

TG-043\_PCT\_ST25.txt  
SEQUENCE LISTING

<110> ThromboGenics N.V.

<120> Plasminogen and plasmin variants

<130> TG-043 PCT

<150> US61522,817

<151> 2011-08-12

<150> EP12161185

<151> 2012-03-26

<160> 24

<170> PatentIn version 3.5

<210> 1

<211> 791

<212> PRT

<213> Homo sapiens

<400> 1

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20 25 30

Lys Cys Glu Glu Asp Glu Glu Phe Thr Cys Arg Ala Phe Gln Tyr His  
35 40 45

Ser Lys Glu Gln Gln Cys Val Ile Met Ala Glu Asn Arg Lys Ser Ser  
50 55 60

Ile Ile Ile Arg Met Arg Asp Val Val Leu Phe Glu Lys Lys Val Tyr  
65 70 75 80

Leu Ser Glu Cys Lys Thr Gly Asn Gly Lys Asn Tyr Arg Gly Thr Met  
85 90 95

Ser Lys Thr Lys Asn Gly Ile Thr Cys Gln Lys Trp Ser Ser Thr Ser  
100 105 110

Pro His Arg Pro Arg Phe Ser Pro Ala Thr His Pro Ser Glu Gly Leu  
115 120 125

Glu Glu Asn Tyr Cys Arg Asn Pro Asp Asn Asp Pro Gln Gly Pro Trp  
130 135 140

Cys Tyr Thr Thr Asp Pro Glu Lys Arg Tyr Asp Tyr Cys Asp Ile Leu  
145 150 155 160

Glu Cys Glu Glu Glu Cys Met His Cys Ser Gly Glu Asn Tyr Asp Gly  
165 170 175

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

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Val Leu Leu Pro Asp Val Glu Thr Pro Ser Glu Glu Asp Cys Met Phe  
450 455 460

Gly Asn Gly Lys Gly Tyr Arg Gly Lys Arg Ala Thr Thr Val Thr Gly  
465 470 475 480

Thr Pro Cys Gln Asp Trp Ala Ala Gln Glu Pro His Arg His Ser Ile  
485 490 495

Phe Thr Pro Glu Thr Asn Pro Arg Ala Gly Leu Glu Lys Asn Tyr Cys  
500 510

Arg Asn Pro Asp Gly Asp Val Gly Gly Pro Trp Cys Tyr Thr Thr Asn  
515 520 525

Pro Arg Lys Leu Tyr Asp Tyr Cys Asp Val Pro Gln Cys Ala Ala Pro  
530 535 540

Ser Phe Asp Cys Gly Lys Pro Gln Val Glu Pro Lys Lys Cys Pro Gly  
545 550 555 560

Arg Val Val Gly Gly Cys Val Ala His Pro His Ser Trp Pro Trp Gln  
565 570 575

Val Ser Leu Arg Thr Arg Phe Gly Met His Phe Cys Gly Gly Thr Leu  
580 585 590

Ile Ser Pro Glu Trp Val Leu Thr Ala Ala His Cys Leu Glu Lys Ser  
595 600 605

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

Asn Leu Glu Pro His Val Gln Glu Ile Glu Val Ser Arg Leu Phe Leu  
625 630 635 640

Glu Pro Thr Arg Lys Asp Ile Ala Leu Leu Lys Leu Ser Ser Pro Ala  
645 650 655

Val Ile Thr Asp Lys Val Ile Pro Ala Cys Leu Pro Ser Pro Asn Tyr  
660 665 670

Val Val Ala Asp Arg Thr Glu Cys Phe Ile Thr Gly Trp Gly Glu Thr  
675 680 685

Gln Gly Thr Phe Gly Ala Gly Leu Leu Lys Glu Ala Gln Leu Pro Val  
690 695 700

Ile Glu Asn Lys Val Cys Asn Arg Tyr Glu Phe Leu Asn Gly Arg Val  
705 710 715 720

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Gln Ser Thr Glu Leu Cys Ala Gly His Leu Ala Gly Gly Thr Asp Ser  
725 730 735

Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Phe Glu Lys Asp Lys  
740 745 750

Tyr Ile Leu Gln Gly Val Thr Ser Trp Gly Leu Gly Cys Ala Arg Pro  
755 760 765

Asn Lys Pro Gly Val Tyr Val Arg Val Ser Arg Phe Val Thr Trp Ile  
770 775 780

Glu Gly Val Met Arg Asn Asn  
785 790

<210> 2  
<211> 812  
<212> PRT  
<213> Canis familiaris  
<400> 2

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Gly His Gly Ser Leu Leu Asp Asp Tyr Val Asn Thr Gln Gly Ala Ser  
20 25 30

Val Phe Ser Leu Thr Lys Lys Gln Leu Ser Val Gly Ser Ile Glu Glu  
35 40 45

Cys Ala Ala Lys Cys Glu Glu Glu Thr Gly Phe Ile Cys Arg Ser Phe  
50 55 60

Gln Tyr His Ser Lys Glu Gln Gln Cys Val Ile Met Pro Glu Asn Ser  
65 70 75 80

Lys Ser Ser Ile Val Phe Arg Met Arg Asp Val Phe Leu Phe Glu Lys  
85 90 95

Arg Ile Tyr Leu Ser Glu Cys Lys Thr Gly Asn Gly Lys Thr Tyr Arg  
100 105 110

Gly Thr Met Ala Lys Thr Lys Asn Asp Val Ala Cys Gln Lys Trp Ser  
115 120 125

Asp Asn Ser Pro His Lys Pro Asn Tyr Thr Pro Glu Lys His Pro Leu  
130 135 140

Glu Gly Leu Glu Glu Asn Tyr Cys Arg Asn Pro Asp Asn Asp Glu Asn  
145 150 155 160

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Gly Pro Trp Cys Tyr Thr Thr Asn Pro Asp Val Arg Phe Asp Tyr Cys  
 165 170 175

Asn Ile Pro Glu Cys Glu Glu Glu Cys Met His Cys Ser Gly Glu Asn  
 180 185 190

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

Trp Asn Ser Gln Thr Pro His Ala His Gly Tyr Ile Pro Ser Lys Phe  
 210 215 220

Pro Ser Lys Asn Leu Lys Met Asn Tyr Cys Arg Asn Pro Asp Gly Glu  
 225 230 235 240

Pro Arg Pro Trp Cys Phe Thr Met Asp Pro Asn Lys Arg Trp Glu Phe  
 245 250 255

Cys Asp Ile Pro Arg Cys Thr Thr Pro Pro Pro Ser Gly Pro Thr  
 260 265 270

Tyr Gln Cys Leu Lys Gly Arg Gly Glu Ser Tyr Arg Gly Lys Val Ser  
 275 280 285

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

His Lys His Asn Arg Thr Pro Glu Asn Phe Pro Cys Lys Asn Leu Asp  
 305 310 315 320

Glu Asn Tyr Cys Arg Asn Pro Asp Gly Glu Thr Ala Pro Trp Cys Tyr  
 325 330 335

Thr Thr Asn Ser Glu Val Arg Trp Glu His Cys Gln Ile Pro Ser Cys  
 340 345 350

Glu Ser Ser Pro Ile Thr Thr Glu Tyr Leu Asp Ala Pro Ala Ser Val  
 355 360 365

Pro Pro Glu Gln Thr Pro Val Val Gln Glu Cys Tyr His Gly Asn Gly  
 370 375 380

Gln Ser Tyr Arg Gly Thr Ser Ser Thr Thr Ile Thr Gly Arg Lys Cys  
 385 390 395 400

Gln Ser Trp Ser Ser Met Thr Pro His Arg His Glu Lys Thr Pro Glu  
 405 410 415

His Phe Pro Glu Ala Gly Leu Thr Met Asn Tyr Cys Arg Asn Pro Asp  
 420 425 430

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

Gly Trp Gly Glu Thr Gln Gly Thr Tyr Gly Ala Gly Leu Leu Lys Glu  
705 710 715 720

Ala Gln Leu Pro Val Ile Glu Asn Lys Val Cys Asn Arg Tyr Glu Tyr  
725 730 735

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

Gly Gly Thr Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys  
755 760 765

Phe Glu Lys Asp Lys Tyr Ile Leu Gln Gly Val Thr Ser Trp Gly Leu  
770 775 780

Gly Cys Ala Arg Pro Asn Lys Pro Gly Val Tyr Val Arg Val Ser Arg  
785 790 795 800

Phe Val Thr Trp Ile Glu Gly Ile Met Arg Asn Asn  
805 810

<210> 3  
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<212> PRT  
<213> Pan troglodytes  
<400> 3

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

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

Cys Ala Ala Lys Cys Glu Glu Asp Lys Glu Phe Thr Cys Arg Ala Phe  
50 55 60

Gln Tyr His Ser Lys Glu Gln Gln Cys Val Ile Met Ala Glu Asn Arg  
65 70 75 80

Lys Ser Ser Ile Ile Ile Arg Met Arg Asp Val Val Leu Phe Glu Lys  
85 90 95

Lys Val Tyr Leu Ser Glu Cys Lys Thr Gly Asn Gly Lys Asn Tyr Arg  
100 105 110

Gly Thr Met Ser Lys Thr Lys Asn Gly Ile Thr Cys Gln Lys Trp Ser  
115 120 125

Ser Thr Ser Pro His Arg Pro Arg Phe Ser Pro Ala Thr His Pro Ser

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



405

410

415

Pro Asn Ala Gly Leu Thr Met Asn Tyr Cys Arg Asn Pro Asp Ala Asp  
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Lys Gly Pro Trp Cys Phe Thr Thr Asp Pro Ser Val Arg Trp Glu Tyr  
                   435                                  440                                  445

