn Gly Thr Pro Val Thr Ser Lys Gly Gly Asp Tyr Phe Val
820 825 830

Phe Tyr Ser His Gly Leu Gln Ala Ser Ala Trp Gln Phe Trp Ile Glu
835 840 845

Val Gln Val Ser Glu Glu His Pro Glu Gly Met Val Thr Val Ala Ile
850 855 860

Ala Ala His Tyr Leu Ser Gly Glu Asp Lys Arg Ser Pro Gln Leu Asp
865 870 875 880

Ala Leu Lys Glu Lys Phe Pro Asp Trp Thr Phe Pro Ser Ala Trp Val
885 890 895

Cys Thr Tyr Asp Leu Phe Val Phe
900

<210> 67

<211> 419

<212> PRT

<213> Homo sapiens

<400> 67

Met Val Val Met Gly Val Val Leu Tyr Leu Gly Lys Lys Phe Leu Gln
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Pro Lys His Lys Thr Gly Asn Tyr Lys Lys Asp Phe Leu Cys Gly Leu
20 25 30

Gly Ile Thr Leu Ile Ser Trp Phe Thr Ser Leu Val Thr Val Leu Ile
35 40 45

Ile Ala Val Phe Ile Ser Leu Ile Gly Gln Ser Leu Ser Trp Tyr Asn
50 55 60

His Phe Tyr Val Ser Val Cys Leu Tyr Gly Thr Ala Thr Val Ala Lys
65 70 75 80

Ile Ile Leu Ile His Thr Leu Ala Lys Arg Phe Tyr Tyr Met Asn Ala
85 90 95

160

Ser Ala Gln Tyr Leu Gly Glu Val Phe Phe Asp Ile Ser Leu Phe Val
 100 105 110

His Cys Cys Phe Leu Val Thr Leu Thr Tyr Gln Gly Leu Cys Ser Ala
 115 120 125

Phe Ile Ser Ala Val Trp Val Ala Phe Pro Leu Leu Thr Lys Leu Cys
 130 135 140

Val His Lys Asp Phe Lys Gln His Gly Ala Gln Gly Lys Phe Ile Ala
 145 150 155 160

Phe Tyr Leu Leu Gly Met Phe Ile Pro Tyr Leu Tyr Ala Leu Tyr Leu
 165 170 175

Ile Trp Ala Val Phe Glu Met Phe Thr Pro Ile Leu Gly Arg Ser Gly
 180 185 190

Ser Glu Ile Pro Pro Asp Val Val Leu Ala Ser Ile Leu Ala Gly Cys
 195 200 205

Thr Met Ile Leu Ser Ser Tyr Phe Ile Asn Phe Ile Tyr Leu Ala Lys
 210 215 220

Ser Thr Lys Lys Thr Met Leu Thr Leu Thr Leu Val Cys Ala Ile Thr
 225 230 235 240

Phe Leu Leu Val Cys Ser Gly Thr Phe Phe Pro Tyr Ser Ser Asn Pro
 245 250 255

Ala Asn Pro Lys Pro Lys Arg Val Phe Leu Gln His Met Thr Arg Thr
 260 265 270

Phe His Asp Leu Glu Gly Asn Ala Val Lys Arg Asp Ser Gly Ile Trp
 275 280 285

Ile Asn Gly Phe Asp Tyr Thr Gly Ile Ser His Ile Thr Pro His Ile
 290 295 300

Pro Glu Ile Asn Asp Ser Ile Arg Ala His Cys Glu Glu Asn Ala Pro
 305 310 315 320

Leu Cys Gly Phe Pro Trp Tyr Leu Pro Val His Phe Leu Ile Arg Lys
 325 330 335

Asn Trp Tyr Leu Pro Ala Pro Glu Val Ser Pro Arg Asn Pro Pro His
 340 345 350

161

Phe Arg Leu Ile Ser Lys Glu Gln Thr Pro Trp Asp Ser Ile Lys Leu
 355 360 365

Thr Phe Glu Ala Thr Ala Cys Leu Pro Ile Leu Gln Ile Leu Asp Leu
 370 375 380

Pro Ala Ser Thr Ile Met Thr Lys Pro Tyr Val Leu Leu Cys Ser Ser
 385 390 395 400

Pro Gln Arg Val Asn Thr Phe Ser Val Val Ser Trp Gln Trp His Pro
 405 410 415

Ser His Lys

<210> 68
 <211> 4974
 <212> DNA
 <213> Homo sapiens

<400> 68
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<210> 69

<211> 5338

<212> DNA

<213> Homo sapiens

<400> 69

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<400> 71

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Asp Arg Leu Met Trp Ile Met Ile Leu Glu Cys Gly Tyr Thr Tyr Cys
35 40 45

