

SEQUENCE LISTING

<110> Krystal Biotech, Inc.
KRISHNAN, Suma
PARRY, Trevor
AGARWAL, Pooja

<120> RECOMBINANT NUCLEIC ACIDS ENCODING
COSMETIC PROTEIN(S) FOR AESTHETIC APPLICATIONS

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<140> Not Yet Assigned

<141> Concurrently Herewith

<150> US 62/663,476

<151> 2018-04-27

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<170> FastSEQ for Windows Version 4.0

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Ala	Gly	Pro	Ala	Gly	Glu	Arg	Gly	Glu	Gln	Gly	Pro	Ala	Gly	Ser Pro
625					630					635				640
Gly	Phe	Gln	Gly	Leu	Pro	Gly	Pro	Ala	Gly	Pro	Pro	Gly	Glu	Ala Gly
				645					650					655
Lys	Pro	Gly	Glu	Gln	Gly	Val	Pro	Gly	Asp	Leu	Gly	Ala	Pro	Gly Pro
			660					665					670	
Ser	Gly	Ala	Arg	Gly	Glu	Arg	Gly	Phe	Pro	Gly	Glu	Arg	Gly	Val Gln
		675					680					685		
Gly	Pro	Pro	Gly	Pro	Ala	Gly	Pro	Arg	Gly	Ala	Asn	Gly	Ala	Pro Gly
		690				695					700			
Asn	Asp	Gly	Ala	Lys	Gly	Asp	Ala	Gly	Ala	Pro	Gly	Ala	Pro	Gly Ser
705					710					715				720
Gln	Gly	Ala	Pro	Gly	Leu	Gln	Gly	Met	Pro	Gly	Glu	Arg	Gly	Ala Ala
				725					730					735
Gly	Leu	Pro	Gly	Pro	Lys	Gly	Asp	Arg	Gly	Asp	Ala	Gly	Pro	Lys Gly
			740				745						750	
Ala	Asp	Gly	Ser	Pro	Gly	Lys	Asp	Gly	Val	Arg	Gly	Leu	Thr	Gly Pro
		755					760					765		
Ile	Gly	Pro	Pro	Gly	Pro	Ala	Gly	Ala	Pro	Gly	Asp	Lys	Gly	Glu Ser
	770					775					780			
Gly	Pro	Ser	Gly	Pro	Ala	Gly	Pro	Thr	Gly	Ala	Arg	Gly	Ala	Pro Gly
785					790					795				800
Asp	Arg	Gly	Glu	Pro	Gly	Pro	Pro	Gly	Pro	Ala	Gly	Phe	Ala	Gly Pro
				805					810					815
Pro	Gly	Ala	Asp	Gly	Gln	Pro	Gly	Ala	Lys	Gly	Glu	Pro	Gly	Asp Ala

			820				825				830				
Gly	Ala	Lys	Gly	Asp	Ala	Gly	Pro	Gly	Pro	Ala	Gly	Pro	Ala	Gly	
835			840				845								
Pro	Pro	Gly	Pro	Ile	Gly	Asn	Val	Gly	Ala	Pro	Gly	Ala	Lys	Gly	Ala
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Arg	Gly	Ser	Ala	Gly	Pro	Pro	Gly	Ala	Thr	Gly	Phe	Pro	Gly	Ala	Ala
865			870				875				880				
Gly	Arg	Val	Gly	Pro	Pro	Gly	Pro	Ser	Gly	Asn	Ala	Gly	Pro	Pro	Gly
			885				890				895				
Pro	Pro	Gly	Pro	Ala	Gly	Lys	Glu	Gly	Gly	Lys	Gly	Pro	Arg	Gly	Glu
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Thr	Gly	Pro	Ala	Gly	Arg	Pro	Gly	Glu	Val	Gly	Pro	Pro	Gly	Pro	Pro
915			920				925								
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930			935				940								
Ala	Pro	Gly	Thr	Pro	Gly	Pro	Gln	Gly	Ile	Ala	Gly	Gln	Arg	Gly	Val
945			950				955				960				
Val	Gly	Leu	Pro	Gly	Gln	Arg	Gly	Glu	Arg	Gly	Phe	Pro	Gly	Leu	Pro
			965				970				975				
Gly	Pro	Ser	Gly	Glu	Pro	Gly	Lys	Gln	Gly	Pro	Ser	Gly	Ala	Ser	Gly
980			985				990								
Glu	Arg	Gly	Pro	Pro	Gly	Pro	Met	Gly	Pro	Pro	Gly	Leu	Ala	Gly	Pro
995			1000				1005								
Pro	Gly	Glu	Ser	Gly	Arg	Glu	Gly	Ala	Pro	Gly	Ala	Glu	Gly	Ser	Pro
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Pro	Ala	Gly	Pro	Pro	Gly	Ala	Pro	Gly	Ala	Pro	Gly	Ala	Pro	Gly	Pro
			1045				1050				1055				
Val	Gly	Pro	Ala	Gly	Lys	Ser	Gly	Asp	Arg	Gly	Glu	Thr	Gly	Pro	Ala
1060			1065				1070								
Gly	Pro	Ala	Gly	Pro	Val	Gly	Pro	Val	Gly	Ala	Arg	Gly	Pro	Ala	Gly
1075			1080				1085								
Pro	Gln	Gly	Pro	Arg	Gly	Asp	Lys	Gly	Glu	Thr	Gly	Glu	Gln	Gly	Asp
1090			1095				1100								
Arg	Gly	Ile	Lys	Gly	His	Arg	Gly	Phe	Ser	Gly	Leu	Gln	Gly	Pro	Pro
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Gly	Pro	Pro	Gly	Ser	Pro	Gly	Glu	Gln	Gly	Pro	Ser	Gly	Ala	Ser	Gly
			1125				1130				1135				
Pro	Ala	Gly	Pro	Arg	Gly	Pro	Pro	Gly	Ser	Ala	Gly	Ala	Pro	Gly	Lys
1140			1145				1150								
Asp	Gly	Leu	Asn	Gly	Leu	Pro	Gly	Pro	Ile	Gly	Pro	Pro	Gly	Pro	Arg
1155			1160				1165								
Gly	Arg	Thr	Gly	Asp	Ala	Gly	Pro	Val	Gly	Pro	Pro	Gly	Pro	Pro	Gly
1170			1175				1180								
Pro	Pro	Gly	Pro	Pro	Gly	Pro	Pro	Ser	Ala	Gly	Phe	Asp	Phe	Ser	Phe
1185			1190				1195				1200				
Leu	Pro	Gln	Pro	Pro	Gln	Glu	Lys	Ala	His	Asp	Gly	Gly	Arg	Tyr	Tyr
			1205				1210				1215				
Arg	Ala	Asp	Asp	Ala	Asn	Val	Val	Arg	Asp	Arg	Asp	Leu	Glu	Val	Asp
1220			1225				1230								
Thr	Thr	Leu	Lys	Ser	Leu	Ser	Gln	Gln	Ile	Glu	Asn	Ile	Arg	Ser	Pro
1235			1240				1245								
Glu	Gly	Ser	Arg	Lys	Asn	Pro	Ala	Arg	Thr	Cys	Arg	Asp	Leu	Lys	Met

1250	1255	1260
Cys His Ser Asp Trp Lys Ser Gly Glu Tyr Trp Ile Asp Pro Asn Gln		
1265	1270	1275
Gly Cys Asn Leu Asp Ala Ile Lys Val Phe Cys Asn Met Glu Thr Gly		1280
	1285	1290
Glu Thr Cys Val Tyr Pro Thr Gln Pro Ser Val Ala Gln Lys Asn Trp		1295
	1300	1305
Tyr Ile Ser Lys Asn Pro Lys Asp Lys Arg His Val Trp Phe Gly Glu		1310
	1315	1320
Ser Met Thr Asp Gly Phe Gln Phe Glu Tyr Gly Gly Gln Gly Ser Asp		1325
	1330	1335
Pro Ala Asp Val Ala Ile Gln Leu Thr Phe Leu Arg Leu Met Ser Thr		1340
1345	1350	1355
Glu Ala Ser Gln Asn Ile Thr Tyr His Cys Lys Asn Ser Val Ala Tyr		1360
	1365	1370
Met Asp Gln Gln Thr Gly Asn Leu Lys Lys Ala Leu Leu Leu Gln Gly		1375
	1380	1385
Ser Asn Glu Ile Glu Ile Arg Ala Glu Gly Asn Ser Arg Phe Thr Tyr		1390
	1395	1400
Ser Val Thr Val Asp Gly Cys Thr Ser His Thr Gly Ala Trp Gly Lys		1405
	1410	1415
Thr Val Ile Glu Tyr Lys Thr Thr Lys Thr Ser Arg Leu Pro Ile Ile		1420
1425	1430	1435
Asp Val Ala Pro Leu Asp Val Gly Ala Pro Asp Gln Glu Phe Gly Phe		1440
	1445	1450
Asp Val Gly Pro Val Cys Phe Leu		1455
	1460	

<210> 16

<211> 1366

<212> PRT

<213> Homo sapiens

<400> 16

Met Leu Ser Phe Val Asp Thr Arg Thr Leu Leu Leu Leu Ala Val Thr	
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Gly Pro Ala Gly Asp Arg Gly Pro Arg Gly Glu Arg Gly Pro Pro Gly	25
	30
Pro Pro Gly Arg Asp Gly Glu Asp Gly Pro Thr Gly Pro Pro Gly Pro	35
	40
Pro Gly Pro Pro Gly Pro Pro Gly Leu Gly Gly Asn Phe Ala Ala Gln	45
65	50
Tyr Asp Gly Lys Gly Val Gly Leu Gly Pro Gly Pro Met Gly Leu Met	55
	60
Gly Pro Arg Gly Pro Pro Gly Ala Ala Gly Ala Pro Gly Pro Gln Gly	65
	70
Phe Gln Gly Pro Ala Gly Glu Pro Gly Glu Pro Gly Gln Thr Gly Pro	75
	80
Ala Gly Ala Arg Gly Pro Ala Gly Pro Pro Gly Lys Ala Gly Glu Asp	85
	90
Gly His Pro Gly Lys Pro Gly Arg Pro Gly Glu Arg Gly Val Val Gly	95
145	100
	105
	110
	115
	120
	125
	130
	135
	140
	145
	150
	155
	160

Pro	Gln	Gly	Ala	Arg	Gly	Phe	Pro	Gly	Thr	Pro	Gly	Leu	Pro	Gly	Phe	
				165					170						175	
Lys	Gly	Ile	Arg	Gly	His	Asn	Gly	Leu	Asp	Gly	Leu	Lys	Gly	Gln	Pro	
			180					185					190			
Gly	Ala	Pro	Gly	Val	Lys	Gly	Glu	Pro	Gly	Ala	Pro	Gly	Glu	Asn	Gly	
		195					200					205				
Thr	Pro	Gly	Gln	Thr	Gly	Ala	Arg	Gly	Leu	Pro	Gly	Glu	Arg	Gly	Arg	
	210				215						220					
Val	Gly	Ala	Pro	Gly	Pro	Ala	Gly	Ala	Arg	Gly	Ser	Asp	Gly	Ser	Val	
225				230					235						240	
Gly	Pro	Val	Gly	Pro	Ala	Gly	Pro	Ile	Gly	Ser	Ala	Gly	Pro	Pro	Gly	
			245					250					255			
Phe	Pro	Gly	Ala	Pro	Gly	Pro	Lys	Gly	Glu	Ile	Gly	Ala	Val	Gly	Asn	
			260					265					270			
Ala	Gly	Pro	Ala	Gly	Pro	Ala	Gly	Pro	Arg	Gly	Glu	Val	Gly	Leu	Pro	
		275					280					285				
Gly	Leu	Ser	Gly	Pro	Val	Gly	Pro	Pro	Gly	Asn	Pro	Gly	Ala	Asn	Gly	
	290					295					300					
Leu	Thr	Gly	Ala	Lys	Gly	Ala	Ala	Gly	Leu	Pro	Gly	Val	Ala	Gly	Ala	
305				310						315					320	
Pro	Gly	Leu	Pro	Gly	Pro	Arg	Gly	Ile	Pro	Gly	Pro	Val	Gly	Ala	Ala	
				325					330					335		
Gly	Ala	Thr	Gly	Ala	Arg	Gly	Leu	Val	Gly	Glu	Pro	Gly	Pro	Ala	Gly	
			340					345					350			
Ser	Lys	Gly	Glu	Ser	Gly	Asn	Lys	Gly	Glu	Pro	Gly	Ser	Ala	Gly	Pro	
		355				360						365				
Gln	Gly	Pro	Pro	Gly	Pro	Ser	Gly	Glu	Glu	Gly	Lys	Arg	Gly	Pro	Asn	
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Ser	Pro	Gly	Ser	Arg	Gly	Leu	Pro	Gly	Ala	Asp	Gly	Arg	Ala	Gly	Val	
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Met	Gly	Pro	Pro	Gly	Ser	Arg	Gly	Ala	Ser	Gly	Pro	Ala	Gly	Val	Arg	
			420					425					430			
Gly	Pro	Asn	Gly	Asp	Ala	Gly	Arg	Pro	Gly	Glu	Pro	Gly	Leu	Met	Gly	
		435					440					445				
Pro	Arg	Gly	Leu	Pro	Gly	Ser	Pro	Gly	Asn	Ile	Gly	Pro	Ala	Gly	Lys	
	450					455					460					
Glu	Gly	Pro	Val	Gly	Leu	Pro	Gly	Ile	Asp	Gly	Arg	Pro	Gly	Pro	Ile	
465				470						475					480	
Gly	Pro	Ala	Gly	Ala	Arg	Gly	Glu	Pro	Gly	Asn	Ile	Gly	Phe	Pro	Gly	
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Pro	Lys	Gly	Pro	Thr	Gly	Asp	Pro	Gly	Lys	Asn	Gly	Asp	Lys	Gly	His	
			500					505					510			
Ala	Gly	Leu	Ala	Gly	Ala	Arg	Gly	Ala	Pro	Gly	Pro	Asp	Gly	Asn	Asn	
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Gly	Ala	Gln	Gly	Pro	Pro	Gly	Pro	Gln	Gly	Val	Gln	Gly	Gly	Lys	Gly	
	530					535					540					
Glu	Gln	Gly	Pro	Pro	Gly	Pro	Pro	Gly	Phe	Gln	Gly	Leu	Pro	Gly	Pro	
545					550					555					560	
Ser	Gly	Pro	Ala	Gly	Glu	Val	Gly	Lys	Pro	Gly	Glu	Arg	Gly	Leu	His	
				565					570					575		
Gly	Glu	Phe	Gly	Leu	Pro	Gly	Pro	Ala	Gly	Pro	Arg	Gly	Glu	Arg	Gly	
			580					585					590			

Pro	Pro	Gly	Glu	Ser	Gly	Ala	Ala	Gly	Pro	Thr	Gly	Pro	Ile	Gly	Ser
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Arg	Gly	Pro	Ser	Gly	Pro	Pro	Gly	Pro	Asp	Gly	Asn	Lys	Gly	Glu	Pro
	610					615					620				
Gly	Val	Val	Gly	Ala	Val	Gly	Thr	Ala	Gly	Pro	Ser	Gly	Pro	Ser	Gly
	625				630					635					640
Leu	Pro	Gly	Glu	Arg	Gly	Ala	Ala	Gly	Ile	Pro	Gly	Gly	Lys	Gly	Glu
				645					650					655	
Lys	Gly	Glu	Pro	Gly	Leu	Arg	Gly	Glu	Ile	Gly	Asn	Pro	Gly	Arg	Asp
			660					665					670		
Gly	Ala	Arg	Gly	Ala	Pro	Gly	Ala	Val	Gly	Ala	Pro	Gly	Pro	Ala	Gly
		675					680					685			
Ala	Thr	Gly	Asp	Arg	Gly	Glu	Ala	Gly	Ala	Ala	Gly	Pro	Ala	Gly	Pro
	690					695					700				
Ala	Gly	Pro	Arg	Gly	Ser	Pro	Gly	Glu	Arg	Gly	Glu	Val	Gly	Pro	Ala
	705				710					715					720
Gly	Pro	Asn	Gly	Phe	Ala	Gly	Pro	Ala	Gly	Ala	Ala	Gly	Gln	Pro	Gly
				725					730					735	
Ala	Lys	Gly	Glu	Arg	Gly	Ala	Lys	Gly	Pro	Lys	Gly	Glu	Asn	Gly	Val
			740					745					750		
Val	Gly	Pro	Thr	Gly	Pro	Val	Gly	Ala	Ala	Gly	Pro	Ala	Gly	Pro	Asn
		755					760					765			
Gly	Pro	Pro	Gly	Pro	Ala	Gly	Ser	Arg	Gly	Asp	Gly	Gly	Pro	Pro	Gly
	770					775					780				
Met	Thr	Gly	Phe	Pro	Gly	Ala	Ala	Gly	Arg	Thr	Gly	Pro	Pro	Gly	Pro
	785				790					795					800
Ser	Gly	Ile	Ser	Gly	Pro	Pro	Gly	Pro	Pro	Gly	Pro	Ala	Gly	Lys	Glu
				805					810					815	
Gly	Leu	Arg	Gly	Pro	Arg	Gly	Asp	Gln	Gly	Pro	Val	Gly	Arg	Thr	Gly
			820					825					830		
Glu	Val	Gly	Ala	Val	Gly	Pro	Pro	Gly	Phe	Ala	Gly	Glu	Lys	Gly	Pro
		835					840					845			
Ser	Gly	Glu	Ala	Gly	Thr	Ala	Gly	Pro	Pro	Gly	Thr	Pro	Gly	Pro	Gln
		850				855					860				
Gly	Leu	Leu	Gly	Ala	Pro	Gly	Ile	Leu	Gly	Leu	Pro	Gly	Ser	Arg	Gly
					870					875					880
Glu	Arg	Gly	Leu	Pro	Gly	Val	Ala	Gly	Ala	Val	Gly	Glu	Pro	Gly	Pro
				885					890					895	
Leu	Gly	Ile	Ala	Gly	Pro	Pro	Gly	Ala	Arg	Gly	Pro	Pro	Gly	Ala	Val
			900					905					910		
Gly	Ser	Pro	Gly	Val	Asn	Gly	Ala	Pro	Gly	Glu	Ala	Gly	Arg	Asp	Gly
		915					920					925			
Asn	Pro	Gly	Asn	Asp	Gly	Pro	Pro	Gly	Arg	Asp	Gly	Gln	Pro	Gly	His
		930				935					940				
Lys	Gly	Glu	Arg	Gly	Tyr	Pro	Gly	Asn							

