

150-270\_SequenceListing.txt  
SEQUENCE LISTING

<110> Saus, Juan

<120> Goodpasture Antigen Binding Protein and its Detection

<130> 150-270

<140>

<141> 2009-07-20

<150> 61/082,741

<151> 2008-07-22

<150> 61/085,211

<151> 2008-07-31

<160> 33

<170> PatentIn version 3.5

<210> 1

<211> 2124

<212> DNA

<213> Homo sapiens

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<210> 2  
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 <213> Homo sapiens

<400> 2

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

Val Leu Lys Asn Asn Ala Leu Ser Tyr Tyr Lys Ser Glu Asp Glu Thr  
130 135 140

Glu Tyr Gly Cys Arg Gly Ser Ile Cys Leu Ser Lys Ala Val Ile Thr  
145 150 155 160

Pro His Asp Phe Asp Glu Cys Arg Phe Asp Ile Ser Val Asn Asp Ser  
165 170 175

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

Asp Ala Ile Glu Gln His Lys Thr Glu Ser Gly Tyr Gly Ser Glu Ser  
195 200 205

Ser Leu Arg Arg His Gly Ser Met Val Ser Leu Val Ser Gly Ala Ser  
210 215 220

Gly Tyr Ser Ala Thr Ser Thr Ser Ser Phe Lys Lys Gly His Ser Leu  
225 230 235 240

Arg Glu Lys Leu Ala Glu Met Glu Thr Phe Arg Asp Ile Leu Cys Arg  
245 250 255

Gln Val Asp Thr Leu Gln Lys Tyr Phe Asp Ala Cys Ala Asp Ala Val  
260 265 270

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

Gly Asn Lys Glu Lys Leu Phe Pro His Val Thr Pro Lys Gly Ile Asn  
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Gly Ile Asp Phe Lys Gly Glu Ala Ile Thr Phe Lys Ala Thr Thr Ala  
325 330 335

Gly Ile Leu Ala Thr Leu Ser His Cys Ile Glu Leu Met Val Lys Arg  
340 345 350

Glu Asp Ser Trp Gln Lys Arg Leu Asp Lys Glu Thr Glu Lys Lys Arg  
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Arg Thr Glu Glu Ala Tyr Lys Asn Ala Met Thr Glu Leu Lys Lys Lys  
370 375 380

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Ser His Phe Gly Gly Pro Asp Tyr Glu Glu Gly Pro Asn Ser Leu Ile  
385 390 395 400

Asn Glu Glu Glu Phe Phe Asp Ala Val Glu Ala Ala Leu Asp Arg Gln  
405 410 415

Asp Lys Ile Glu Glu Gln Ser Gln Ser Glu Lys Val Arg Leu His Trp  
420 425 430

Pro Thr Ser Leu Pro Ser Gly Asp Ala Phe Ser Ser Val Gly Thr His  
435 440 445

Arg Phe Val Gln Lys Pro Tyr Ser Arg Ser Ser Ser Met Ser Ser Ile  
450 455 460

Asp Leu Val Ser Ala Ser Asp Asp Val His Arg Phe Ser Ser Gln Val  
465 470 475 480

Glu Glu Met Val Gln Asn His Met Thr Tyr Ser Leu Gln Asp Val Gly  
485 490 495

Gly Asp Ala Asn Trp Gln Leu Val Val Glu Glu Gly Glu Met Lys Val  
500 505 510

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

Ala Thr His Ala Val Lys Gly Val Thr Gly His Glu Val Cys Asn Tyr  
530 535 540

Phe Trp Asn Val Asp Val Arg Asn Asp Trp Glu Thr Thr Ile Glu Asn  
545 550 555 560

Phe His Val Val Glu Thr Leu Ala Asp Asn Ala Ile Ile Ile Tyr Gln  
565 570 575

Thr His Lys Arg Val Trp Pro Ala Ser Gln Arg Asp Val Leu Tyr Leu  
580 585 590

Ser Val Ile Arg Lys Ile Pro Ala Leu Thr Glu Asn Asp Pro Glu Thr  
595 600 605

Trp Ile Val Cys Asn Phe Ser Val Asp His Asp Ser Ala Pro Leu Asn  
610 615 620

Asn Arg Cys Val Arg Ala Lys Ile Asn Val Ala Met Ile Cys Gln Thr  
625 630 635 640

Leu Val Ser Pro Pro Glu Gly Asn Gln Glu Ile Ser Arg Asp Asn Ile  
645 650 655

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Leu Cys Lys Ile Thr Tyr Val Ala Asn Val Asn Pro Gly Gly Trp Ala  
660 665 670

Pro Ala Ser Val Leu Arg Ala Val Ala Lys Arg Glu Tyr Pro Lys Phe  
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Ile Leu Phe  
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<213> Homo sapiens

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gatccagatc atagacagca atggatagat gccattgaac agcacaagac tgaatctgga 360  
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aaatcccact ttggaggacc agattatgaa gaaggcccta acagtctgat taatgaagaa 960  
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<210> 4  
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Trp Thr Asn Tyr Ile His Gly Trp Gln Asp Arg Trp Val Val Leu Lys  
 35 40 45

Asn Asn Ala Leu Ser Tyr Tyr Lys Ser Glu Asp Glu Thr Glu Tyr Gly  
 50 55 60

Cys Arg Gly Ser Ile Cys Leu Ser Lys Ala Val Ile Thr Pro His Asp  
 65 70 75 80

Phe Asp Glu Cys Arg Phe Asp Ile Ser Val Asn Asp Ser Val Trp Tyr  
 85 90 95

Leu Arg Ala Gln Asp Pro Asp His Arg Gln Gln Trp Ile Asp Ala Ile  
 100 105 110

Glu Gln His Lys Thr Glu Ser Gly Tyr Gly Ser Glu Ser Ser Leu Arg  
 115 120 125

Arg His Gly Ser Met Val Ser Leu Val Ser Gly Ala Ser Gly Tyr Ser  
 130 135 140

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

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

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Thr Leu Gln Lys Tyr Phe Asp Ala Cys Ala Asp Ala Val Ser Lys Asp  
180 185 190