Cys Asn Leu Lys Lys Cys Ser Gly Thr Glu Ala Ser Val Val Ala Pro  
                   450                                  455                                  460

Pro Pro Val Val Gln Leu Pro Asn Val Glu Thr Pro Ser Glu Glu Asp  
                   465                                  470                                  475                                  480

Cys Met Phe Gly Asn Gly Lys Gly Tyr Arg Gly Lys Arg Ala Thr Thr  
                                   485                                  490

Val Thr Gly Thr Pro Cys Gln Asp Trp Ala Ala Gln Glu Pro His Arg  
                                   500                                  505                                  510

His Ser Ile Phe Thr Pro Glu Thr Asn Pro Arg Ala Gly Leu Glu Lys  
                   515                                  520                                  525

Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Gly Gly Pro Trp Cys Tyr  
                   530                                  535                                  540

Thr Thr Asn Pro Arg Lys Leu Tyr Asp Tyr Cys Asp Val Pro Gln Cys  
                   545                                  550                                  555

Ala Ser Pro Ser Phe Asp Cys Gly Lys Pro Gln Val Glu Pro Lys Lys  
                                   565                                  570                                  575

Cys Pro Gly Arg Val Val Gly Gly Cys Val Ala His Pro His Ser Trp  
                                   580                                  585                                  590

Pro Trp Gln Val Ser Leu Arg Thr Arg Leu Gly Met His Phe Cys Gly  
                   595                                  600                                  605

Gly Thr Leu Ile Ser Pro Glu Trp Val Leu Thr Ala Ala His Cys Leu  
                   610                                  615                                  620

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

Gln Glu Val Lys Leu Glu Pro His Val Gln Glu Ile Glu Val Ser Arg  
                                   645                                  650                                  655

Leu Phe Leu Glu Pro Thr Arg Thr Asp Ile Ala Leu Leu Lys Leu Ser  
                   660                                  665                                  670

Ser Pro Ala Ile Ile Thr Asp Lys Val Ile Pro Ala Cys Leu Pro Ser

675  
 680  
 685  
 Pro Asn Tyr Val Val Ala Asp Arg Thr Glu Cys Phe Ile Thr Gly Trp  
 690 695 700  
 Gly Glu Thr Gln Gly Thr Phe Gly Ala Gly Leu Leu Lys Glu Ala Gln  
 705 710 715 720  
 Leu Pro Val Ile Glu Asn Lys Val Cys Asn Arg Asn Glu Phe Leu Asn  
 725 730 735  
 Gly Arg Val Lys Ser Thr Glu Leu Cys Ala Gly His Leu Ala Gly Gly  
 740 745 750  
 Thr Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Phe Glu  
 755 760 765  
 Lys Asp Lys Tyr Ile Leu Gln Gly Val Thr Ser Trp Gly Leu Gly Cys  
 770 775 780  
 Ala Arg Pro Asn Lys Pro Gly Val Tyr Val Arg Val Ser Arg Phe Val  
 785 790 795 800  
 Thr Trp Ile Glu Gly Val Met Arg Asn Asn  
 805 810

<210> 4  
 <211> 815  
 <212> PRT  
 <213> Pan troglodytes

<400> 4

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

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

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

Ile Glu Val Ser Arg Leu Phe Leu Glu Pro Thr Arg Thr Asp Ile Ala  
660 665 670

Leu Leu Lys Leu Ser Ser Pro Ala Ile Ile Thr Asp Lys Val Ile Pro  
675 680 685

Ala Cys Leu Pro Ser Pro Asn Tyr Val Val Ala Asp Arg Thr Glu Cys  
690 695 700

Phe Ile Thr Gly Trp Gly Glu Thr Gln Gly Thr Phe Gly Ala Gly Leu  
705 710 715 720

Leu Lys Glu Ala Gln Leu Pro Val Ile Glu Asn Lys Val Cys Asn Arg  
725 730 735

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

His Leu Ala Gly Gly Thr Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro  
755 760 765

Leu Val Cys Phe Glu Lys Asp Lys Tyr Ile Leu Gln Gly Val Thr Ser  
770 775 780

Trp Gly Leu Gly Cys Ala Arg Pro Asn Lys Pro Gly Val Tyr Val Arg  
785 790 795 800

Val Ser Arg Phe Val Thr Trp Ile Glu Gly Val Met Arg Asn Asn  
805 810 815

<210> 5  
<211> 800  
<212> PRT  
<213> Pan troglodytes  
<400> 5

Met Leu Met Asp Tyr Glu Gly Gln Gly Glu Pro Leu Asp Asp Tyr Val  
1 5 10 15

Asn Thr Gln Gly Ala Ser Leu Phe Ser Val Thr Lys Lys Gln Leu Gly  
20 25 30

Ala Gly Ser Ile Glu Glu Cys Ala Ala Lys Cys Glu Glu Asp Lys Glu  
35 40 45

Phe Thr Cys Arg Ala Phe Gln Tyr His Ser Lys Glu Gln Gln Cys Val  
50 55 60

Ile Met Ala Glu Asn Arg Lys Ser Ser Ile Ile Ile Arg Met Arg Asp  
65 70 75 80

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Val Val Leu Phe Glu Lys Lys Val Tyr Leu Ser Glu Cys Lys Thr Gly  
85 90 95

Asn Gly Lys Asn Tyr Arg Gly Thr Met Ser Lys Thr Lys Asn Gly Ile  
100 105 110

Thr Cys Gln Lys Trp Ser Ser Thr Ser Pro His Arg Pro Arg Phe Ser  
115 120 125

Pro Ala Thr His Pro Ser Glu Gly Leu Glu Glu Asn Tyr Cys Arg Asn  
130 135 140

Pro Asp Asn Asp Pro Gln Gly Pro Trp Cys Tyr Thr Thr Asp Pro Glu  
145 150 155 160

Lys Arg Tyr Asp Tyr Cys Asp Ile Leu Glu Cys Glu Glu Glu Cys Met  
165 170 175

His Cys Ser Gly Glu Asn Tyr Asp Gly Lys Ile Ser Lys Thr Met Ser  
180 185 190

Gly Leu Glu Cys Gln Ala Trp Asp Ser Gln Ser Pro His Ala His Gly  
195 200 205

Tyr Ile Pro Ser Lys Phe Pro Asn Lys Asn Leu Lys Lys Asn Tyr Cys  
210 215 220

Arg Asn Pro Asp Gly Glu Leu Arg Pro Trp Cys Phe Thr Thr Asp Pro  
225 230 235 240

Asn Lys Arg Trp Glu Leu Cys Asp Ile Pro Arg Cys Thr Thr Pro Pro  
245 250 255

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

Tyr Arg Gly Asn Val Ala Val Thr Val Ser Gly His Thr Cys Gln His  
275 280 285

Trp Ser Ala Gln Thr Pro His Thr His Asn Arg Thr Pro Glu Asn Phe  
290 295 300

Pro Cys Lys Asn Leu Asp Glu Asn Tyr Cys Arg Asn Pro Asp Gly Lys  
305 310 315 320

Arg Ala Pro Trp Cys His Thr Thr Asn Ser Gln Val Arg Trp Glu Tyr  
325 330 335

Cys Lys Ile Pro Ser Cys Asp Ser Ser Leu Val Ser Thr Glu Gln Leu  
340 345 350

TG-043\_PCT\_ST25.txt

Ala Pro Thr Ala Pro Pro Glu Leu Thr Pro Val Val Gln Asp Cys Tyr  
355 360 365

His Gly Asp Gly Gln Ser Tyr Arg Gly Thr Ser Ser Thr Thr Thr Thr  
370 375 380

Gly Lys Lys Cys Gln Ser Trp Ser Ser Met Thr Pro His Arg His Gln  
385 390 395 400

Lys Thr Pro Glu Asn Tyr Pro Asn Ala Gly Leu Thr Met Asn Tyr Cys  
405 410 415

Arg Asn Pro Asp Ala Asp Lys Gly Pro Trp Cys Phe Thr Thr Asp Pro  
420 425 430

Ser Val Arg Trp Glu Tyr Cys Asn Leu Lys Lys Cys Ser Gly Thr Glu  
435 440 445

Ala Ser Val Val Ala Pro Pro Pro Val Val Gln Leu Pro Asn Val Glu  
450 455 460

Thr Pro Ser Glu Glu Asp Cys Met Phe Gly Asn Gly Lys Gly Tyr Arg  
465 470 475 480

Gly Lys Arg Ala Thr Thr Val Thr Gly Thr Pro Cys Gln Asp Trp Ala  
485 490 495

Ala Gln Glu Pro His Arg His Ser Ile Phe Thr Pro Glu Thr Asn Pro  
500 505 510

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

Gly Gly Pro Trp Cys Tyr Thr Thr Asn Pro Arg Lys Leu Tyr Asp Tyr  
530 535 540

Cys Asp Val Pro Gln Cys Ala Ser Pro Ser Phe Asp Cys Gly Lys Pro  
545 550 555 560

Gln Val Glu Pro Lys Lys Cys Pro Gly Arg Val Val Gly Gly Cys Val  
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Ala His Pro His Ser Trp Pro Trp Gln Val Ser Leu Arg Thr Arg Leu  
580 585 590

Gly Met His Phe Cys Gly Gly Thr Leu Ile Ser Pro Glu Trp Val Leu  
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Thr Ala Ala His Cys Leu Glu Lys Ser Pro Arg Pro Ser Ser Tyr Lys  
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Val Ile Leu Gly Ala His Gln Glu Val Lys Leu Glu Pro His Val Gln  
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Glu Ile Glu Val Ser Arg Leu Phe Leu Glu Pro Thr Arg Thr Asp Ile  
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Ala Leu Leu Lys Leu Ser Ser Pro Ala Ile Ile Thr Asp Lys Val Ile  
660 665 670