His Asn Gly Leu Gln Gly Leu Pro Gly Ile Ala Gly His His Gly Asp
 1025 1030 1035 1040
 Gln Gly Ala Pro Gly Ser Val Gly Pro Ala Gly Pro Arg Gly Pro Ala
 1045 1050 1055
 Gly Pro Ser Gly Pro Ala Gly Lys Asp Gly Arg Thr Gly His Pro Gly
 1060 1065 1070
 Thr Val Gly Pro Ala Gly Ile Arg Gly Pro Gln Gly His Gln Gly Pro
 1075 1080 1085
 Ala Gly Pro Pro Gly Pro Pro Gly Pro Pro Gly Pro Gly Val Ser
 1090 1095 1100
 Gly Gly Gly Tyr Asp Phe Gly Tyr Asp Gly Asp Phe Tyr Arg Ala Asp
 1105 1110 1115 1120
 Gln Pro Arg Ser Ala Pro Ser Leu Arg Pro Lys Asp Tyr Glu Val Asp
 1125 1130 1135
 Ala Thr Leu Lys Ser Leu Asn Asn Gln Ile Glu Thr Leu Leu Thr Pro
 1140 1145 1150
 Glu Gly Ser Arg Lys Asn Pro Ala Arg Thr Cys Arg Asp Leu Arg Leu
 1155 1160 1165
 Ser His Pro Glu Trp Ser Ser Gly Tyr Tyr Trp Ile Asp Pro Asn Gln
 1170 1175 1180
 Gly Cys Thr Met Asp Ala Ile Lys Val Tyr Cys Asp Phe Ser Thr Gly
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 Glu Thr Cys Ile Arg Ala Gln Pro Glu Asn Ile Pro Ala Lys Asn Trp
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 Tyr Arg Ser Ser Lys Asp Lys Lys His Val Trp Leu Gly Glu Thr Ile
 1220 1225 1230
 Asn Ala Gly Ser Gln Phe Glu Tyr Asn Val Glu Gly Val Thr Ser Lys
 1235 1240 1245
 Glu Met Ala Thr Gln Leu Ala Phe Met Arg Leu Leu Ala Asn Tyr Ala
 1250 1255 1260
 Ser Gln Asn Ile Thr Tyr His Cys Lys Asn Ser Ile Ala Tyr Met Asp
 1265 1270 1275 1280
 Glu Glu Thr Gly Asn Leu Lys Lys Ala Val Ile Leu Gln Gly Ser Asn
 1285 1290 1295
 Asp Val Glu Leu Val Ala Glu Gly Asn Ser Arg Phe Thr Tyr Thr Val
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 Leu Val Asp Gly Cys Ser Lys Lys Thr Asn Glu Trp Gly Lys Thr Ile
 1315 1320 1325
 Ile Glu Tyr Lys Thr Asn Lys Pro Ser Arg Leu Pro Phe Leu Asp Ile
 1330 1335 1340
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<210> 17

<211> 1466

<212> PRT

<213> Homo sapiens

<400> 17

Met Met Ser Phe Val Gln Lys Gly Ser Trp Leu Leu Leu Ala Leu Leu
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Ser	His	Leu	Gly	Gln	Ser	Tyr	Ala	Asp	Arg	Asp	Val	Trp	Lys	Pro	Glu
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Pro	Cys	Gln	Ile	Cys	Val	Cys	Asp	Ser	Gly	Ser	Val	Leu	Cys	Asp	Asp
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Ile	Ile	Cys	Asp	Asp	Gln	Glu	Leu	Asp	Cys	Pro	Asn	Pro	Glu	Ile	Pro
65					70					75				80	
Phe	Gly	Glu	Cys	Cys	Ala	Val	Cys	Pro	Gln	Pro	Pro	Thr	Ala	Pro	Thr
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Arg	Pro	Pro	Asn	Gly	Gln	Gly	Pro	Gln	Gly	Pro	Lys	Gly	Asp	Pro	Gly
			100					105					110		
Pro	Pro	Gly	Ile	Pro	Gly	Arg	Asn	Gly	Asp	Pro	Gly	Ile	Pro	Gly	Gln
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Pro	Gly	Ser	Pro	Gly	Ser	Pro	Gly	Pro	Pro	Gly	Ile	Cys	Glu	Ser	Cys
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Pro	Thr	Gly	Pro	Gln	Asn	Tyr	Ser	Pro	Gln	Tyr	Asp	Ser	Tyr	Asp	Val
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Lys	Ser	Gly	Val	Ala	Val	Gly	Gly	Leu	Ala	Gly	Tyr	Pro	Gly	Pro	Ala
				165					170					175	
Gly	Pro	Pro	Gly	Pro	Pro	Gly	Pro	Pro	Gly	Thr	Ser	Gly	His	Pro	Gly
			180					185					190		
Ser	Pro	Gly	Ser	Pro	Gly	Tyr	Gln	Gly	Pro	Pro	Gly	Glu	Pro	Gly	Gln
		195					200					205			
Ala	Gly	Pro	Ser	Gly	Pro	Pro	Gly	Pro	Pro	Gly	Ala	Ile	Gly	Pro	Ser
	210					215					220				
Gly	Pro	Ala	Gly	Lys	Asp	Gly	Glu	Ser	Gly	Arg	Pro	Gly	Arg	Pro	Gly
225				230						235					240
Glu	Arg	Gly	Leu	Pro	Gly	Pro	Pro	Gly	Ile	Lys	Gly	Pro	Ala	Gly	Ile
			245						250					255	
Pro	Gly	Phe	Pro	Gly	Met	Lys	Gly	His	Arg	Gly	Phe	Asp	Gly	Arg	Asn
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Gly	Glu	Lys	Gly	Glu	Thr	Gly	Ala	Pro	Gly	Leu	Lys	Gly	Glu	Asn	Gly
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Leu	Pro	Gly	Glu	Asn	Gly	Ala	Pro	Gly	Pro	Met	Gly	Pro	Arg	Gly	Ala
	290					295					300				
Pro	Gly	Glu	Arg	Gly	Arg	Pro	Gly	Leu	Pro	Gly	Ala	Ala	Gly	Ala	Arg
305				310							315				320
Gly	Asn	Asp	Gly	Ala	Arg	Gly	Ser	Asp	Gly	Gln	Pro	Gly	Pro	Pro	Gly
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Pro	Pro	Gly	Thr	Ala	Gly	Phe	Pro	Gly	Ser	Pro	Gly	Ala	Lys	Gly	Glu
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Val	Gly	Pro	Ala	Gly	Ser	Pro	Gly	Ser	Asn	Gly	Ala	Pro	Gly	Gln	Arg
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Gly	Glu	Pro	Gly	Pro	Gln	Gly	His	Ala	Gly	Ala	Gln	Gly	Pro	Pro	Gly
	370					375					380				

450		455		460
Gly Lys Asp Gly Ser Pro	Gly Glu Pro Gly Ala Asn Gly Leu Pro Gly			
465	470	475	480	
Ala Ala Gly Glu Arg Gly	Ala Pro Gly Phe Arg Gly Pro Ala Gly Pro			
485	490	495		
Asn Gly Ile Pro Gly Glu Lys Gly	Pro Ala Gly Glu Arg Gly Ala Pro			
500	505	510		
Gly Pro Ala Gly Pro Arg Gly	Ala Ala Gly Glu Pro Gly Arg Asp Gly			
515	520	525		
Val Pro Gly Gly Pro Gly Met	Arg Gly Met Pro Gly Ser Pro Gly Gly			
530	535	540		
Pro Gly Ser Asp Gly Lys Pro	Gly Pro Pro Gly Ser Gln Gly Glu Ser			
545	550	555	560	
Gly Arg Pro Gly Pro Pro Gly	Pro Ser Gly Pro Arg Gly Gln Pro Gly			
565	570	575		
Val Met Gly Phe Pro Gly Pro	Lys Gly Asn Asp Gly Ala Pro Gly Lys			
580	585	590		
Asn Gly Glu Arg Gly Gly Pro	Gly Gly Pro Gly Pro Gln Gly Pro Pro			
595	600	605		
Gly Lys Asn Gly Glu Thr Gly	Pro Gln Gly Pro Pro Gly Pro Thr Gly			
610	615	620		
Pro Gly Gly Asp Lys Gly Asp	Thr Gly Pro Pro Gly Pro Gln Gly Leu			
625	630	635	640	
Gln Gly Leu Pro Gly Thr Gly	Gly Gly Pro Pro Gly Glu Asn Gly Lys Pro			
645	650	655		
Gly Glu Pro Gly Pro Lys Gly	Asp Ala Gly Ala Pro Gly Ala Pro Gly			
660	665	670		
Gly Lys Gly Asp Ala Gly Ala	Pro Gly Glu Arg Gly Pro Pro Gly Leu			
675	680	685		
Ala Gly Ala Pro Gly Leu Arg	Gly Gly Ala Gly Pro Pro Gly Pro Glu			
690	695	700		
Gly Gly Lys Gly Ala Ala Gly	Pro Pro Gly Pro Pro Gly Ala Ala Gly			
705	710	715	720	
Thr Pro Gly Leu Gln Gly Met	Pro Gly Glu Arg Gly Gly Leu Gly Ser			
725	730	735		
Pro Gly Pro Lys Gly Asp Lys	Gly Glu Pro Gly Gly Pro Gly Ala Asp			
740	745	750		
Gly Val Pro Gly Lys Asp Gly	Pro Arg Gly Pro Thr Gly Pro Ile Gly			
755	760	765		
Pro Pro Gly Pro Ala Gly Gln	Pro Gly Asp Lys Gly Glu Gly Gly Ala			
770	775	780		
Pro Gly Leu Pro Gly Ile Ala	Gly Pro Arg Gly Ser Pro Gly Glu Arg			
785	790	795	800	
Gly Glu Thr Gly Pro Pro Gly	Pro Ala Gly Phe Pro Gly Ala Pro Gly			
805	810	815		
Gln Asn Gly Glu Pro Gly Gly	Lys Gly Glu Arg Gly Ala Pro Gly Glu			
820	825	830		
Lys Gly Glu Gly Gly Pro Pro	Gly Val Ala Gly Pro Pro Gly Gly Ser			
835	840	845		
Gly Pro Ala Gly Pro Pro Gly	Pro Gln Gly Val Lys Gly Glu Arg Gly			
850	855	860		
Ser Pro Gly Gly Pro Gly Ala	Ala Gly Phe Pro Gly Ala Arg Gly Leu			
865	870	875	880	
Pro Gly Pro Pro Gly Ser Asn	Gly Asn Pro Gly Pro Pro Gly Pro Ser			

			885					890					895				
Gly	Ser	Pro	Gly	Lys	Asp	Gly	Pro	Pro	Gly	Pro	Ala	Gly	Asn	Thr	Gly		
			900					905					910				
Ala	Pro	Gly	Ser	Pro	Gly	Val	Ser	Gly	Pro	Lys	Gly	Asp	Ala	Gly	Gln		
			915					920					925				
Pro	Gly	Glu	Lys	Gly	Ser	Pro	Gly	Ala	Gln	Gly	Pro	Pro	Gly	Ala	Pro		
			930					935					940				
Gly	Pro	Leu	Gly	Ile	Ala	Gly	Ile	Thr	Gly	Ala	Arg	Gly	Leu	Ala	Gly		
			945					950					955				
Pro	Pro	Gly	Met	Pro	Gly	Pro	Arg	Gly	Ser	Pro	Gly	Pro	Gln	Gly	Val		
			965					970					975				
Lys	Gly	Glu	Ser	Gly	Lys	Pro	Gly	Ala	Asn	Gly	Leu	Ser	Gly	Glu	Arg		
			980					985					990				
Gly	Pro	Pro	Gly	Pro	Gln	Gly	Leu	Pro	Gly	Leu	Ala	Gly	Thr	Ala	Gly		
			995					1000					1005				
Glu	Pro	Gly	Arg	Asp	Gly	Asn	Pro	Gly	Ser	Asp	Gly	Leu	Pro	Gly	Arg		
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			1075					1080					1085				
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			1170					1175					1180				
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			1205					1210					1215				
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			1235					1240					1245				
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			1250					1255					1260				
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Gln	Gly	Pro	Lys	Gly	Asp	Lys	Gly	Asp	Gln	Gly	Val	Ser	Gly	Pro	Pro	225	230	235	240
Gly	Val	Pro	Gly	Gln	Ala	Gln	Val	Gln	Glu	Lys	Gly	Asp	Phe	Ala	Thr	245	250	255	
Lys	Gly	Glu	Lys	Gly	Gln	Lys	Gly	Glu	Pro	Gly	Phe	Gln	Gly	Met	Pro	260	265	270	
Gly	Val	Gly	Glu	Lys	Gly	Glu	Pro	Gly	Lys	Pro	Gly	Pro	Arg	Gly	Lys	275	280	285	
Pro	Gly	Lys	Asp	Gly	Asp	Lys	Gly	Glu	Lys	Gly	Ser	Pro	Gly	Phe	Pro	290	295	300	
Gly	Glu	Pro	Gly	Tyr	Pro	Gly	Leu	Ile	Gly	Arg	Gln	Gly	Pro	Gln	Gly	305	310	315	320
Glu	Lys	Gly	Glu	Ala	Gly	Pro	Pro	Gly	Pro	Pro	Gly	Ile	Val	Ile	Gly	325	330	335	
Thr	Gly	Pro	Leu	Gly	Glu	Lys	Gly	Glu	Arg	Gly	Tyr	Pro	Gly	Thr	Pro	340	345	350	
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Gln	Pro	Gly	Pro	Pro	Gly	Leu	Pro	Val	Pro	Gly	Gln	Ala	Gly	Ala	Pro	370	375	380	
Gly	Phe	Pro	Gly	Glu	Arg	Gly	Glu	Lys	Gly	Asp	Arg	Gly	Phe	Pro	Gly	385	390	395	400
Thr	Ser	Leu	Pro	Gly	Pro	Ser	Gly	Arg	Asp	Gly	Leu	Pro	Gly	Pro	Pro	405	410	415	
Gly	Ser	Pro	Gly	Pro	Pro	Gly	Gln	Pro	Gly	Tyr	Thr	Asn	Gly	Ile	Val	420	425	430	
Glu	Cys	Gln	Pro	Gly	Pro	Pro	Gly	Asp	Gln	Gly	Pro	Pro	Gly	Ile	Pro	435	440	445	
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Glu	Ser	Cys	Leu	Ile	Cys	Asp	Ile	Asp	Gly	Tyr	Arg	Gly	Pro	Pro	Gly	465	470	475	480
Pro	Gln	Gly	Pro	Pro	Gly	Glu	Ile	Gly	Phe	Pro	Gly	Gln	Pro	Gly	Ala	485	490	495	
Lys	Gly	Asp	Arg	Gly	Leu	Pro	Gly	Arg	Asp	Gly	Val	Ala	Gly	Val	Pro	500	505	510	
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Glu	Pro	Gly	Glu	Phe	Tyr	Phe	Asp	Leu	Arg	Leu	Lys	Gly	Asp	Lys	Gly	530	535	540	
Asp	Pro	Gly	Phe	Pro	Gly	Gln	Pro	Gly	Met	Pro	Gly	Arg	Ala	Gly	Ser	545	550	555	560
Pro	Gly	Arg	Asp	Gly	His	Pro	Gly	Leu	Pro	Gly	Pro	Lys	Gly	Ser	Pro	565	570	575	
Gly	Ser	Val	Gly	Leu	Lys	Gly	Glu	Arg	Gly	Pro	Pro	Gly	Gly	Val	Gly	580	585	590	
Phe	Pro	Gly	Ser	Arg	Gly	Asp	Thr	Gly	Pro	Pro	Gly	Pro	Pro	Gly	Tyr	595	600	605	
Gly	Pro	Ala	Gly	Pro	Ile	Gly	Asp	Lys	Gly	Gln	Ala	Gly	Phe	Pro	Gly	610	615	620	
Gly	Pro	Gly	Ser	Pro	Gly	Leu	Pro	Gly	Pro	Lys	Gly	Glu	Pro	Gly	Lys	625	630	635	640
Ile	Val	Pro	Leu	Pro	Gly	Pro	Pro	Gly	Ala	Glu	Gly	Leu	Pro	Gly	Ser	645	650	655	

