

eolf-seq1
SEQUENCE LISTING

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<110>  BARD1AG SA
<120>  Lung Cancer Diagnosis
<130>  P-0138-WO
<150>  EP13191739.5
<151>  2013-11-06

<160>  51

<170>  PatentIn version 3.5

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

Thr Thr Glu Ser Glu Cys Phe Gly Ser Leu Thr Glu Val Ser Leu Pro
35 40 45

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

Val Thr Pro Glu Lys Val Cys Lys Asn Tyr Leu Thr Ser Lys Lys Ser
65 70 75 80

Leu Pro Leu Glu Asn Asn Gly Lys Arg Gly His His Asn Arg Leu Ser
85 90 95

Ser Pro Ile Ser Lys Arg Cys Arg Thr Ser Ile Leu Ser Thr Ser Gly
100 105 110

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

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

Arg Lys Asn Ser Asn Met Ser Asp Glu Phe Ile Ser Leu Ser Pro Gly
145 150 155 160

Thr Pro Pro Ser Thr Leu Ser Ser Ser Ser Tyr Arg Arg Val Met Ser
165 170 175

Ser Pro Ser Ala Met Lys Leu Leu Pro Asn Met Ala Val Lys Arg Asn
180 185 190

His Arg Gly Glu Thr Leu Leu His Ile Ala Ser Ile Lys
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1 5 10 15

Gly Leu Asp Ser Thr Glu Asn Leu Tyr Phe Gln Gly Ile Asp Pro Phe
20 25 30

Thr Glu Gln Leu Leu Pro Lys Leu Phe Asp Gly Cys Tyr Phe Tyr Leu
35 40 45

Trp Gly Thr Phe Lys His His Pro Lys Asp Asn Leu Ile Lys Leu Val
50 55 60

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

Asp Val Thr Gln Thr Ile Asn Thr Val Ala Tyr His Ala Arg Pro Asp
85 90 95

Ser Asp Gln Arg Phe Cys Thr Gln Tyr Ile Ile Tyr Glu Asp Leu Cys
100 105 110

Asn Tyr His Pro Glu Arg Val Arg Gln Gly Lys Val Trp Lys Ala Pro
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130 135 140

Asp Ser
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Cys Gly Asn Glu Pro Arg Ser Ala Ser Ala Met Glu Pro Asp Gly
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Met Lys Ser Cys
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<400> 18

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Gly Leu Asp Ser Thr Glu Asn Leu Tyr Phe Gln Gly Ile Asp Pro Phe
20 25 30

Thr Arg Arg Asp Gly Pro Leu Val Leu Ile Gly Ser Gly Leu Ser Ser
35 40 45

Glu Gln Gln Lys Met Leu Ser Glu Leu Ala Val Ile Leu Lys Ala Lys
50 55 60

Lys Tyr Thr Glu Phe Asp Ser Thr Val Thr His Val Val Val Pro Gly
65 70 75 80

Asp Ala Val Gln Ser Thr Leu Lys Cys Met Leu Gly Ile Leu Asn Gly
85 90 95

Cys Trp Ile Leu Lys Phe Glu Trp Val Lys Ala Cys Leu Arg Arg Lys

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100 105 110

Val Cys Glu Gln Glu Glu Lys Tyr Glu Ile Pro Glu Gly Pro Arg Arg
115 120 125

Ser Arg Leu Asn Arg Glu Gln Leu Leu Pro Lys Leu Phe Asp Gly Cys
130 135 140

Tyr Phe Tyr Leu Trp Gly Thr Phe Lys His His Pro Lys Asp Asn Leu
145 150 155 160

Ile Lys Leu Val Thr Ala Gly Gly Gly Gln Ile Leu Ser Arg Lys Pro
165 170 175

Lys Pro Asp Ser Asp Val Thr Gln Thr Ile Asn Thr Val Ala Tyr His
180 185 190

Ala Arg Pro Asp Ser Asp Gln Arg Phe Cys Thr Gln Tyr Ile Ile Tyr
195 200 205

Glu Asp Leu Cys Asn Tyr His Pro Glu Arg Val Arg Gln Gly Lys Val
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Trp Lys Ala Pro Ser Ser Trp Phe Ile Asp Cys Val Met Ser Phe Glu
225 230 235 240

Leu Leu Pro Leu Asp Ser
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Gly Leu Asp Ser Thr Glu Asn Leu Tyr Phe Gln Gly Ile Asp Pro Phe
20 25 30