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

Ala Glu Ala Arg Arg Val Asp Glu Val Phe Glu Asp Ala Phe Glu Gln
65 70 75 80

Glu Tyr Thr Arg Val Cys Ser Leu Asn Glu His Phe Gly Asn Val Leu
85 90 95

Thr Pro Cys Thr Val Leu Pro Val Lys Leu Tyr Ser Asp Ala Arg Asn
100 105 110

Val Leu Ser Gly Ile Ile Asp Ser His Glu Asn Leu Lys Glu Phe Lys
115 120 125

Gly Asp Leu Ile Lys Val Leu Val Trp Ile Leu Val Gln Tyr Cys Ser
130 135 140

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

Lys Ala Pro Leu Met Leu Pro Ala Leu Asn Thr Leu Pro Pro Pro Lys
165 170 175

Ser Pro Glu Asp Ile Asp Ser Leu Asn Ser Glu Thr Phe Asn Asp Trp
180 185 190

Ser Asp Asp Asn Ile Phe Asp Asp Glu Pro Thr Ile Lys Lys Val Ile
195 200 205

Glu	Glu	Lys	His	Gln	Leu	Lys	Asp	Leu	Pro	Gly	Thr	Asn	Leu	Phe	Ile	210	215	220	
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Val	Leu	Lys	Asp	Phe	Tyr	Val	His	Thr	Val	Met	Thr	Cys	Tyr	Phe	Ser	340	345	350	
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Gly	Leu	Val	Ser	Asp	Glu	Lys	Trp	Lys	Glu	Ala	Ile	Leu	Gln	Glu	Lys	435	440	445	
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Gly Arg Val Leu Ser Leu Gln Glu Leu Leu Ile Gln Val Gly Lys Leu
465 470 475 480

Asn Pro Glu Ala Val Arg Gly Gln Trp Ala Asn Leu Ser Trp Glu Leu
485 490 495

Leu Tyr Ala Thr Asn Asp Asp Glu Glu Arg Tyr Ser Ile Gln Ala His
500 505 510

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

Ser Ser Met Ser Thr His Leu Arg Leu Leu Val Met Phe Ile Met Ser
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Ala Gly Thr Ala Ile Ala Ser Tyr Phe Ile Pro Ser Thr Val Gly Val
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Val Leu Phe Met Thr Gly Phe Gly Phe Leu Leu Ser Leu Asn Leu Ser
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Asp Met Gly His Lys Ile Gly Thr Lys Ser Lys Asp Leu Pro Ser Gly
100 105 110

Pro Glu Lys His Phe Ser Trp Lys Glu Cys Leu Phe Tyr Ile Ile Ile
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Leu Val Leu Ala Leu Leu Glu Thr Ser Leu Leu His His Phe Ala Gly
130 135 140

173

Phe Ser Gln Ile Ser Lys Ser Asn Ser Gln Ala Ile Val Gly Tyr Gly
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165 170 175

Val Tyr Ile Ile Gly Ile Phe Arg Asn Pro Phe Tyr Pro Lys Asp Val
180 185 190

Gln Thr Val Thr Val Phe Phe Glu Lys Gln Thr Arg Leu Met Lys Ile
195 200 205

Gly Ile Val Arg Arg Ile Leu Leu Thr Leu Val Ser Pro Phe Ala Met
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Ile Ala Phe Leu Ser Leu Asp Ser Ser Leu Gln Gly Leu His Ser Val
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290 295 300