Pro Ala Cys Leu Pro Ser Pro Asn Tyr Val Val Ala Asp Arg Thr Glu  
675 680 685

Cys Phe Ile Thr Gly Trp Gly Glu Thr Gln Gly Thr Phe Gly Ala Gly  
690 695 700

Leu Leu Lys Glu Ala Gln Leu Pro Val Ile Glu Asn Lys Val Cys Asn  
705 710 715 720

Arg Asn Glu Phe Leu Asn Gly Arg Val Lys Ser Thr Glu Leu Cys Ala  
725 730 735

Gly His Leu Ala Gly Gly Thr Asp Ser Cys Gln Gly Asp Ser Gly Gly  
740 745 750

Pro Leu Val Cys Phe Glu Lys Asp Lys Tyr Ile Leu Gln Gly Val Thr  
755 760 765

Ser Trp Gly Leu Gly Cys Ala Arg Pro Asn Lys Pro Gly Val Tyr Val  
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Leu Phe Ser Ile Thr Lys Lys Gln Leu Gly Ala Gly Ser Ile Glu Glu  
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Cys Ala Ala Lys Cys Glu Glu Glu Glu Glu Phe Thr Cys Arg Ser Phe  
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Gln Tyr His Ser Lys Glu Gln Gln Cys Val Ile Met Ala Glu Asn Arg  
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Lys Ser Ser Ile Val Phe Arg Met Arg Asp Val Val Leu Phe Glu Lys  
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Lys Val Tyr Leu Ser Glu Cys Lys Thr Gly Asn Gly Lys Asn Tyr Arg  
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Gly Thr Met Ser Lys Thr Arg Thr Gly Ile Thr Cys Gln Lys Trp Ser  
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Ser Thr Ser Pro His Arg Pro Thr Phe Ser Pro Ala Thr His Pro Ser  
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Glu Gly Leu Glu Glu Asn Tyr Cys Arg Asn Pro Asp Asn Asp Gly Gln  
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Gly Pro Trp Cys Tyr Thr Thr Asp Pro Glu Glu Arg Phe Asp Tyr Cys  
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Asp Ile Pro Glu Cys Glu Asp Glu Cys Met His Cys Ser Gly Glu Asn  
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Tyr Asp Gly Lys Ile Ser Lys Thr Met Ser Gly Leu Glu Cys Gln Ala  
195 200 205

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

Pro Arg Pro Trp Cys Phe Thr Thr Asp Pro Asn Lys Arg Trp Glu Leu  
245 250 255

Cys Asp Ile Pro Arg Cys Thr Thr Pro Pro Pro Ser Ser Gly Pro Thr  
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Tyr Gln Cys Leu Lys Gly Thr Gly Glu Asn Tyr Arg Gly Asp Val Ala  
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Val Thr Val Ser Gly His Thr Cys His Gly Trp Ser Ala Gln Thr Pro  
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His Thr His Asn Arg Thr Pro Glu Asn Phe Pro Cys Lys Asn Leu Asp  
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Glu Asn Tyr Cys Arg Asn Pro Asp Gly Glu Lys Ala Pro Trp Cys Tyr  
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Thr Thr Asn Ser Gln Val Arg Trp Glu Tyr Cys Lys Ile Pro Ser Cys  
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Glu Ser Ser Pro Val Ser Thr Glu Pro Leu Asp Pro Thr Ala Pro Pro  
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Glu Leu Thr Pro Val Val Gln Glu Cys Tyr His Gly Asp Gly Gln Ser  
370 375 380

Tyr Arg Gly Thr Ser Ser Thr Thr Thr Thr Gly Lys Lys Cys Gln Ser  
385 390 395 400

Trp Ser Ser Met Thr Pro His Trp His Glu Lys Thr Pro Glu Asn Phe  
405 410 415

Pro Asn Ala Gly Leu Thr Met Asn Tyr Cys Arg Asn Pro Asp Ala Asp  
420 425 430

Lys Gly Pro Trp Cys Phe Thr Thr Asp Pro Ser Val Arg Trp Glu Tyr  
435 440 445

Cys Asn Leu Lys Lys Cys Ser Gly Thr Glu Gly Ser Val Ala Ala Pro  
450 455 460

Pro Pro Val Ala Gln Leu Pro Asp Ala Glu Thr Pro Ser Glu Glu Asp  
465 470 475 480

Cys Met Phe Gly Asn Gly Lys Gly Tyr Arg Gly Lys Lys Ala Thr Thr  
485 490 495

Val Thr Gly Thr Pro Cys Gln Glu Trp Ala Ala Gln Glu Pro His Ser  
500 505 510

His Arg Ile Phe Thr Pro Glu Thr Asn Pro Arg Ala Gly Leu Glu Lys  
515 520 525

Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Gly Gly Pro Trp Cys Tyr  
530 535 540

Thr Thr Asn Pro Arg Lys Leu Phe Asp Tyr Cys Asp Val Pro Gln Cys  
545 550 555 560

Ala Ala Ser Ser Phe Asp Cys Gly Lys Pro Gln Val Glu Pro Lys Lys  
565 570 575

Cys Pro Gly Arg Val Val Gly Gly Cys Val Ala Tyr Pro His Ser Trp  
580 585 590

Pro Trp Gln Ile Ser Leu Arg Thr Arg Leu Gly Met His Phe Cys Gly  
595 600 605

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

Arg Glu Val His Leu Glu Pro His Val Gln Glu Ile Glu Val Ser Lys  
645 650 655

Met Phe Ser Glu Pro Ala Arg Ala Asp Ile Ala Leu Leu Lys Leu Ser  
660 665 670

Ser Pro Ala Ile Ile Thr Asp Lys Val Ile Pro Ala Cys Leu Pro Ser  
675 680 685

Pro Asn Tyr Val Val Ala Asp Arg Thr Glu Cys Phe Ile Thr Gly Trp  
690 695 700

Gly Glu Thr Gln Gly Thr Tyr Gly Ala Gly Leu Leu Lys Glu Ala Arg  
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Leu Pro Val Ile Glu Asn Lys Val Cys Asn Arg Tyr Glu Phe Leu Asn  
725 730 735

Gly Thr Val Lys Thr Thr Glu Leu Cys Ala Gly His Leu Ala Gly Gly  
740 745 750

Thr Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Phe Glu  
755 760 765

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

Cys Ala Ala Lys Cys Glu Glu Glu Lys Glu Phe Thr Cys Arg Ala Phe  
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 Lys Ser Ser Ile Ile Ile Arg Met Arg Asp Val Val Leu Phe Glu Lys  
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 Lys Val Tyr Leu Ser Glu Cys Lys Thr Gly Asn Gly Lys Asn Tyr Arg  
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 Gly Thr Met Ser Lys Thr Lys Asn Gly Ile Thr Cys Gln Lys Trp Ser  
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 Ser Thr Ser Pro His Arg Pro Arg Phe Ser Pro Ala Thr His Pro Ser  
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 Glu Gly Leu Glu Glu Asn Tyr Cys Arg Asn Pro Asp Asn Asp Ala Gln  
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 Gly Pro Trp Cys Tyr Thr Thr Asp Pro Glu His Arg Tyr Asp Tyr Cys  
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 Asp Ile Pro Glu Cys Glu Glu Ala Cys Met His Cys Ser Gly Glu Asn  
 180 185 190  
 Tyr Asp Gly Lys Ile Ser Lys Thr Met Ser Gly Leu Glu Cys Gln Ala  
 195 200 205  
 Trp Asp Ser Gln Ser Pro His Ala His Gly Tyr Ile Pro Ser Lys Phe  
 210 215 220  
 Pro Asn Lys Asn Leu Lys Lys Asn Tyr Cys Arg Asn Pro Asp Gly Glu  
 225 230 235 240  
 Pro Arg Pro Trp Cys Phe Thr Thr Asp Pro Asn Lys Arg Trp Glu Leu  
 245 250 255  
 Cys Asp Ile Pro Arg Cys Thr Thr Pro Pro Pro Ser Ser Gly Pro Thr  
 260 265 270  
 Tyr Gln Cys Leu Lys Gly Thr Gly Glu Asn Tyr Arg Gly Asn Val Ala  
 275 280 285  
 Val Thr Val Ser Gly His Thr Cys Gln Arg Trp Ser Ala Gln Thr Pro  
 290 295 300  
 Gln Thr His Asn Arg Thr Pro Glu Asn Phe Pro Cys Lys Asn Leu Asp

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						Lys
						Ala
						Pro
						Trp
						Cys
						Tyr
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						Trp
						Glu
						Tyr
						Cys
						Lys
						Ile
						Pro
						Ser
						Cys
Gly	Ser	Ser 355	Pro	Val	Ser	Thr
						Glu
						Gln
						Leu
						Asp
						Pro
						Thr
						Ala
						Pro
						Pro
Glu	Leu	Thr	Pro	Val	Val	Gln
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						Cys
						Tyr
						His
						Gly
						Asp
						Gly
						Gln
						Ser
Tyr	Arg	Gly	Thr	Ser	Ser 390	Thr
385						Thr
						Thr
						Thr
						Thr
						Gly
						395
						Lys
						Lys
						Cys
						Gln
						Ser
						400
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						His
						Gln
						410
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						415
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						Tyr
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						Cys
						Arg
						Asn
						Pro
						Asp
						430
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						Ser
						Val
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						Gly
						Ser
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						Val
						Val
						Ala
						Pro
Pro	Pro	Val	Val	Gln	Leu	Pro
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						Val
						Glu
						475
						Thr
						Pro
						Ser
						Glu
						Glu
						Asp
						480
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						Tyr
						Arg
						490
						Gly
						Lys
						Arg
						Ala
						Thr
						495
Val	Thr	Gly	Thr	Pro	Cys	Gln
			500			Glu
						505
						Ala
						Ala
						Gln
						Glu
						Pro
						510
						His
						Arg
His	Ser	Ile	Phe	Thr	Pro	Gln
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						Pro
						Arg
						Ala
						Gly
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						Leu
						Glu
						Lys
Asn	Tyr	Cys	Arg	Asn	Pro	Asp
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						Asp
						Glu
						Gly
						Gly
						540
						Pro
						Trp
						Cys
						Tyr
Thr	Thr	Asn	Pro	Arg	Lys	His
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						Asp
						Tyr
						Cys
						555
						Asp
						Val
						Pro
						Gln
						Cys
						560
Ala	Ser	Ser	Ser	Phe	Asp	Cys
				565		Gly
						Lys
						Pro
						Gln
						Val
						Glu
						Pro
						Lys
						575
						Lys
Cys	Pro	Gly	Arg	Val	Val	Gly
						Gly
						Cys
						Val
						Ala
						Asn
						Ala
						His
						Ser
						Trp