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Gly	Arg	Pro	Gly	Leu	Pro	Gly	Glu	Lys	Gly	Ala	Val	Gly	Gln	Pro	Gly		
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Ile	Gly	Phe	Pro	Gly	Pro	Pro	Gly	Pro	Lys	Gly	Val	Asp	Gly	Leu	Pro		
	690					695					700						
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Ile	Gly	Pro	Pro	Gly	Ala	Arg	Gly	Pro	Pro	Gly	Gly	Gln	Gly	Pro	Pro		
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Phe	Pro	Gly	Leu	Asp	Met	Pro	Gly	Pro	Lys	Gly	Asp	Lys	Gly	Ala	Gln		
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Val	Gly	Leu	Pro	Gly	Lys	Pro	Gly	Ser	Met	Asp	Lys	Val	Asp	Met	Gly		
	930					935					940						
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		995					1000					1005					
Pro	Lys	Gly	Ser	Val	Gly	Gly	Met	Gly	Leu	Pro	Gly	Thr	Pro	Gly	Glu		
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Val	Gly	Tyr	Pro	Gly	Ser	Pro	Gly	Leu	Pro	Gly	Glu	Lys	Gly	Asp	Lys
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Gly	Leu	Pro	Gly	Leu	Asp	Gly	Ile	Pro	Gly	Val	Lys	Gly	Glu	Ala	Gly
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Lys	Gly	Ser	Lys	Gly	Glu	Val	Gly	Phe	Pro	Gly	Leu	Ala	Gly	Ser	Pro
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Gly	Ile	Pro	Gly	Ser	Lys	Gly	Glu	Gln	Gly	Phe	Met	Gly	Pro	Pro	Gly
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Pro	Gln	Gly	Gln	Pro	Gly	Leu	Pro	Gly	Ser	Pro	Gly	His	Ala	Thr	Glu
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Glu Glu Ala Ile Ser	Gln Thr Ile Asp Thr	Ile Val Asp Met Ile Lys		
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Asn Asn Val Glu Gln	Val Cys Cys Ser Phe	Glu Cys Gln Pro Ala Arg		
245	250	255		
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260	265	270		
Lys Pro Gly Leu Pro	Gly Glu Lys Gly Glu	Ala Gly Asp Pro Gly Arg		
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Pro Gly Asp Leu Gly	Pro Val Gly Tyr Gln	Gly Met Lys Gly Glu Lys		
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Gly Ser Arg Gly Glu	Lys Gly Ser Arg Gly	Pro Lys Gly Tyr Lys Gly		
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Glu Lys Gly Lys Arg	Gly Ile Asp Gly Val	Asp Gly Val Lys Gly Glu		
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Met Gly Tyr Pro Gly	Leu Pro Gly Cys Lys	Gly Ser Pro Gly Phe Asp		
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Gly Ile Gln Gly Pro	Pro Gly Pro Lys Gly	Asp Pro Gly Ala Phe Gly		
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Leu Lys Gly Glu Lys	Gly Glu Pro Gly Ala	Asp Gly Glu Ala Gly Arg		
370	375	380		
Pro Gly Ser Ser Gly	Pro Ser Gly Asp Glu	Gly Gln Pro Gly Glu Pro		
385	390	395	400	
Gly Pro Pro Gly Glu	Lys Gly Glu Ala Gly	Asp Glu Gly Asn Pro Gly		
405	410	415		
Pro Asp Gly Ala Pro	Gly Glu Arg Gly Gly	Pro Gly Glu Arg Gly Pro		
420	425	430		
Arg Gly Thr Pro Gly	Thr Arg Gly Pro Arg	Gly Asp Pro Gly Glu Ala		
435	440	445		
Gly Pro Gln Gly Asp	Gln Gly Arg Glu Gly	Pro Val Gly Val Pro Gly		
450	455	460		
Asp Pro Gly Glu Ala	Gly Pro Ile Gly Pro	Lys Gly Tyr Arg Gly Asp		
465	470	475	480	
Glu Gly Pro Pro Gly	Ser Glu Gly Ala Arg	Gly Ala Pro Gly Pro Ala		
485	490	495		
Gly Pro Pro Gly Asp	Pro Gly Leu Met Gly	Glu Arg Gly Glu Asp Gly		
500	505	510		
Pro Ala Gly Asn Gly	Thr Glu Gly Phe Pro	Gly Phe Pro Gly Tyr Pro		
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Gly Asn Arg Gly Ala	Pro Gly Ile Asn Gly	Thr Lys Gly Tyr Pro Gly		
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Leu Lys Gly Asp Glu	Gly Gly Glu Ala Gly	Asp Pro Gly Asp Asp Asn Asn		
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Asp Ile Ala Pro Arg	Gly Val Lys Gly Ala	Lys Gly Tyr Arg Gly Pro		
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Glu Gly Pro Gln Gly	Pro Pro Gly His Gln	Gly Pro Pro Gly Pro Asp		
580	585	590		
Glu Cys Glu Ile Leu	Asp Ile Ile Met Lys	Met Cys Ser Cys Cys Glu		
595	600	605		
Cys Lys Cys Gly Pro	Ile Asp Leu Leu Phe	Val Leu Asp Ser Ser Glu		
610	615	620		
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Val Ile Asp Arg Leu	Ser Arg Asp Glu Leu	Val Lys Phe Glu Pro Gly		

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Glu	Ala	Ile	Lys	Ser	Leu	Gln	Trp	Met	Ala	Gly	Gly	Thr	Phe	Thr	Gly
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Glu	Ala	Leu	Gln	Tyr	Thr	Arg	Asp	Gln	Leu	Leu	Pro	Pro	Ser	Pro	Asn
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Phe	Leu	Lys	Asn	Val	Thr	Ala	Gln	Ile	Cys	Ile	Asp	Lys	Lys	Cys	Pro
			805						810					815	
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			820					825					830		
Leu	Leu	Asp	Gly	Ser	Ala	Ser	Val	Gly	Ser	His	Asn	Phe	Asp	Thr	Thr
		835					840					845			
Lys	Arg	Phe	Ala	Lys	Arg	Leu	Ala	Glu	Arg	Phe	Leu	Thr	Ala	Gly	Arg
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Thr	Gly	Gln	Gln	Arg	Pro	Glu	Arg	Ala	Ser	Leu	Gln	Phe	Leu	Gln	Asn
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Tyr	Thr	Ala	Leu	Ala	Ser	Ala	Val	Asp	Ala	Met	Asp	Phe	Ile	Asn	Asp
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Glu	Ala	Gln	Arg	Ala	Gly	Ile	Glu	Ile	Phe	Val	Val	Val	Val	Gly	Arg
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<210> 20

<211> 2944

<212> PRT

<213> Homo sapiens

<400> 20

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Arg	Leu	Tyr	Ala	Ala	Asp	Ile	Val	Phe	Leu	Leu	Asp	Gly	Ser	Ser	Ser
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Val	Leu	Pro	Phe	Ser	Gly	Ala	Ala	Ser	Ala	Gln	Gly	Val	Arg	Phe	Ala
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Thr	Val	Gln	Tyr	Ser	Asp	Asp	Pro	Arg	Thr	Glu	Phe	Gly	Leu	Asp	Ala
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Leu	Gly	Ser	Gly	Gly	Asp	Val	Ile	Arg	Ala	Ile	Arg	Glu	Leu	Ser	Tyr
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Lys	Gly	Gly	Asn	Thr	Arg	Thr	Gly	Ala	Ala	Ile	Leu	His	Val	Ala	Asp
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His	Val	Phe	Leu	Pro	Gln	Leu	Ala	Arg	Pro	Gly	Val	Pro	Lys	Val	Cys
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Gln	Arg	Leu	Lys	Gly	Gln	Gly	Val	Lys	Leu	Phe	Ala	Val	Gly	Ile	Lys
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Asp	Phe	Phe	Phe	Phe	Val	Asn	Asp	Phe	Ser	Ile	Leu	Arg	Thr	Leu	Leu
		195					200					205			
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Ser	Glu	Pro	Ser	Ser	Gln	Ser	Leu	Arg	Val	Gln	Trp	Thr	Ala	Ala	Ser
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Glu	Thr	Ser	Val	Arg	Leu	Arg	Gly	Leu	Arg	Pro	Leu	Thr	Glu	Tyr	Gln
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Val	Thr	Val	Ile	Ala	Leu	Tyr	Ala	Asn	Ser	Ile	Gly	Glu	Ala	Val	Ser
305					310					315					320
Gly	Thr	Ala	Arg	Thr	Thr	Ala	Leu	Glu	Gly	Pro	Glu	Leu	Thr	Ile	Gln
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Gln	Gln	Gln	Glu	Leu	Gly	Pro	Gly	Gln	Gly	Ser	Val	Leu	Leu	Arg	Asp
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Leu	Glu	Pro	Gly	Thr	Asp	Tyr	Glu	Val	Thr	Val	Ser	Thr	Leu	Phe	Gly
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Arg	Ser	Val	Gly	Pro	Ala	Thr	Ser	Leu	Met	Ala	Arg	Thr	Asp	Ala	Ser
				405					410					415	

Val	Glu	Gln	Thr	Leu	Arg	Pro	Val	Ile	Leu	Gly	Pro	Thr	Ser	Ile	Leu	
			420					425					430			
Leu	Ser	Trp	Asn	Leu	Val	Pro	Glu	Ala	Arg	Gly	Tyr	Arg	Leu	Glu	Trp	
		435					440					445				
Arg	Arg	Glu	Thr	Gly	Leu	Glu	Pro	Pro	Gln	Lys	Val	Val	Leu	Pro	Ser	
		450				455					460					
Asp	Val	Thr	Arg	Tyr	Gln	Leu	Asp	Gly	Leu	Gln	Pro	Gly	Thr	Glu	Tyr	
465					470					475					480	
Arg	Leu	Thr	Leu	Tyr	Thr	Leu	Leu	Glu	Gly	His	Glu	Val	Ala	Thr	Pro	
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Ala	Thr	Val	Val	Pro	Thr	Gly	Pro	Glu	Leu	Pro	Val	Ser	Pro	Val	Thr	
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Asp	Leu	Gln	Ala	Thr	Glu	Leu	Pro	Gly	Gln	Arg	Val	Arg	Val	Ser	Trp	
		515					520					525				
Ser	Pro	Val	Pro	Gly	Ala	Thr	Gln	Tyr	Arg	Ile	Ile	Val	Arg	Ser	Thr	
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Gln	Gly	Val	Glu	Arg	Thr	Leu	Val	Leu	Pro	Gly	Ser	Gln	Thr	Ala	Phe	
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Asp	Leu	Asp	Asp	Val	Gln	Ala	Gly	Leu	Ser	Tyr	Thr	Val	Arg	Val	Ser	
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Ala	Arg	Val	Gly	Pro	Arg	Glu	Gly	Ser	Ala	Ser	Val	Leu	Thr	Val	Arg	
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Ser	Asp	Ala	Thr	Arg	Val	Arg	Val	Ala	Trp	Gly	Pro	Val	Pro	Gly	Ala	
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Ser	Gly	Phe	Arg	Ile	Ser	Trp	Ser	Thr	Gly	Ser	Gly	Pro	Glu	Ser	Ser	
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Gln	Thr	Leu	Pro	Pro	Asp	Ser	Thr	Ala	Thr	Asp	Ile	Thr	Gly	Leu	Gln	
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Pro	Gly	Thr	Thr	Tyr	Gln	Val	Ala	Val	Ser	Val	Leu	Arg	Gly	Arg	Glu	
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Glu	Gly	Pro	Ala	Ala	Val	Ile	Val	Ala	Arg	Thr	Asp	Pro	Leu	Gly	Pro	
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Val	Arg	Thr	Val	His	Val	Thr	Gln	Ala	Ser	Ser	Ser	Ser	Val	Thr	Ile	
						695					700					
Thr	Trp	Thr	Arg	Val	Pro	Gly	Ala	Thr	Gly	Tyr	Arg	Val	Ser	Trp	His	
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Ser	Ala	His	Gly	Pro	Glu	Lys	Ser	Gln	Leu	Val	Ser	Gly	Glu	Ala	Thr	
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Val	Ala	Glu	Leu	Asp	Gly	Leu	Glu	Pro	Asp	Thr	Glu	Tyr	Thr	Val	His	
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Val	Arg	Ala	His	Val	Ala	Gly	Val	Asp	Gly	Pro	Pro	Ala	Ser	Val	Val	
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Val	Arg	Thr	Ala	Pro	Glu	Pro	Val	Gly	Arg	Val	Ser	Arg	Leu	Gln	Ile	
		770				775					780					
Leu	Asn	Ala	Ser	Ser	Asp	Val	Leu	Arg	Ile	Thr	Trp	Val	Gly	Val	Thr	
785					790					795					800	
Gly	Ala	Thr	Ala	Tyr	Arg	Leu	Ala	Trp	Gly	Arg	Ser	Glu	Gly	Gly	Pro	
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Met	Arg	His	Gln	Ile	Leu	Pro	Gly	Asn	Thr	Asp	Ser	Ala	Glu	Ile	Arg	
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Gly	Leu	Glu	Gly	Gly	Val	Ser	Tyr	Ser	Val	Arg	Val	Thr	Ala	Leu	Val	
		835					840						845			

Gly 850	Asp	Arg	Glu	Gly	Thr	Pro	Val	Ser	Ile	Val	Val	Thr	Thr	Pro	Pro
Glu 865	Ala	Pro	Pro	Ala	Leu	Gly	Thr	Leu	His	Val	Val	Gln	Arg	Gly	Glu
His 885	Ser	Leu	Arg	Leu	Arg	Trp	Glu	Pro	Val	Pro	Arg	Ala	Gln	Gly	Phe
Leu 900	Leu	His	Trp	Gln	Pro	Glu	Gly	Gly	Gln	Glu	Gln	Ser	Arg	Val	Leu
Gly 915	Pro	Glu	Leu	Ser	Ser	Tyr	His	Leu	Asp	Gly	Leu	Glu	Pro	Ala	Thr
Gln 930	Tyr	Arg	Val	Arg	Leu	Ser	Val	Leu	Gly	Pro	Ala	Gly	Glu	Gly	Pro
Ser 945	Ala	Glu	Val	Thr	Ala	Arg	Thr	Glu	Ser	Pro	Arg	Val	Pro	Ser	Ile
Glu 965	Leu	Arg	Val	Val	Asp	Thr	Ser	Ile	Asp	Ser	Val	Thr	Leu	Ala	Trp
Thr 980	Pro	Val	Ser	Arg	Ala	Ser	Ser	Tyr	Ile	Leu	Ser	Trp	Arg	Pro	Leu
Arg 995	Gly	Pro	Gly	Gln	Glu	Val	Pro	Gly	Ser	Pro	Gln	Thr	Leu	Pro	Gly
Ile 1010	Ser	Ser	Ser	Gln	Arg	Val	Thr	Gly	Leu	Glu	Pro	Gly	Val	Ser	Tyr
Ile 1025	Phe	Ser	Leu	Thr	Pro	Val	Leu	Asp	Gly	Val	Arg	Gly	Pro	Glu	Ala
Ser 1045	Val	Thr	Gln	Thr	Pro	Val	Cys	Pro	Arg	Gly	Leu	Ala	Asp	Val	Val
Phe 1060	Leu	Pro	His	Ala	Thr	Gln	Asp	Asn	Ala	His	Arg	Ala	Glu	Ala	Thr
Arg 1075	Arg	Val	Leu	Glu	Arg	Leu	Val	Leu	Ala	Leu	Gly	Pro	Leu	Gly	Pro
Gln 1090	Ala	Val	Gln	Val	Gly	Leu	Leu	Ser	Tyr	Ser	His	Arg	Pro	Ser	Pro
Leu 1105	Phe	Pro	Leu	Asn	Gly	Ser	His	Asp	Leu	Gly	Ile	Ile	Leu	Gln	Arg
Ile 1125	Arg	Asp	Met	Pro	Tyr	Met	Asp	Pro	Ser	Gly	Asn	Asn	Leu	Gly	Thr
Ala 1140	Val	Val	Thr	Ala	His	Arg	Tyr	Met	Leu	Ala	Pro	Asp	Ala	Pro	Gly
Arg 1155	Arg	Gln	His	Val	Pro	Gly	Val	Met	Val	Leu	Leu	Val	Asp	Glu	Pro
Leu 1170	Arg	Gly	Asp	Ile	Phe	Ser	Pro	Ile	Arg	Glu	Ala	Gln	Ala	Ser	Gly
Leu 1185	Asn	Val	Val	Met	Leu	Gly	Met	Ala	Gly	Ala	Asp	Pro	Glu	Gln	Leu
Arg 1205	Arg	Leu	Ala	Pro	Gly	Met	Asp	Ser	Val	Gln	Thr	Phe	Phe	Ala	Val
Asp 1220	Asp	Gly	Pro	Ser	Leu	Asp	Gln	Ala	Val	Ser	Gly	Leu	Ala	Thr	Ala
Leu 1235	Cys	Gln	Ala	Ser	Phe	Thr	Thr	Gln	Pro	Arg	Pro	Glu	Pro	Cys	Pro
Val 1250	Tyr	Cys	Pro	Lys	Gly	Gln	Lys	Gly	Glu	Pro	Gly	Glu	Met	Gly	Leu
Arg 1265	Gly	Gln	Val	Gly	Pro	Pro	Gly	Asp	Pro	Gly	Leu	Pro	Gly	Arg	Thr