Glu Leu Gln Arg Asp Lys Val Val Glu Asp Asp Glu Asp Asp Phe Pro  
195 200 205

Thr Thr Arg Ser Asp Gly Asp Phe Leu His Ser Thr Asn Gly Asn Lys  
210 215 220

Glu Lys Leu Phe Pro His Val Thr Pro Lys Gly Ile Asn Gly Ile Asp  
225 230 235 240

Phe Lys Gly Glu Ala Ile Thr Phe Lys Ala Thr Thr Ala Gly Ile Leu  
245 250 255

Ala Thr Leu Ser His Cys Ile Glu Leu Met Val Lys Arg Glu Asp Ser  
260 265 270

Trp Gln Lys Arg Leu Asp Lys Glu Thr Glu Lys Lys Arg Arg Thr Glu  
275 280 285

Glu Ala Tyr Lys Asn Ala Met Thr Glu Leu Lys Lys Lys Ser His Phe  
290 295 300

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

Glu Phe Phe Asp Ala Val Glu Ala Ala Leu Asp Arg Gln Asp Lys Ile  
325 330 335

Glu Glu Gln Ser Gln Ser Glu Lys Val Arg Leu His Trp Pro Thr Ser  
340 345 350

Leu Pro Ser Gly Asp Ala Phe Ser Ser Val Gly Thr His Arg Phe Val  
355 360 365

Gln Lys Pro Tyr Ser Arg Ser Ser Ser Met Ser Ser Ile Asp Leu Val  
370 375 380

Ser Ala Ser Asp Asp Val His Arg Phe Ser Ser Gln Val Glu Glu Met  
385 390 395 400

Val Gln Asn His Met Thr Tyr Ser Leu Gln Asp Val Gly Gly Asp Ala  
405 410 415

Asn Trp Gln Leu Val Val Glu Glu Gly Glu Met Lys Val Tyr Arg Arg  
420 425 430

Glu Val Glu Glu Asn Gly Ile Val Leu Asp Pro Leu Lys Ala Thr His  
435 440 445

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Ala Val Lys Gly Val Thr Gly His Glu Val Cys Asn Tyr Phe Trp Asn  
450 455 460

Val Asp Val Arg Asn Asp Trp Glu Thr Thr Ile Glu Asn Phe His Val  
465 470 475 480

Val Glu Thr Leu Ala Asp Asn Ala Ile Ile Ile Tyr Gln Thr His Lys  
485 490 495

Arg Val Trp Pro Ala Ser Gln Arg Asp Val Leu Tyr Leu Ser Val Ile  
500 505 510

Arg Lys Ile Pro Ala Leu Thr Glu Asn Asp Pro Glu Thr Trp Ile Val  
515 520 525

Cys Asn Phe Ser Val Asp His Asp Ser Ala Pro Leu Asn Asn Arg Cys  
530 535 540

Val Arg Ala Lys Ile Asn Val Ala Met Ile Cys Gln Thr Leu Val Ser  
545 550 555 560

Pro Pro Glu Gly Asn Gln Glu Ile Ser Arg Asp Asn Ile Leu Cys Lys  
565 570 575

Ile Thr Tyr Val Ala Asn Val Asn Pro Gly Gly Trp Ala Pro Ala Ser  
580 585 590

Val Leu Arg Ala Val Ala Lys Arg Glu Tyr Pro Lys Phe Leu Lys Arg  
595 600 605

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

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<210> 6  
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<213> Homo sapiens

<400> 6

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<210> 7  
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 <212> PRT  
 <213> Homo sapiens

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<210> 8  
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Arg Gln

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<212> DNA
<213> Artificial Sequence

<220>
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<400> 12
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<210> 13
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic; pSi-GPBP-1 cDNA target sequence

<400> 13
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<210> 14
<211> 411
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<213> Homo sapiens

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<212> PRT
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Phe Phe Ser Leu Phe Leu Pro Tyr Leu Lys Leu Ala Ser Arg Gly Leu
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Ser Ser Gly Gly Ser Ala Gly Arg Asn Ala Gly Val Thr Ala  
35 40 45

Ala Ala Ala Asp Gly Trp Lys Gly Arg Leu Pro Ser Pro Leu Val Leu  
50 55 60

Leu Pro Arg Ser Ala Arg Cys Gln Ala Arg Arg Arg Arg Gly Gly Arg  
65 70 75 80

Thr Ser Ser Leu Leu Leu Leu Pro Pro Thr Pro Glu Arg Ala Leu Phe  
85 90 95

Ala Ser Pro Ser Pro Asp Pro Ser Pro Arg Gly Leu Gly Ala Ser Ser  
100 105 110

Gly Ala Ala Glu Gly Ala Gly Ala Gly Leu Leu Leu Gly Cys Arg Ala  
115 120 125

Ser Met  
130

<210> 16  
<211> 265  
<212> PRT  
<213> Homo sapiens

<400> 16

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Leu Leu Glu Ala Gln Tyr Gly Phe Val Thr Pro Lys Lys Val Leu Glu  
20 25 30

Ala Leu Gln Arg Asp Ala Phe Gln Ala Lys Ser Thr Pro Trp Gln Glu  
35 40 45

Asp Ile Tyr Glu Lys Pro Met Asn Glu Leu Asp Lys Val Val Glu Lys  
50 55 60

His Lys Glu Ser Tyr Arg Arg Ile Leu Gly Gln Leu Leu Val Ala Glu  
65 70 75 80

Lys Ser Arg Arg Gln Thr Ile Leu Glu Leu Glu Glu Glu Lys Arg Lys  
85 90 95

His Lys Glu Tyr Met Glu Lys Ser Asp Glu Phe Ile Cys Leu Leu Glu  
100 105 110

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

Gln Glu Glu Lys Glu Gln Glu Lys Glu Lys Arg Val Thr Thr Leu Lys  
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130

135

140

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

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

Glu Leu Thr Thr Asn Ala Lys Glu Thr His Thr Lys Leu Ala Leu Ala  
180 185 190

Glu Ala Arg Val Gln Glu Glu Glu Gln Lys Ala Thr Arg Leu Glu Lys  
195 200 205

Glu Leu Gln Thr Gln Thr Thr Lys Phe His Gln Asp Gln Asp Thr Ile  
210 215 220

Met Ala Lys Leu Thr Asn Glu Asp Ser Gln Asn Arg Gln Leu Gln Gln  
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Lys Leu Ala Ala Leu Ser Arg Gln Ile Asp Glu Leu Glu Glu Thr Asn  
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Arg Ser Leu Arg Lys Ala Glu Glu Glu  
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<210> 17  
<211> 764  
<212> PRT  
<213> Homo sapiens