Thr Cys Ser Lys Leu Arg Asn Leu Leu His Asp Asn Glu Leu Ser Asp
35 40 45

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

Lys Lys Asn Ser Ile Lys Met Trp Phe Ser Pro Arg Ser Lys Lys Val
65 70 75 80

Arg Tyr Val Val Ser Lys Ala Ser Val Gln Thr Gln Pro Ala Ile Lys
85 90 95

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

Pro Pro Ala Asp Val Ser Glu Arg Ala Lys Lys Ala Ser Ala Arg Ser
115 120 125

Gly Lys Lys Gln Lys Lys Lys Thr Leu Ala Glu Ile Asn Gln Lys Trp
130 135 140

Asn Leu Glu Ala Glu Lys Glu Asp Gly Glu Phe Asp Ser Lys Glu Glu
145 150 155 160

Ser Lys Gln Lys Leu Val Ser Phe Cys Ser Gln Pro Ser Val Ile Ser
165 170 175

Ser Pro Gln Ile Asn Gly Glu Ile Asp Leu Leu Ala Ser Gly Ser Leu
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Gly Leu Asp Ser Thr Glu Asn Leu Tyr Phe Gln Gly Ile Asp Pro Phe
20 25 30

Thr His Val Asp Ile Val Lys Leu Leu Leu Ser Tyr Gly Ala Ser Arg
35 40 45

Asn Ala Val Asn Ile Phe Gly Leu Arg Pro Val Asp Tyr Thr Asp Asp
50 55 60

Glu Ser Met Lys Ser Leu Leu Leu Leu Pro Glu Lys Asn Glu Ser Ser
65 70 75 80

Ser Ala Ser His Cys Ser Val Met Asn Thr Gly Gln Arg Arg Asp Gly
85 90 95

Pro Leu Val Leu Ile Gly Ser Gly Leu Ser Ser Glu Gln Gln Lys Met
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Asp

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Gly Leu Asp Ser Thr Glu Asn Leu Tyr Phe Gln Gly Ile Asp Pro Phe
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Thr Met Pro Asp Asn Arg Gln Pro Arg Asn Arg Gln Pro Arg Ile Arg
35 40 45

Ser Gly Asn Glu Pro Arg Ser Ala Pro Ala Met Glu Pro Asp Gly Arg
50 55 60

Gly Ala Trp Ala His Ser Arg Ala Ala Leu Asp Arg Leu Glu Lys Leu
65 70 75 80

Leu Arg Cys Ser Arg Cys Thr Asn Ile Leu Arg Glu Pro Val Cys Leu
85 90 95

Gly Gly Cys Glu His Ile Phe Cys Ser Asn Cys Val Ser Asp Cys Ile
100 105 110

Gly Thr Gly Cys Pro Val Cys Tyr Thr Pro Ala Trp Ile Gln Asp Leu
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Arg Asn Leu Leu His Asp Asn Glu Leu Ser
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1 5 10 15

Gly Leu Asp Ser Thr Glu Asn Leu Tyr Phe Gln Gly Ile Asp Pro Phe
20 25 30

Thr Asn His Arg Gly Glu Thr Leu Leu His Ile Ala Ser Ile Lys Gly
35 40 45

Asp Ile Pro Ser Val Glu Tyr Leu Leu Gln Asn Gly Ser Asp Pro Asn
50 55 60

Val Lys Asp His Ala Gly Trp Thr Pro Leu His Glu Ala Cys Asn His
65 70 75 80

Gly His Leu Lys Val Val Glu Leu Leu Leu Gln His Lys Ala Leu Val
85 90 95

Asn Thr Thr Gly Tyr Gln Asn Asp Ser Pro Leu His Asp Ala Ala Lys
100 105 110

Asn Gly His Val Asp Ile Val Lys Leu Leu Leu Ser Tyr Gly Ala Ser
115 120 125

Arg Asn Ala Val Asn Ile Phe Gly Leu Arg Pro Val Asp Tyr Thr Asp
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<210> 33

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1          5          10          15

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Ile Leu Ser Arg Lys Pro Lys Pro Asp Ser Asp Val Thr Gln Cys
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 1 5 10 15

Gln Leu Asp Ser Met Ile Gln Leu Cys
 20 25

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 1 5 10 15

Ser Val Cys

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Thr Ser Lys Lys Ser Leu Pro Leu Glu Asn Asn Gly Lys Arg Cys
 1 5 10 15

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Met Pro Asp Asn Arg Gln Pro Arg Asn Arg Gln Pro Arg Ile Arg Ser
 1 5 10 15