580

585

590

Pro Trp Gln Val Ser Leu Arg Thr Arg Phe Gly Thr His Phe Cys Gly  
595 600 605

Gly Thr Leu Ile Ser Pro Glu Trp Val Leu Thr Ala Ala His Cys Leu  
610 615 620

Glu Lys Ser Pro Arg Pro Ser Ser Tyr Lys Val Ile Leu Gly Ala His  
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Gln Glu Val Asn Leu Glu Pro His Val Gln Glu Ile Glu Val Ser Arg  
645 650 655

Leu Phe Leu Glu Pro Thr Arg Ala Asp Ile Ala Leu Leu Lys Leu Ser  
660 665 670

Ser Pro Ala Val Ile Thr Asp Lys Val Ile Pro Ala Cys Leu Pro Ser  
675 680 685

Pro Asn Tyr Val Val Ala Gly Arg Thr Glu Cys Phe Ile Thr Gly Trp  
690 695 700

Gly Glu Thr Gln Gly Thr Phe Gly Ala Gly Leu Leu Lys Glu Ala Gln  
705 710 715 720

Leu Pro Val Ile Glu Asn Lys Val Cys Asn Arg Tyr Glu Phe Leu Asn  
725 730 735

Gly Arg Val Lys Ser Thr Glu Leu Cys Ala Gly His Leu Ala Gly Gly  
740 745 750

Thr Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Phe Glu  
755 760 765

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

Val Thr Ala Ser Gly His Thr Cys Gln Arg Trp Ser Ala Gln Ser Pro  
 290 295 300  
 His Lys His Asn Arg Thr Pro Glu Asn Phe Pro Cys Lys Asn Leu Glu  
 305 310 315 320  
 Glu Asn Tyr Cys Arg Asn Pro Asp Gly Glu Thr Ala Pro Trp Cys Tyr  
 325 330 335  
 Thr Thr Asp Ser Glu Val Arg Trp Asp Tyr Cys Lys Ile Pro Ser Cys  
 340 345 350  
 Gly Ser Ser Thr Thr Ser Thr Glu Tyr Leu Asp Ala Pro Val Pro Pro  
 355 360 365  
 Glu Gln Thr Pro Val Ala Gln Asp Cys Tyr Arg Gly Asn Gly Glu Ser  
 370 375 380  
 Tyr Arg Gly Thr Ser Ser Thr Thr Ile Thr Gly Arg Lys Cys Gln Ser  
 385 390 395 400  
 Trp Val Ser Met Thr Pro His Arg His Glu Lys Thr Pro Gly Asn Phe  
 405 410 415  
 Pro Asn Ala Gly Leu Thr Met Asn Tyr Cys Arg Asn Pro Asp Ala Asp  
 420 425 430  
 Lys Ser Pro Trp Cys Tyr Thr Thr Asp Pro Arg Val Arg Trp Glu Tyr  
 435 440 445  
 Cys Asn Leu Lys Lys Cys Ser Glu Thr Glu Gln Gln Val Thr Asn Phe  
 450 455 460  
 Pro Ala Ile Ala Gln Val Pro Ser Val Glu Asp Leu Ser Glu Asp Cys  
 465 470 475 480  
 Met Phe Gly Asn Gly Lys Arg Tyr Arg Gly Lys Arg Ala Thr Thr Val  
 485 490 495  
 Ala Gly Val Pro Cys Gln Glu Trp Ala Ala Gln Glu Pro His Arg His  
 500 505 510  
 Ser Ile Phe Thr Pro Glu Thr Asn Pro Arg Ala Gly Leu Glu Lys Asn  
 515 520 525  
 Tyr Cys Arg Asn Pro Asp Gly Asp Asp Asn Gly Pro Trp Cys Tyr Thr  
 530 535 540  
 Thr Asn Pro Gln Lys Leu Phe Asp Tyr Cys Asp Val Pro Gln Cys Val  
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&lt;212&gt; PRT

&lt;213&gt; Bos Taurus

&lt;400&gt; 9

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Val Asn Thr Gln Gly Ala Ser Leu Leu Ser Leu Ser Arg Lys Asn Leu  
 35 40 45

Ala Gly Arg Ser Val Glu Asp Cys Ala Ala Lys Cys Glu Glu Glu Thr  
 50 55 60

Asp Phe Val Cys Arg Ala Phe Gln Tyr His Ser Lys Glu Gln Gln Cys  
 65 70 75 80

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

Gly Asn Gly Gln Thr Tyr Arg Gly Thr Thr Ala Glu Thr Lys Ser Gly  
 115 120 125

Val Thr Cys Gln Lys Trp Ser Ala Thr Ser Pro His Val Pro Lys Phe  
 130 135 140

Ser Pro Glu Lys Phe Pro Leu Ala Gly Leu Glu Glu Asn Tyr Cys Arg  
 145 150 155 160

Asn Pro Asp Asn Asp Glu Asn Gly Pro Trp Cys Tyr Thr Thr Asp Pro  
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Asp Lys Arg Tyr Asp Tyr Cys Asp Ile Pro Glu Cys Glu Asp Lys Cys  
 180 185 190

Met His Cys Ser Gly Glu Asn Tyr Glu Gly Lys Ile Ala Lys Thr Met  
 195 200 205

Ser Gly Arg Asp Cys Gln Ala Trp Asp Ser Gln Ser Pro His Ala His  
 210 215 220

Gly Tyr Ile Pro Ser Lys Phe Pro Ser Lys Asn Leu Lys Met Asn Tyr  
 225 230 235 240

Cys Arg Asn Pro Asp Gly Glu Pro Arg Pro Trp Cys Phe Thr Thr Asp  
 245 250 255

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Pro Gln Lys Arg Trp Glu Phe Cys Asp Ile Pro Arg Cys Thr Thr Pro  
260 265 270

Pro Pro Ser Ser Gly Pro Lys Tyr Gln Cys Leu Lys Gly Thr Gly Lys  
275 280 285

Asn Tyr Gly Gly Thr Val Ala Val Thr Glu Ser Gly His Thr Cys Gln  
290 295 300

Arg Trp Ser Glu Gln Thr Pro His Lys His Asn Arg Thr Pro Glu Asn  
305 310 315 320

Phe Pro Cys Lys Asn Leu Glu Glu Asn Tyr Cys Arg Asn Pro Asn Gly  
325 330 335

Glu Lys Ala Pro Trp Cys Tyr Thr Thr Asn Ser Lys Val Arg Trp Glu  
340 345 350

Tyr Cys Thr Ile Pro Ser Cys Glu Ser Ser Pro Leu Ser Thr Glu Arg  
355 360 365

Met Asp Val Pro Val Pro Pro Glu Gln Thr Pro Val Pro Gln Asp Cys  
370 375 380

Tyr His Gly Asn Gly Gln Ser Tyr Arg Gly Thr Ser Ser Thr Thr Ile  
385 390 395 400

Thr Gly Arg Lys Cys Gln Ser Trp Ser Ser Met Thr Pro His Arg His  
405 410 415

Leu Lys Thr Pro Glu Asn Tyr Pro Asn Ala Gly Leu Thr Met Asn Tyr  
420 425 430

Cys Arg Asn Pro Asp Ala Asp Lys Ser Pro Trp Cys Tyr Thr Thr Asp  
435 440 445

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

Lys Ala Thr Thr Val Ala Gly Val Pro Cys Gln Glu Trp Ala Ala Gln  
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Glu Pro His His His Ser Ile Phe Thr Pro Glu Thr Asn Pro Gln Ser  
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Gly Leu Glu Arg Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Asn Gly  
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Pro Trp Cys Tyr Thr Met Asn Pro Arg Lys Leu Phe Asp Tyr Cys Asp  
545 550 555 560

Val Pro Gln Cys Glu Ser Ser Phe Asp Cys Gly Lys Pro Lys Val Glu  
565 570 575

Pro Lys Lys Cys Ser Gly Arg Ile Val Gly Gly Cys Val Ser Lys Pro  
580 585 590

His Ser Trp Pro Trp Gln Val Ser Leu Arg Arg Ser Ser Arg His Phe  
595 600 605

Cys Gly Gly Thr Leu Ile Ser Pro Lys Trp Val Leu Thr Ala Ala His  
610 615 620

Cys Leu Asp Asn Ile Leu Ala Leu Ser Phe Tyr Lys Val Ile Leu Gly  
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Ala His Asn Glu Lys Val Arg Glu Gln Ser Val Gln Glu Ile Pro Val  
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Ser Arg Leu Phe Arg Glu Pro Ser Gln Ala Asp Ile Ala Leu Leu Lys  
660 665 670