Ser Lys Leu Gln Phe Ala Val Thr Val Leu Leu Thr Ser Trp Thr Glu
305 310 315 320

Lys Lys Gln Arg Arg Lys Thr Thr Ala Thr Leu Cys Ile Leu Asn Ile
325 330 335

Val Phe Ser Pro Phe Val Leu Val Ile Ile Val Phe Ser Thr Leu Leu
340 345 350

Ser Ser Pro Leu Leu Pro Leu Phe Thr Leu Pro Val Phe Leu Val Gly
355 360 365

Phe Pro Arg Pro Ile Gln Ser Trp Pro Gly Ala Ala Gly Thr Thr Ala
370 375 380

Cys Val Cys Ala Asp Thr Val Tyr Tyr Tyr Gln Met Val Pro Arg Leu
385 390 395 400

Thr Ala Val Leu Gln Thr Ala Met Ala Ala Gly Ser Leu Gly Leu Leu
 405 410 415

Leu Pro Gly Ser His Tyr Leu Gly Arg Phe Gln Asp Arg Leu Met Trp
 420 425 430

Ile Met Ile Leu Glu Cys Gly Tyr Thr Tyr Cys Ser Ile Asn Ile Lys
 435 440 445

Gly Leu Glu Leu Gln Glu Thr Ser Cys His Thr Ala Glu Ala Arg Arg
 450 455 460

Val Asp Glu Val Phe Glu Asp Ala Phe Glu Gln Glu Tyr Thr Arg Val
 465 470 475 480

Cys Ser Leu Asn Glu His Phe Gly Asn Val Leu Thr Pro Cys Thr Val
 485 490 495

Leu Pro Val Lys Leu Tyr Ser Asp Ala Arg Asn Val Leu Ser Gly Ile
 500 505 510

Ile Asp Ser His Glu Asn Leu Lys Glu Phe Lys Gly Asp Leu Ile Lys
 515 520 525

Val Leu Val Trp Ile Leu Val Gln Tyr Cys Ser Lys Arg Pro Gly Met
 530 535 540

Lys Glu Asn Val His Asn Thr Glu Asn Lys Gly Lys Ala Pro Leu Met
 545 550 555 560

Leu Pro Ala Leu Asn Thr Leu Pro Pro Pro Lys Ser Pro Glu Asp Ile
 565 570 575

Asp Ser Leu Asn Ser Glu Thr Phe Asn Asp Trp Ser Asp Asp Asn Ile
 580 585 590

Phe Asp Asp Glu Pro Thr Ile Lys Lys Val Ile Glu Glu Lys His Gln
 595 600 605

Leu Lys Asp Leu Pro Gly Thr Asn Leu Phe Ile Pro Gly Ser Val Glu
 610 615 620

Ser Gln Arg Val Gly Asp His Ser Thr Gly Thr Val Pro Glu Asn Asp
 625 630 635 640

Leu Tyr Lys Ala Val Leu Leu Gly Tyr Pro Ala Val Asp Lys Gly Lys
 645 650 655

175

Gln Glu Asp Met Pro Tyr Ile Pro Leu Met Glu Phe Ser Cys Ser His
 660 665 670

Ser His Leu Val Cys Leu Pro Ala Glu Trp Arg Thr Ser Cys Met Pro
 675 680 685

Ser Ser Lys Met Lys Glu Met Ser Ser Leu Phe Pro Glu Asp Trp Tyr
 690 695 700

Gln Phe Val Leu Arg Gln Leu Glu Cys Tyr His Ser Glu Glu Lys Ala
 705 710 715 720

Ser Asn Val Leu Glu Glu Ile Ala Lys Asp Lys Val Leu Lys Asp Phe
 725 730 735

Tyr Val His Thr Val Met Thr Cys Tyr Phe Ser Leu Phe Gly Ile Asp
 740 745 750

Asn Met Ala Pro Ser Pro Gly His Ile Leu Arg Val Tyr Gly Gly Val
 755 760 765

Leu Pro Trp Ser Val Ala Leu Asp Trp Leu Thr Glu Lys Pro Glu Leu