Gly Asn Glu Pro Arg Ser Ala Pro Ala Met Glu Pro Asp Gly Arg Gly
 20 25 30

Ala Trp Ala His Ser Arg Ala Ala Leu Asp Arg Leu Glu Lys Leu Leu
 35 40 45

Arg Cys Ser Arg Cys Thr Asn Ile Leu Arg Glu Pro Val Cys Leu Gly
 50 55 60

Gly Cys Glu His Ile Phe Cys Ser Asn Cys Val Ser Asp Cys Ile Gly
 65 70 75 80

Thr Gly Cys Pro Val Cys Tyr Thr Pro Ala Trp Ile Gln Asp Leu Lys
 85 90 95

Ile Asn Arg Gln Leu Asp Ser Met Ile Gln Leu Cys Ser Lys Leu Arg

eolf-seql

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

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380

370

375

Asp Glu Phe Ile Ser Leu Ser Pro Gly Thr Pro Pro Ser Thr Leu Ser
385 390 395 400

Ser Ser Ser Tyr Arg Arg Val Met Ser Ser Pro Ser Ala Met Lys Leu
405 410 415

Leu Pro Asn Met Ala Val Lys Arg Asn His Arg Gly Glu Thr Leu Leu
420 425 430

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

Gln Asn Gly Ser Asp Pro Asn Val Lys Asp His Ala Gly Trp Thr Pro
450 455 460

Leu His Glu Ala Cys Asn His Gly His Leu Lys Val Val Glu Leu Leu
465 470 475 480

Leu Gln His Lys Ala Leu Val Asn Thr Thr Gly Tyr Gln Asn Asp Ser
485 490 495

Pro Leu His Asp Ala Ala Lys Asn Gly His Val Asp Ile Val Lys Leu
500 505 510

Leu Leu Ser Tyr Gly Ala Ser Arg Asn Ala Val Asn Ile Phe Gly Leu
515 520 525

Arg Pro Val Asp Tyr Thr Asp Asp Glu Ser Met Lys Ser Leu Leu Leu
530 535 540

Leu Pro Glu Lys Asn Glu Ser Ser Ser Ala Ser His Cys Ser Val Met
545 550 555 560

Asn Thr Gly Gln Arg Arg Asp Gly Pro Leu Val Leu Ile Gly Ser Gly
565 570 575

Leu Ser Ser Glu Gln Gln Lys Met Leu Ser Glu Leu Ala Val Ile Leu
580 585 590

Lys Ala Lys Lys Tyr Thr Glu Phe Asp Ser Thr Val Thr His Val Val
595 600 605

Val Pro Gly Asp Ala Val Gln Ser Thr Leu Lys Cys Met Leu Gly Ile
610 615 620

Leu Asn Gly Cys Trp Ile Leu Lys Phe Glu Trp Val Lys Ala Cys Leu
625 630 635 640

Arg Arg Lys Val Cys Glu Gln Glu Glu Lys Tyr Glu Ile Pro Glu Gly

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650

645

655

Pro Arg Arg Ser Arg Leu Asn Arg Glu Gln Leu Leu Pro Lys Leu Phe
660 665 670

Asp Gly Cys Tyr Phe Tyr Leu Trp Gly Thr Phe Lys His His Pro Lys
675 680 685

Asp Asn Leu Ile Lys Leu Val Thr Ala Gly Gly Gly Gln Ile Leu Ser
690 695 700

Arg Lys Pro Lys Pro Asp Ser Asp Val Thr Gln Thr Ile Asn Thr Val
705 710 715 720

Ala Tyr His Ala Arg Pro Asp Ser Asp Gln Arg Phe Cys Thr Gln Tyr
725 730 735

Ile Ile Tyr Glu Asp Leu Cys Asn Tyr His Pro Glu Arg Val Arg Gln
740 745 750

Gly Lys Val Trp Lys Ala Pro Ser Ser Trp Phe Ile Asp Cys Val Met
755 760 765

Ser Phe Glu Leu Leu Pro Leu Asp Ser
770 775

<210> 43
<211> 758
<212> PRT
<213> Homo sapiens

<400> 43

Met Pro Asp Asn Arg Gln Pro Arg Asn Arg Gln Pro Arg Ile Arg Ser
1 5 10 15

Gly Asn Glu Pro Arg Ser Ala Pro Ala Met Glu Pro Asp Gly Arg Gly
20 25 30

Ala Trp Ala His Ser Arg Ala Ala Leu Asp Arg Leu Glu Lys Leu Leu
35 40 45

Arg Cys Ser Arg Cys Asn Cys Val Ser Asp Cys Ile Gly Thr Gly Cys
50 55 60

Pro Val Cys Tyr Thr Pro Ala Trp Ile Gln Asp Leu Lys Ile Asn Arg