Gly	Ala	Pro	Gly	Pro	Gln	Gly	Pro	Pro	Gly	Ser	Ala	Thr	Ala	Lys	Gly	
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Glu	Arg	Gly	Phe	Pro	Gly	Ala	Asp	Gly	Arg	Pro	Gly	Ser	Pro	Gly	Arg	
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Ala	Gly	Asn	Pro	Gly	Thr	Pro	Gly	Ala	Pro	Gly	Leu	Lys	Gly	Ser	Pro	
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Pro	Lys	Gly	Glu	Pro	Gly	Ala	Pro	Gly	Gln	Val	Ile	Gly	Gly	Glu	Gly	
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Pro	Gly	Leu	Pro	Gly	Arg	Lys	Gly	Asp	Pro	Gly	Pro	Ser	Gly	Pro	Pro	
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Gly	Pro	Arg	Gly	Pro	Leu	Gly	Asp	Pro	Gly	Pro	Arg	Gly	Pro	Pro	Gly	
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Leu	Pro	Gly	Thr	Ala	Met	Lys	Gly	Asp	Lys	Gly	Asp	Arg	Gly	Glu	Arg	
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Gly	Pro	Pro	Gly	Pro	Gly	Glu	Gly	Gly	Ile	Ala	Pro	Gly	Glu	Pro	Gly	
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Pro	Gly	Ala	Ile	Gly	Pro	Lys	Gly	Asp	Arg	Gly	Phe	Pro	Gly	Pro	Leu	
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Gly	Glu	Ala	Gly	Glu	Lys	Gly	Glu	Arg	Gly	Pro	Pro	Gly	Pro	Ala	Gly	
	1490					1495				1500						
Ser	Arg	Gly	Leu	Pro	Gly	Val	Ala	Gly	Arg	Pro	Gly	Ala	Lys	Gly	Pro	
1505					1510					1515				1520		
Glu	Gly	Pro	Pro	Gly	Pro	Thr	Gly	Arg	Gln	Gly	Glu	Lys	Gly	Glu	Pro	
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Gly	Arg	Pro	Gly	Asp	Pro	Ala	Val	Val	Gly	Pro	Ala	Val	Ala	Gly	Pro	
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Lys	Gly	Glu	Lys	Gly	Asp	Val	Gly	Pro	Ala	Gly	Pro	Arg	Gly	Ala	Thr	
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Gly	Val	Gln	Gly	Glu	Arg	Gly	Pro	Pro	Gly	Leu	Val	Leu	Pro	Gly	Asp	
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Pro	Gly	Pro	Lys	Gly	Asp	Pro	Gly	Asp	Arg	Gly	Pro	Ile	Gly	Leu	Thr	
1585					1590				1595					1600		
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Asp	Pro	Gly	Arg	Pro	Gly	Pro	Pro	Gly	Pro	Val	Gly	Pro	Arg	Gly	Arg	
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Asp	Gly	Glu	Val	Gly	Glu	Lys	Gly	Asp	Glu	Gly	Pro	Pro	Gly	Asp	Pro	
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Pro Gly Ala Arg Glu Lys Gly Glu Pro Gly Asp Arg Gly Gln Glu Gly
 1715 1720 1725
 Pro Arg Gly Pro Lys Gly Asp Pro Gly Leu Pro Gly Ala Pro Gly Glu
 1730 1735 1740
 Arg Gly Ile Glu Gly Phe Arg Gly Pro Pro Gly Pro Gln Gly Asp Pro
 1745 1750 1755 1760
 Gly Val Arg Gly Pro Ala Gly Glu Lys Gly Asp Arg Gly Pro Pro Gly
 1765 1770 1775
 Leu Asp Gly Arg Ser Gly Leu Asp Gly Lys Pro Gly Ala Ala Gly Pro
 1780 1785 1790
 Ser Gly Pro Asn Gly Ala Ala Gly Lys Ala Gly Asp Pro Gly Arg Asp
 1795 1800 1805
 Gly Leu Pro Gly Leu Arg Gly Glu Gln Gly Leu Pro Gly Pro Ser Gly
 1810 1815 1820
 Pro Pro Gly Leu Pro Gly Lys Pro Gly Glu Asp Gly Lys Pro Gly Leu
 1825 1830 1835 1840
 Asn Gly Lys Asn Gly Glu Pro Gly Asp Pro Gly Glu Asp Gly Arg Lys
 1845 1850 1855
 Gly Glu Lys Gly Asp Ser Gly Ala Ser Gly Arg Glu Gly Arg Asp Gly
 1860 1865 1870
 Pro Lys Gly Glu Arg Gly Ala Pro Gly Ile Leu Gly Pro Gln Gly Pro
 1875 1880 1885
 Pro Gly Leu Pro Gly Pro Val Gly Pro Pro Gly Gln Gly Phe Pro Gly
 1890 1895 1900
 Val Pro Gly Gly Thr Gly Pro Lys Gly Asp Arg Gly Glu Thr Gly Ser
 1905 1910 1915 1920
 Lys Gly Glu Gln Gly Leu Pro Gly Glu Arg Gly Leu Arg Gly Glu Pro
 1925 1930 1935
 Gly Ser Val Pro Asn Val Asp Arg Leu Leu Glu Thr Ala Gly Ile Lys
 1940 1945 1950
 Ala Ser Ala Leu Arg Glu Ile Val Glu Thr Trp Asp Glu Ser Ser Gly
 1955 1960 1965
 Ser Phe Leu Pro Val Pro Glu Arg Arg Arg Gly Pro Lys Gly Asp Ser
 1970 1975 1980
 Gly Glu Gln Gly Pro Pro Gly Lys Glu Gly Pro Ile Gly Phe Pro Gly
 1985 1990 1995 2000
 Glu Arg Gly Leu Lys Gly Asp Arg Gly Asp Pro Gly Pro Gln Gly Pro
 2005 2010 2015
 Pro Gly Leu Ala Leu Gly Glu Arg Gly Pro Pro Gly Pro Ser Gly Leu
 2020 2025 2030
 Ala Gly Glu Pro Gly Lys Pro Gly Ile Pro Gly Leu Pro Gly Arg Ala
 2035 2040 2045
 Gly Gly Val Gly Glu Ala Gly Arg Pro Gly Glu Arg Gly Glu Arg Gly
 2050 2055 2060
 Glu Lys Gly Glu Arg Gly Glu Gln Gly Arg Asp Gly Pro Pro Gly Leu
 2065 2070 2075 2080
 Pro Gly Thr Pro Gly Pro Pro Gly Pro Pro Gly Pro Lys Val Ser Val
 2085 2090 2095
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 2100 2105 2110
 Lys Gly Ala Lys Gly Glu Pro Gly Ser Asn Gly Asp Gln Gly Pro Lys
 2115 2120 2125
 Gly Asp Arg Gly Val Pro Gly Ile Lys Gly Asp Arg Gly Glu Pro Gly
 2130 2135 2140

Pro	Arg	Gly	Gln	Asp	Gly	Asn	Pro	Gly	Leu	Pro	Gly	Glu	Arg	Gly	Met	2145	2150	2155	2160
Ala	Gly	Pro	Glu	Gly	Lys	Pro	Gly	Leu	Gln	Gly	Pro	Arg	Gly	Pro	Pro	2165	2170	2175	
Gly	Pro	Val	Gly	Gly	His	Gly	Asp	Pro	Gly	Pro	Pro	Gly	Ala	Pro	Gly	2180	2185	2190	
Leu	Ala	Gly	Pro	Ala	Gly	Pro	Gln	Gly	Pro	Ser	Gly	Leu	Lys	Gly	Glu	2195	2200	2205	
Pro	Gly	Glu	Thr	Gly	Pro	Pro	Gly	Arg	Gly	Leu	Thr	Gly	Pro	Thr	Gly	2210	2215	2220	
Ala	Val	Gly	Leu	Pro	Gly	Pro	Pro	Gly	Pro	Ser	Gly	Leu	Val	Gly	Pro	2225	2230	2235	2240
Gln	Gly	Ser	Pro	Gly	Leu	Pro	Gly	Gln	Val	Gly	Glu	Thr	Gly	Lys	Pro	2245	2250	2255	
Gly	Ala	Pro	Gly	Arg	Asp	Gly	Ala	Ser	Gly	Lys	Asp	Gly	Asp	Arg	Gly	2260	2265	2270	
Ser	Pro	Gly	Val	Pro	Gly	Ser	Pro	Gly	Leu	Pro	Gly	Pro	Val	Gly	Pro	2275	2280	2285	
Lys	Gly	Glu	Pro	Gly	Pro	Thr	Gly	Ala	Pro	Gly	Gln	Ala	Val	Val	Gly	2290	2295	2300	
Leu	Pro	Gly	Ala	Lys	Gly	Glu	Lys	Gly	Ala	Pro	Gly	Gly	Leu	Ala	Gly	2305	2310	2315	2320
Asp	Leu	Val	Gly	Glu	Pro	Gly	Ala	Lys	Gly	Asp	Arg	Gly	Leu	Pro	Gly	2325	2330	2335	
Pro	Arg	Gly	Glu	Lys	Gly	Glu	Ala	Gly	Arg	Ala	Gly	Glu	Pro	Gly	Asp	2340	2345	2350	
Pro	Gly	Glu	Asp	Gly	Gln	Lys	Gly	Ala	Pro	Gly	Pro	Lys	Gly	Phe	Lys	2355	2360	2365	
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Glu	Gly	Ile	Pro	Gly	Pro	Leu	Gly	Pro	Pro	Gly	Pro	Pro	Gly	Ser	Val	2435	2440	2445	
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Val	Gly	Leu	Pro	Gly	Pro	Arg	Gly	Glu	Arg	Gly	Glu	Pro	Gly	Ile	Arg	2465	2470	2475	2480
Gly	Glu	Asp	Gly	Arg	Pro	Gly	Gln	Glu	Gly	Pro	Arg	Gly	Leu	Thr	Gly	2485	2490	2495	
Pro	Pro	Gly	Ser	Arg	Gly	Glu	Arg	Gly	Glu	Lys	Gly	Asp	Val	Gly	Ser	2500	2505	2510	
Ala	Gly	Leu	Lys	Gly	Asp	Lys	Gly	Asp	Ser	Ala	Val	Ile	Leu	Gly	Pro	2515	2520	2525	
Pro	Gly	Pro	Arg	Gly	Ala	Lys	Gly	Asp	Met	Gly	Glu	Arg	Gly	Pro	Arg	2530	2535	2540	
Gly	Leu	Asp	Gly	Asp	Lys	Gly	Pro	Arg	Gly	Asp	Asn	Gly	Asp	Pro	Gly	2545	2550	2555	2560
Asp	Lys	Gly	Ser	Lys	Gly	Glu	Pro	Gly	Asp	Lys	Gly	Ser	Ala	Gly	Leu	2565	2570	2575	

Pro Gly Leu Arg Gly Leu Leu Gly Pro Gln Gly Gln Pro Gly Ala Ala
 2580 2585 2590
 Gly Ile Pro Gly Asp Pro Gly Ser Pro Gly Lys Asp Gly Val Pro Gly
 2595 2600 2605
 Ile Arg Gly Glu Lys Gly Asp Val Gly Phe Met Gly Pro Arg Gly Leu
 2610 2615 2620
 Lys Gly Glu Arg Gly Val Lys Gly Ala Cys Gly Leu Asp Gly Glu Lys
 2625 2630 2635 2640
 Gly Asp Lys Gly Glu Ala Gly Pro Pro Gly Arg Pro Gly Leu Ala Gly
 2645 2650 2655
 His Lys Gly Glu Met Gly Glu Pro Gly Val Pro Gly Gln Ser Gly Ala
 2660 2665 2670
 Pro Gly Lys Glu Gly Leu Ile Gly Pro Lys Gly Asp Arg Gly Phe Asp
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 Gly Gln Pro Gly Pro Lys Gly Asp Gln Gly Glu Lys Gly Glu Arg Gly
 2690 2695 2700
 Thr Pro Gly Ile Gly Gly Phe Pro Gly Pro Ser Gly Asn Asp Gly Ser
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 Ala Gly Pro Pro Gly Pro Pro Gly Ser Val Gly Pro Arg Gly Pro Glu
 2725 2730 2735
 Gly Leu Gln Gly Gln Lys Gly Glu Arg Gly Pro Pro Gly Glu Arg Val
 2740 2745 2750
 Val Gly Ala Pro Gly Val Pro Gly Ala Pro Gly Glu Arg Gly Glu Gln
 2755 2760 2765
 Gly Arg Pro Gly Pro Ala Gly Pro Arg Gly Glu Lys Gly Glu Ala Ala
 2770 2775 2780
 Leu Thr Glu Asp Asp Ile Arg Gly Phe Val Arg Gln Glu Met Ser Gln
 2785 2790 2795 2800
 His Cys Ala Cys Gln Gly Gln Phe Ile Ala Ser Gly Ser Arg Pro Leu
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 Pro Ser Tyr Ala Ala Asp Thr Ala Gly Ser Gln Leu His Ala Val Pro
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 Val Leu Arg Val Ser His Ala Glu Glu Glu Glu Arg Val Pro Pro Glu
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 Asp Asp Glu Tyr Ser Glu Tyr Ser Glu Tyr Ser Val Glu Glu Tyr Gln
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 Asp Pro Glu Ala Pro Trp Asp Ser Asp Asp Pro Cys Ser Leu Pro Leu
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 Asp Glu Gly Ser Cys Thr Ala Tyr Thr Leu Arg Trp Tyr His Arg Ala
 2885 2890 2895
 Val Thr Gly Ser Thr Glu Ala Cys His Pro Phe Val Tyr Gly Gly Cys
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 Gly Gly Asn Ala Asn Arg Phe Gly Thr Arg Glu Ala Cys Glu Arg Arg
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 Cys Pro Pro Arg Val Val Gln Ser Gln Gly Thr Gly Thr Ala Gln Asp
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<211> 1497

<212> PRT

<213> Homo sapiens

<400> 21

Met Asp Val Thr Lys Lys Asn Lys Arg Asp Gly Thr Glu Val Thr Glu

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Lys	Gly	Gly	Thr	Ser	Asn	Gly	Tyr	Ala	Lys	Thr	Ala	Ser	Leu	Gly	Gly	
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Gly	Ser	Arg	Leu	Glu	Lys	Gln	Ser	Leu	Thr	His	Gly	Ser	Ser	Gly	Tyr	
	50				55						60					
Ile	Asn	Ser	Thr	Gly	Ser	Thr	Arg	Gly	His	Ala	Ser	Thr	Ser	Ser	Tyr	
65				70					75						80	
Arg	Arg	Ala	His	Ser	Pro	Ala	Ser	Thr	Leu	Pro	Asn	Ser	Pro	Gly	Ser	
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Thr	Phe	Glu	Arg	Lys	Thr	His	Val	Thr	Arg	His	Ala	Tyr	Glu	Gly	Ser	
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Ser	Ser	Gly	Asn	Ser	Ser	Pro	Glu	Tyr	Pro	Arg	Lys	Glu	Phe	Ala	Ser	
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Ser	Ser	Thr	Arg	Gly	Arg	Ser	Gln	Thr	Arg	Glu	Ser	Glu	Ile	Arg	Val	
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Arg	Leu	Gln	Ser	Ala	Ser	Pro	Ser	Thr	Arg	Trp	Thr	Glu	Leu	Asp	Asp	
145				150					155						160	
Val	Lys	Arg	Leu	Leu	Lys	Gly	Ser	Arg	Ser	Ala	Ser	Val	Ser	Pro	Thr	
			165					170						175		
Arg	Asn	Ser	Ser	Asn	Thr	Leu	Pro	Ile	Pro	Lys	Lys	Gly	Thr	Val	Glu	
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Thr	Lys	Ile	Val	Thr	Ala	Ser	Ser	Gln	Ser	Val	Ser	Gly	Thr	Tyr	Asp	
	195						200					205				
Ala	Thr	Ile	Leu	Asp	Ala	Asn	Leu	Pro	Ser	His	Val	Trp	Ser	Ser	Thr	
	210				215						220					
Leu	Pro	Ala	Gly	Ser	Ser	Met	Gly	Thr	Tyr	His	Asn	Asn	Met	Thr	Thr	
225				230					235					240		
Gln	Ser	Ser	Ser	Leu	Leu	Asn	Thr	Asn	Ala	Tyr	Ser	Ala	Gly	Ser	Val	
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Phe	Gly	Val	Pro	Asn	Asn	Met	Ala	Ser	Cys	Ser	Pro	Thr	Leu	His	Pro	
			260					265					270			
Gly	Leu	Ser	Thr	Ser	Ser	Ser	Val	Phe	Gly	Met	Gln	Asn	Asn	Leu	Ala	
	275						280				285					
Pro	Ser	Leu	Thr	Thr	Leu	Ser	His	Gly	Thr	Thr	Thr	Thr	Ser	Thr	Ala	
	290				295						300					
Tyr	Gly	Val	Lys	Lys	Asn	Met	Pro	Gln	Ser	Pro	Ala	Ala	Val	Asn	Thr	
305				310					315					320		
Gly	Val	Ser	Thr	Ser	Ala	Ala	Cys	Thr	Thr	Ser	Val	Gln	Ser	Asp	Asp	
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Pro	Ala	Lys	Lys	Glu	Met	Glu	Leu	Leu	Ile	Met	Thr	Lys	Asp	Ser	Gly	
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Lys	Val	Phe	Thr	Ala	Ser	Pro	Ala	Ser	Ile	Ala	Ala	Thr	Ser	Phe	Ser	
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Glu	Asp	Thr	Leu	Lys	Lys	Glu	Lys	Gln	Ala	Ala	Tyr	Asn	Ala	Asp	Ser	
385				390					395					400		
Gly	Leu	Lys	Ala	Glu	Ala	Asn	Gly	Asp	Leu	Lys	Thr	Val	Ser	Thr	Lys	
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Gly	Lys	Thr	Thr	Ala	Asp	Ile	His	Ser	Tyr	Gly	Ser	Ser	Ser	Gly	Gly	
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Gly	Gly	Ser	Gly	Gly	Gly	Gly	Gly	Val	Gly	Gly	Ala	Gly	Gly	Gly	Pro	

		435				440				445					
Trp	Gly	Pro	Ala	Pro	Ala	Trp	Cys	Pro	Cys	Gly	Ser	Cys	Cys	Ser	Trp
	450					455				460					
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<211> 2361

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<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 38

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<210> 39

<211> 1017

<212> DNA

<213> Homo sapiens

<400> 39

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<211> 1017

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Construct

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<210> 41

<211> 1437

<212> DNA

<213> Homo sapiens

<400> 41

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<210> 42

<211> 1437

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 42

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<210> 43

<211> 5175

<212> DNA

<213> Homo sapiens

<400> 43

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<212> DNA

<213> Homo sapiens

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<211> 3582

<212> DNA

<213> Homo sapiens

<400> 47

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<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Construct

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<211> 3891

<212> DNA

<213> Clostridium botulinum

<400> 49

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<211> 3891

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 50

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<210> 51

<211> 3876

<212> DNA

<213> Clostridium botulinum

<400> 51

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<210> 52

<211> 3876

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 52

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<400> 53

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

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Ser	His	Pro	Ile	Gln	Trp	Asn	Ala	Pro	Gln	Pro	Ser	His	Ile	Ser	Lys		
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Ala	Thr	Ile	Pro	Gly	His	Leu	Asn	Ser	Tyr	Thr	Ile	Lys	Gly	Leu	Lys		
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Glu	Tyr	Glu	Leu	Ser	Glu	Glu	Gly	Asp	Glu	Pro	Gln	Tyr	Leu	Asp	Leu		
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Thr																	