 770 775 780

Phe Gln Leu Ala Leu Lys Ala Phe Arg Tyr Thr Leu Lys Leu Met Ile
 785 790 795 800

Asp Lys Ala Ser Leu Gly Pro Ile Glu Asp Phe Arg Glu Leu Ile Lys
 805 810 815

Tyr Leu Glu Glu Tyr Glu Arg Asp Trp Tyr Ile Gly Leu Val Ser Asp
 820 825 830

Glu Lys Trp Lys Glu Ala Ile Leu Gln Glu Lys Pro Tyr Leu Phe Ser
 835 840 845

Leu Gly Tyr Asp Ser Asn Met Gly Ile Tyr Thr Gly Arg Val Leu Ser
 850 855 860

Leu Gln Glu Leu Leu Ile Gln Val Gly Lys Leu Asn Pro Glu Ala Val
 865 870 875 880

Arg Gly Gln Trp Ala Asn Leu Ser Trp Glu Leu Leu Tyr Ala Thr Asn
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Asp Asp Glu Glu Arg Tyr Ser Ile Gln Ala His Pro Leu Leu Leu Arg
 900 905 910

176

Asn Leu Thr Val Gln Ala Ala Glu Pro Pro Leu Gly Tyr Pro Ile Tyr
 915 920 925

Ser Ser Lys Pro Leu His Ile His Leu Tyr
 930 935

<210> 73
 <211> 230
 <212> PRT
 <213> Homo sapiens

<400> 73

Met Ser Pro Asp Val Pro Leu Leu Asn Asp Tyr Lys Gln Asp Phe Phe
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Leu Lys Arg Phe Pro Gln Thr Val Leu Gly Gly Pro Arg Phe Lys Leu
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Gly Tyr Cys Ala Pro Pro Tyr Ile Tyr Val Asn Gln Ile Ile Leu Phe
 35 40 45

Leu Met Pro Trp Val Trp Gly Gly Val Gly Thr Leu Leu Tyr Gln Leu
 50 55 60

Gly Ile Leu Lys Asp Tyr Tyr Thr Ala Ala Leu Ser Gly Gly Leu Met
 65 70 75 80

Leu Phe Thr Ala Phe Val Ile Gln Phe Thr Ser Leu Tyr Ala Lys Asn
 85 90 95

Lys Ser Thr Thr Val Glu Arg Ile Leu Thr Thr Asp Ile Leu Ala Glu
 100 105 110

Glu Asp Glu His Glu Phe Thr Ser Cys Thr Gly Ala Glu Thr Val Lys
 115 120 125

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

Ile Leu Ala Gly Leu Ala Cys Gly Leu Gly Thr Trp Tyr Leu Leu Pro
 145 150 155 160

Asn Arg Ile Thr Leu Leu Tyr Gly Ser Thr Gly Gly Thr Ala Leu Leu
 165 170 175

Phe Phe Phe Gly Trp Met Thr Leu Cys Ile Ala Glu Tyr Ser Leu Ile
 180 185 190

Val Asn Thr Ala Thr Glu Thr Ala Thr Phe Gln Thr Gln Asp Thr Tyr
 195 200 205

Glu Ile Ile Pro Leu Met Arg Pro Leu Tyr Ile Phe Phe Phe Val Ser
 210 215 220

Val Asp Leu Ala His Arg
 225 230

<210> 74
 <211> 1172
 <212> PRT
 <213> Homo sapiens

<400> 74

Met Ser Pro Asp Val Pro Leu Leu Asn Asp Tyr Lys Gln Asp Phe Phe
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Leu Lys Arg Phe Pro Gln Thr Val Leu Gly Gly Pro Arg Phe Lys Leu
 20 25 30