65 70 75 80

Gln Leu Asp Ser Met Ile Gln Leu Cys Ser Lys Leu Arg Asn Leu Leu
85 90 95

His Asp Asn Glu Leu Ser Asp Leu Lys Glu Asp Lys Pro Arg Lys Ser
100 105 110

eo1f-seq1

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

eo1f-seq1

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

eo1f-seq1

Tyr Phe Tyr Leu Trp Gly Thr Phe Lys His His Pro Lys Asp Asn Leu
660 665 670

Ile Lys Leu Val Thr Ala Gly Gly Gln Ile Leu Ser Arg Lys Pro
675 680 685

Lys Pro Asp Ser Asp Val Thr Gln Thr Ile Asn Thr Val Ala Tyr His
690 695 700

Ala Arg Pro Asp Ser Asp Gln Arg Phe Cys Thr Gln Tyr Ile Ile Tyr
705 710 715 720

Glu Asp Leu Cys Asn Tyr His Pro Glu Arg Val Arg Gln Gly Lys Val
725 730 735

Trp Lys Ala Pro Ser Ser Trp Phe Ile Asp Cys Val Met Ser Phe Glu
740 745 750

Leu Leu Pro Leu Asp Ser
755

<210> 44
<211> 641
<212> PRT
<213> Homo sapiens
<400> 44

Met Pro Asp Asn Arg Gln Pro Arg Asn Arg Gln Pro Arg Ile Arg Ser
1 5 10 15

Gly Asn Glu Pro Arg Ser Ala Pro Ala Met Glu Pro Asp Gly Arg Gly
20 25 30

Ala Trp Ala His Ser Arg Ala Ala Leu Asp Arg Leu Glu Lys Leu Leu
35 40 45

Arg Cys Ser Arg Cys Thr Asn Ile Leu Arg Glu Pro Val Cys Leu Gly
50 55 60

Gly Cys Glu His Ile Phe Cys Ser Asn Cys Val Ser Asp Cys Ile Gly
65 70 75 80

Thr Gly Cys Pro Val Cys Tyr Thr Pro Ala Trp Ile Gln Asp Leu Lys
85 90 95

Ile Asn Arg Gln Leu Asp Ser Met Ile Gln Leu Cys Ser Lys Leu Arg
100 105 110

Asn Leu Leu His Asp Asn Glu Leu Ser Asp Leu Lys Glu Asp Lys Pro
115 120 125

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Arg Lys Ser Leu Phe Asn Asp Ala Gly Asn Lys Lys Asn Ser Ile Lys
130 135 140

Met Trp Phe Ser Pro Arg Ser Lys Lys Val Arg Tyr Val Val Ser Lys
145 150 155 160

Ala Ser Val Gln Thr Gln Pro Ala Ile Lys Lys Asp Ala Ser Ala Gln
165 170 175

Gln Asp Ser Tyr Glu Phe Val Ser Pro Ser Pro Pro Ala Asp Val Ser
180 185 190

Glu Arg Ala Lys Lys Ala Ser Ala Arg Ser Gly Lys Lys Gln Lys Lys
195 200 205

Lys Thr Leu Ala Glu Ile Asn Gln Lys Trp Asn Leu Glu Ala Glu Lys
210 215 220

Glu Asp Gly Glu Phe Asp Ser Lys Glu Glu Ser Lys Gln Lys Leu Val
225 230 235 240

Ser Phe Cys Ser Gln Pro Ser Val Ile Ser Ser Pro Gln Ile Asn Gly
245 250 255

Glu Ile Asp Leu Leu Ala Ser Gly Ser Leu Thr Glu Ser Glu Cys Phe
260 265 270

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

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

Ile Pro Ser Val Glu Tyr Leu Leu Gln Asn Gly Ser Asp Pro Asn Val
305 310 315 320

Lys Asp His Ala Gly Trp Thr Pro Leu His Glu Ala Cys Asn His Gly
325 330 335

His Leu Lys Val Val Glu Leu Leu Leu Gln His Lys Ala Leu Val Asn
340 345 350

Thr Thr Gly Tyr Gln Asn Asp Ser Pro Leu His Asp Ala Ala Lys Asn
355 360 365

Gly His Val Asp Ile Val Lys Leu Leu Leu Ser Tyr Gly Ala Ser Arg
370 375 380

Asn Ala Val Asn Ile Phe Gly Leu Arg Pro Val Asp Tyr Thr Asp Asp
385 390 395 400

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Glu Ser Met Lys Ser Leu Leu Leu Leu Pro Glu Lys Asn Glu Ser Ser
405 410 415