<400> 17

Met Arg Ser Arg Gly Ser Asp Thr Glu Gly Ser Ala Gln Lys Lys Phe  
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20 25 30

His Arg Gln Gln Asp Lys Asp Ser Pro Ser Glu Ser Asp Val Ile Leu  
35 40 45

Pro Cys Pro Lys Ala Glu Lys Pro His Ser Gly Asn Gly His Gln Ala  
50 55 60

Glu Asp Leu Ser Arg Asp Asp Leu Leu Phe Leu Leu Ser Ile Leu Glu  
65 70 75 80

Gly Glu Leu Gln Ala Arg Asp Glu Val Ile Gly Ile Leu Lys Ala Glu  
85 90 95

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

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

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

150-270\_SequenceListing.txt

Glu Thr Leu Glu Arg Arg Tyr Ala Asn Glu Arg Asp Lys Ala Gln Phe  
660 665 670

Leu Ser Lys Glu Leu Glu His Val Lys Met Glu Leu Ala Lys Tyr Lys  
675 680 685

Leu Ala Glu Lys Thr Glu Thr Ser His Glu Gln Trp Leu Phe Lys Arg  
690 695 700

Leu Gln Glu Glu Glu Ala Lys Ser Gly His Leu Ser Arg Glu Val Asp  
705 710 715 720

Ala Leu Lys Glu Lys Ile His Glu Tyr Met Ala Thr Glu Asp Leu Ile  
725 730 735

Cys His Leu Gln Gly Asp His Ser Val Leu Gln Lys Lys Thr Lys Ser  
740 745 750

Thr Arg Lys Gln Glu Gln Arg Phe Arg Lys Arg Asp  
755 760

<210> 18  
<211> 1135  
<212> PRT  
<213> Homo sapiens

<400> 18

Met Arg Ser Arg Gly Ser Asp Thr Glu Gly Ser Ala Gln Lys Lys Phe  
1 5 10 15

Pro Arg His Thr Lys Gly His Ser Phe Gln Gly Pro Lys Asn Met Lys  
20 25 30

His Arg Gln Gln Asp Lys Asp Ser Pro Ser Glu Ser Asp Val Ile Leu  
35 40 45

Pro Cys Pro Lys Ala Glu Lys Pro His Ser Gly Asn Gly His Gln Ala  
50 55 60

Glu Asp Leu Ser Arg Asp Asp Leu Leu Phe Leu Leu Ser Ile Leu Glu  
65 70 75 80

Gly Glu Leu Gln Ala Arg Asp Glu Val Ile Gly Ile Leu Lys Ala Glu  
85 90 95

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

Lys Lys Val Leu Glu Ala Leu Gln Arg Asp Ala Phe Gln Ala Lys Ser  
115 120 125

150-270\_SequenceListing.txt

Thr Pro Trp Gln Glu Asp Ile Tyr Glu Lys Pro Met Asn Glu Leu Asp  
130 135 140

Lys Val Val Glu Lys His Lys Glu Ser Tyr Arg Arg Ile Leu Gly Gln  
145 150 155 160

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

Glu Glu Lys Arg Lys His Lys Glu Tyr Met Glu Lys Ser Asp Glu Phe  
180 185 190

Ile Cys Leu Leu Glu Gln Glu Cys Glu Arg Leu Lys Lys Leu Ile Asp  
195 200 205

Gln Glu Ile Lys Ser Gln Glu Glu Lys Glu Gln Glu Lys Glu Lys Arg  
210 215 220

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

Met Val Val Asp Glu Gln Gln Arg Leu Thr Ala Gln Leu Thr Leu Gln  
245 250 255

Arg Gln Lys Ile Gln Glu Leu Thr Thr Asn Ala Lys Glu Thr His Thr  
260 265 270

Lys Leu Ala Leu Ala Glu Ala Arg Val Gln Glu Glu Glu Gln Lys Ala  
275 280 285

Thr Arg Leu Glu Lys Glu Leu Gln Thr Gln Thr Thr Lys Phe His Gln  
290 295 300

Asp Gln Asp Thr Ile Met Ala Lys Leu Thr Asn Glu Asp Ser Gln Asn  
305 310 315 320

Arg Gln Leu Gln Gln Lys Leu Ala Ala Leu Ser Arg Gln Ile Asp Glu  
325 330 335

Leu Glu Glu Thr Asn Arg Ser Leu Arg Lys Ala Glu Glu Glu Leu Gln  
340 345 350

Asp Ile Lys Glu Lys Ile Ser Lys Gly Glu Tyr Gly Asn Ala Gly Ile  
355 360 365

Met Ala Glu Val Glu Glu Leu Arg Lys Arg Val Leu Asp Met Glu Gly  
370 375 380

Lys Asp Glu Glu Leu Ile Lys Met Glu Glu Gln Cys Arg Asp Leu Asn  
385 390 395 400