Leu Ser Arg Pro Ala Ile Ile Thr Lys Glu Val Ile Pro Ala Cys Leu  
675 680 685

Pro Pro Pro Asn Tyr Met Val Ala Ala Arg Thr Glu Cys Tyr Ile Thr  
690 695 700

Gly Trp Gly Glu Thr Gln Gly Thr Phe Gly Glu Gly Leu Leu Lys Glu  
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Ala His Leu Pro Val Ile Glu Asn Lys Val Cys Asn Arg Asn Glu Tyr  
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Leu Asp Gly Arg Val Lys Pro Thr Glu Leu Cys Ala Gly His Leu Ile  
740 745 750

Gly Gly Thr Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys  
755 760 765

Phe Glu Lys Asp Lys Tyr Ile Leu Gln Gly Val Thr Ser Trp Gly Leu  
770 775 780

Gly Cys Ala Arg Pro Asn Lys Pro Gly Val Tyr Val Arg Val Ser Pro  
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Tyr Val Pro Trp Ile Glu Glu Thr Met Arg Arg Asn  
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Leu Phe Thr Phe Thr Arg Lys Pro Leu Ser Ala Ser Ser Ile Glu Glu  
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Cys Glu Ala Lys Cys Thr Glu Glu Thr Ala Phe Ile Cys Arg Ala Phe  
50 55 60

Gln Tyr His Ser Lys Glu Pro Arg Cys Val Leu Leu Ala Glu Asn Arg  
65 70 75 80

Lys Ser Ser Pro Val Met Arg Met Arg Asp Val Ile Leu Phe Glu Lys  
85 90 95

Arg Ile Tyr Leu Ser Glu Cys Lys Thr Gly Thr Gly Arg Ser Tyr Arg  
100 105 110

Gly Thr Thr Ser Lys Thr Lys Asn Gly Val Ser Cys Gln Lys Trp Ser  
115 120 125

Asp Thr Ser Pro His Ile Pro Lys Tyr Ser Pro Asp Lys Asn Pro Ser  
130 135 140

Glu Gly Leu Glu Glu Asn Tyr Cys Arg Asn Pro Asp Asn Asp Glu Lys  
145 150 155 160

Gly Pro Trp Cys Tyr Thr Thr Asp Pro Gly Thr Arg Phe Asp Tyr Cys  
165 170 175

Asp Ile Pro Glu Cys Glu Asp Glu Cys Met His Cys Ser Gly Glu Asn  
180 185 190

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

Trp Ala Ser Gln Ser Pro His Ala His Gly Tyr Ile Pro Ser Lys Phe  
210 215 220

Pro Asn Lys Asn Leu Arg Met Asn Tyr Cys Arg Asn Pro Asp Gly Glu  
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 Pro Arg Pro Trp Cys Phe Thr Met Asp Pro Asp Lys Arg Trp Glu Phe  
 245 250 255  
 Cys Asp Ile Pro Arg Cys Ser Thr Pro Pro Pro Ser Ser Gly Pro Thr  
 260 265 270  
 Tyr Gln Cys Leu Lys Gly Arg Gly Glu Asn Tyr Arg Gly Arg Val Ser  
 275 280 285  
 Val Thr Gln Ser Gly Leu Thr Cys Gln Arg Trp Ser Glu Gln Thr Pro  
 290 295 300  
 His Lys His Asn Arg Thr Pro Asp Asn Phe Pro Cys Lys Asn Leu Asp  
 305 310 315 320  
 Glu Asn Tyr Cys Arg Asn Pro Asp Gly Glu Thr Ala Pro Trp Cys Tyr  
 325 330 335  
 Thr Thr Ser Ser Glu Thr Arg Trp Glu Tyr Cys Asn Ile Pro Ser Cys  
 340 345 350  
 Thr Ser Ser Ser Val Pro Thr Glu Ile Thr Asp Ala Ser Glu Pro Pro  
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 Glu Gln Thr Pro Val Val Gln Asp Cys Tyr Gln Asp Lys Gly Glu Ser  
 370 375 380  
 Tyr Arg Gly Thr Ser Ser Ile Thr Val Thr Gly Lys Lys Cys Gln Ser  
 385 390 395 400  
 Trp Ser Ser Met Thr Pro His Trp His Gln Lys Thr Pro Glu Lys Tyr  
 405 410 415  
 Pro Asn Ala Asp Leu Thr Met Asn Tyr Cys Arg Asn Pro Asp Gly Asp  
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 Lys Gly Pro Trp Cys Tyr Thr Thr Asp Pro Ser Val Arg Trp Glu Phe  
 435 440 445  
 Cys Asn Leu Arg Arg Cys Ser Glu Thr Gln Gln Ser Phe Ser Asn Ser  
 450 455 460  
 Ser Pro Thr Asp Thr Gln Val Pro Ser Val Gln Glu Pro Ser Glu Pro  
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 Asp Cys Met Leu Gly Ile Gly Lys Gly Tyr Gln Gly Lys Lys Ala Thr  
 485 490 495

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Thr Val Thr Gly Thr Arg Cys Gln Ala Trp Ala Ala Gln Glu Pro His  
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Arg His Ser Ile Phe Thr Pro Glu Ala Asn Pro Trp Ala Asn Leu Glu  
515 520 525

Lys Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Asn Gly Pro Trp Cys  
530 535 540

Tyr Thr Met Asn Pro Gln Lys Leu Phe Asp Tyr Cys Asp Val Pro Gln  
545 550 555 560

Cys Glu Ser Ser Pro Phe Asp Cys Gly Lys Pro Lys Val Glu Pro Lys  
565 570 575

Lys Cys Ser Gly Arg Ile Val Gly Gly Cys Val Ala Ile Ala His Ser  
580 585 590

Trp Pro Trp Gln Ile Ser Leu Arg Thr Arg Phe Gly Arg His Phe Cys  
595 600 605

Gly Gly Thr Leu Ile Ser Pro Glu Trp Val Leu Thr Ala Ala His Cys  
610 615 620

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

His His Glu Leu Arg Leu Ala Ala Gly Ala Gln Gln Ile Asp Val Ser  
645 650 655

Lys Leu Phe Leu Glu Pro Ser Arg Ala Asp Ile Ala Leu Leu Lys Leu  
660 665 670

Ser Ser Pro Ala Ile Ile Thr Gln Asn Val Ile Pro Ala Cys Leu Pro  
675 680 685

Pro Ala Asp Tyr Val Val Ala Asn Trp Ala Glu Cys Phe Val Thr Gly  
690 695 700

Trp Gly Glu Thr Gln Asp Ser Ser Asn Ala Gly Val Leu Lys Glu Ala  
705 710 715 720

Gln Leu Pro Val Ile Glu Asn Lys Val Cys Asn Arg Tyr Glu Tyr Leu  
725 730 735

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

Gly Val Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Phe  
755 760 765

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Glu Lys Asp Lys Tyr Ile Leu Gln Gly Val Thr Ser Trp Gly Leu Gly  
 770 775 780

Cys Ala Arg Pro Asn Lys Pro Gly Val Tyr Val Arg Val Ser Ser Phe  
 785 790 795 800

Ile Asn Trp Ile Glu Arg Ile Met Gln Ser Asn  
 805 810

<210> 11  
 <211> 812  
 <212> PRT  
 <213> Mus musculus

<400> 11

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

Leu Phe Ser Leu Thr Lys Lys Gln Leu Ala Ala Gly Gly Val Ala Asp  
 35 40 45

Cys Leu Ala Lys Cys Glu Gly Glu Thr Asp Phe Val Cys Arg Ser Phe  
 50 55 60

Gln Tyr His Ser Lys Glu Gln Gln Cys Val Ile Met Ala Glu Asn Ser  
 65 70 75 80

Lys Thr Ser Ser Ile Ile Arg Met Arg Asp Val Ile Leu Phe Glu Lys  
 85 90 95

Arg Val Tyr Leu Ser Glu Cys Lys Thr Gly Ile Gly Asn Ser Tyr Arg  
 100 105 110

Gly Thr Met Ser Arg Thr Lys Ser Gly Val Ala Cys Gln Lys Trp Gly  
 115 120 125

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

Glu Gly Leu Glu Glu Asn Tyr Cys Arg Asn Pro Asp Asn Asp Glu Gln  
 145 150 155 160

Gly Pro Trp Cys Tyr Thr Thr Asp Pro Asp Lys Arg Tyr Asp Tyr Cys  
 165 170 175

Asn Ile Pro Glu Cys Glu Glu Glu Cys Met Tyr Cys Ser Gly Glu Lys  
 180 185 190

Tyr Glu Gly Lys Ile Ser Lys Thr Met Ser Gly Leu Asp Cys Gln Ala



195

200

205

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

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

740

745

750

Gly Gly Val Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys  
                   755                  760                  765

Phe Glu Lys Asp Lys Tyr Ile Leu Gln Gly Val Thr Ser Trp Gly Leu  
           770                  775                  780

Gly Cys Ala Arg Pro Asn Lys Pro Gly Val Tyr Val Arg Val Ser Arg  
   785                  790                  795                  800

Phe Val Asp Trp Ile Glu Arg Glu Met Arg Asn Asn  
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<210> 12  
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 <212> PRT  
 <213> Rattus norvegicus

<400> 12

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

Leu His Ser Leu Thr Lys Lys Gln Leu Ala Ala Gly Ser Ile Ala Asp  
           35                  40                  45

Cys Leu Ala Lys Cys Glu Gly Glu Thr Asp Phe Ile Cys Arg Ser Phe  
   50                  55                  60

Gln Tyr His Ser Lys Glu Gln Gln Cys Val Ile Met Ala Glu Asn Ser  
   65                  70                  75                  80