Ser Ala Ser His Cys Ser Val Met Asn Thr Gly Gln Arg Arg Asp Gly
420 425 430

Pro Leu Val Leu Ile Gly Ser Gly Leu Ser Ser Glu Gln Gln Lys Met
435 440 445

Leu Ser Glu Leu Ala Val Ile Leu Lys Ala Lys Lys Tyr Thr Glu Phe
450 455 460

Asp Ser Thr Val Thr His Val Val Val Pro Gly Asp Ala Val Gln Ser
465 470 475 480

Thr Leu Lys Cys Met Leu Gly Ile Leu Asn Gly Cys Trp Ile Leu Lys
485 490 495

Phe Glu Trp Val Lys Ala Cys Leu Arg Arg Lys Val Cys Glu Gln Glu
500 505 510

Glu Lys Tyr Glu Ile Pro Glu Gly Pro Arg Arg Ser Arg Leu Asn Arg
515 520 525

Glu Gln Leu Leu Pro Lys Leu Phe Asp Gly Cys Tyr Phe Tyr Leu Trp
530 535 540

Gly Thr Phe Lys His His Pro Lys Asp Asn Leu Ile Lys Leu Val Thr
545 550 555 560

Ala Gly Gly Gly Gln Ile Leu Ser Arg Lys Pro Lys Pro Asp Ser Asp
565 570 575

Val Thr Gln Thr Ile Asn Thr Val Ala Tyr His Ala Arg Pro Asp Ser
580 585 590

Asp Gln Arg Phe Cys Thr Gln Tyr Ile Ile Tyr Glu Asp Leu Cys Asn
595 600 605

Tyr His Pro Glu Arg Val Arg Gln Gly Lys Val Trp Lys Ala Pro Ser
610 615 620

Ser Trp Phe Ile Asp Cys Val Met Ser Phe Glu Leu Leu Pro Leu Asp
625 630 635 640

Ser

<210> 45
<211> 680
<212> PRT

eo1f-seq1

<213> Homo sapiens

<400> 45

Met Val Ala Val Pro Gly Pro Thr Val Ala Pro Arg Ser Thr Ala Trp
1 5 10 15

Arg Ser Cys Cys Ala Ala Arg Val Asp Leu Lys Glu Asp Lys Pro Arg
20 25 30

Lys Ser Leu Phe Asn Asp Ala Gly Asn Lys Lys Asn Ser Ile Lys Met
35 40 45

Trp Phe Ser Pro Arg Ser Lys Lys Val Arg Tyr Val Val Ser Lys Ala
50 55 60

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

Asp Ser Tyr Glu Phe Val Ser Pro Ser Pro Pro Ala Asp Val Ser Glu
85 90 95

Arg Ala Lys Lys Ala Ser Ala Arg Ser Gly Lys Lys Gln Lys Lys Lys
100 105 110

Thr Leu Ala Glu Ile Asn Gln Lys Trp Asn Leu Glu Ala Glu Lys Glu
115 120 125

Asp Gly Glu Phe Asp Ser Lys Glu Glu Ser Lys Gln Lys Leu Val Ser
130 135 140

Phe Cys Ser Gln Pro Ser Val Ile Ser Ser Pro Gln Ile Asn Gly Glu
145 150 155 160

Ile Asp Leu Leu Ala Ser Gly Ser Leu Thr Glu Ser Glu Cys Phe Gly
165 170 175

Ser Leu Thr Glu Val Ser Leu Pro Leu Ala Glu Gln Ile Glu Ser Pro
180 185 190

Asp Thr Lys Ser Arg Asn Glu Val Val Thr Pro Glu Lys Val Cys Lys
195 200 205

Asn Tyr Leu Thr Ser Lys Lys Ser Leu Pro Leu Glu Asn Asn Gly Lys
210 215 220

Arg Gly His His Asn Arg Leu Ser Ser Pro Ile Ser Lys Arg Cys Arg
225 230 235 240

Thr Ser Ile Leu Ser Thr Ser Gly Asp Phe Val Lys Gln Thr Val Pro
245 250 255

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Ser Glu Asn Ile Pro Leu Pro Glu Cys Ser Ser Pro Pro Ser Cys Lys
260 265 270

Arg Lys Val Gly Gly Thr Ser Gly Arg Lys Asn Ser Asn Met Ser Asp
275 280 285

Glu Phe Ile Ser Leu Ser Pro Gly Thr Pro Pro Ser Thr Leu Ser Ser
290 295 300

Ser Ser Tyr Arg Arg Val Met Ser Ser Pro Ser Ala Met Lys Leu Leu
305 310 315 320

Pro Asn Met Ala Val Lys Arg Asn His Arg Gly Glu Thr Leu Leu His
325 330 335

Ile Ala Ser Ile Lys Gly Asp Ile Pro Ser Val Glu Tyr Leu Leu Gln
340 345 350

Asn Gly Ser Asp Pro Asn Val Lys Asp His Ala Gly Trp Thr Pro Leu
355 360 365

His Glu Ala Cys Asn His Gly His Leu Lys Val Val Glu Leu Leu Leu
370 375 380

Gln His Lys Ala Leu Val Asn Thr Thr Gly Tyr Gln Asn Asp Ser Pro
385 390 395 400

Leu His Asp Ala Ala Lys Asn Gly His Val Asp Ile Val Lys Leu Leu
405 410 415

Leu Ser Tyr Gly Ala Ser Arg Asn Ala Val Asn Ile Phe Gly Leu Arg
420 425 430

Pro Val Asp Tyr Thr Asp Asp Glu Ser Met Lys Ser Leu Leu Leu Leu
435 440 445

Pro Glu Lys Asn Glu Ser Ser Ser Ala Ser His Cys Ser Val Met Asn
450 455 460

Thr Gly Gln Arg Arg Asp Gly Pro Leu Val Leu Ile Gly Ser Gly Leu
465 470 475 480

Ser Ser Glu Gln Gln Lys Met Leu Ser Glu Leu Ala Val Ile Leu Lys
485 490 495

Ala Lys Lys Tyr Thr Glu Phe Asp Ser Thr Val Thr His Val Val Val
500 505 510

Pro Gly Asp Ala Val Gln Ser Thr Leu Lys Cys Met Leu Gly Ile Leu
515 520 525

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Asn Gly Cys Trp Ile Leu Lys Phe Glu Trp Val Lys Ala Cys Leu Arg
530 535 540