150-270\_SequenceListing.txt

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

150-270\_SequenceListing.txt

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

150-270\_SequenceListing.txt

Arg Ile Thr Ile Leu Gln Asn Ala Ser Ile Thr Pro Val Lys Ser Lys  
 945 950 955 960  
 Thr Ser Thr Glu Asp Leu Met Asn Leu Glu Gln Gly Met Ser Pro Ile  
 965 970 975  
 Thr Met Ala Thr Phe Ala Arg Ala Gln Thr Pro Glu Ser Cys Gly Ser  
 980 985 990  
 Leu Thr Pro Glu Arg Thr Met Ser Pro Ile Gln Val Leu Ala Val Thr  
 995 1000 1005  
 Gly Ser Ala Ser Ser Pro Glu Gln Gly Arg Ser Pro Glu Pro Thr  
 1010 1015 1020  
 Glu Ile Ser Ala Lys His Ala Ile Phe Arg Val Ser Pro Asp Arg  
 1025 1030 1035  
 Gln Ser Ser Trp Gln Phe Gln Arg Ser Asn Ser Asn Ser Ser Ser  
 1040 1045 1050  
 Val Ile Thr Thr Glu Asp Asn Lys Ile His Ile His Leu Gly Ser  
 1055 1060 1065  
 Pro Tyr Met Gln Ala Val Ala Ser Pro Val Arg Pro Ala Ser Pro  
 1070 1075 1080  
 Ser Ala Pro Leu Gln Asp Asn Arg Thr Gln Gly Leu Ile Asn Gly  
 1085 1090 1095  
 Ala Leu Asn Lys Thr Thr Asn Lys Val Thr Ser Ser Ile Thr Ile  
 1100 1105 1110  
 Thr Pro Thr Ala Thr Pro Leu Pro Arg Gln Ser Gln Ile Thr Val  
 1115 1120 1125  
 Glu Pro Leu Leu Leu Pro His  
 1130 1135  
 <210> 19  
 <211> 1133  
 <212> PRT  
 <213> Homo sapiens  
 <400> 19  
 Met Arg Ser Arg Gly Ser Asp Thr Glu Gly Ser Ala Gln Lys Lys Phe  
 1 5 10 15  
 Pro Arg His Thr Lys Gly His Ser Phe Gln Gly Pro Lys Asn Met Lys  
 20 25 30

150-270\_SequenceListing.txt

His Arg Gln Gln Asp Lys Asp Ser Pro Ser Glu Ser Asp Val Ile Leu  
35 40 45

Pro Cys Pro Lys Ala Glu Lys Pro His Ser Gly Asn Gly His Gln Ala  
50 55 60

Glu Asp Leu Ser Arg Asp Asp Leu Leu Phe Leu Leu Ser Ile Leu Glu  
65 70 75 80

Gly Glu Leu Gln Ala Arg Asp Glu Val Ile Gly Ile Leu Lys Ala Glu  
85 90 95

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

Lys Lys Val Leu Glu Ala Leu Gln Arg Asp Ala Phe Gln Ala Lys Ser  
115 120 125

Thr Pro Trp Gln Glu Asp Ile Tyr Glu Lys Pro Met Asn Glu Leu Asp  
130 135 140

Lys Val Val Glu Lys His Lys Glu Ser Tyr Arg Arg Ile Leu Gly Gln  
145 150 155 160

Leu Leu Val Ala Glu Lys Ser His Arg Gln Thr Ile Leu Glu Leu Glu  
165 170 175

Glu Glu Lys Arg Lys His Lys Glu Tyr Met Glu Lys Ser Asp Glu Phe  
180 185 190

Ile Cys Leu Leu Glu Gln Glu Cys Glu Arg Leu Lys Lys Leu Ile Asp  
195 200 205

Gln Glu Ile Lys Ser Gln Glu Glu Lys Glu Gln Glu Lys Glu Lys Arg  
210 215 220

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

Met Val Val Asp Glu Gln Gln Arg Leu Thr Ala Gln Leu Thr Leu Gln  
245 250 255

Arg Gln Lys Ile Gln Glu Leu Thr Thr Asn Ala Lys Glu Thr His Thr  
260 265 270

Lys Leu Ala Leu Ala Glu Ala Arg Val Gln Glu Glu Glu Gln Lys Ala  
275 280 285

Thr Arg Leu Glu Lys Glu Leu Gln Thr Gln Thr Thr Lys Phe His Gln  
290 295 300

150-270\_SequenceListing.txt

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

## 150-270\_SequenceListing.txt

Lys Gly Asn Asp Leu Leu Ser Arg Val Asn Met Leu Lys Asn Arg Leu  
 580 585 590

Gln Ser Leu Glu Ala Ile Glu Lys Asp Phe Leu Lys Asn Lys Leu Asn  
 595 600 605

Gln Asp Ser Gly Lys Ser Thr Thr Ala Leu His Gln Glu Asn Asn Lys  
 610 615 620

Ile Lys Glu Leu Ser Gln Glu Val Glu Arg Leu Lys Leu Lys Leu Lys  
 625 630 635 640

Asp Met Lys Ala Ile Glu Asp Asp Leu Met Lys Thr Glu Asp Glu Tyr  
 645 650 655

Glu Thr Leu Glu Arg Arg Tyr Ala Asn Glu Arg Asp Lys Ala Gln Phe  
 660 665 670

Leu Ser Lys Glu Leu Glu His Val Lys Met Glu Leu Ala Lys Tyr Lys  
 675 680 685

Leu Ala Glu Lys Thr Glu Thr Ser His Glu Gln Trp Leu Phe Lys Arg  
 690 695 700

Leu Gln Glu Glu Glu Ala Lys Ser Gly His Leu Ser Arg Glu Val Asp  
 705 710 715 720

Ala Leu Lys Glu Lys Ile His Glu Tyr Met Ala Thr Glu Asp Leu Ile  
 725 730 735

Cys His Leu Gln Gly Asp His Ser Val Leu Gln Lys Lys Leu Asn Gln  
 740 745 750

Gln Glu Asn Arg Asn Arg Asp Leu Gly Arg Glu Ile Glu Asn Leu Thr  
 755 760 765

Lys Glu Leu Glu Arg Tyr Arg His Phe Ser Lys Ser Leu Arg Pro Ser  
 770 775 780

Leu Asn Gly Arg Arg Ile Ser Asp Pro Gln Val Phe Ser Lys Glu Val  
 785 790 795 800