Lys Thr Ser Ser Ile Ile Arg Met Arg Asp Val Ile Leu Phe Glu Lys  
                   85                  90                  95

Arg Val Tyr Leu Ser Glu Cys Lys Thr Gly Ile Gly Lys Gly Tyr Arg  
           100                  105                  110

Gly Thr Met Ser Lys Thr Lys Thr Gly Val Thr Cys Gln Lys Trp Ser  
           115                  120                  125

Asp Thr Ser Pro His Val Pro Lys Tyr Ser Pro Ser Thr His Pro Ser  
           130                  135                  140

Glu Gly Leu Glu Glu Asn Tyr Cys Arg Asn Pro Asp Asn Asp Glu Gln  
   145                  150                  155                  160

Gly Pro Trp Cys Tyr Thr Thr Asp Pro Asp Gln Arg Tyr Glu Tyr Cys  
                   165                  170                  175

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

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

Ala Gln Leu Pro Val Ile Glu Asn Lys Val Cys Asn Arg Ala Glu Tyr  
725 730 735

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

Gly Gly Ile Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys  
755 760 765

Phe Glu Lys Asp Lys Tyr Ile Leu Gln Gly Val Thr Ser Trp Gly Leu  
770 775 780

Gly Cys Ala Arg Pro Asn Lys Pro Gly Val Tyr Val Arg Val Ser Arg  
785 790 795 800

Tyr Val Asn Trp Ile Glu Arg Glu Met Arg Asn Asp  
805 810

<210> 13  
<211> 811  
<212> PRT  
<213> Erinaceus europaeus

<400> 13

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

Leu Ser Ser Ser Thr Lys Lys Gln Leu Ser Val Gly Ser Thr Glu Glu  
35 40 45

Cys Ala Val Lys Cys Glu Lys Glu Thr Ser Phe Ile Cys Arg Ser Phe  
50 55 60

Gln Tyr His Ser Lys Glu Gln Gln Cys Val Ile Met Ala Glu Asn Ser  
65 70 75 80

Lys Ser Thr Pro Val Leu Arg Met Arg Asp Val Ile Leu Phe Glu Lys  
85 90 95

Lys Met Tyr Leu Ser Glu Cys Lys Val Gly Asn Gly Lys Tyr Tyr Arg  
100 105 110

Gly Thr Val Ser Lys Thr Lys Thr Gly Leu Thr Cys Gln Lys Trp Ser  
115 120 125

Ala Glu Thr Pro His Lys Pro Arg Phe Ser Pro Asp Glu Asn Pro Ser  
130 135 140

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

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



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Asn Ser Asn Tyr Met Val Ala Asp Arg Ser Leu Cys Tyr Ile Thr Gly  
690 695 700

Trp Gly Glu Thr Lys Gly Thr Tyr Gly Ala Gly Leu Leu Lys Glu Ala  
705 710 715 720

Gln Leu Pro Val Ile Glu Asn Lys Val Cys Asn Arg Gln Glu Leu Leu  
725 730 735

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

Gly Val Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Phe  
755 760 765

Glu Lys Asp Arg Tyr Ile Leu Gln Gly Val Thr Ser Trp Gly Leu Gly  
770 775 780

Cys Ala Arg Pro Asn Lys Pro Gly Val Tyr Val Arg Val Ser Arg Tyr  
785 790 795 800

Val Ser Trp Leu Gln Asp Val Met Arg Asn Asn  
805 810

<210> 14  
<211> 780  
<212> PRT  
<213> Oryctolagus cuniculus  
<400> 14

Met Glu Gln Arg Ala Val Val Leu Leu Leu Leu Leu Leu Lys Pro  
1 5 10 15

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

Leu Phe Ser Phe Thr Lys Lys Gln Leu Gly Ala Ala Ser Ile Ala Glu  
35 40 45

Cys Ala Ala Arg Cys Glu Ala Glu Thr Glu Phe Thr Cys Arg Ser Phe  
50 55 60

Gln Tyr His Ser Lys Glu Gln Gln Cys Val Val Met Ala Glu Asn Ser  
65 70 75 80

Lys Ser Ser Ala Ile Ile Arg Arg Arg Asp Val Val Leu Phe Glu Lys  
85 90 95

Arg Met Tyr Leu Ser Glu Cys Lys Ile Gly Asn Gly Arg Ser Tyr Arg  
100 105 110

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Gly Thr Lys Ser Lys Thr Lys Thr Gly Phe Thr Cys Gln Lys Trp Ser  
115 120 125

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

Glu Gly Leu Glu Glu Asn Tyr Cys Arg Asn Pro Asp Asn Asp Glu Gln  
145 150 155 160

Gly Pro Trp Cys Tyr Thr Thr Asn Pro Asp Glu Arg Phe Asp Tyr Cys  
165 170 175

Asp Ile Pro Glu Cys Glu Asp Glu Cys Met His Cys Ser Gly Glu Asn  
180 185 190

Tyr Glu Gly Lys Ile Ser Lys Thr Met Ser Gly Ile Glu Cys Gln Ala  
195 200 205

Trp Asp Ser Gln Ser Pro His Ala His Gly Tyr Ile Pro Ser Lys Phe  
210 215 220

Pro Asn Lys Asn Leu Lys Lys Asn Tyr Cys Arg Asn Pro Asp Gly Glu  
225 230 235 240

Pro Arg Pro Trp Cys Phe Thr Met Asp Pro Lys Lys Arg Trp Glu Leu  
245 250 255

Cys Asp Ile Pro Arg Cys Thr Thr Pro Pro Pro Pro Ser Gly Pro Thr  
260 265 270

His Gln Cys Leu Lys Gly Arg Gly Glu Ser Tyr Arg Gly Lys Val Ala  
275 280 285

Arg Thr Lys Ser Gly Leu Thr Cys Gln Arg Trp Ser Glu Gln Thr Pro  
290 295 300

His Leu His Asn Arg Thr Pro Glu Asn Phe Pro Cys Lys Asp Leu Asp  
305 310 315 320

Glu Asn Tyr Cys Arg Asn Pro Asp Gly Glu Ser Ala Pro Trp Cys Tyr  
325 330 335

Thr Thr Asp Ser Lys Val Arg Trp Glu His Cys Asp Ile Pro Ser Cys  
340 345 350

Ala Ser Ser Pro Thr Ser Val Glu Pro Leu Asp Ala Pro Ala Pro Pro  
355 360 365

Glu Glu Thr Pro Val Val Gln Glu Cys Tyr Gln Gly Asn Gly Gln Ser  
370 375 380

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Tyr Arg Gly Thr Ser Ser Thr Thr Ile Thr Gly Arg Lys Cys Gln Ser  
 385 390 395 400

Trp Leu Ser Met Thr Pro His Arg His Gln Arg Thr Pro Gln Asn Tyr  
 405 410 415

Pro Asn Ala Asp Leu Thr Met Asn Tyr Cys Arg Asn Pro Asp Asp Asp  
 420 425 430

Ile Arg Pro Trp Cys Tyr Thr Thr Asp Pro Ser Val Arg Trp Glu Tyr  
 435 440 445

Cys Asn Leu Arg Arg Cys Ser Glu Pro Ala Ala Ser Pro Ala Ala Thr  
 450 455 460

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

Cys Met Phe Gly Asn Gly Lys Gly Tyr Arg Gly Lys Lys Ala Thr Thr  
 485 490 495

Ala Asp Gly Thr Pro Cys Gln Gly Trp Ala Ala Gln Glu Pro His Arg  
 500 505 510

His Asn Ile Phe Thr Pro Glu Thr Asn Pro Arg Ala Gly Leu Glu Arg  
 515 520 525

Asn Tyr Cys Arg Asn Pro Asp Gly Asp Thr Asn Gly Pro Trp Cys Tyr  
 530 535 540

Thr Met Asn Pro Arg Lys Leu Tyr Asp Tyr Cys Asp Val Pro Gln Cys  
 545 550 555 560

Ala Ser Ser Ser Ser Tyr Asp Cys Gly Lys Pro Lys Val Glu Pro Lys  
 565 570 575

Lys Cys Pro Gly Arg Val Val Gly Gly Cys Val Ala Asn Pro His Ser  
 580 585 590

Trp Pro Trp Gln Ile Ser Leu Arg Thr Arg Thr Gly Gln His Phe Cys  
 595 600 605

Gly Gly Thr Leu Ile Ala Pro Glu Trp Val Leu Thr Ala Ala His Cys  
 610 615 620

Leu Glu Lys Tyr Pro Arg Pro Ser Ala Tyr Arg Val Ile Leu Gly Ala  
 625 630 635 640

His Lys Glu Val Asn Leu Glu Leu Asp Val Gln Asp Ile Asp Val Ala  
 645 650 655

Lys Leu Phe Leu Glu Pro Ser Arg Ala Asp Ile Ala Leu Met Lys Leu  
660 665 670

Ser Ser Leu Glu Trp Ala Trp Thr Tyr Gly Ala Gly Leu Leu Lys Glu  
675 680 685

Ala Gln Leu Pro Val Ile Glu Asn Lys Val Cys Asn Arg Phe Glu Tyr  
690 695 700

Leu Asn Gly Arg Val Arg Ser Thr Glu Leu Cys Ala Gly His Leu Ala  
705 710 715 720