Arg Lys Val Cys Glu Gln Glu Glu Lys Tyr Glu Ile Pro Glu Gly Pro
545 550 555 560

Arg Arg Ser Arg Leu Asn Arg Glu Gln Leu Leu Pro Lys Leu Phe Asp
565 570 575

Gly Cys Tyr Phe Tyr Leu Trp Gly Thr Phe Lys His His Pro Lys Asp
580 585 590

Asn Leu Ile Lys Leu Val Thr Ala Gly Gly Gly Gln Ile Leu Ser Arg
595 600 605

Lys Pro Lys Pro Asp Ser Asp Val Thr Gln Thr Ile Asn Thr Val Ala
610 615 620

Tyr His Ala Arg Pro Asp Ser Asp Gln Arg Phe Cys Thr Gln Tyr Ile
625 630 635 640

Ile Tyr Glu Asp Leu Cys Asn Tyr His Pro Glu Arg Val Arg Gln Gly
645 650 655

Lys Val Trp Lys Ala Pro Ser Ser Trp Phe Ile Asp Cys Val Met Ser
660 665 670

Phe Glu Leu Leu Pro Leu Asp Ser
675 680

<210> 46
<211> 633
<212> PRT
<213> Homo sapiens

<400> 46

Met Trp Phe Ser Pro Arg Ser Lys Lys Val Arg Tyr Val Val Ser Lys
1 5 10 15

Ala Ser Val Gln Thr Gln Pro Ala Ile Lys Lys Asp Ala Ser Ala Gln
20 25 30

Gln Asp Ser Tyr Glu Phe Val Ser Pro Ser Pro Pro Ala Asp Val Ser
35 40 45

Glu Arg Ala Lys Lys Ala Ser Ala Arg Ser Gly Lys Lys Gln Lys Lys
50 55 60

Lys Thr Leu Ala Glu Ile Asn Gln Lys Trp Asn Leu Glu Ala Glu Lys
65 70 75 80

Glu Asp Gly Glu Phe Asp Ser Lys Glu Glu Ser Lys Gln Lys Leu Val

eo1f-seq1
90

85

95

Ser Phe Cys Ser Gln Pro Ser Val Ile Ser Ser Pro Gln Ile Asn Gly
100 105 110

Glu Ile Asp Leu Leu Ala Ser Gly Ser Leu Thr Glu Ser Glu Cys Phe
115 120 125

Gly Ser Leu Thr Glu Val Ser Leu Pro Leu Ala Glu Gln Ile Glu Ser
130 135 140

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

Lys Asn Tyr Leu Thr Ser Lys Lys Ser Leu Pro Leu Glu Asn Asn Gly
165 170 175

Lys Arg Gly His His Asn Arg Leu Ser Ser Pro Ile Ser Lys Arg Cys
180 185 190

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

Pro Ser Glu Asn Ile Pro Leu Pro Glu Cys Ser Ser Pro Pro Ser Cys
210 215 220

Lys Arg Lys Val Gly Gly Thr Ser Gly Arg Lys Asn Ser Asn Met Ser
225 230 235 240

Asp Glu Phe Ile Ser Leu Ser Pro Gly Thr Pro Pro Ser Thr Leu Ser
245 250 255

Ser Ser Ser Tyr Arg Arg Val Met Ser Ser Pro Ser Ala Met Lys Leu
260 265 270

Leu Pro Asn Met Ala Val Lys Arg Asn His Arg Gly Glu Thr Leu Leu
275 280 285

His Ile Ala Ser Ile Lys Gly Asp Ile Pro Ser Val Glu Tyr Leu Leu
290 295 300

Gln Asn Gly Ser Asp Pro Asn Val Lys Asp His Ala Gly Trp Thr Pro
305 310 315 320

Leu His Glu Ala Cys Asn His Gly His Leu Lys Val Val Glu Leu Leu
325 330 335

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

Pro Leu His Asp Ala Ala Lys Asn Gly His Val Asp Ile Val Lys Leu

eo1f-seq1

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

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625

630

<210> 47
<211> 127
<212> PRT
<213> Homo sapiens

<400> 47

Met Pro Asp Asn Arg Gln Pro Arg Asn Arg Gln Pro Arg Ile Arg Ser
1 5 10 15

Gly Asn Glu Pro Arg Ser Ala Pro Ala Met Glu Pro Asp Gly Arg Gly
20 25 30

Ala Trp Ala His Ser Arg Ala Ala Leu Asp Arg Leu Glu Lys Leu Leu
35 40 45

Arg Cys Ser Arg Cys Thr Asn Ile Leu Arg Glu Pro Val Cys Leu Gly