Gln Thr Glu Ala Val Asp Asn Glu Pro Pro Asp Tyr Lys Ser Leu Ile  
 805 810 815

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

Asn Gln Asp Glu Asp Pro Asn Asp Glu Gly Ser Val Leu Ser Phe Lys  
 835 840 845

150-270\_SequenceListing.txt

Cys Ser Gln Ser Thr Pro Cys Pro Val Asn Arg Lys Leu Trp Ile Pro  
 850 855 860  
 Trp Met Lys Ser Lys Glu Gly His Leu Gln Asn Gly Lys Met Gln Thr  
 865 870 875 880  
 Lys Pro Asn Ala Asn Phe Val Gln Pro Gly Asp Leu Val Leu Ser His  
 885 890 895  
 Thr Pro Gly Gln Pro Leu His Ile Lys Val Thr Pro Asp His Val Gln  
 900 905 910  
 Asn Thr Ala Thr Leu Glu Ile Thr Ser Pro Thr Thr Glu Ser Pro His  
 915 920 925  
 Ser Tyr Thr Ser Thr Ala Val Ile Pro Asn Cys Gly Thr Pro Lys Gln  
 930 935 940  
 Arg Ile Thr Ile Leu Gln Asn Ala Ser Ile Thr Pro Val Lys Ser Lys  
 945 950 955 960  
 Thr Ser Thr Glu Asp Leu Met Asn Leu Glu Gln Gly Met Ser Pro Ile  
 965 970 975  
 Thr Met Ala Thr Phe Ala Arg Ala Gln Thr Pro Glu Ser Cys Gly Ser  
 980 985 990  
 Leu Thr Pro Glu Arg Thr Met Ser Pro Ile Gln Val Leu Ala Val Thr  
 995 1000 1005  
 Gly Ser Ala Ser Ser Pro Glu Gln Gly Arg Ser Pro Glu Pro Thr  
 1010 1015 1020  
 Glu Ile Ser Ala Lys His Ala Ile Phe Arg Val Ser Pro Asp Arg  
 1025 1030 1035  
 Gln Ser Ser Trp Gln Phe Gln Arg Ser Asn Ser Asn Ser Ser Ser  
 1040 1045 1050  
 Val Ile Thr Thr Glu Asp Asn Lys Ile His Ile His Leu Gly Ser  
 1055 1060 1065  
 Pro Tyr Met Gln Ala Val Ala Ser Pro Val Arg Pro Ala Ser Pro  
 1070 1075 1080  
 Ser Ala Pro Leu Gln Asp Asn Arg Thr Gln Gly Leu Ile Asn Gly  
 1085 1090 1095  
 Ala Leu Asn Lys Thr Thr Asn Lys Val Thr Ser Ser Ile Thr Ile  
 1100 1105 1110

150-270\_SequenceListing.txt

Thr Pro Thr Ala Thr Pro Leu Pro Arg Gln Ser Gln Ile Thr Val  
1115 1120 1125

Ser Asn Ile Tyr Asn  
1130

<210> 20  
<211> 1133  
<212> PRT  
<213> Homo sapiens

<400> 20

Met Arg Ser Arg Gly Ser Asp Thr Glu Gly Ser Ala Gln Lys Lys Phe  
1 5 10 15

Pro Arg His Thr Lys Gly His Ser Phe Gln Gly Pro Lys Asn Met Lys  
20 25 30

His Arg Gln Gln Asp Lys Asp Ser Pro Ser Glu Ser Asp Val Ile Leu  
35 40 45

Pro Cys Pro Lys Ala Glu Lys Pro His Ser Gly Asn Gly His Gln Ala  
50 55 60

Glu Asp Leu Ser Arg Asp Asp Leu Leu Phe Leu Leu Ser Ile Leu Glu  
65 70 75 80

Gly Glu Leu Gln Ala Arg Asp Glu Val Ile Gly Ile Leu Lys Ala Glu  
85 90 95

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

Lys Lys Val Leu Glu Ala Leu Gln Arg Asp Ala Phe Gln Ala Lys Ser  
115 120 125

Thr Pro Trp Gln Glu Asp Ile Tyr Glu Lys Pro Met Asn Glu Leu Asp  
130 135 140

Lys Val Val Glu Lys His Lys Glu Ser Tyr Arg Arg Ile Leu Gly Gln  
145 150 155 160

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

Glu Glu Lys Arg Lys His Lys Glu Tyr Met Glu Lys Ser Asp Glu Phe  
180 185 190

Ile Cys Leu Leu Glu Gln Glu Cys Glu Arg Leu Lys Lys Leu Ile Asp  
195 200 205

Gln Glu Ile Lys Ser Gln Glu Glu Lys Glu Gln Glu Lys Glu Lys Arg  
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210

215

220

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

Met Val Val Asp Glu Gln Gln Arg Leu Thr Ala Gln Leu Thr Leu Gln  
245 250 255

Arg Gln Lys Ile Gln Glu Leu Thr Thr Asn Ala Lys Glu Thr His Thr  
260 265 270

Lys Leu Ala Leu Ala Glu Ala Arg Val Gln Glu Glu Glu Gln Lys Ala  
275 280 285

Thr Arg Leu Glu Lys Glu Leu Gln Thr Gln Thr Thr Lys Phe His Gln  
290 295 300

Asp Gln Asp Thr Ile Met Ala Lys Leu Thr Asn Glu Asp Ser Gln Asn  
305 310 315 320

Arg Gln Leu Gln Gln Lys Leu Ala Ala Leu Ser Arg Gln Ile Asp Glu  
325 330 335

Leu Glu Glu Thr Asn Arg Ser Leu Arg Lys Ala Glu Glu Glu Leu Gln  
340 345 350

Asp Ile Lys Glu Lys Ile Ser Lys Gly Glu Tyr Gly Asn Ala Gly Ile  
355 360 365

Met Ala Glu Val Glu Glu Leu Arg Lys Arg Val Leu Asp Met Glu Gly  
370 375 380

Lys Asp Glu Glu Leu Ile Lys Met Glu Glu Gln Cys Arg Asp Leu Asn  
385 390 395 400

Lys Arg Leu Glu Arg Glu Thr Leu Gln Ser Lys Asp Phe Lys Leu Glu  
405 410 415

Val Glu Lys Leu Ser Lys Arg Ile Met Ala Leu Glu Lys Leu Glu Asp  
420 425 430

Ala Phe Asn Lys Ser Lys Gln Glu Cys Tyr Ser Leu Lys Cys Asn Leu  
435 440 445

Glu Lys Glu Arg Met Thr Thr Lys Gln Leu Ser Gln Glu Leu Glu Ser  
450 455 460

Leu Lys Val Arg Ile Lys Glu Leu Glu Ala Ile Glu Ser Arg Leu Glu  
465 470 475 480