Gly Tyr Cys Ala Pro Pro Tyr Ile Tyr Val Asn Gln Ile Ile Leu Phe
 35 40 45

Leu Met Pro Trp Val Trp Gly Gly Val Gly Thr Leu Leu Tyr Gln Leu
 50 55 60

Gly Ile Leu Lys Asp Tyr Tyr Thr Ala Ala Leu Ser Gly Gly Leu Met
 65 70 75 80

Leu Phe Thr Ala Phe Val Ile Gln Phe Thr Ser Leu Tyr Ala Lys Asn
 85 90 95

Lys Ser Thr Thr Val Glu Arg Ile Leu Thr Thr Asp Ile Leu Ala Glu
 100 105 110

Glu Asp Glu His Glu Phe Thr Ser Cys Thr Gly Ala Glu Thr Val Lys
 115 120 125

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

Ile Leu Ala Gly Leu Ala Cys Gly Leu Gly Thr Trp Tyr Leu Leu Pro
 145 150 155 160

Asn Arg Ile Thr Leu Leu Tyr Gly Ser Thr Gly Gly Thr Ala Leu Leu
 165 170 175

Phe	Phe	Phe	Gly	Trp	Met	Thr	Leu	Cys	Ile	Ala	Glu	Tyr	Ser	Leu	Ile
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Val	Asn	Thr	Ala	Thr	Glu	Thr	Ala	Thr	Phe	Gln	Thr	Gln	Asp	Thr	Tyr
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225					230					235					240
Met	Asn	Gln	Ile	Leu	His	Ile	Leu	Phe	Val	Phe	Leu	Pro	Phe	Leu	Trp
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Ala	Leu	Gly	Thr	Leu	Pro	Pro	Pro	Asp	Ala	Leu	Leu	Leu	Trp	Ala	Met
			260					265					270		
Glu	Gln	Val	Leu	Glu	Phe	Gly	Leu	Gly	Gly	Ser	Ser	Met	Ser	Thr	His
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Leu	Arg	Leu	Leu	Val	Met	Phe	Ile	Met	Ser	Ala	Gly	Thr	Ala	Ile	Ala
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Ser	Tyr	Phe	Ile	Pro	Ser	Thr	Val	Gly	Val	Val	Leu	Phe	Met	Thr	Gly
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Phe	Gly	Phe	Leu	Leu	Ser	Leu	Asn	Leu	Ser	Asp	Met	Gly	His	Lys	Ile
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Gly	Thr	Lys	Ser	Lys	Asp	Leu	Pro	Ser	Gly	Pro	Glu	Lys	His	Phe	Ser
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Trp	Lys	Glu	Cys	Leu	Phe	Tyr	Ile	Ile	Ile	Leu	Val	Leu	Ala	Leu	Leu
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Glu	Thr	Ser	Leu	Leu	His	His	Phe	Ala	Gly	Phe	Ser	Gln	Ile	Ser	Lys
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Ile	Leu	Trp	Ile	Leu	Arg	Glu	Ile	Gln	Ser	Val	Tyr	Ile	Ile	Gly	Ile
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Phe	Arg	Asn	Pro	Phe	Tyr	Pro	Lys	Asp	Val	Gln	Thr	Val	Thr	Val	Phe
			420					425					430		