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Gln Pro Ala Ser Glu	Tyr Thr Val Ser Leu Val	Ala Ile Lys Gly Asn		
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Gln Glu Ser Pro Lys	Ala Thr Gly Val Phe Thr	Thr Leu Gln Pro Gly		
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Ser Ser Ile Pro Pro	Tyr Asn Thr Glu Val Thr	Glu Thr Thr Ile Val		
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Ile Thr Trp Thr Pro	Ala Pro Arg Ile Gly Phe	Lys Leu Gly Val Arg		
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Ser Ile Val Val Ser	Gly Leu Thr Pro Gly Val	Glu Tyr Val Tyr Thr		
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Ile Gln Val Leu Arg	Asp Gly Gln Glu Arg Asp	Ala Pro Ile Val Asn		
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Lys Val Val Thr Pro	Leu Ser Pro Pro Thr Asn	Leu His Leu Glu Ala		
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Thr Phe Asp Asn Leu	Ser Pro Gly Leu Glu Tyr	Asn Val Ser Val Tyr		
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Thr Val Lys Asp Asp	Lys Glu Ser Val Pro Ile	Ser Asp Thr Ile Ile		
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Pro Glu Val Pro Gln	Leu Thr Asp Leu Ser Phe	Val Asp Ile Thr Asp		
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Gly Tyr Arg Ile Thr	Val Val Ala Ala Gly Glu	Gly Ile Pro Ile Phe		
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Glu Asp Phe Val Asp	Ser Ser Val Gly Tyr Tyr	Thr Val Thr Gly Leu		
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Pro Thr Asp Leu Arg	Phe Thr Asn Ile Gly Pro	Asp Thr Met Arg Val		
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Thr Trp Ala Pro Pro	Pro Ser Ile Asp Leu Thr	Asn Phe Leu Val Arg		
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Tyr Ser Pro Val Lys	Asn Glu Glu Asp Val Ala	Glu Leu Ser Ile Ser		
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Pro Ser Asp Asn Ala	Val Val Leu Thr Asn Leu	Leu Pro Gly Thr Glu		
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Tyr Val Val Ser Val	Ser Ser Val Tyr Glu Gln	His Glu Ser Thr Pro		
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Lys	Ala	Gly	Tyr	Pro	Thr	Gly	Thr	Gly	Val	Gly	Pro	Gln	Ala	Ala	Ala
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			260					265					270		
Val	Leu	Pro	Gly	Val	Gly	Gly	Ala	Gly	Val	Pro	Gly	Val	Pro	Gly	Ala
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Ile	Pro	Gly	Ile	Gly	Gly	Ile	Ala	Gly	Val	Gly	Thr	Pro	Ala	Ala	Ala
	290					295					300				
Ala	Ala	Ala	Ala	Ala	Ala	Ala	Lys	Ala	Ala	Lys	Tyr	Gly	Ala	Ala	Ala
305					310					315					320
Gly	Leu	Val	Pro	Gly	Gly	Pro	Gly	Phe	Gly	Pro	Gly	Val	Val	Gly	Val
				325					330					335	
Pro	Gly	Ala	Gly	Val	Pro	Gly	Val	Gly	Val	Pro	Gly	Ala	Gly	Ile	Pro
			340					345					350		
Val	Val	Pro	Gly	Ala	Gly	Ile	Pro	Gly	Ala	Ala	Val	Pro	Gly	Val	Val
		355					360						365		
Ser	Pro	Glu	Ala	Ala	Ala	Lys	Ala	Ala	Ala	Lys	Ala	Ala	Lys	Tyr	Gly
	370					375					380				
Ala	Arg	Pro	Gly	Val	Gly	Val	Gly	Gly	Ile	Pro	Thr	Tyr	Gly	Val	Gly
385					390					395					400
Ala	Gly	Gly	Phe	Pro	Gly	Phe	Gly	Val	Gly	Val	Gly	Gly	Ile	Pro	Gly
			405					410						415	
Val	Ala	Gly	Val	Pro	Gly	Val	Gly	Gly	Val	Pro	Gly	Val	Gly	Gly	Val
			420					425					430		
Pro	Gly	Val	Gly	Ile	Ser	Pro	Glu	Ala	Gln	Ala	Ala	Ala	Ala	Ala	Lys
		435					440					445			
Ala	Ala	Lys	Tyr	Gly	Ala	Ala	Gly	Ala	Gly	Val	Leu	Gly	Gly	Leu	Val
	450					455					460				
Pro	Gly	Ala	Pro	Gly	Ala	Val	Pro	Gly	Val	Pro	Gly	Thr	Gly	Gly	Val
465					470					475					480
Pro	Gly	Val	Gly	Thr	Pro	Ala	Ala	Ala	Ala	Ala	Lys	Ala	Ala	Ala	Lys
				485					490					495	
Ala	Ala	Gln	Phe	Gly	Leu	Val	Pro	Gly	Val	Gly	Val	Ala	Pro	Gly	Val
			500					505					510		
Gly	Val	Ala	Pro	Gly	Val	Gly	Val	Ala	Pro	Gly	Val	Gly	Leu	Ala	Pro
		515					520					525			
Gly	Val	Gly	Val	Ala	Pro	Gly	Val	Gly	Val	Ala	Pro	Gly	Val	Gly	Val
					535						540				
Ala	Pro	Gly	Ile	Gly	Pro	Gly	Gly	Val	Ala	Ala	Ala	Ala	Lys	Ser	Ala
545					550					555					560
Ala	Lys	Val	Ala	Ala	Lys	Ala	Gln	Leu	Arg	Ala	Ala	Ala	Gly	Leu	Gly
				565					570					575	
Ala	Gly	Ile	Pro	Gly	Leu	Gly	Val	Gly	Val	Gly	Val	Pro	Gly	Leu	Gly
			580					585					590		
Val	Gly	Ala	Gly	Val	Pro	Gly	Leu	Gly	Val	Gly	Ala	Gly	Val	Pro	Gly
		595					600					605			
Phe	Gly	Ala	Gly	Ala	Asp	Glu	Gly	Val	Arg	Arg	Ser	Leu	Ser	Pro	Glu
	610					615					620				
Leu	Arg	Glu	Gly	Asp	Pro	Ser	Ser	Ser	Gln	His	Leu	Pro	Ser	Thr	Pro
625					630					635					640

Ser	Ser	Pro	Arg	Val	Pro	Gly	Ala	Leu	Ala	Ala	Ala	Lys	Ala	Ala	Lys	
				645					650						655	
Tyr	Gly	Ala	Ala	Val	Pro	Gly	Val	Leu	Gly	Gly	Leu	Gly	Ala	Leu	Gly	
			660					665						670		
Gly	Val	Gly	Ile	Pro	Gly	Gly	Val	Val	Gly	Ala	Gly	Pro	Ala	Ala	Ala	
		675					680					685				
Ala	Ala	Ala	Ala	Lys	Ala	Ala	Ala	Lys	Ala	Ala	Gln	Phe	Gly	Leu	Val	
	690					695					700					
Gly	Ala	Ala	Gly	Leu	Gly	Gly	Leu	Gly	Val	Gly	Gly	Leu	Gly	Val	Pro	
705					710					715					720	
Gly	Val	Gly	Gly	Leu	Gly	Gly	Ile	Pro	Pro	Ala	Ala	Ala	Ala	Lys	Ala	
				725					730					735		
Ala	Lys	Tyr	Gly	Ala	Ala	Gly	Leu	Gly	Gly	Val	Leu	Gly	Gly	Ala	Gly	
			740					745						750		
Gln	Phe	Pro	Leu	Gly	Gly	Val	Ala	Ala	Arg	Pro	Gly	Phe	Gly	Leu	Ser	
		755					760					765				
Pro	Ile	Phe	Pro	Gly	Gly	Ala	Cys	Leu	Gly	Lys	Ala	Cys	Gly	Arg	Lys	
	770					775						780				
Arg	Lys															
785																

<210> 55

<211> 338

<212> PRT

<213> Homo sapiens

<400> 55

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

210		215		220
Phe Lys Arg Phe Asn Ala Leu Gln Tyr Leu Arg Leu Ser His Asn Glu				
225		230		240
Leu Ala Asp Ser Gly Ile Pro Gly Asn Ser Phe Asn Val Ser Ser Leu				
	245		250	255
Val Glu Leu Asp Leu Ser Tyr Asn Lys Leu Lys Asn Ile Pro Thr Val				
	260		265	270
Asn Glu Asn Leu Glu Asn Tyr Tyr Leu Glu Val Asn Gln Leu Glu Lys				
	275		280	285
Phe Asp Ile Lys Ser Phe Cys Lys Ile Leu Gly Pro Leu Ser Tyr Ser				
	290		295	300
Lys Ile Lys His Leu Arg Leu Asp Gly Asn Arg Ile Ser Glu Thr Ser				
305		310		320
Leu Pro Pro Asp Met Tyr Glu Cys Leu Arg Val Ala Asn Glu Val Thr				
	325		330	335
Leu Asn				

<210> 56

<211> 478

<212> PRT

<213> Homo sapiens

<400> 56

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

				245				250					255				
Ala	Leu	Ala	Leu	Pro	Ala	His	Ser	Tyr	Ser	Gly	Arg	Glu	Arg	Val	Tyr		
			260					265					270				
Phe	Phe	Lys	Gly	Lys	Gln	Tyr	Trp	Glu	Tyr	Gln	Phe	Gln	His	Gln	Pro		
		275					280					285					
Ser	Gln	Glu	Glu	Cys	Glu	Gly	Ser	Ser	Leu	Ser	Ala	Val	Phe	Glu	His		
		290				295					300						
Phe	Ala	Met	Met	Gln	Arg	Asp	Ser	Trp	Glu	Asp	Ile	Phe	Glu	Leu	Leu		
305					310					315					320		
Phe	Trp	Gly	Arg	Thr	Ser	Ala	Gly	Thr	Arg	Gln	Pro	Gln	Phe	Ile	Ser		
			325						330					335			
Arg	Asp	Trp	His	Gly	Val	Pro	Gly	Gln	Val	Asp	Ala	Ala	Met	Ala	Gly		
			340					345					350				
Arg	Ile	Tyr	Ile	Ser	Gly	Met	Ala	Pro	Arg	Pro	Ser	Leu	Ala	Lys	Lys		
		355				360						365					
Gln	Arg	Phe	Arg	His	Arg	Asn	Arg	Lys	Gly	Tyr	Arg	Ser	Gln	Arg	Gly		
	370					375					380						
His	Ser	Arg	Gly	Arg	Asn	Gln	Asn	Ser	Arg	Arg	Pro	Ser	Arg	Ala	Thr		
385					390					395					400		
Trp	Leu	Ser	Leu	Phe	Ser	Ser	Glu	Glu	Ser	Asn	Leu	Gly	Ala	Asn	Asn		
			405						410					415			
Tyr	Asp	Asp	Tyr	Arg	Met	Asp	Trp	Leu	Val	Pro	Ala	Thr	Cys	Glu	Pro		
			420					425					430				
Ile	Gln	Ser	Val	Phe	Phe	Phe	Ser	Gly	Asp	Lys	Tyr	Tyr	Arg	Val	Asn		
		435				440					445						
Leu	Arg	Thr	Arg	Arg	Val	Asp	Thr	Val	Asp	Pro	Pro	Tyr	Pro	Arg	Ser		
	450					455				460							
Ile	Ala	Gln	Tyr	Trp	Leu	Gly	Cys	Pro	Ala	Pro	Gly	His	Leu				
465					470					475							

<210> 57

<211> 1724

<212> PRT

<213> Homo sapiens

<400> 57

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

Arg	Cys	Ser	Cys	Lys	Ala	Gly	Tyr	Thr	Gly	Thr	Gln	Cys	Glu	Arg	Cys	
145					150					155					160	
Ala	Pro	Gly	Tyr	Phe	Gly	Asn	Pro	Gln	Lys	Phe	Gly	Gly	Ser	Cys	Gln	
				165					170					175		
Pro	Cys	Ser	Cys	Asn	Ser	Asn	Gly	Gln	Leu	Gly	Ser	Cys	His	Pro	Leu	
			180					185					190			
Thr	Gly	Asp	Cys	Ile	Asn	Gln	Glu	Pro	Lys	Asp	Ser	Ser	Pro	Ala	Glu	
		195					200					205				
Glu	Cys	Asp	Asp	Cys	Asp	Ser	Cys	Val	Met	Thr	Leu	Leu	Asn	Asp	Leu	
	210					215					220					
Ala	Thr	Met	Gly	Glu	Gln	Leu	Arg	Leu	Val	Lys	Ser	Gln	Leu	Gln	Gly	
225					230					235					240	
Leu	Ser	Ala	Ser	Ala	Gly	Leu	Leu	Glu	Gln	Met	Arg	His	Met	Glu	Thr	
				245					250					255		
Gln	Ala	Lys	Asp	Leu	Arg	Asn	Gln	Leu	Leu	Asn	Tyr	Arg	Ser	Ala	Ile	
			260					265					270			
Ser	Asn	His	Gly	Ser	Lys	Ile	Glu	Gly	Leu	Glu	Arg	Glu	Leu	Thr	Asp	
		275					280					285				
Leu	Asn	Gln	Glu	Phe	Glu	Thr	Leu	Gln	Glu	Lys	Ala	Gln	Val	Asn	Ser	
	290					295					300					
Arg	Lys	Ala	Gln	Thr	Leu	Asn	Asn	Asn	Val	Asn	Arg	Ala	Thr	Gln	Ser	
305					310					315					320	
Ala	Lys	Glu	Leu	Asp	Val	Lys	Ile	Lys	Asn	Val	Ile	Arg	Asn	Val	His	
				325					330					335		
Ile	Leu	Leu	Lys	Gln	Ile	Ser	Gly	Thr	Asp	Gly	Glu	Gly	Asn	Asn	Val	
			340					345					350			
Pro	Ser	Gly	Asp	Phe	Ser	Arg	Glu	Trp	Ala	Glu	Ala	Gln	Arg	Met	Met	
		355					360					365				
Arg	Glu	Leu	Arg	Asn	Arg	Asn	Phe	Gly	Lys	His	Leu	Arg	Glu	Ala	Glu	
	370					375					380					
Ala	Asp	Lys	Arg	Glu	Ser	Gln	Leu	Leu	Leu	Asn	Arg	Ile	Arg	Thr	Trp	
385					390					395					400	
Gln	Lys	Thr	His	Gln	Gly	Glu	Asn	Asn	Gly	Leu	Ala	Asn	Ser	Ile	Arg	
				405					410					415		
Asp	Ser	Leu	Asn	Glu	Tyr	Glu	Ala	Lys	Leu	Ser	Asp	Leu	Arg	Ala	Arg	
			420					425					430			
Leu	Gln	Glu	Ala	Ala	Ala	Gln	Ala	Lys	Gln	Ala	Asn	Gly	Leu	Asn	Gln	
		435				440						445				
Glu	Asn	Glu	Arg	Ala	Leu	Gly	Ala	Ile	Gln	Arg	Gln	Val	Lys	Glu	Ile	
	450					455					460					
Asn	Ser	Leu	Gln	Ser	Asp	Phe	Thr	Lys	Tyr	Leu	Thr	Thr	Ala	Asp	Ser	
465					470					475					480	
Ser	Leu	Leu	Gln	Thr	Asn	Ile	Ala	Leu	Gln	Leu	Met	Glu	Lys	Ser	Gln	
				485					490					495		
Lys	Glu	Tyr	Glu	Lys	Leu	Ala	Ala	Ser	Leu	Asn	Glu	Ala	Arg	Gln	Glu	
			500					505					510			
Leu	Ser	Asp	Lys	Val	Arg	Glu	Leu	Ser	Arg	Ser	Ala	Gly	Lys	Thr	Ser	
		515					520					525				
Leu	Val	Glu	Glu	Ala	Glu	Lys	His	Ala	Arg	Ser	Leu	Gln	Glu	Leu	Ala	
	530					535					540					
Lys	Gln	Leu	Glu	Glu	Ile	Lys	Arg	Asn	Ala	Ser	Gly	Asp	Glu	Leu	Val	
545					550					555					560	
Arg	Cys	Ala	Val	Asp	Ala	Ala	Thr	Ala	Tyr	Glu	Asn	Ile	Leu	Asn	Ala	
				565					570					575		

Ile	Lys	Ala	Ala	Glu	Asp	Ala	Ala	Asn	Arg	Ala	Ala	Ser	Ala	Ser	Glu
			580					585					590		
Ser	Ala	Leu	Gln	Thr	Val	Ile	Lys	Glu	Asp	Leu	Pro	Arg	Lys	Ala	Lys
		595					600					605			
Thr	Leu	Ser	Ser	Asn	Ser	Asp	Lys	Leu	Leu	Asn	Glu	Ala	Lys	Met	Thr
	610					615					620				
Gln	Lys	Lys	Leu	Lys	Gln	Glu	Val	Ser	Pro	Ala	Leu	Asn	Asn	Leu	Gln
625					630					635					640
Gln	Thr	Leu	Asn	Ile	Val	Thr	Val	Gln	Lys	Glu	Val	Ile	Asp	Thr	Asn
				645					650					655	
Leu	Thr	Thr	Leu	Arg	Asp	Gly	Leu	His	Gly	Ile	Gln	Arg	Gly	Asp	Ile
			660					665					670		
Asp	Ala	Met	Ile	Ser	Ser	Ala	Lys	Ser	Met	Val	Arg	Lys	Ala	Asn	Asp
		675					680					685			
Ile	Thr	Asp	Glu	Val	Leu	Asp	Gly	Leu	Asn	Pro	Ile	Gln	Thr	Asp	Val
	690					695					700				
Glu	Arg	Ile	Lys	Asp	Thr	Tyr	Gly	Arg	Thr	Gln	Asn	Glu	Asp	Phe	Lys
705					710					715					720
Lys	Ala	Leu	Thr	Asp	Ala	Asp	Asn	Ser	Val	Asn	Lys	Leu	Thr	Asn	Lys
				725					730					735	
Leu	Pro	Asp	Leu	Trp	Arg	Lys	Ile	Glu	Ser	Ile	Asn	Gln	Gln	Leu	Leu
			740					745					750		
Pro	Leu	Gly	Asn	Ile	Ser	Asp	Asn	Met	Asp	Arg	Ile	Arg	Glu	Leu	Ile
		755					760					765			
Gln	Gln	Ala	Arg	Asp	Ala	Ala	Ser	Lys	Val	Ala	Val	Pro	Met	Arg	Phe
	770					775					780				
Asn	Gly	Lys	Ser	Gly	Val	Glu	Val	Arg	Leu	Pro	Asn	Asp	Leu	Glu	Asp
785					790					795					800
Leu	Lys	Gly	Tyr	Thr	Ser	Leu	Ser	Leu	Phe	Leu	Gln	Arg	Pro	Asn	Ser
				805					810					815	
Arg	Glu	Asn	Gly	Gly	Thr	Glu	Asn	Met	Phe	Val	Met	Tyr	Leu	Gly	Asn
			820					825					830		
Lys	Asp	Ala	Ser	Arg	Asp	Tyr	Ile	Gly	Met	Ala	Val	Val	Asp	Gly	Gln
		835					840					845			
Leu	Thr	Cys	Val	Tyr	Asn	Leu	Gly	Asp	Arg	Glu	Ala	Glu	Leu	Gln	Val
	850					855					860				
Asp	Gln	Ile	Leu	Thr	Lys	Ser	Glu	Thr	Lys	Glu	Ala	Val	Met	Asp	Arg
865					870					875					880
Val	Lys	Phe	Gln	Arg	Ile	Tyr	Gln	Phe	Ala	Arg	Leu	Asn	Tyr	Thr	Lys
				885					890					895	
Gly	Ala	Thr	Ser	Ser	Lys	Pro	Glu	Thr	Pro	Gly	Val	Tyr	Asp	Met	Asp
			900					905					910		
Gly	Arg	Asn	Ser	Asn	Thr	Leu	Leu	Asn	Leu	Asp	Pro	Glu	Asn	Val	Val
		915					920					925			</