50 55 60

Gly Cys Glu His Ile Phe Cys Ser Asn Cys Val Ser Asp Cys Ile Gly
65 70 75 80

Thr Gly Cys Pro Val Cys Tyr Thr Pro Ala Trp Ile Gln Asp Leu Lys
85 90 95

Ile Asn Arg Gln Leu Asp Ser Met Ile Gln Leu Cys Ser Lys Leu Arg
100 105 110

Asn Leu Leu His Asp Asn Glu Leu Ser Gly Arg His Thr Phe Cys
115 120 125

<210> 48
<211> 307
<212> PRT
<213> Homo sapiens

<400> 48

Met Pro Asp Asn Arg Gln Pro Arg Asn Arg Gln Pro Arg Ile Arg Ser
1 5 10 15

Gly Asn Glu Pro Arg Ser Ala Pro Ala Met Glu Pro Asp Gly Arg Gly
20 25 30

Ala Trp Ala His Ser Arg Ala Ala Leu Asp Arg Leu Glu Lys Leu Leu
35 40 45

Arg Cys Ser Arg Cys Asn Ile Phe Gly Leu Arg Pro Val Asp Tyr Thr
50 55 60

Asp Asp Glu Ser Met Lys Ser Leu Leu Leu Leu Pro Glu Lys Asn Glu
65 70 75 80

eo1f-seq1

Ser Ser Ser Ala Ser His Cys Ser Val Met Asn Thr Gly Gln Arg Arg
85 90 95

Asp Gly Pro Leu Val Leu Ile Gly Ser Gly Leu Ser Ser Glu Gln Gln
100 105 110

Lys Met Leu Ser Glu Leu Ala Val Ile Leu Lys Ala Lys Lys Tyr Thr
115 120 125

Glu Phe Asp Ser Thr Val Thr His Val Val Val Pro Gly Asp Ala Val
130 135 140

Gln Ser Thr Leu Lys Cys Met Leu Gly Ile Leu Asn Gly Cys Trp Ile
145 150 155 160

Leu Lys Phe Glu Trp Val Lys Ala Cys Leu Arg Arg Lys Val Cys Glu
165 170 175

Gln Glu Glu Lys Tyr Glu Ile Pro Glu Gly Pro Arg Arg Ser Arg Leu
180 185 190

Asn Arg Glu Gln Leu Leu Pro Lys Leu Phe Asp Gly Cys Tyr Phe Tyr
195 200 205

Leu Trp Gly Thr Phe Lys His His Pro Lys Asp Asn Leu Ile Lys Leu
210 215 220

Val Thr Ala Gly Gly Gly Gln Ile Leu Ser Arg Lys Pro Lys Pro Asp
225 230 235 240

Ser Asp Val Thr Gln Thr Ile Asn Thr Val Ala Tyr His Ala Arg Pro
245 250 255

Asp Ser Asp Gln Arg Phe Cys Thr Gln Tyr Ile Ile Tyr Glu Asp Leu
260 265 270

Cys Asn Tyr His Pro Glu Arg Val Arg Gln Gly Lys Val Trp Lys Ala
275 280 285

Pro Ser Ser Trp Phe Ile Asp Cys Val Met Ser Phe Glu Leu Leu Pro
290 295 300

Leu Asp Ser
305

<210> 49
<211> 326
<212> PRT
<213> Homo sapiens
<400> 49

eo1f-seq1

Met Pro Asp Asn Arg Gln Pro Arg Asn Arg Gln Pro Arg Ile Arg Ser
1 5 10 15

Gly Asn Glu Pro Arg Ser Ala Pro Ala Met Glu Pro Asp Gly Arg Gly
20 25 30

Ala Trp Ala His Ser Arg Ala Ala Leu Asp Arg Leu Glu Lys Leu Leu
35 40 45

Arg Cys Ser Arg Cys Thr Asn Ile Leu Arg Glu Pro Val Cys Leu Gly
50 55 60

Gly Cys Glu His Ile Phe Cys Ser Asn Ile Phe Gly Leu Arg Pro Val
65 70 75 80

Asp Tyr Thr Asp Asp Glu Ser Met Lys Ser Leu Leu Leu Leu Pro Glu
85 90 95

Lys Asn Glu Ser Ser Ser Ala Ser His Cys Ser Val Met Asn Thr Gly
100 105 110

Gln Arg Arg Asp Gly Pro Leu Val Leu Ile Gly Ser Gly Leu Ser Ser
115 120 125

Glu Gln Gln Lys Met Leu Ser Glu Leu Ala Val Ile Leu Lys Ala Lys
130 135 140

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

Asp Ala Val Gln Ser Thr Leu Lys Cys Met Leu Gly Ile Leu Asn Gly
165 170 175

Cys Trp Ile Leu Lys Phe Glu Trp Val Lys Ala Cys Leu Arg Arg Lys
180 185 190

Val Cys Glu Gln Glu Glu Lys Tyr Glu Ile Pro Glu Gly Pro Arg Arg