Phe Glu Lys Gln Thr Arg Leu Met Lys Ile Gly Ile Val Arg Arg Ile
 435 440 445

 Leu Leu Thr Leu Val Ser Pro Phe Ala Met Ile Ala Phe Leu Ser Leu
 450 455 460

 Asp Ser Ser Leu Gln Gly Leu His Ser Val Ser Val Cys Ile Gly Phe
 465 470 475 480

 Thr Arg Ala Phe Arg Met Val Trp Gln Asn Thr Glu Asn Ala Leu Leu
 485 490 495

 Glu Thr Val Ile Val Ser Thr Val His Leu Ile Ser Ser Thr Asp Ile
 500 505 510

 Trp Trp Asn Arg Ser Leu Asp Thr Gly Leu Arg Leu Leu Leu Val Gly
 515 520 525

 Ile Ile Arg Asp Arg Leu Ile Gln Phe Ile Ser Lys Leu Gln Phe Ala
 530 535 540

 Val Thr Val Leu Leu Thr Ser Trp Thr Glu Lys Lys Gln Arg Arg Lys
 545 550 555 560

 Thr Thr Ala Thr Leu Cys Ile Leu Asn Ile Val Phe Ser Pro Phe Val
 565 570 575

 Leu Val Ile Ile Val Phe Ser Thr Leu Leu Ser Ser Pro Leu Leu Pro
 580 585 590

 Leu Phe Thr Leu Pro Val Phe Leu Val Gly Phe Pro Arg Pro Ile Gln
 595 600 605

 Ser Trp Pro Gly Ala Ala Gly Thr Thr Ala Cys Val Cys Ala Asp Thr
 610 615 620

 Val Tyr Tyr Tyr Gln Met Val Pro Arg Leu Thr Ala Val Leu Gln Thr
 625 630 635 640

 Ala Met Ala Ala Gly Ser Leu Gly Leu Leu Leu Pro Gly Ser His Tyr
 645 650 655

 Leu Gly Arg Phe Gln Asp Arg Leu Met Trp Ile Met Ile Leu Glu Cys
 660 665 670

 Gly Tyr Thr Tyr Cys Ser Ile Asn Ile Lys Gly Leu Glu Leu Gln Glu
 675 680 685

180

Thr	Ser	Cys	His	Thr	Ala	Glu	Ala	Arg	Arg	Val	Asp	Glu	Val	Phe	Glu		
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Asp	Ala	Phe	Glu	Gln	Glu	Tyr	Thr	Arg	Val	Cys	Ser	Leu	Asn	Glu	His		
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Phe	Gly	Asn	Val	Leu	Thr	Pro	Cys	Thr	Val	Leu	Pro	Val	Lys	Leu	Tyr		
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Ser	Asp	Ala	Arg	Asn	Val	Leu	Ser	Gly	Ile	Ile	Asp	Ser	His	Glu	Asn		
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Leu	Lys	Glu	Phe	Lys	Gly	Asp	Leu	Ile	Lys	Val	Leu	Val	Trp	Ile	Leu		
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Val	Gln	Tyr	Cys	Ser	Lys	Arg	Pro	Gly	Met	Lys	Glu	Asn	Val	His	Asn		
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Thr	Glu	Asn	Lys	Gly	Lys	Ala	Pro	Leu	Met	Leu	Pro	Ala	Leu	Asn	Thr		
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Leu	Pro	Pro	Pro	Lys	Ser	Pro	Glu	Asp	Ile	Asp	Ser	Leu	Asn	Ser	Glu		
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Thr	Phe	Asn	Asp	Trp	Ser	Asp	Asp	Asn	Ile	Phe	Asp	Asp	Glu	Pro	Thr		
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Ile	Lys	Lys	Val	Ile	Glu	Glu	Lys	His	Gln	Leu	Lys	Asp	Leu	Pro	Gly		
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Thr	Asn	Leu	Phe	Ile	Pro	Gly	Ser	Val	Glu	Ser	Gln	Arg	Val	Gly	Asp		
	850					855					860						
His	Ser	Thr	Gly	Thr	Val	Pro	Glu	Asn	Asp	Leu	Tyr	Lys	Ala	Val	Leu		
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Leu	Gly	Tyr	Pro	Ala	Val	Asp	Lys	Gly	Lys	Gln	Glu	Asp	Met	Pro	Tyr		
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Ile	Pro	Leu	Met	Glu	Phe	Ser	Cys	Ser	His	Ser	His	Leu	Val	Cys	Leu		
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Pro	Ala	Glu	Trp	Arg	Thr	Ser	Cys	Met	Pro	Ser	Ser	Lys	Met	Lys	Glu		
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Met	Ser	Ser	Leu	Phe	Pro	Glu	Asp	Trp	Tyr	Gln	Phe	Val	Leu	Arg	Gln		
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181

Leu Glu Cys Tyr His Ser Glu Glu Lys Ala Ser Asn Val Leu Glu Glu
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Ile Ala Lys Asp Lys Val Leu Lys Asp Phe Tyr Val His Thr Val Met
 965 970 975