Gly Gly Thr Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys  
725 730 735

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

Gly Cys Ala Arg Pro Asn Lys Pro Gly Val Tyr Val Arg Val Ser Arg  
755 760 765

Phe Val Asp Trp Ile Glu Arg Thr Met Arg Asn Asn  
770 775 780

<210> 15  
<211> 827  
<212> PRT  
<213> Pan troglodytes

<400> 15

Met Glu His Lys Glu Val Val Leu Leu Leu Leu Leu Phe Leu Lys Ser  
1 5 10 15

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

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

Cys Ala Ala Lys Cys Glu Glu Asp Lys Glu Phe Thr Cys Arg Tyr Phe  
50 55 60

His Cys Arg Cys Thr Tyr Pro Glu Ile Cys Asn Ser Asp Gly Lys Ala  
65 70 75 80

Phe Gln Tyr His Ser Lys Glu Gln Gln Cys Val Ile Met Ala Glu Asn  
85 90 95

Arg Lys Ser Ser Ile Ile Ile Arg Met Arg Asp Val Val Leu Phe Glu  
100 105 110

Lys Lys Val Tyr Leu Ser Glu Cys Lys Thr Gly Asn Gly Lys Asn Tyr

115  
 120  
 125

Arg Gly Thr Met Ser Lys Thr Lys Asn Gly Ile Thr Cys Gln Lys Trp  
 130 135 140

Ser Ser Thr Ser Pro His Arg Pro Arg Phe Ser Pro Ala Thr His Pro  
 145 150 155 160

Ser Glu Gly Leu Glu Glu Asn Tyr Cys Arg Asn Pro Asp Asn Asp Pro  
 165 170 175

Gln Gly Pro Trp Cys Tyr Thr Thr Asp Pro Glu Lys Arg Tyr Asp Tyr  
 180 185 190

Cys Asp Ile Leu Glu Cys Glu Glu Glu Cys Met His Cys Ser Gly Glu  
 195 200 205

Asn Tyr Asp Gly Lys Ile Ser Lys Thr Met Ser Gly Leu Glu Cys Gln  
 210 215 220

Ala Trp Asp Ser Gln Ser Pro His Ala His Gly Tyr Ile Pro Ser Lys  
 225 230 235 240

Phe Pro Asn Lys Asn Leu Lys Lys Asn Tyr Cys Arg Asn Pro Asp Gly  
 245 250 255

Glu Leu Arg Pro Trp Cys Phe Thr Thr Asp Pro Asn Lys Arg Trp Glu  
 260 265 270

Leu Cys Asp Ile Pro Arg Cys Thr Thr Pro Pro Pro Ser Ser Gly Pro  
 275 280 285

Thr Tyr Gln Cys Leu Lys Gly Thr Gly Glu Asn Tyr Arg Gly Asn Val  
 290 295 300

Ala Val Thr Val Ser Gly His Thr Cys Gln His Trp Ser Ala Gln Thr  
 305 310 315 320

Pro His Thr His Asn Arg Thr Pro Glu Asn Phe Pro Cys Lys Asn Leu  
 325 330 335

Asp Glu Asn Tyr Cys Arg Asn Pro Asp Gly Lys Arg Ala Pro Trp Cys  
 340 345 350

His Thr Thr Asn Ser Gln Val Arg Trp Glu Tyr Cys Lys Ile Pro Ser  
 355 360 365

Cys Asp Ser Ser Leu Val Ser Thr Glu Gln Leu Ala Pro Thr Ala Pro  
 370 375 380

Pro Glu Leu Thr Pro Val Val Gln Asp Cys Tyr His Gly Asp Gly Gln

385 TG-043\_PCT\_ST25.txt 390 395 400

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

660

665

670

Arg Leu Phe Leu Glu Pro Thr Arg Thr Asp Ile Ala Leu Leu Lys Leu  
675 680 685

Ser Ser Pro Ala Ile Ile Thr Asp Lys Val Ile Pro Ala Cys Leu Pro  
690 695 700

Ser Pro Asn Tyr Val Val Ala Asp Arg Thr Glu Cys Phe Ile Thr Gly  
705 710 715 720

Trp Gly Glu Thr Gln Gly Thr Phe Gly Ala Gly Leu Leu Lys Glu Ala  
725 730 735

Gln Leu Pro Val Ile Glu Asn Lys Val Cys Asn Arg Asn Glu Phe Leu  
740 745 750

Asn Gly Arg Val Lys Ser Thr Glu Leu Cys Ala Gly His Leu Ala Gly  
755 760 765

Gly Thr Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Phe  
770 775 780

Glu Lys Asp Lys Tyr Ile Leu Gln Gly Val Thr Ser Trp Gly Leu Gly  
785 790 795 800

Cys Ala Arg Pro Asn Lys Pro Gly Val Tyr Val Arg Val Ser Arg Phe  
805 810 815

Val Thr Trp Ile Glu Gly Val Met Arg Asn Asn  
820 825

&lt;210&gt; 16

&lt;211&gt; 769

&lt;212&gt; PRT

&lt;213&gt; Ailuropoda melano-leuca

&lt;400&gt; 16

Phe Val Arg Arg Ser Phe Glu Tyr His Ser Lys Glu Gln Gln Cys Ala  
1 5 10 15

Ile Met Ala Glu Asn Ser Lys Ser Ser Ala Val Phe Arg Met Arg Asp  
20 25 30

Val Ile Leu Phe Gln Lys Arg Ile Tyr Leu Ser Glu Cys Lys Thr Gly  
35 40 45

Asn Gly Lys Thr Tyr Arg Gly Thr Met Ser Lys Thr Lys Asn Gly Val  
50 55 60

Ala Cys Gln Lys Trp Ser Asp Thr Phe Pro His Lys Pro Asn Tyr Thr  
65 70 75 80

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Pro Glu Lys His Pro Leu Glu Gly Leu Glu Glu Asn Tyr Cys Arg Asn  
85 90 95

Pro Asp Asn Asp Glu Lys Gly Pro Trp Cys Tyr Thr Thr Asp Pro Asn  
100 105 110

Gln Arg Phe Asp Tyr Cys Ser Ile Pro Gln Cys Glu Asp Glu Cys Met  
115 120 125

His Cys Ser Gly Glu Asn Tyr Glu Gly Lys Val Ser Lys Thr Lys Ser  
130 135 140

Gly Leu Glu Cys Gln Ala Trp Asn Ser Gln Thr Pro His Ala His Gly  
145 150 155 160

Tyr Ile Pro Ser Lys Phe Pro Asn Lys Asn Leu Lys Met Asn Tyr Cys  
165 170 175

Arg Asn Pro Asp Gly Glu Pro Arg Pro Trp Cys Phe Thr Met Asp Pro  
180 185 190

Asn Lys Arg Trp Glu Phe Cys Asp Ile Pro Arg Cys Thr Thr Pro Pro  
195 200 205

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

Tyr Arg Gly Lys Val Ser Val Thr Ala Ser Gly His Thr Cys Gln Arg  
225 230 235 240

Trp Ser Glu Gln Thr Pro His Lys His Asn Arg Thr Pro Glu Asn Phe  
245 250 255

Pro Cys Lys Asn Leu Asp Glu Asn Tyr Cys Arg Asn Pro Asp Gly Glu  
260 265 270

Ser Ala Pro Trp Cys Tyr Thr Thr Asp Ser Glu Val Arg Trp Glu His  
275 280 285

Cys Ser Ile Pro Ser Cys Glu Ser Ser Pro Leu Thr Leu Asp Ser Leu  
290 295 300

Asp Thr Pro Ala Ser Ile Pro Pro Glu Gln Thr Pro Val Val Gln Glu  
305 310 315 320

Cys Tyr Gln Gly Asn Gly Gln Thr Tyr Arg Gly Thr Ser Ser Thr Thr  
325 330 335

Ile Thr Gly Lys Lys Cys Gln Pro Trp Ser Ser Met Ser Pro His Arg  
340 345 350



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

Ile Ala Leu Ile Lys Leu Gln Ser Pro Ala Val Leu Thr Ser Lys Val  
625 630 635 640

Ile Pro Ala Cys Leu Pro Ser Pro Asn Tyr Val Val Ala Asp Arg Thr  
645 650 655

Leu Cys Tyr Ile Thr Gly Trp Gly Glu Thr Gln Gly Thr Phe Gly Val  
660 665 670

Gly Leu Leu Lys Glu Ala Gln Leu Pro Val Ile Glu Asn Lys Val Cys  
675 680 685

Asn Arg Tyr Glu Tyr Leu Asn Gly Lys Val Lys Ser Thr Glu Leu Cys  
690 695 700

Ala Gly Asn Leu Ala Gly Gly Thr Asp Ser Cys Gln Gly Asp Ser Gly  
705 710 715 720

Gly Pro Leu Val Cys Phe Glu Lys Asp Lys Tyr Ile Leu Gln Gly Val  
725 730 735

Thr Ser Trp Gly Leu Gly Cys Ala Arg Pro Asn Lys Pro Gly Val Tyr  
740 745 750

Val Arg Val Ser Arg Phe Val Thr Trp Ile Glu Glu Ile Met Arg Asn  
755 760 765

Asn

<210> 17  
<211> 334  
<212> PRT  
<213> Papio hamadryas  
<400> 17

Ile Arg Leu Asp Cys Met Phe Gly Asn Gly Lys Arg Tyr Arg Gly Lys  
1 5 10 15

Lys Ala Thr Thr Val Thr Gly Thr Pro Cys Gln Glu Trp Ala Ala Lys  
20 25 30

Glu Pro His Ser His Leu Ile Phe Thr Pro Glu Thr Tyr Pro Arg Ala  
35 40 45

Gly Leu Glu Lys Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Gly Gly  
50 55 60

Pro Trp Cys Tyr Thr Thr Asn Pro Arg Lys Leu Tyr Asp Tyr Cys Asp  
65 70 75 80

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Val Pro Gln Cys Ala Ser Ser Ser Phe Asp Cys Gly Lys Pro Gln Val  
85 90 95