Lys Thr Glu Phe Thr Leu Lys Glu Asp Leu Thr Lys Leu Lys Thr Leu  
page 25

150-270\_SequenceListing.txt

485

490

495

Thr Val Met Phe Val Asp Glu Arg Lys Thr Met Ser Glu Lys Leu Lys  
500 505 510

Lys Thr Glu Asp Lys Leu Gln Ala Ala Ser Ser Gln Leu Gln Val Glu  
515 520 525

Gln Asn Lys Val Thr Thr Val Thr Glu Lys Leu Ile Glu Glu Thr Lys  
530 535 540

Arg Ala Leu Lys Ser Lys Thr Asp Val Glu Glu Lys Met Tyr Ser Val  
545 550 555 560

Thr Lys Glu Arg Asp Asp Leu Lys Asn Lys Leu Lys Ala Glu Glu Glu  
565 570 575

Lys Gly Asn Asp Leu Leu Ser Arg Val Asn Met Leu Lys Asn Arg Leu  
580 585 590

Gln Ser Leu Glu Ala Ile Glu Lys Asp Phe Leu Lys Asn Lys Leu Asn  
595 600 605

Gln Asp Ser Gly Lys Ser Thr Thr Ala Leu His Gln Glu Asn Asn Lys  
610 615 620

Ile Lys Glu Leu Ser Gln Glu Val Glu Arg Leu Lys Leu Lys Leu Lys  
625 630 635 640

Asp Met Lys Ala Ile Glu Asp Asp Leu Met Lys Thr Glu Asp Glu Tyr  
645 650 655

Glu Thr Leu Glu Arg Arg Tyr Ala Asn Glu Arg Asp Lys Ala Gln Phe  
660 665 670

Leu Ser Lys Glu Leu Glu His Val Lys Met Glu Leu Ala Lys Tyr Lys  
675 680 685

Leu Ala Glu Lys Thr Glu Thr Ser His Glu Gln Trp Leu Phe Lys Arg  
690 695 700

Leu Gln Glu Glu Glu Ala Lys Ser Gly His Leu Ser Arg Glu Val Asp  
705 710 715 720

Ala Leu Lys Glu Lys Ile His Glu Tyr Met Ala Thr Glu Asp Leu Ile  
725 730 735

Cys His Leu Gln Gly Asp His Ser Val Leu Gln Lys Lys Leu Asn Gln  
740 745 750

Gln Glu Asn Arg Asn Arg Asp Leu Gly Arg Glu Ile Glu Asn Leu Thr  
page 26

## 150-270\_SequenceListing.txt

755

760

765

Lys Glu Leu Glu Arg Tyr Arg His Phe Ser Lys Ser Leu Arg Pro Ser  
 770 775 780

Leu Asn Gly Arg Arg Ile Ser Asp Pro Gln Val Phe Ser Lys Glu Val  
 785 790 795 800

Gln Thr Glu Ala Val Asp Asn Glu Pro Pro Asp Tyr Lys Ser Leu Ile  
 805 810 815

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

Asn Gln Asp Glu Asp Pro Asn Asp Glu Gly Ser Val Leu Ser Phe Lys  
 835 840 845

Cys Ser Gln Ser Thr Pro Cys Pro Val Asn Arg Lys Leu Trp Ile Pro  
 850 855 860

Trp Met Lys Ser Lys Glu Gly His Leu Gln Asn Gly Lys Met Gln Thr  
 865 870 875 880

Lys Pro Asn Ala Asn Phe Val Gln Pro Gly Asp Leu Val Leu Ser His  
 885 890 895

Thr Pro Gly Gln Pro Leu His Ile Lys Val Thr Pro Asp His Val Gln  
 900 905 910

Asn Thr Ala Thr Leu Glu Ile Thr Ser Pro Thr Thr Glu Ser Pro His  
 915 920 925

Ser Tyr Thr Ser Thr Ala Val Ile Pro Asn Cys Gly Thr Pro Lys Gln  
 930 935 940

Arg Ile Thr Ile Leu Gln Asn Ala Ser Ile Thr Pro Val Lys Ser Lys  
 945 950 955 960

Thr Ser Thr Glu Asp Leu Met Asn Leu Glu Gln Gly Met Ser Pro Ile  
 965 970 975

Thr Met Ala Thr Phe Ala Arg Ala Gln Thr Pro Glu Ser Cys Gly Ser  
 980 985 990

Leu Thr Pro Glu Arg Thr Met Ser Pro Ile Gln Val Leu Ala Val Thr  
 995 1000 1005

Gly Ser Ala Ser Ser Pro Glu Gln Gly Arg Ser Pro Glu Pro Thr  
 1010 1015 1020

Glu Ile Ser Ala Lys His Ala Ile Phe Arg Val Ser Pro Asp Arg  
 page 27

150-270\_SequenceListing.txt

1025  
 1030  
 1035  
 Gln Ser Ser Trp Gln Phe Gln Arg Ser Asn Ser Asn Ser Ser Ser  
 1040 1045 1050  
 Val Ile Thr Thr Glu Asp Asn Lys Ile His Ile His Leu Gly Ser  
 1055 1060 1065  
 Pro Tyr Met Gln Ala Val Ala Ser Pro Val Arg Pro Ala Ser Pro  
 1070 1075 1080  
 Ser Ala Pro Leu Gln Asp Asn Arg Thr Gln Gly Leu Ile Asn Gly  
 1085 1090 1095  
 Ala Leu Asn Lys Thr Thr Asn Lys Val Thr Ser Ser Ile Thr Ile  
 1100 1105 1110  
 Thr Pro Thr Ala Thr Pro Leu Pro Arg Gln Ser Gln Ile Thr Val  
 1115 1120 1125  
 Ser Asn Ile Tyr Asn  
 1130

<210> 21  
 <211> 1135  
 <212> PRT  
 <213> Homo sapiens

<400> 21

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

150-270\_SequenceListing.txt

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

150-270\_SequenceListing.txt

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

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

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Arg Ile Thr Ile Leu Gln Asn Ala Ser Ile Thr Pro Val Lys Ser Lys  
945 950 955 960