Thr Cys Tyr Phe Ser Leu Phe Gly Ile Asp Asn Met Ala Pro Ser Pro
 980 985 990

Gly His Ile Leu Arg Val Tyr Gly Gly Val Leu Pro Trp Ser Val Ala
 995 1000 1005

Leu Asp Trp Leu Thr Glu Lys Pro Glu Leu Phe Gln Leu Ala Leu
 1010 1015 1020

Lys Ala Phe Arg Tyr Thr Leu Lys Leu Met Ile Asp Lys Ala Ser
 1025 1030 1035

Leu Gly Pro Ile Glu Asp Phe Arg Glu Leu Ile Lys Tyr Leu Glu
 1040 1045 1050

Glu Tyr Glu Arg Asp Trp Tyr Ile Gly Leu Val Ser Asp Glu Lys
 1055 1060 1065

Trp Lys Glu Ala Ile Leu Gln Glu Lys Pro Tyr Leu Phe Ser Leu
 1070 1075 1080

Gly Tyr Asp Ser Asn Met Gly Ile Tyr Thr Gly Arg Val Leu Ser
 1085 1090 1095

Leu Gln Glu Leu Leu Ile Gln Val Gly Lys Leu Asn Pro Glu Ala
 1100 1105 1110

Val Arg Gly Gln Trp Ala Asn Leu Ser Trp Glu Leu Leu Tyr Ala
 1115 1120 1125

Thr Asn Asp Asp Glu Glu Arg Tyr Ser Ile Gln Ala His Pro Leu
 1130 1135 1140

Leu Leu Arg Asn Leu Thr Val Gln Ala Ala Glu Pro Pro Leu Gly
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Tyr Pro Ile Tyr Ser Ser Lys Pro Leu His Ile His Leu Tyr
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<210> 75
 <211> 873

<212> PRT

<213> Homo sapiens

<400> 75

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Leu Leu Leu Trp Ala Met Glu Gln Val Leu Glu Phe Gly Leu Gly Gly
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Ser Ser Met Ser Thr His Leu Arg Leu Leu Val Met Phe Ile Met Ser
 50 55 60

Ala Gly Thr Ala Ile Ala Ser Tyr Phe Ile Pro Ser Thr Val Gly Val
 65 70 75 80

Val Leu Phe Met Thr Gly Phe Gly Phe Leu Leu Ser Leu Asn Leu Ser
 85 90 95

Asp Met Gly His Lys Ile Gly Thr Lys Ser Lys Asp Leu Pro Ser Gly
 100 105 110

Pro Glu Lys His Phe Ser Trp Lys Glu Cys Leu Phe Tyr Ile Ile Ile
 115 120 125

Leu Val Leu Ala Leu Leu Glu Thr Ser Leu Leu His His Phe Ala Gly
 130 135 140

Phe Ser Gln Ile Ser Lys Ser Asn Ser Gln Ala Ile Val Gly Tyr Gly
 145 150 155 160

Leu Met Ile Leu Leu Ile Ile Leu Trp Ile Leu Arg Glu Ile Gln Ser
 165 170 175

Val Tyr Ile Ile Gly Ile Phe Arg Asn Pro Phe Tyr Pro Lys Asp Val
 180 185 190

Gln Thr Val Thr Val Phe Phe Glu Lys Gln Thr Arg Leu Met Lys Ile
 195 200 205

Gly Ile Val Arg Arg Ile Leu Leu Thr Leu Val Ser Pro Phe Ala Met
 210 215 220

Ile Ala Phe Leu Ser Leu Asp Ser Ser Leu Gln Gly Leu His Ser Val
 225 230 235 240

183

Ser Val Cys Ile Gly Phe Thr Arg Ala Phe Arg Met Val Trp Gln Asn
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 Thr Glu Asn Ala Leu Leu Glu Thr Val Ile Val Ser Thr Val His Leu
 260 265 270