Glu Pro Lys Lys Cys Pro Gly Arg Val Val Gly Gly Cys Val Ala His  
100 105 110

Ala His Ser Trp Pro Trp Gln Val Ser Leu Arg Thr Arg Phe Gly Met  
115 120 125

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

Ala His Cys Leu Glu Lys Ser Pro Arg Pro Ser Phe Tyr Lys Val Ile  
145 150 155 160

Leu Gly Ala His Gln Glu Val Arg Leu Glu Pro His Val Gln Glu Ile  
165 170 175

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

Leu Lys Leu Ser Ser Pro Ala Ile Ile Thr Asp Lys Val Ile Pro Ala  
195 200 205

Cys Leu Pro Ser Pro Asn Tyr Val Val Ala Asp Arg Thr Glu Cys Phe  
210 215 220

Ile Thr Gly Trp Gly Glu Thr Gln Gly Thr Tyr Gly Ala Gly Leu Leu  
225 230 235 240

Lys Glu Ala Arg Leu Pro Val Ile Glu Asn Lys Val Cys Asn Arg Tyr  
245 250 255

Glu Phe Leu Asn Gly Arg Val Lys Ser Thr Glu Leu Cys Ala Gly His  
260 265 270

Leu Ala Gly Gly Thr Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu  
275 280 285

Val Cys Phe Glu Lys Asp Lys Tyr Ile Leu Gln Gly Val Thr Ser Trp  
290 295 300

Gly Leu Gly Cys Ala Arg Pro Asn Lys Pro Gly Val Tyr Val Arg Val  
305 310 315 320

Ser Arg Phe Val Thr Trp Ile Glu Gly Val Met Arg Asn Asn  
325 330

<210> 18  
<211> 343  
<212> PRT

&lt;213&gt; ovis aries

&lt;400&gt; 18

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

Ile Glu Asn Lys Val Cys Asn Arg Tyr Glu Tyr Leu Asn Gly Arg Val  
260 265 270

Lys Ser Thr Glu Leu Cys Ala Gly Asp Leu Ala Gly Gly Thr Asp Ser  
275 280 285

Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Phe Glu Lys Asp Lys  
290 295 300

Tyr Ile Leu Gln Gly Val Thr Ser Trp Gly Leu Gly Cys Ala Arg Pro  
305 310 315 320

Asn Lys Pro Gly Val Tyr Val Arg Val Ser Thr Tyr Val Pro Trp Ile  
325 330 335

Glu Glu Thr Met Arg Arg Tyr  
340

<210> 19  
<211> 249  
<212> PRT  
<213> Homo sapiens  
<400> 19

Ala Pro Ser Phe Asp Cys Gly Lys Pro Gln Val Glu Pro Lys Lys Cys  
1 5 10 15

Pro Gly Arg Val Val Gly Gly Cys Val Ala His Pro His Ser Trp Pro  
20 25 30

Trp Gln Val Ser Leu Arg Thr Arg Phe Gly Met His Phe Cys Gly Gly  
35 40 45

Thr Leu Ile Ser Pro Glu Trp Val Leu Thr Ala Ala His Cys Leu Glu  
50 55 60

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

Glu Val Asn Leu Glu Pro His Val Gln Glu Ile Glu Val Ser Arg Leu  
85 90 95

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

Pro Ala Val Ile Thr Asp Lys Val Ile Pro Ala Cys Leu Pro Ser Pro  
115 120 125

Asn Tyr Val Val Ala Asp Arg Thr Glu Cys Phe Ile Thr Gly Trp Gly  
130 135 140

Glu Thr Gln Gly Thr Phe Gly Ala Gly Leu Leu Lys Glu Ala Gln Leu

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145                      150                      155                      160

Pro Val Ile Glu Asn Lys Val Cys Asn Arg Tyr Glu Phe Leu Asn Gly  
                                  165                      170                      175

Arg Val Gln Ser Thr Glu Leu Cys Ala Gly His Leu Ala Gly Gly Thr  
                                  180                      185                      190

Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Phe Glu Lys  
                                  195                      200                      205

Asp Lys Tyr Ile Leu Gln Gly Val Thr Ser Trp Gly Leu Gly Cys Ala  
                                  210                      215                      220

Arg Pro Asn Lys Pro Gly Val Tyr Val Arg Val Ser Arg Phe Val Thr  
                                  225                      230                      235                      240

Trp Ile Glu Gly Val Met Arg Asn Asn  
                                  245

<210> 20  
 <211> 750  
 <212> DNA  
 <213> artificial

<220>  
 <223> optimized DNA sequence encoding micoplasmin of SEQ ID NO:19

<400> 20  
 gcaccttcat tcgactgtgg taagcctcag gtcgaaccta agaagtgtcc aggtcgtggt 60  
 gtcggtggct gtgtggctca tcctcattct tggccttggc aagtgtctct tagaactaga 120  
 tttggtatgc acttctgtgg tggcaccttg atctcacctg aatgggtctt aaccgcagct 180  
 cattgtctgg agaagtcacc acgtccatct tcatacaagg tcatccttgg cgcacatcag 240  
 gaagtcaatc ttgagcctca tgttcaggag atcgaagtct ctcgtttggt cttggaacca 300  
 actcgtaaag acattgctct tctgaagctg tcatctcctg ccgtgattac cgacaaggta 360  
 attcctgcct gcttgccatg tcctaattac gtcgttgccg accgtaccga atgcttcatt 420  
 actggttggg gtgagactca aggtacgttc ggtgctgggtc tgttgaaaga agcacaatta 480  
 cctgtgattg agaacaagggt ttgtaacaga tacgagttcc tgaatgggtcg tgttcagtcc 540  
 actgagttgt gtgcagggtca ccttgcagggt ggtactgata gttgtcaagg tgattctgggt 600  
 ggaccactgg tgtgcttcga gaaggataag tacatcttac aagggtgttac gtcttgggggt 660  
 cttggatgtg ctgctcctaa caagccagggt gtctacgtca gagtctccag attcgtaact 720  
 tggatcgaag gtgtcatgcg taacaactaa 750

<210> 21  
 <211> 38  
 <212> DNA  
 <213> artificial

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<220>
<223> synthetic oligonucleotide

<400> 21
gaagtgtcca ggtcgtattg tcggtggctg tgtggctc 38

<210> 22
<211> 38
<212> DNA
<213> artificial

<220>
<223> synthetic oligonucleotide

<400> 22
gagccacaca gccaccgaca atacgacctg gacacttc 38

<210> 23
<211> 750
<212> DNA
<213> artificial

<220>
<223> synthetic nucleotide sequence encoding VallIle microplasmin
variant

<400> 23
gcaccttcat tcgactgtgg taagcctcag gtcgaaccta agaagtgtcc aggtcgtatt 60
gtcgggtggct gtgtggctca tcctcattct tggccttggc aagtgtctct tagaactaga 120
tttggtatgc acttctgtgg tggcaccttg atctcacctg aatgggtctt aaccgcagct 180
cattgtcttg agaagtcacc acgtccatct tcatacaagg tcatccttgg cgcacatcag 240
gaagtcaatc ttgagcctca tgttcaggag atcgaagtct ctcgtttgtt cttggaacca 300
actcgtaaag acattgctct tctgaagctg tcatctcctg ccgtgattac cgacaaggta 360
attcctgcct gcttgccctag tcctaattac gtcgttgccg accgtaccga atgcttcatt 420
actggttggg gtgagactca aggtacgttc ggtgctgggc tgttgaaaga agcacaatta 480
cctgtgattg agaacaaggc ttgtaacaga tacgagttcc tgaatgggtc tgttcagtcc 540
actgagttgt gtgcaggcca ccttgccagg ggtactgata gttgtcaagg tgattctggg 600
ggaccactgg tgtgcttcga gaaggataag tacatcttac aagggtgtac gtcttggggg 660
cttggatgtg ctcgtcctaa caagccaggc gtctacgtca gaggctccag attcgtaact 720
tggatcgaag gtgtcatgca taacaactaa 750

<210> 24
<211> 249
<212> PRT
<213> artificial

<220>
<223> amino acid sequence encoding VallIle microplasmin variant

<400> 24
Ala Pro Ser Phe Asp Cys Gly Lys Pro Gln Val Glu Pro Lys Lys Cys
1 5 10 15

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

Trp Gln Val Ser Leu Arg Thr Arg Phe Gly Met His Phe Cys Gly Gly  
35 40 45

Thr Leu Ile Ser Pro Glu Trp Val Leu Thr Ala Ala His Cys Leu Glu  
50 55 60

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

Glu Val Asn Leu Glu Pro His Val Gln Glu Ile Glu Val Ser Arg Leu  
85 90 95

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

Pro Ala Val Ile Thr Asp Lys Val Ile Pro Ala Cys Leu Pro Ser Pro  
115 120 125

Asn Tyr Val Val Ala Asp Arg Thr Glu Cys Phe Ile Thr Gly Trp Gly  
130 135 140

Glu Thr Gln Gly Thr Phe Gly Ala Gly Leu Leu Lys Glu Ala Gln Leu  
145 150 155 160

Pro Val Ile Glu Asn Lys Val Cys Asn Arg Tyr Glu Phe Leu Asn Gly  
165 170 175

Arg Val Gln Ser Thr Glu Leu Cys Ala Gly His Leu Ala Gly Gly Thr  
180 185 190

Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Phe Glu Lys  
195 200 205

Asp Lys Tyr Ile Leu Gln Gly Val Thr Ser Trp Gly Leu Gly Cys Ala  
210 215 220

Arg Pro Asn Lys Pro Gly Val Tyr Val Arg Val Ser Arg Phe Val Thr  
225 230 235 240

Trp Ile Glu Gly Val Met Arg Asn Asn  
245