Pro	Ile	Pro	Thr	Phe	Gly	Gln	Thr	Ile	Gln	Thr	Thr	Val	Asp	Arg	Gly	1010	1015	1020	
Leu	Leu	Phe	Phe	Ala	Glu	Asn	Gly	Asp	Arg	Phe	Ile	Ser	Leu	Asn	Ile	1025	1030	1035	1040
Glu	Asp	Gly	Lys	Leu	Met	Val	Arg	Tyr	Lys	Leu	Asn	Ser	Glu	Leu	Pro	1045	1050	1055	
Lys	Glu	Arg	Gly	Val	Gly	Asp	Ala	Ile	Asn	Asn	Gly	Arg	Asp	His	Ser	1060	1065	1070	
Ile	Gln	Ile	Lys	Ile	Gly	Lys	Leu	Gln	Lys	Arg	Met	Trp	Ile	Asn	Val	1075	1080	1085	
Asp	Val	Gln	Asn	Thr	Ile	Ile	Asp	Gly	Glu	Val	Phe	Asp	Phe	Ser	Thr	1090	1095	1100	
Tyr	Tyr	Leu	Gly	Gly	Ile	Pro	Ile	Ala	Ile	Arg	Glu	Arg	Phe	Asn	Ile	1105	1110	1115	1120
Ser	Thr	Pro	Ala	Phe	Arg	Gly	Cys	Met	Lys	Asn	Leu	Lys	Lys	Thr	Ser	1125	1130	1135	
Gly	Val	Val	Arg	Leu	Asn	Asp	Thr	Val	Gly	Val	Thr	Lys	Lys	Cys	Ser	1140	1145	1150	
Glu	Asp	Trp	Lys	Leu	Val	Arg	Ser	Ala	Ser	Phe	Ser	Arg	Gly	Gly	Gln	1155	1160	1165	
Leu	Ser	Phe	Thr	Asp	Leu	Gly	Leu	Pro	Pro	Thr	Asp	His	Leu	Gln	Ala	1170	1175	1180	
Ser	Phe	Gly	Phe	Gln	Thr	Phe	Gln	Pro	Ser	Gly	Ile	Leu	Leu	Asp	His	1185	1190	1195	1200
Gln	Thr	Trp	Thr	Arg	Asn	Leu	Gln	Val	Thr	Leu	Glu	Asp	Gly	Tyr	Ile	1205	1210	1215	
Glu	Leu	Ser	Thr	Ser	Asp	Ser	Gly	Gly	Pro	Ile	Phe	Lys	Ser	Pro	Gln	1220	1225	1230	
Thr	Tyr	Met	Asp	Gly	Leu	Leu	His	Tyr	Val	Ser	Val	Ile	Ser	Asp	Asn	1235	1240	1245	
Ser	Gly	Leu	Arg	Leu	Leu	Ile	Asp	Asp	Gln	Leu	Leu	Arg	Asn	Ser	Lys	1250	1255	1260	
Arg	Leu	Lys	His	Ile	Ser	Ser	Ser	Arg	Gln	Ser	Leu	Arg	Leu	Gly	Gly	1265	1270	1275	1280
Ser	Asn	Phe	Glu	Gly	Cys	Ile	Ser	Asn	Val	Phe	Val	Gln	Arg	Leu	Ser	1285	1290	1295	
Leu	Ser	Pro	Glu	Val	Leu	Asp	Leu	Thr	Ser	Asn	Ser	Leu	Lys	Arg	Asp	1300	1305	1310	
Val	Ser	Leu	Gly	Gly	Cys	Ser	Leu	Asn	Lys	Pro	Pro	Phe	Leu	Met	Leu	1315	1320	1325	
Leu	Lys	Gly	Ser	Thr	Arg	Phe	Asn	Lys	Thr	Lys	Thr	Phe	Arg	Ile	Asn	1330	1335	1340	
Gln	Leu	Leu	Gln	Asp	Thr	Pro	Val	Ala	Ser	Pro	Arg	Ser	Val	Lys	Val	1345	1350	1355	1360
Trp	Gln	Asp	Ala	Cys	Ser	Pro	Leu	Pro	Lys	Thr	Gln	Ala	Asn	His	Gly	1365	1370	1375	
Ala	Leu	Gln	Phe	Gly	Asp	Ile	Pro	Thr	Ser	His	Leu	Leu	Phe	Lys	Leu	1380	1385	1390	
Pro	Gln	Glu	Leu	Leu	Lys	Pro	Arg	Ser	Gln	Phe	Ala	Val	Asp	Met	Gln	1395	1400	1405	
Thr	Thr	Ser	Ser	Arg	Gly	Leu	Val	Phe	His	Thr	Gly	Thr	Lys	Asn	Ser	1410	1415	1420	
Phe	Met	Ala	Leu	Tyr	Leu	Ser	Lys	Gly	Arg	Leu	Val	Phe	Ala	Leu	Gly	1425	1430	1435	1440

Thr Asp Gly Lys Lys Leu Arg Ile Lys Ser Lys Glu Lys Cys Asn Asp
 1445 1450 1455
 Gly Lys Trp His Thr Val Val Phe Gly His Asp Gly Glu Lys Gly Arg
 1460 1465 1470
 Leu Val Val Asp Gly Leu Arg Ala Arg Glu Gly Ser Leu Pro Gly Asn
 1475 1480 1485
 Ser Thr Ile Ser Ile Arg Ala Pro Val Tyr Leu Gly Ser Pro Pro Ser
 1490 1495 1500
 Gly Lys Pro Lys Ser Leu Pro Thr Asn Ser Phe Val Gly Cys Leu Lys
 1505 1510 1515 1520
 Asn Phe Gln Leu Asp Ser Lys Pro Leu Tyr Thr Pro Ser Ser Ser Phe
 1525 1530 1535
 Gly Val Ser Ser Cys Leu Gly Gly Pro Leu Glu Lys Gly Ile Tyr Phe
 1540 1545 1550
 Ser Glu Glu Gly Gly His Val Val Leu Ala His Ser Val Leu Leu Gly
 1555 1560 1565
 Pro Glu Phe Lys Leu Val Phe Ser Ile Arg Pro Arg Ser Leu Thr Gly
 1570 1575 1580
 Ile Leu Ile His Ile Gly Ser Gln Pro Gly Lys His Leu Cys Val Tyr
 1585 1590 1595 1600
 Leu Glu Ala Gly Lys Val Thr Ala Ser Met Asp Ser Gly Ala Gly Gly
 1605 1610 1615
 Thr Ser Thr Ser Val Thr Pro Lys Gln Ser Leu Cys Asp Gly Gln Trp
 1620 1625 1630
 His Ser Val Ala Val Thr Ile Lys Gln His Ile Leu His Leu Glu Leu
 1635 1640 1645
 Asp Thr Asp Ser Ser Tyr Thr Ala Gly Gln Ile Pro Phe Pro Pro Ala
 1650 1655 1660
 Ser Thr Gln Glu Pro Leu His Leu Gly Gly Ala Pro Ala Asn Leu Thr
 1665 1670 1675 1680
 Thr Leu Arg Ile Pro Val Trp Lys Ser Phe Phe Gly Cys Leu Arg Asn
 1685 1690 1695
 Ile His Val Asn His Ile Pro Val Pro Val Thr Glu Ala Leu Glu Val
 1700 1705 1710
 Gln Gly Pro Val Ser Leu Asn Gly Cys Pro Asp Gln
 1715 1720

<210> 58

<211> 1172

<212> PRT

<213> Homo sapiens

<400> 58

Met Arg Pro Phe Phe Leu Leu Cys Phe Ala Leu Pro Gly Leu Leu His
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 Ala Gln Gln Ala Cys Ser Arg Gly Ala Cys Tyr Pro Pro Val Gly Asp
 20 25 30
 Leu Leu Val Gly Arg Thr Arg Phe Leu Arg Ala Ser Ser Thr Cys Gly
 35 40 45
 Leu Thr Lys Pro Glu Thr Tyr Cys Thr Gln Tyr Gly Glu Trp Gln Met
 50 55 60
 Lys Cys Cys Lys Cys Asp Ser Arg Gln Pro His Asn Tyr Tyr Ser His
 65 70 75 80
 Arg Val Glu Asn Val Ala Ser Ser Ser Gly Pro Met Arg Trp Trp Gln

85								90				95			
Ser	Gln	Asn	Asp	Val	Asn	Pro	Val	Ser	Leu	Gln	Leu	Asp	Leu	Asp	Arg
			100				105			110					
Arg	Phe	Gln	Leu	Gln	Glu	Val	Met	Met	Glu	Phe	Gln	Gly	Pro	Met	Pro
		115				120			125						
Ala	Gly	Met	Leu	Ile	Glu	Arg	Ser	Ser	Asp	Phe	Gly	Lys	Thr	Trp	Arg
		130				135			140						
Val	Tyr	Gln	Tyr	Leu	Ala	Ala	Asp	Cys	Thr	Ser	Thr	Phe	Pro	Arg	Val
145				150			155			160					
Arg	Gln	Gly	Arg	Pro	Gln	Ser	Trp	Gln	Asp	Val	Arg	Cys	Gln	Ser	Leu
			165				170			175					
Pro	Gln	Arg	Pro	Asn	Ala	Arg	Leu	Asn	Gly	Gly	Lys	Val	Gln	Leu	Asn
		180				185			190						
Leu	Met	Asp	Leu	Val	Ser	Gly	Ile	Pro	Ala	Thr	Gln	Ser	Gln	Lys	Ile
		195				200			205						
Gln	Glu	Val	Gly	Glu	Ile	Thr	Asn	Leu	Arg	Val	Asn	Phe	Thr	Arg	Leu
		210				215			220						
Ala	Pro	Val	Pro	Gln	Arg	Gly	Tyr	His	Pro	Pro	Ser	Ala	Tyr	Tyr	Ala
225				230			235			240					
Val	Ser	Gln	Leu	Arg	Leu	Gln	Gly	Ser	Cys	Phe	Cys	His	Gly	His	Ala
		245				250			255						
Asp	Arg	Cys	Ala	Pro	Lys	Pro	Gly	Ala	Ser	Ala	Gly	Pro	Ser	Thr	Ala
		260				265			270						
Val	Gln	Val	His	Asp	Val	Cys	Val	Cys	Gln	His	Asn	Thr	Ala	Gly	Pro
		275				280			285						
Asn	Cys	Glu	Arg	Cys	Ala	Pro	Phe	Tyr	Asn	Asn	Arg	Pro	Trp	Arg	Pro
		290				295			300						
Ala	Glu	Gly	Gln	Asp	Ala	His	Glu	Cys	Gln	Arg	Cys	Asp	Cys	Asn	Gly
305				310			315			320					
His	Ser	Glu	Thr	Cys	His	Phe	Asp	Pro	Ala	Val	Phe	Ala	Ala	Ser	Gln
		325				330			335						
Gly	Ala	Tyr	Gly	Gly	Val	Cys	Asp	Asn	Cys	Arg	Asp	His	Thr	Glu	Gly
		340				345			350						
Lys	Asn	Cys	Glu	Arg	Cys	Gln	Leu	His	Tyr	Phe	Arg	Asn	Arg	Arg	Pro
		355				360			365						
Gly	Ala	Ser	Ile	Gln	Glu	Thr	Cys	Ile	Ser	Cys	Glu	Cys	Asp	Pro	Asp
		370				375			380						
Gly	Ala	Val	Pro	Gly	Ala	Pro	Cys	Asp	Pro	Val	Thr	Gly	Gln	Cys	Val
385				390			395			400					
Cys	Lys	Glu	His	Val	Gln	Gly	Glu	Arg	Cys	Asp	Leu	Cys	Lys	Pro	Gly
		405				410			415						
Phe	Thr	Gly	Leu	Thr	Tyr	Ala	Asn	Pro	Gln	Gly	Cys	His	Arg	Cys	Asp
		420				425			430						
Cys	Asn	Ile	Leu	Gly	Ser	Arg	Arg	Asp	Met	Pro	Cys	Asp	Glu	Glu	Ser
		435				440			445						
Gly	Arg	Cys	Leu	Cys	Leu	Pro	Asn	Val	Val	Gly	Pro	Lys	Cys	Asp	Gln
		450				455			460						
Cys	Ala	Pro	Tyr	His	Trp	Lys	Leu	Ala	Ser	Gly	Gln	Gly	Cys	Glu	Pro
465				470			475			480					
Cys	Ala	Cys	Asp	Pro	His	Asn	Ser	Leu	Ser	Pro	Gln	Cys	Asn	Gln	Phe
		485				490			495						
Thr	Gly	Gln	Cys	Pro	Cys	Arg	Glu	Gly	Phe	Gly					

		515					520				525				
Thr	Gly	Cys	Arg	Ala	Cys	Asp	Cys	Asp	Phe	Arg	Gly	Thr	Glu	Gly	Pro
	530					535					540				
Gly	Cys	Asp	Lys	Ala	Ser	Gly	Arg	Cys	Leu	Cys	Arg	Pro	Gly	Leu	Thr
545					550					555					560
Gly	Pro	Arg	Cys	Asp	Gln	Cys	Gln	Arg	Gly	Tyr	Cys	Asn	Arg	Tyr	Pro
				565					570					575	
Val	Cys	Val	Ala	Cys	His	Pro	Cys	Phe	Gln	Thr	Tyr	Asp	Ala	Asp	Leu
			580					585					590		
Arg	Glu	Gln	Ala	Leu	Arg	Phe	Gly	Arg	Leu	Arg	Asn	Ala	Thr	Ala	Ser
		595					600					605			
Leu	Trp	Ser	Gly	Pro	Gly	Leu	Glu	Asp	Arg	Gly	Leu	Ala	Ser	Arg	Ile
	610					615					620				
Leu	Asp	Ala	Lys	Ser	Lys	Ile	Glu	Gln	Ile	Arg	Ala	Val	Leu	Ser	Ser
625					630					635					640
Pro	Ala	Val	Thr	Glu	Gln	Glu	Val	Ala	Gln	Val	Ala	Ser	Ala	Ile	Leu
				645					650					655	
Ser	Leu	Arg	Arg	Thr	Leu	Gln	Gly	Leu	Gln	Leu	Asp	Leu	Pro	Leu	Glu
			660					665					670		
Glu	Glu	Thr	Leu	Ser	Leu	Pro	Arg	Asp	Leu	Glu	Ser	Leu	Asp	Arg	Ser
		675						680					685		
Phe	Asn	Gly	Leu	Leu	Thr	Met	Tyr	Gln	Arg	Lys	Arg	Glu	Gln	Phe	Glu
	690					695					700				
Lys	Ile	Ser	Ser	Ala	Asp	Pro	Ser	Gly	Ala	Phe	Arg	Met	Leu	Ser	Thr
705					710					715					720
Ala	Tyr	Glu	Gln	Ser	Ala	Gln	Ala	Ala	Gln	Gln	Val	Ser	Asp	Ser	Ser
				725					730					735	
Arg	Leu	Leu	Asp	Gln	Leu	Arg	Asp	Ser	Arg	Arg	Glu	Ala	Glu	Arg	Leu
			740					745					750		
Val	Arg	Gln	Ala	Gly	Gly	Gly	Gly	Gly	Thr	Gly	Ser	Pro	Lys	Leu	Val
		755					760					765			
Ala	Leu	Arg	Leu	Glu	Met	Ser	Ser	Leu	Pro	Asp	Leu	Thr	Pro	Thr	Phe
	770					775					780				
Asn	Lys	Leu	Cys	Gly	Asn	Ser	Arg	Gln	Met	Ala	Cys	Thr	Pro	Ile	Ser
785					790					795					800
Cys	Pro	Gly	Glu	Leu	Cys	Pro	Gln	Asp	Asn	Gly	Thr	Ala	Cys	Gly	Ser
				805					810					815	
Arg	Cys	Arg	Gly	Val	Leu	Pro	Arg	Ala	Gly	Gly	Ala	Phe	Leu	Met	Ala
			820					825					830		
Gly	Gln	Val	Ala	Glu	Gln	Leu	Arg	Gly	Phe	Asn	Ala	Gln	Leu	Gln	Arg
		835					840					845			
Thr	Arg	Gln	Met	Ile	Arg	Ala	Ala	Glu	Glu	Ser	Ala	Ser	Gln	Ile	Gln
	850					855					860				
Ser	Ser	Ala	Gln	Arg	Leu	Glu	Thr	Gln	Val	Ser	Ala	Ser	Arg	Ser	Gln
865															

945					950					955				960	
Arg	Leu	Gln	Ala	Glu	Ala	Glu	Glu	Ala	Arg	Ser	Arg	Ala	His	Ala	Val
				965					970					975	
Glu	Gly	Gln	Val	Glu	Asp	Val	Val	Gly	Asn	Leu	Arg	Gln	Gly	Thr	Val
			980					985					990		
Ala	Leu	Gln	Glu	Ala	Gln	Asp	Thr	Met	Gln	Gly	Thr	Ser	Arg	Ser	Leu
		995					1000					1005			
Arg	Leu	Ile	Gln	Asp	Arg	Val	Ala	Glu	Val	Gln	Gln	Val	Leu	Arg	Pro
1010					1015					1020					
Ala	Glu	Lys	Leu	Val	Thr	Ser	Met	Thr	Lys	Gln	Leu	Gly	Asp	Phe	Trp
1025					1030				1035					1040	
Thr	Arg	Met	Glu	Glu	Leu	Arg	His	Gln	Ala	Arg	Gln	Gln	Gly	Ala	Glu
			1045					1050					1055		
Ala	Val	Gln	Ala	Gln	Gln	Leu	Ala	Glu	Gly	Ala	Ser	Glu	Gln	Ala	Leu
			1060					1065					1070		
Ser	Ala	Gln	Glu	Gly	Phe	Glu	Arg	Ile	Lys	Gln	Lys	Tyr	Ala	Glu	Leu
	1075					1080				1085					
Lys	Asp	Arg	Leu	Gly	Gln	Ser	Ser	Met	Leu	Gly	Glu	Gln	Gly	Ala	Arg
1090					1095					1100					
Ile	Gln	Ser	Val	Lys	Thr	Glu	Ala	Glu	Glu	Leu	Phe	Gly	Glu	Thr	Met
1105				1110					1115					1120	
Glu	Met	Met	Asp	Arg	Met	Lys	Asp	Met	Glu	Leu	Glu	Leu	Leu	Arg	Gly
			1125					1130					1135		
Ser	Gln	Ala	Ile	Met	Leu	Arg	Ser	Ala	Asp	Leu	Thr	Gly	Leu	Glu	Lys
		1140					1145					1150			
Arg	Val	Glu	Gln	Ile	Arg	Asp	His	Ile	Asn	Gly	Arg	Val	Leu	Tyr	Tyr
	1155				1160					1165					
Ala	Thr	Cys	Lys												
1170															