 Ile Ser Ser Thr Asp Ile Trp Trp Asn Arg Ser Leu Asp Thr Gly Leu
 275 280 285

 Arg Leu Leu Leu Val Gly Ile Ile Arg Asp Arg Leu Ile Gln Phe Ile
 290 295 300

 Ser Lys Leu Gln Phe Ala Val Thr Val Leu Leu Thr Ser Trp Thr Glu
 305 310 315 320

 Lys Lys Gln Arg Arg Lys Thr Thr Ala Thr Leu Cys Ile Leu Asn Ile
 325 330 335

 Val Phe Ser Pro Phe Val Leu Val Ile Ile Val Phe Ser Thr Leu Leu
 340 345 350

 Ser Ser Pro Leu Leu Pro Leu Phe Thr Leu Pro Val Phe Leu Val Gly
 355 360 365

 Phe Pro Arg Pro Ile Gln Ser Trp Pro Gly Ala Ala Gly Thr Thr Ala
 370 375 380

 Cys Val Cys Ala Asp Thr Val Tyr Tyr Tyr Gln Met Val Pro Arg Leu
 385 390 395 400

 Thr Ala Val Leu Gln Thr Ala Met Ala Ala Gly Ser Leu Gly Leu Leu
 405 410 415

 Leu Pro Gly Ser His Tyr Leu Gly Arg Phe Gln Asp Arg Leu Met Trp
 420 425 430

 Ile Met Ile Leu Glu Cys Gly Tyr Thr Tyr Cys Ser Ile Asn Ile Lys
 435 440 445

 Gly Leu Glu Leu Gln Glu Thr Ser Cys His Thr Ala Glu Ala Arg Arg
 450 455 460

 Val Asp Glu Val Phe Glu Asp Ala Phe Glu Gln Glu Tyr Thr Arg Val
 465 470 475 480

 Cys Ser Leu Asn Glu His Phe Gly Asn Val Leu Thr Pro Cys Thr Val
 485 490 495

Leu Pro Val Lys Leu Tyr Ser Asp Ala Arg Asn Val Leu Ser Gly Ile
 500 505 510

Ile Asp Ser His Glu Asn Leu Lys Glu Phe Lys Gly Asp Leu Ile Lys
 515 520 525

Val Leu Val Trp Ile Leu Val Gln Tyr Cys Ser Lys Arg Pro Gly Met
 530 535 540

Lys Glu Asn Val His Asn Thr Glu Asn Lys Gly Lys Ala Pro Leu Met
 545 550 555 560

Leu Pro Ala Leu Asn Thr Leu Pro Pro Pro Lys Ser Pro Glu Asp Ile
 565 570 575

Asp Ser Leu Asn Ser Glu Thr Phe Asn Asp Trp Ser Asp Asp Asn Ile
 580 585 590

Phe Asp Asp Glu Pro Thr Ile Lys Lys Val Ile Glu Glu Lys His Gln
 595 600 605

Leu Lys Asp Leu Pro Gly Thr Asn Leu Phe Ile Pro Gly Ser Val Glu
 610 615 620

Ser Gln Arg Val Gly Asp His Ser Thr Gly Thr Val Pro Glu Asn Asp
 625 630 635 640

Leu Tyr Lys Ala Val Leu Leu Gly Tyr Pro Ala Val Asp Lys Gly Lys
 645 650 655

Gln Glu Asp Met Pro Tyr Ile Pro Leu Met Glu Phe Ser Cys Ser His
 660 665 670

Ser His Leu Val Cys Leu Pro Ala Glu Trp Arg Thr Ser Cys Met Pro
 675 680 685

Ser Ser Lys Met Lys Glu Met Ser Ser Leu Phe Pro Glu Asp Trp Tyr
 690 695 700

Gln Phe Val Leu Arg Gln Leu Glu Cys Tyr His Ser Glu Glu Lys Ala
 705 710 715 720

Ser Asn Val Leu Glu Glu Ile Ala Lys Asp Lys Val Leu Lys Asp Phe
 725 730 735

Tyr Val His Thr Val Met Thr Cys Tyr Phe Ser Leu Phe Gly Ile Asp
 740 745 750

185

Asn Met Ala Pro Ser Pro Gly His Ile Leu Arg Val Tyr Gly Gly Val
 755 760 765

Leu Pro Trp Ser Val Ala Leu Asp Trp Leu Thr Glu Lys Pro Glu Leu
 770 775 780

Phe Gln Leu Ala Leu Lys Ala Phe Arg Tyr Thr Leu Lys Leu Met Ile
 785 790 795 800

Asp Lys Ala Ser Leu Gly Pro Ile Glu Asp Phe Arg Glu Leu Ile Lys
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Tyr Leu Glu Glu Tyr Glu Arg Asp Trp Tyr Ile Gly Leu Val Ser Asp
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Glu Lys Trp Lys Glu Ala Ile Leu Gln Glu Lys Pro Tyr Leu Phe Ser
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Leu Gly Tyr Asp Ser Asn Met Pro Gly Pro Ala Leu Glu Ile Ser Arg
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Val Asn Arg Asn Leu Trp Ser Gln Ile
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<210> 76

<211> 3927

<212> DNA

<213> Homo sapiens

<400> 76

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