Thr Ser Thr Glu Asp Leu Met Asn Leu Glu Gln Gly Met Ser Pro Ile  
965 970 975

Thr Met Ala Thr Phe Ala Arg Ala Gln Thr Pro Glu Ser Cys Gly Ser  
980 985 990

Leu Thr Pro Glu Arg Thr Met Ser Pro Ile Gln Val Leu Ala Val Thr  
995 1000 1005

Gly Ser Ala Ser Ser Pro Glu Gln Gly Arg Ser Pro Glu Pro Thr  
1010 1015 1020

Glu Ile Ser Ala Lys His Ala Ile Phe Arg Val Ser Pro Asp Arg  
1025 1030 1035

Gln Ser Ser Trp Gln Phe Gln Arg Ser Asn Ser Asn Ser Ser Ser  
1040 1045 1050

Val Ile Thr Thr Glu Asp Asn Lys Ile His Ile His Leu Gly Ser  
1055 1060 1065

Pro Tyr Met Gln Ala Val Ala Ser Pro Val Arg Pro Ala Ser Pro  
1070 1075 1080

Ser Ala Pro Leu Gln Asp Asn Arg Thr Gln Gly Leu Ile Asn Gly  
1085 1090 1095

Ala Leu Asn Lys Thr Thr Asn Lys Val Thr Ser Ser Ile Thr Ile  
1100 1105 1110

Thr Pro Thr Ala Thr Pro Leu Pro Arg Gln Ser Gln Ile Thr Val  
1115 1120 1125

Glu Pro Leu Leu Leu Pro His  
1130 1135

<210> 22  
<211> 197  
<212> PRT  
<213> Homo sapiens

<400> 22

Met Ala Ser Gln Lys Arg Pro Ser Gln Arg His Gly Ser Lys Tyr Leu  
1 5 10 15

Ala Thr Ala Ser Thr Met Asp His Ala Arg His Gly Phe Leu Pro Arg  
20 25 30



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His Arg Asp Thr Gly Ile Leu Asp Ser Ile Gly Arg Phe Phe Gly Gly  
35 40 45

Asp Arg Gly Ala Pro Lys Arg Gly Ser Gly Lys Val Pro Trp Leu Lys  
50 55 60

Pro Gly Arg Ser Pro Leu Pro Ser His Ala Arg Ser Gln Pro Gly Leu  
65 70 75 80

Cys Asn Met Tyr Lys Asp Ser His His Pro Ala Arg Thr Ala His Tyr  
85 90 95

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

Val Val His Phe Phe Lys Asn Ile Val Thr Pro Arg Thr Pro Pro Pro  
115 120 125

Ser Gln Gly Lys Gly Arg Gly Leu Ser Leu Ser Arg Phe Ser Trp Gly  
130 135 140

Ala Glu Gly Gln Arg Pro Gly Phe Gly Tyr Gly Gly Arg Ala Ser Asp  
145 150 155 160

Tyr Lys Ser Ala His Lys Gly Phe Lys Gly Val Asp Ala Gln Gly Thr  
165 170 175

Leu Ser Lys Ile Phe Lys Leu Gly Gly Arg Asp Ser Arg Ser Gly Ser  
180 185 190

Pro Met Ala Arg Arg  
195

<210> 23  
<211> 186  
<212> PRT  
<213> Homo sapiens

<400> 23

Met Ala Ser Gln Lys Arg Pro Ser Gln Arg His Gly Ser Lys Tyr Leu  
1 5 10 15

Ala Thr Ala Ser Thr Met Asp His Ala Arg His Gly Phe Leu Pro Arg  
20 25 30

His Arg Asp Thr Gly Ile Leu Asp Ser Ile Gly Arg Phe Phe Gly Gly  
35 40 45

Asp Arg Gly Ala Pro Lys Arg Gly Ser Gly Lys Val Pro Trp Leu Lys  
50 55 60

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Pro Gly Arg Ser Pro Leu Pro Ser His Ala Arg Ser Gln Pro Gly Leu  
65 70 75 80

Cys Asn Met Tyr Lys Asp Ser His His Pro Ala Arg Thr Ala His Tyr  
85 90 95

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

Val Val His Phe Phe Lys Asn Ile Val Thr Pro Arg Thr Pro Pro Pro  
115 120 125

Ser Gln Gly Lys Gly Ala Glu Gly Gln Arg Pro Gly Phe Gly Tyr Gly  
130 135 140

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

Asp Ala Gln Gly Thr Leu Ser Lys Ile Phe Lys Leu Gly Gly Arg Asp  
165 170 175

Ser Arg Ser Gly Ser Pro Met Ala Arg Arg  
180 185

<210> 24  
<211> 171  
<212> PRT  
<213> Homo sapiens

<400> 24

Met Ala Ser Gln Lys Arg Pro Ser Gln Arg His Gly Ser Lys Tyr Leu  
1 5 10 15

Ala Thr Ala Ser Thr Met Asp His Ala Arg His Gly Phe Leu Pro Arg  
20 25 30

His Arg Asp Thr Gly Ile Leu Asp Ser Ile Gly Arg Phe Phe Gly Gly  
35 40 45

Asp Arg Gly Ala Pro Lys Arg Gly Ser Gly Lys Asp Ser His His Pro  
50 55 60

Ala Arg Thr Ala His Tyr Gly Ser Leu Pro Gln Lys Ser His Gly Arg  
65 70 75 80

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

Pro Arg Thr Pro Pro Pro Ser Gln Gly Lys Gly Arg Gly Leu Ser Leu  
100 105 110

Ser Arg Phe Ser Trp Gly Ala Glu Gly Gln Arg Pro Gly Phe Gly Tyr  
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115

120

125

Gly Gly Arg Ala Ser Asp Tyr Lys Ser Ala His Lys Gly Phe Lys Gly  
130 135 140

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

Asp Ser Arg Ser Gly Ser Pro Met Ala Arg Arg  
165 170

<210> 25  
<211> 160  
<212> PRT  
<213> Homo sapiens  
<400> 25

Met Ala Ser Gln Lys Arg Pro Ser Gln Arg His Gly Ser Lys Tyr Leu  
1 5 10 15

Ala Thr Ala Ser Thr Met Asp His Ala Arg His Gly Phe Leu Pro Arg  
20 25 30

His Arg Asp Thr Gly Ile Leu Asp Ser Ile Gly Arg Phe Phe Gly Gly  
35 40 45

Asp Arg Gly Ala Pro Lys Arg Gly Ser Gly Lys Asp Ser His His Pro  
50 55 60

Ala Arg Thr Ala His Tyr Gly Ser Leu Pro Gln Lys Ser His Gly Arg  
65 70 75 80

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

Pro Arg Thr Pro Pro Pro Ser Gln Gly Lys Gly Ala Glu Gly Gln Arg  
100 105 110

Pro Gly Phe Gly Tyr Gly Gly Arg Ala Ser Asp Tyr Lys Ser Ala His  
115 120 125

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

Lys Leu Gly Gly Arg Asp Ser Arg Ser Gly Ser Pro Met Ala Arg Arg  
145 150 155 160