<210> 59

<211> 1193

<212> PRT

<213> Homo sapiens

<400> 59

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

Gly 145	Ile	Ala	Gly	Pro	Cys 150	Asp	Ala	Gly	Arg	Cys 155	Val	Cys	Lys	Pro	Ala 160
Val	Thr	Gly	Glu	Arg 165	Cys	Asp	Arg	Cys	Arg 170	Ser	Gly	Tyr	Tyr	Asn 175	Leu
Asp	Gly	Gly	Asn 180	Pro	Glu	Gly	Cys	Thr 185	Gln	Cys	Phe	Cys	Tyr 190	Gly	His
Ser	Ala	Ser 195	Cys	Arg	Ser	Ser	Ala 200	Glu	Tyr	Ser	Val	His 205	Lys	Ile	Thr
Ser	Thr 210	Phe	His	Gln	Asp 215	Val	Asp	Gly	Trp	Lys	Ala 220	Val	Gln	Arg	Asn
Gly 225	Ser	Pro	Ala	Lys	Leu 230	Gln	Trp	Ser	Gln	Arg 235	His	Gln	Asp	Val	Phe 240
Ser	Ser	Ala	Gln	Arg 245	Leu	Asp	Pro	Val	Tyr 250	Phe	Val	Ala	Pro	Ala 255	Lys
Phe	Leu	Gly	Asn 260	Gln	Gln	Val	Ser	Tyr 265	Gly	Gln	Ser	Leu	Ser	Phe 270	Asp
Tyr	Arg	Val 275	Asp	Arg	Gly	Gly	Arg 280	His	Pro	Ser	Ala	His 285	Asp	Val	Ile
Leu	Glu 290	Gly	Ala	Gly	Leu	Arg 295	Ile	Thr	Ala	Pro	Leu	Met 300	Pro	Leu	Gly
Lys 305	Thr	Leu	Pro	Cys 310	Gly	Leu	Thr	Lys	Thr	Tyr 315	Thr	Phe	Arg	Leu	Asn 320
Glu	His	Pro	Ser	Asn 325	Asn	Trp	Ser	Pro	Gln 330	Leu	Ser	Tyr	Phe	Glu 335	Tyr
Arg	Arg	Leu 340	Leu	Arg	Asn	Leu	Thr	Ala 345	Leu	Arg	Ile	Arg	Ala 350	Thr	Tyr
Gly	Glu	Tyr 355	Ser	Thr	Gly	Tyr	Ile 360	Asp	Asn	Val	Thr	Leu 365	Ile	Ser	Ala
Arg	Pro	Val 370	Ser	Gly	Ala	Pro	Ala 375	Pro	Trp	Val	Glu	Gln 380	Cys	Ile	Cys
Pro	Val	Gly	Tyr	Lys	Gly 390	Gln	Phe	Cys	Gln	Asp 395	Cys	Ala	Ser	Gly	Tyr 400
Lys	Arg	Asp	Ser	Ala 405	Arg	Leu	Gly	Pro	Phe 410	Gly	Thr	Cys	Ile	Pro	Cys 415
Asn	Cys	Gln 420	Gly	Gly	Gly	Ala	Cys	Asp 425	Pro	Asp	Thr	Gly	Asp 430	Cys	Tyr
Ser	Gly	Asp 435	Glu	Asn	Pro	Asp	Ile 440	Glu	Cys	Ala	Asp	Cys 445	Pro	Ile	Gly
Phe	Tyr 450	Asn	Asp	Pro	His	Asp 455	Pro	Arg	Ser	Cys	Lys	Pro	Cys	Pro	Cys
His	Asn	Gly	Phe	Ser	Cys 470	Ser	Val	Met	Pro	Glu	Thr	Glu	Glu	Val	Val 480
Cys	Asn	Asn	Cys	Pro	Pro	Gly	Val	Thr	Gly 490	Ala	Arg	Cys	Glu	Leu	Cys 495
Ala	Asp	Gly	Tyr 500	Phe	Gly	Asp	Pro	Phe 505	Gly	Glu	His	Gly	Pro	Val	Arg
Pro	Cys	Gln 515	Pro	Cys	Gln	Cys	Asn 520	Asn	Asn	Val	Asp	Pro	Ser	Ala	Ser
Gly	Asn 530	Cys	Asp	Arg	Leu	Thr	Gly 535	Arg	Cys	Leu	Lys	Cys	Ile	His	Asn
Thr	Ala	Gly	Ile	Tyr	Cys 550	Asp	Gln	Cys	Lys	Ala 555	Gly	Tyr	Phe	Gly	Asp 560
Pro	Leu	Ala	Pro	Asn 565	Pro	Ala	Asp	Lys	Cys 570	Arg	Ala	Cys	Asn	Cys	Asn 575

Pro	Met	Gly	Ser	Glu	Pro	Val	Gly	Cys	Arg	Ser	Asp	Gly	Thr	Cys	Val
			580					585					590		
Cys	Lys	Pro	Gly	Phe	Gly	Gly	Pro	Asn	Cys	Glu	His	Gly	Ala	Phe	Ser
		595					600					605			
Cys	Pro	Ala	Cys	Tyr	Asn	Gln	Val	Lys	Ile	Gln	Met	Asp	Gln	Phe	Met
	610					615					620				
Gln	Gln	Leu	Gln	Arg	Met	Glu	Ala	Leu	Ile	Ser	Lys	Ala	Gln	Gly	Gly
625					630					635					640
Asp	Gly	Val	Val	Pro	Asp	Thr	Glu	Leu	Glu	Gly	Arg	Met	Gln	Gln	Ala
				645					650					655	
Glu	Gln	Ala	Leu	Gln	Asp	Ile	Leu	Arg	Asp	Ala	Gln	Ile	Ser	Glu	Gly
			660					665					670		
Ala	Ser	Arg	Ser	Leu	Gly	Leu	Gln	Leu	Ala	Lys	Val	Arg	Ser	Gln	Glu
		675					680					685			
Asn	Ser	Tyr	Gln	Ser	Arg	Leu	Asp	Asp	Leu	Lys	Met	Thr	Val	Glu	Arg
	690					695					700				
Val	Arg	Ala	Leu	Gly	Ser	Gln	Tyr	Gln	Asn	Arg	Val	Arg	Asp	Thr	His
705					710					715					720
Arg	Leu	Ile	Thr	Gln	Met	Gln	Leu	Ser	Leu	Ala	Glu	Ser	Glu	Ala	Ser
				725					730					735	
Leu	Gly	Asn	Thr	Asn	Ile	Pro	Ala	Ser	Asp	His	Tyr	Val	Gly	Pro	Asn
			740					745					750		
Gly	Phe	Lys	Ser	Leu	Ala	Gln	Glu	Ala	Thr	Arg	Leu	Ala	Glu	Ser	His
		755					760					765			
Val	Glu	Ser	Ala	Ser	Asn	Met	Glu	Gln	Leu	Thr	Arg	Glu	Thr	Glu	Asp
	770					775					780				
Tyr	Ser	Lys	Gln	Ala	Leu	Ser	Leu	Val	Arg	Lys	Ala	Leu	His	Glu	Gly
785					790					795					800
Val	Gly	Ser	Gly	Ser	Gly	Ser	Pro	Asp	Gly	Ala	Val	Val	Gln	Gly	Leu
			805						810					815	
Val	Glu	Lys	Leu	Glu	Lys	Thr	Lys	Ser	Leu	Ala	Gln	Gln	Leu	Thr	Arg
			820					825					830		
Glu	Ala	Thr	Gln	Ala	Glu	Ile	Glu	Ala	Asp	Arg	Ser	Tyr	Gln	His	Ser
		835					840					845			
Leu	Arg	Leu	Leu	Asp	Ser	Val	Ser	Arg	Leu	Gln	Gly	Val	Ser	Asp	Gln
	850					855					860				
Ser	Phe	Gln	Val	Glu	Glu	Ala	Lys	Arg	Ile	Lys	Gln	Lys	Ala	Asp	Ser
865					870					875					880
Leu	Ser	Ser	Leu	Val	Thr	Arg	His	Met	Asp	Glu	Phe	Lys	Arg	Thr	Gln
				885					890					895	
Lys	Asn	Leu	Gly	Asn	Trp	Lys	Glu	Glu	Ala	Gln	Gln	Leu	Leu	Gln	Asn
			900					905					910		
Gly	Lys	Ser	Gly	Arg	Glu	Lys	Ser	Asp	Gln	Leu	Leu	Ser	Arg	Ala	Asn
		915					920					925			
Leu	Ala	Lys													

Asn	Gly	Ala	Gly	Glu	Ala	Leu	Glu	Ile	Ser	Ser	Glu	Ile	Glu	Gln	Glu
1010						1015					1020				
Ile	Gly	Ser	Leu	Asn	Leu	Glu	Ala	Asn	Val	Thr	Ala	Asp	Gly	Ala	Leu
1025					1030				1035					1040	
Ala	Met	Glu	Lys	Gly	Leu	Ala	Ser	Leu	Lys	Ser	Glu	Met	Arg	Glu	Val
			1045						1050					1055	
Glu	Gly	Glu	Leu	Glu	Arg	Lys	Glu	Leu	Glu	Phe	Asp	Thr	Asn	Met	Asp
			1060					1065					1070		
Ala	Val	Gln	Met	Val	Ile	Thr	Glu	Ala	Gln	Lys	Val	Asp	Thr	Arg	Ala
		1075					1080					1085			
Lys	Asn	Ala	Gly	Val	Thr	Ile	Gln	Asp	Thr	Leu	Asn	Thr	Leu	Asp	Gly
	1090					1095					1100				
Leu	Leu	His	Leu	Met	Asp	Gln	Pro	Leu	Ser	Val	Asp	Glu	Glu	Gly	Leu
1105					1110					1115				1120	
Val	Leu	Leu	Glu	Gln	Lys	Leu	Ser	Arg	Ala	Lys	Thr	Gln	Ile	Asn	Ser
				1125					1130					1135	
Gln	Leu	Arg	Pro	Met	Met	Ser	Glu	Leu	Glu	Glu	Arg	Ala	Arg	Gln	Gln
			1140					1145					1150		
Arg	Gly	His	Leu	His	Leu	Leu	Glu	Thr	Ser	Ile	Asp	Gly	Ile	Leu	Ala
		1155					1160					1165			
Asp	Val	Lys	Asn	Leu	Glu	Asn	Ile	Arg	Asp	Asn	Leu	Pro	Pro	Gly	Cys
	1170					1175					1180				
Tyr	Asn	Thr	Gln	Ala	Leu	Glu	Gln	Gln							
1185					1190										

<210> 60

<211> 1296

<212> PRT

<213> Clostridium botulinum

<400> 60

Met	Pro	Phe	Val	Asn	Lys	Gln	Phe	Asn	Tyr	Lys	Asp	Pro	Val	Asn	Gly
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Val	Asp	Ile	Ala	Tyr	Ile	Lys	Ile	Pro	Asn	Ala	Gly	Gln	Met	Gln	Pro
			20					25					30		
Val	Lys	Ala	Phe	Lys	Ile	His	Asn	Lys	Ile	Trp	Val	Ile	Pro	Glu	Arg
		35					40					45			
Asp	Thr	Phe	Thr	Asn	Pro	Glu	Gly	Asp	Leu	Asn	Pro	Pro	Pro	Glu	
	50					55				60					
Ala	Lys	Gln	Val	Pro	Val	Ser	Tyr	Tyr	Asp	Ser	Thr	Tyr	Leu	Ser	Thr
65					70				75					80	
Asp	Asn	Glu	Lys	Asp	Asn	Tyr	Leu	Lys	Gly	Val	Thr	Lys	Leu	Phe	Glu
				85					90					95	
Arg	Ile	Tyr	Ser	Thr	Asp	Leu	Gly	Arg	Met	Leu	Leu	Thr	Ser	Ile	Val
			100					105					110		
Arg	Gly	Ile	Pro	Phe	Trp	Gly	Gly	Ser	Thr	Ile	Asp	Thr	Glu	Leu	Lys
		115					120					125			
Val	Ile	Asp	Thr	Asn	Cys	Ile	Asn	Val	Ile	Gln	Pro	Asp	Gly	Ser	Tyr
	130					135					140				
Arg	Ser	Glu	Glu	Leu	Asn	Leu	Val	Ile	Ile	Gly	Pro	Ser	Ala	Asp	Ile
145					150					155				160	
Ile	Gln	Phe	Glu	Cys	Lys	Ser	Phe	Gly	His	Glu	Val	Leu	Asn	Leu	Thr
				165					170					175	
Arg	Asn	Gly	Tyr	Gly	Ser	Thr	Gln	Tyr	Ile	Arg	Phe	Ser	Pro	Asp	Phe

			180					185				190			
Thr	Phe	Gly	Phe	Glu	Glu	Ser	Leu	Glu	Val	Asp	Thr	Asn	Pro	Leu	Leu
		195					200					205			
Gly	Ala	Gly	Lys	Phe	Ala	Thr	Asp	Pro	Ala	Val	Thr	Leu	Ala	His	Glu
	210					215					220				
Leu	Ile	His	Ala	Gly	His	Arg	Leu	Tyr	Gly	Ile	Ala	Ile	Asn	Pro	Asn
225					230					235					240
Arg	Val	Phe	Lys	Val	Asn	Thr	Asn	Ala	Tyr	Tyr	Glu	Met	Ser	Gly	Leu
				245					250					255	
Glu	Val	Ser	Phe	Glu	Glu	Leu	Arg	Thr	Phe	Gly	Gly	His	Asp	Ala	Lys
			260					265					270		
Phe	Ile	Asp	Ser	Leu	Gln	Glu	Asn	Glu	Phe	Arg	Leu	Tyr	Tyr	Tyr	Asn
		275					280					285			
Lys	Phe	Lys	Asp	Ile	Ala	Ser	Thr	Leu	Asn	Lys	Ala	Lys	Ser	Ile	Val
	290					295					300				
Gly	Thr	Thr	Ala	Ser	Leu	Gln	Tyr	Met	Lys	Asn	Val	Phe	Lys	Glu	Lys
305					310					315					320
Tyr	Leu	Leu	Ser	Glu	Asp	Thr	Ser	Gly	Lys	Phe	Ser	Val	Asp	Lys	Leu
				325					330					335	
Lys	Phe	Asp	Lys	Leu	Tyr	Lys	Met	Leu	Thr	Glu	Ile	Tyr	Thr	Glu	Asp
			340					345					350		
Asn	Phe	Val	Lys	Phe	Phe	Lys	Val	Leu	Asn	Arg	Lys	Thr	Tyr	Leu	Asn
		355					360					365			
Phe	Asp	Lys	Ala	Val	Phe	Lys	Ile	Asn	Ile	Val	Pro	Lys	Val	Asn	Tyr
	370					375					380				
Thr	Ile	Tyr	Asp	Gly	Phe	Asn	Leu	Arg	Asn	Thr	Asn	Leu	Ala	Ala	Asn
385					390					395					400
Phe	Asn	Gly	Gln	Asn	Thr	Glu	Ile	Asn	Asn	Met	Asn	Phe	Thr	Lys	Leu
				405					410					415	
Lys	Asn	Phe	Thr	Gly	Leu	Phe	Glu	Phe	Tyr	Lys	Leu	Leu	Cys	Val	Arg
			420					425					430		
Gly	Ile	Ile	Thr	Ser	Lys	Thr	Lys	Ser	Leu	Asp	Lys	Gly	Tyr	Asn	Lys
	435						440					445			
Ala	Leu	Asn	Asp	Leu	Cys	Ile	Lys	Val	Asn	Asn	Trp	Asp	Leu	Phe	Phe
	450					455					460				
Ser	Pro	Ser	Glu	Asp	Asn	Phe	Thr	Asn	Asp	Leu	Asn	Lys	Gly	Glu	Glu
465					470					475					480
Ile	Thr	Ser	Asp	Thr	Asn	Ile	Glu	Ala	Ala	Glu	Glu	Asn	Ile	Ser	Leu
				485					490					495	
Asp	Leu	Ile	Gln	Gln	Tyr	Tyr	Leu	Thr	Phe	Asn	Phe	Asp	Asn	Glu	Pro
			500					505					510		
Glu	Asn	Ile	Ser	Ile	Glu	Asn	Leu	Ser	Ser	Asp	Ile	Ile	Gly	Gln	Leu
		515					520					525			
Glu	Leu	Met	Pro	Asn	Ile	Glu	Arg	Phe	Pro	Asn	Gly	Lys	Lys	Tyr	Glu

610	615	620
Asp Lys Ile Ala Asp Ile Thr Ile Ile Ile Pro Tyr Ile Gly Pro Ala		
625	630	635
Leu Asn Ile Gly Asn Met Leu Tyr Lys Asp Asp Phe Val Gly Ala Leu		
	645	650
Ile Phe Ser Gly Ala Val Ile Leu Leu Glu Phe Ile Pro Glu Ile Ala		
	660	665
Ile Pro Val Leu Gly Thr Phe Ala Leu Val Ser Tyr Ile Ala Asn Lys		
	675	680
Val Leu Thr Val Gln Thr Ile Asp Asn Ala Leu Ser Lys Arg Asn Glu		
	690	695
Lys Trp Asp Glu Val Tyr Lys Tyr Ile Val Thr Asn Trp Leu Ala Lys		
705	710	715
Val Asn Thr Gln Ile Asp Leu Ile Arg Lys Lys Met Lys Glu Ala Leu		
	725	730
Glu Asn Gln Ala Glu Ala Thr Lys Ala Ile Ile Asn Tyr Gln Tyr Asn		
	740	745
Gln Tyr Thr Glu Glu Glu Lys Asn Asn Ile Asn Phe Asn Ile Asp Asp		
	755	760
Leu Ser Ser Lys Leu Asn Glu Ser Ile Asn Lys Ala Met Ile Asn Ile		
	770	775
Asn Lys Phe Leu Asn Gln Cys Ser Val Ser Tyr Leu Met Asn Ser Met		
785	790	795
Ile Pro Tyr Gly Val Lys Arg Leu Glu Asp Phe Asp Ala Ser Leu Lys		
	805	810
Asp Ala Leu Leu Lys Tyr Ile Tyr Asp Asn Arg Gly Thr Leu Ile Gly		
	820	825
Gln Val Asp Arg Leu Lys Asp Lys Val Asn Asn Thr Leu Ser Thr Asp		
	835	840
Ile Pro Phe Gln Leu Ser Lys Tyr Val Asp Asn Gln Arg Leu Leu Ser		
	850	855
Thr Phe Thr Glu Tyr Ile Lys Asn Ile Ile Asn Thr Ser Ile Leu Asn		
865	870	875
Leu Arg Tyr Glu Ser Asn His Leu Ile Asp Leu Ser Arg Tyr Ala Ser		
	885	890
Lys Ile Asn Ile Gly Ser Lys Val Asn Phe Asp Pro Ile Asp Lys Asn		
	900	905
Gln Ile Gln Leu Phe Asn Leu Glu Ser Ser Lys Ile Glu Val Ile Leu		
	915	920
Lys Asn Ala Ile Val Tyr Asn Ser Met Tyr Glu Asn Phe Ser Thr Ser		
	930	935
Phe Trp Ile Arg Ile Pro Lys Tyr Phe Asn Ser Ile Ser Leu Asn Asn		
945	950	955
Glu Tyr Thr Ile Ile Asn Cys Met Glu Asn Asn Ser Gly Trp Lys Val		
	965	970
Ser Leu Asn Tyr Gly Glu Ile Ile Trp Thr Leu Gln Asp Thr Gln Glu		
	980	985
Ile Lys Gln Arg Val Val Phe Lys Tyr Ser Gln Met Ile Asn Ile Ser		
	995	1000
Asp Tyr Ile Asn Arg Trp Ile Phe Val Thr Ile Thr Asn Asn Arg Leu		
	1010	1015
Asn Asn Ser Lys Ile Tyr Ile Asn Gly Arg Leu Ile Asp Gln Lys Pro		
1025	1030	1035
Ile Ser Asn Leu Gly Asn Ile His Ala Ser Asn Asn Ile Met Phe Lys		
		1040