195 200 205

Ser Arg Leu Asn Arg Glu Gln Leu Leu Pro Lys Leu Phe Asp Gly Cys
210 215 220

Tyr Phe Tyr Leu Trp Gly Thr Phe Lys His His Pro Lys Asp Asn Leu
225 230 235 240

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

Lys Pro Asp Ser Asp Val Thr Gln Thr Ile Asn Thr Val Ala Tyr His
260 265 270

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Ala Arg Pro Asp Ser Asp Gln Arg Phe Cys Thr Gln Tyr Ile Ile Tyr
275 280 285

Glu Asp Leu Cys Asn Tyr His Pro Glu Arg Val Arg Gln Gly Lys Val
290 295 300

Trp Lys Ala Pro Ser Ser Trp Phe Ile Asp Cys Val Met Ser Phe Glu
305 310 315 320

Leu Leu Pro Leu Asp Ser
325

<210> 50
<211> 264
<212> PRT
<213> Homo sapiens

<400> 50

Met Pro Asp Asn Arg Gln Pro Arg Asn Arg Gln Pro Arg Ile Arg Ser
1 5 10 15

Gly Asn Glu Pro Arg Ser Ala Pro Ala Met Glu Pro Asp Gly Arg Gly
20 25 30

Ala Trp Ala His Ser Arg Ala Ala Leu Asp Arg Leu Glu Lys Leu Leu
35 40 45

Arg Cys Ser Arg Cys Thr Asn Ile Leu Arg Glu Pro Val Cys Leu Gly
50 55 60

Gly Cys Glu His Ile Phe Cys Ser Asn Cys Val Ser Asp Cys Ile Gly
65 70 75 80

Thr Gly Cys Pro Val Cys Tyr Thr Pro Ala Trp Ile Gln Asp Leu Lys
85 90 95

Ile Asn Arg Gln Leu Asp Ser Met Ile Gln Leu Cys Ser Lys Leu Arg
100 105 110

Asn Leu Leu His Asp Asn Glu Leu Ser Gly Val Lys Ala Cys Leu Arg
115 120 125

Arg Lys Val Cys Glu Gln Glu Glu Lys Tyr Glu Ile Pro Glu Gly Pro
130 135 140

Arg Arg Ser Arg Leu Asn Arg Glu Gln Leu Leu Pro Lys Leu Phe Asp
145 150 155 160

Gly Cys Tyr Phe Tyr Leu Trp Gly Thr Phe Lys His His Pro Lys Asp
165 170 175

Asn Leu Ile Lys Leu Val Thr Ala Gly Gly Gly Gln Ile Leu Ser Arg
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180

185

190

Lys Pro Lys Pro Asp Ser Asp Val Thr Gln Thr Ile Asn Thr Val Ala
195 200 205

Tyr His Ala Arg Pro Asp Ser Asp Gln Arg Phe Cys Thr Gln Tyr Ile
210 215 220

Ile Tyr Glu Asp Leu Cys Asn Tyr His Pro Glu Arg Val Arg Gln Gly
225 230 235 240

Lys Val Trp Lys Ala Pro Ser Ser Trp Phe Ile Asp Cys Val Met Ser
245 250 255

Phe Glu Leu Leu Pro Leu Asp Ser
260

<210> 51
<211> 167
<212> PRT
<213> Homo sapiens

<400> 51

Met Val Ala Val Pro Gly Pro Thr Val Ala Pro Arg Ser Thr Ala Trp
1 5 10 15

Arg Ser Cys Cys Ala Ala Arg Val Gly Val Lys Ala Cys Leu Arg Arg
20 25 30

Lys Val Cys Glu Gln Glu Glu Lys Tyr Glu Ile Pro Glu Gly Pro Arg
35 40 45

Arg Ser Arg Leu Asn Arg Glu Gln Leu Leu Pro Lys Leu Phe Asp Gly
50 55 60

Cys Tyr Phe Tyr Leu Trp Gly Thr Phe Lys His His Pro Lys Asp Asn
65 70 75 80

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

Pro Lys Pro Asp Ser Asp Val Thr Gln Thr Ile Asn Thr Val Ala Tyr
100 105 110

His Ala Arg Pro Asp Ser Asp Gln Arg Phe Cys Thr Gln Tyr Ile Ile
115 120 125

Tyr Glu Asp Leu Cys Asn Tyr His Pro Glu Arg Val Arg Gln Gly Lys
130 135 140

Val Trp Lys Ala Pro Ser Ser Trp Phe Ile Asp Cys Val Met Ser Phe
145 150 155 160

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Glu Leu Leu Pro Leu Asp Ser
165