<210> 26  
<211> 253  
<212> PRT  
<213> Homo sapiens  
<400> 26

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Met Ala Asn Leu Gly Cys Trp Met Leu Val Leu Phe Val Ala Thr Trp  
1 5 10 15

Ser Asp Leu Gly Leu Cys Lys Lys Arg Pro Lys Pro Gly Gly Trp Asn  
20 25 30

Thr Gly Gly Ser Arg Tyr Pro Gly Gln Gly Ser Pro Gly Gly Asn Arg  
35 40 45

Tyr Pro Pro Gln Gly Gly Gly Gly Trp Gly Gln Pro His Gly Gly Gly  
50 55 60

Trp Gly Gln Pro His Gly Gly Gly Trp Gly Gln Pro His Gly Gly Gly  
65 70 75 80

Trp Gly Gln Pro His Gly Gly Gly Trp Gly Gln Gly Gly Gly Thr His  
85 90 95

Ser Gln Trp Asn Lys Pro Ser Lys Pro Lys Thr Asn Met Lys His Met  
100 105 110

Ala Gly Ala Ala Ala Ala Gly Ala Val Val Gly Gly Leu Gly Gly Tyr  
115 120 125

Met Leu Gly Ser Ala Met Ser Arg Pro Ile Ile His Phe Gly Ser Asp  
130 135 140

Tyr Glu Asp Arg Tyr Tyr Arg Glu Asn Met His Arg Tyr Pro Asn Gln  
145 150 155 160

Val Tyr Tyr Arg Pro Met Asp Glu Tyr Ser Asn Gln Asn Asn Phe Val  
165 170 175

His Asp Cys Val Asn Ile Thr Ile Lys Gln His Thr Val Thr Thr Thr  
180 185 190

Thr Lys Gly Glu Asn Phe Thr Glu Thr Asp Val Lys Met Met Glu Arg  
195 200 205

Val Val Glu Gln Met Cys Ile Thr Gln Tyr Glu Arg Glu Ser Gln Ala  
210 215 220

Tyr Tyr Gln Arg Gly Ser Ser Met Val Leu Phe Ser Ser Pro Pro Val  
225 230 235 240

Ile Leu Leu Ile Ser Phe Leu Ile Phe Leu Ile Val Gly  
245 250

<210> 27  
<211> 244  
<212> PRT

150-270\_SequenceListing.txt

<213> Homo sapiens

<400> 27

Gly Leu Lys Gly Lys Arg Gly Asp Ser Gly Ser Pro Ala Thr Trp Thr  
1 5 10 15

Thr Arg Gly Phe Val Phe Thr Arg His Ser Gln Thr Thr Ala Ile Pro  
20 25 30

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

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

Gly Ser Cys Leu Gln Arg Phe Thr Thr Met Pro Phe Leu Phe Cys Asn  
65 70 75 80

Val Asn Asp Val Cys Asn Phe Ala Ser Arg Asn Asp Tyr Ser Tyr Trp  
85 90 95

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

Arg Ala Leu Glu Pro Tyr Ile Ser Arg Cys Thr Val Cys Glu Gly Pro  
115 120 125

Ala Ile Ala Ile Ala Val His Ser Gln Thr Thr Asp Ile Pro Pro Cys  
130 135 140

Pro His Gly Trp Ile Ser Leu Trp Lys Gly Phe Ser Phe Ile Met Phe  
145 150 155 160

Thr Ser Ala Gly Ser Glu Gly Thr Gly Gln Ala Leu Ala Ser Pro Gly  
165 170 175

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

Arg Gly Thr Cys Asn Tyr Tyr Ser Asn Ser Tyr Ser Phe Trp Leu Ala  
195 200 205

Ser Leu Asn Pro Glu Arg Met Phe Arg Lys Pro Ile Pro Ser Thr Val  
210 215 220

Lys Ala Gly Glu Leu Glu Lys Ile Ile Ser Arg Cys Gln Val Cys Met  
225 230 235 240

Lys Lys Arg His

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<210> 28  
 <211> 42  
 <212> PRT  
 <213> Homo sapiens  
 <400> 28  
 Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys  
 1 5 10 15

Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys Gly Ala Ile Ile  
 20 25 30

Gly Leu Met Val Gly Gly Val Val Ile Ala  
 35 40

<210> 29  
 <211> 13  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Artificial sequence - GPBP\_DeltaFFAT

<400> 29  
 Leu Ile Asn Glu Glu Glu Phe Ala Ala Leu Asp Arg Gln  
 1 5 10

<210> 30  
 <211> 20  
 <212> PRT  
 <213> Homo sapiens

<400> 30  
 Arg Arg Thr Glu Glu Ala Tyr Lys Asn Ala Met Thr Glu Leu Lys Lys  
 1 5 10 15

Lys Ser His Phe  
 20

<210> 31  
 <211> 20  
 <212> PRT  
 <213> Homo sapiens

<400> 31  
 Gly Gly Pro Asp Tyr Glu Glu Gly Pro Asn Ser Leu Ile Asn Glu Glu  
 1 5 10 15

Glu Phe Phe Asp  
 20

<210> 32  
 <211> 20  
 <212> PRT  
 <213> Homo sapiens

150-270\_SequenceListing.txt

<400> 32

Ala Val Glu Ala Ala Leu Asp Arg Gln Asp Lys Ile Glu Glu Gln Ser  
1 5 10 15

Gln Ser Glu Lys  
20

<210> 33

<211> 20

<212> PRT

<213> Homo sapiens

<400> 33

Val Arg Leu His Trp Pro Thr Ser Leu Pro Ser Gly Asp Ala Phe Ser  
1 5 10 15

Ser Val Gly Thr  
20