Phe	Asn	Thr	Asn	Ile	Ala	Ser	Val	Thr	Val	Asn	Lys	Leu	Ile	Ser	Asn	130	135	140
Pro	Gly	Glu	Val	Glu	Arg	Lys	Lys	Gly	Ile	Phe	Ala	Asn	Leu	Ile	Ile	145	150	155
Phe	Gly	Pro	Gly	Pro	Val	Leu	Asn	Glu	Asn	Glu	Thr	Ile	Asp	Ile	Gly	165	170	175
Ile	Gln	Asn	His	Phe	Ala	Ser	Arg	Glu	Gly	Phe	Gly	Gly	Ile	Met	Gln	180	185	190
Met	Lys	Phe	Cys	Pro	Glu	Tyr	Val	Ser	Val	Phe	Asn	Asn	Val	Gln	Glu	195	200	205
Asn	Lys	Gly	Ala	Ser	Ile	Phe	Asn	Arg	Arg	Gly	Tyr	Phe	Ser	Asp	Pro	210	215	220
Ala	Leu	Ile	Leu	Met	His	Glu	Leu	Ile	His	Val	Leu	His	Gly	Leu	Tyr	225	230	235
Gly	Ile	Lys	Val	Asp	Asp	Leu	Pro	Ile	Val	Pro	Asn	Glu	Lys	Lys	Phe	245	250	255
Phe	Met	Gln	Ser	Thr	Asp	Ala	Ile	Gln	Ala	Glu	Glu	Leu	Tyr	Thr	Phe	260	265	270
Gly	Gly	Gln	Asp	Pro	Ser	Ile	Ile	Thr	Pro	Ser	Thr	Asp	Lys	Ser	Ile	275	280	285
Tyr	Asp	Lys	Val	Leu	Gln	Asn	Phe	Arg	Gly	Ile	Val	Asp	Arg	Leu	Asn	290	295	300
Lys	Val	Leu	Val	Cys	Ile	Ser	Asp	Pro	Asn	Ile	Asn	Ile	Asn	Ile	Tyr	305	310	315
Lys	Asn	Lys	Phe	Lys	Asp	Lys	Tyr	Lys	Phe	Val	Glu	Asp	Ser	Glu	Gly	325	330	335
Lys	Tyr	Ser	Ile	Asp	Val	Glu	Ser	Phe	Asp	Lys	Leu	Tyr	Lys	Ser	Leu	340	345	350
Met	Phe	Gly	Phe	Thr	Glu	Thr	Asn	Ile	Ala	Glu	Asn	Tyr	Lys	Ile	Lys	355	360	365
Thr	Arg	Ala	Ser	Tyr	Phe	Ser	Asp	Ser	Leu	Pro	Pro	Val	Lys	Ile	Lys	370	375	380
Asn	Leu	Leu	Asp	Asn	Glu	Ile	Tyr	Thr	Ile	Glu	Glu	Gly	Phe	Asn	Ile	385	390	395
Ser	Asp	Lys	Asp	Met	Glu	Lys	Glu	Tyr	Arg	Gly	Gln	Asn	Lys	Ala	Ile	405	410	415
Asn	Lys	Gln	Ala	Tyr	Glu	Glu	Ile	Ser	Lys	Glu	His	Leu	Ala	Val	Tyr	420	425	430
Lys	Ile	Gln	Met	Cys	Lys	Ser	Val	Lys	Ala	Pro	Gly	Ile	Cys	Ile	Asp	435	440	445
Val	Asp	Asn	Glu	Asp	Leu	Phe	Phe	Ile	Ala	Asp	Lys	Asn	Ser	Phe	Ser	450	455	460
Asp	Asp	Leu	Ser	Lys	Asn	Glu	Arg	Ile	Glu	Tyr	Asn	Thr	Gln	Ser	Asn	465	470	475
Tyr	Ile	Glu	Asn	Asp	Phe	Pro	Ile	Asn	Glu	Leu	Ile	Leu	Asp	Thr	Asp	485	490	495
Leu	Ile	Ser	Lys	Ile	Glu	Leu	Pro	Ser	Glu	Asn	Thr	Glu	Ser	Leu	Thr	500	505	510
Asp	Phe	Asn	Val	Asp	Val	Pro	Val	Tyr	Glu	Lys	Gln	Pro	Ala	Ile	Lys	515	520	525
Lys	Ile	Phe	Thr	Asp	Glu	Asn	Thr	Ile	Phe	Gln	Tyr	Leu	Tyr	Ser	Gln	530	535	540
Thr	Phe	Pro	Leu	Asp	Ile	Arg	Asp	Ile	Ser	Leu	Thr	Ser	Ser	Phe	Asp	545	550	555
																560		

Asp	Ala	Leu	Leu	Phe	Ser	Asn	Lys	Val	Tyr	Ser	Phe	Phe	Ser	Met	Asp
				565					570					575	
Tyr	Ile	Lys	Thr	Ala	Asn	Lys	Val	Val	Glu	Ala	Gly	Leu	Phe	Ala	Gly
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Trp	Val	Lys	Gln	Ile	Val	Asn	Asp	Phe	Val	Ile	Glu	Ala	Asn	Lys	Ser
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Asn	Thr	Met	Asp	Lys	Ile	Ala	Asp	Ile	Ser	Leu	Ile	Val	Pro	Tyr	Ile
	610					615					620				
Gly	Leu	Ala	Leu	Asn	Val	Gly	Asn	Glu	Thr	Ala	Lys	Gly	Asn	Phe	Glu
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Asn	Ala	Phe	Glu	Ile	Ala	Gly	Ala	Ser	Ile	Leu	Leu	Glu	Phe	Ile	Pro
			645						650					655	
Glu	Leu	Leu	Ile	Pro	Val	Val	Gly	Ala	Phe	Leu	Leu	Glu	Ser	Tyr	Ile
			660					665					670		
Asp	Asn	Lys	Asn	Lys	Ile	Ile	Lys	Thr	Ile	Asp	Asn	Ala	Leu	Thr	Lys
		675					680					685			
Arg	Asn	Glu	Lys	Trp	Ser	Asp	Met	Tyr	Gly	Leu	Ile	Val	Ala	Gln	Trp
	690					695					700				
Leu	Ser	Thr	Val	Asn	Thr	Gln	Phe	Tyr	Thr	Ile	Lys	Glu	Gly	Met	Tyr
705				710						715					720
Lys	Ala	Leu	Asn	Tyr	Gln	Ala	Gln	Ala	Leu	Glu	Glu	Ile	Ile	Lys	Tyr
			725						730					735	
Arg	Tyr	Asn	Ile	Tyr	Ser	Glu	Lys	Glu	Lys	Ser	Asn	Ile	Asn	Ile	Asp
		740						745				750			
Phe	Asn	Asp	Ile	Asn	Ser	Lys	Leu	Asn	Glu	Gly	Ile	Asn	Gln	Ala	Ile
		755					760					765			
Asp	Asn	Ile	Asn	Asn	Phe	Ile	Asn	Gly	Cys	Ser	Val	Ser	Tyr	Leu	Met
	770					775					780				
Lys	Lys	Met	Ile	Pro	Leu	Ala	Val	Glu	Lys	Leu	Leu	Asp	Phe	Asp	Asn
785				790						795					800
Thr	Leu	Lys	Lys	Asn	Leu	Leu	Asn	Tyr	Ile	Asp	Glu	Asn	Lys	Leu	Tyr
			805						810					815	
Leu	Ile	Gly	Ser	Ala	Glu	Tyr	Glu	Lys	Ser	Lys	Val	Asn	Lys	Tyr	Leu
		820					825						830		
Lys	Thr	Ile	Met	Pro	Phe	Asp	Leu	Ser	Ile	Tyr	Thr	Asn	Asp	Thr	Ile
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Leu	Ile	Glu	Met	Phe	Asn	Lys	Tyr	Asn	Ser	Glu	Ile	Leu	Asn	Asn	Ile
	850					855					860				
Ile	Leu	Asn	Leu	Arg	Tyr	Lys	Asp	Asn	Asn	Leu	Ile	Asp	Leu	Ser	Gly
865				870						875					880
Tyr	Gly	Ala	Lys	Val	Glu	Val	Tyr	Asp	Gly	Val	Glu	Leu	Asn	Asp	Lys
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Asn	Gln	Phe	Lys	Leu	Thr	Ser	Ser	Ala	Asn	Ser	Lys	Ile	Arg	Val	Thr
		900						905					910		
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	915						920					925			
Ser	Phe	Trp	Ile	Arg	Ile	Pro	Lys	Tyr	Lys	Asn	Asp	Gly	Ile	Gln	Asn
	930					935					940				
Tyr	Ile	His	Asn	Glu	Tyr	Thr	Ile	Ile	Asn	Cys	Met	Lys	Asn	Asn	Ser
945				950						955					960
Gly	Trp	Lys	Ile	Ser	Ile	Arg	Gly	Asn	Arg	Ile	Ile	Trp	Thr	Leu	Ile
			965						970					975	
Asp	Ile	Asn	Gly	Lys	Thr	Lys	Ser	Val	Phe	Phe	Glu	Tyr	Asn	Ile	Arg
			980					985					990		

Glu Asp Ile Ser Glu Tyr Ile Asn Arg Trp Phe Phe Val Thr Ile Thr
 995 1000 1005
 Asn Asn Leu Asn Asn Ala Lys Ile Tyr Ile Asn Gly Lys Leu Glu Ser
 1010 1015 1020
 Asn Thr Asp Ile Lys Asp Ile Arg Glu Val Ile Ala Asn Gly Glu Ile
 1025 1030 1035 1040
 Ile Phe Lys Leu Asp Gly Asp Ile Asp Arg Thr Gln Phe Ile Trp Met
 1045 1050 1055
 Lys Tyr Phe Ser Ile Phe Asn Thr Glu Leu Ser Gln Ser Asn Ile Glu
 1060 1065 1070
 Glu Arg Tyr Lys Ile Gln Ser Tyr Ser Glu Tyr Leu Lys Asp Phe Trp
 1075 1080 1085
 Gly Asn Pro Leu Met Tyr Asn Lys Glu Tyr Tyr Met Phe Asn Ala Gly
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 Asn Lys Asn Ser Tyr Ile Lys Leu Lys Lys Asp Ser Pro Val Gly Glu
 1105 1110 1115 1120
 Ile Leu Thr Arg Ser Lys Tyr Asn Gln Asn Ser Lys Tyr Ile Asn Tyr
 1125 1130 1135
 Arg Asp Leu Tyr Ile Gly Glu Lys Phe Ile Ile Arg Arg Lys Ser Asn
 1140 1145 1150
 Ser Gln Ser Ile Asn Asp Asp Ile Val Arg Lys Glu Asp Tyr Ile Tyr
 1155 1160 1165
 Leu Asp Phe Phe Asn Leu Asn Gln Glu Trp Arg Val Tyr Thr Tyr Lys
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 Tyr Phe Lys Lys Glu Glu Glu Lys Leu Phe Leu Ala Pro Ile Ser Asp
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 Ser Asp Glu Phe Tyr Asn Thr Ile Gln Ile Lys Glu Tyr Asp Glu Gln
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 Pro Thr Tyr Ser Cys Gln Leu Leu Phe Lys Lys Asp Glu Glu Ser Thr
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 Asp Glu Ile Gly Leu Ile Gly Ile His Arg Phe Tyr Glu Ser Gly Ile
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 Val Phe Glu Glu Tyr Lys Asp Tyr Phe Cys Ile Ser Lys Trp Tyr Leu
 1250 1255 1260
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<211> 2871

<212> PRT

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<400> 62

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

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Ile	Val	Pro	Ile	Cys	Arg	His	Ser	Cys	Gly	Asp	Gly	Phe	Cys	Ser	Arg				
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Pro	Asn	Met	Cys	Thr	Cys	Pro	Ser	Gly	Gln	Ile	Ala	Pro	Ser	Cys	Gly				
			100					105					110						
Ser	Arg	Ser	Ile	Gln	His	Cys	Asn	Ile	Arg	Cys	Met	Asn	Gly	Gly	Ser				
		115					120					125							
Cys	Ser	Asp	Asp	His	Cys	Leu	Cys	Gln	Lys	Gly	Tyr	Ile	Gly	Thr	His				
	130					135				140									
Cys	Gly	Gln	Pro	Val	Cys	Glu	Ser	Gly	Cys	Leu	Asn	Gly	Gly	Arg	Cys				
145					150					155					160				
Val	Ala	Pro	Asn	Arg	Cys	Ala	Cys	Thr	Tyr	Gly	Phe	Thr	Gly	Pro	Gln				
				165					170						175				
Cys	Glu	Arg	Asp	Tyr	Arg	Thr	Gly	Pro	Cys	Phe	Thr	Val	Ile	Ser	Asn				
		180					185						190						
Gln	Met	Cys	Gln	Gly	Gln	Leu	Ser	Gly	Ile	Val	Cys	Thr	Lys	Thr	Leu				
	195					200						205							
Cys	Cys	Ala	Thr	Val	Gly	Arg	Ala	Trp	Gly	His	Pro	Cys	Glu	Met	Cys				
	210					215					220								
Pro	Ala	Gln	Pro	His	Pro	Cys	Arg	Arg	Gly	Phe	Ile	Pro	Asn	Ile	Arg				
225					230					235					240				
Thr	Gly	Ala	Cys	Gln	Asp	Val	Asp	Glu	Cys	Gln	Ala	Ile	Pro	Gly	Leu				
				245					250						255				
Cys	Gln	Gly	Gly	Asn	Cys	Ile	Asn	Thr	Val	Gly	Ser	Phe	Glu	Cys	Lys				
		260					265					270							
Cys	Pro	Ala	Gly	His	Lys	Leu	Asn	Glu	Val	Ser	Gln	Lys	Cys	Glu	Asp				
		275					280					285							
Ile	Asp	Glu	Cys	Ser	Thr	Ile	Pro	Gly	Ile	Cys	Glu	Gly	Gly	Glu	Cys				
	290					295					300								
Thr	Asn	Thr	Val	Ser	Ser	Tyr	Phe	Cys	Lys	Cys	Pro	Pro	Gly	Phe	Tyr				
305					310					315					320				
Thr	Ser	Pro	Asp	Gly	Thr	Arg	Cys	Ile	Asp	Val	Arg	Pro	Gly	Tyr	Cys				
				325					330						335				
Tyr	Thr	Ala	Leu	Thr	Asn	Gly	Arg	Cys	Ser	Asn	Gln	Leu	Pro	Gln	Ser				
			340				345						350						
Ile	Thr	Lys	Met	Gln	Cys	Cys	Cys	Asp	Ala	Gly	Arg	Cys	Trp	Ser	Pro				
		355					360					365							
Gly	Val	Thr	Val	Ala	Pro	Glu	Met	Cys	Pro	Ile	Arg	Ala	Thr	Glu	Asp				
	370					375					380								
Phe	Asn	Lys	Leu	Cys	Ser	Val	Pro	Met	Val	Ile	Pro	Gly	Arg	Pro	Glu				
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Tyr	Pro	Pro	Pro	Pro	Leu	Gly	Pro	Ile	Pro	Pro	Val	Leu	Pro	Val	Pro				
				405					410						415				
Pro	Gly	Phe	Pro	Pro	Gly	Pro	Gln	Ile	Pro	Val	Pro	Arg	Pro	Pro	Val				
			420					425					430						
Glu	Tyr	Leu	Tyr	Pro	Ser	Arg	Glu	Pro	Pro	Arg	Val	Leu	Pro	Val	Asn				
	435						440					445							
Val	Thr	Asp	Tyr	Cys	Gln	Leu	Val	Arg	Tyr	Leu	Cys	Gln	Asn	Gly	Arg				
	450					455						460							
Cys	Ile	Pro	Thr	Pro	Gly	Ser	Tyr	Arg	Cys	Glu	Cys	Asn	Lys	Gly	Phe				
465					470					475					480				
Gln	Leu	Asp	Leu	Arg	Gly	Glu	Cys	Ile	Asp	Val	Asp	Glu	Cys	Glu	Lys				
				485					490					495					
Asn	Pro	Cys	Ala	Gly	Gly	Glu	Cys	Ile	Asn	Asn	Gln	Gly	Ser	Tyr	Thr				

			500					505					510				
Cys	Gln	Cys	Arg	Ala	Gly	Tyr	Gln	Ser	Thr	Leu	Thr	Arg	Thr	Glu	Cys		
		515					520					525					
Arg	Asp	Ile	Asp	Glu	Cys	Leu	Gln	Asn	Gly	Arg	Ile	Cys	Asn	Asn	Gly		
	530					535					540						
Arg	Cys	Ile	Asn	Thr	Asp	Gly	Ser	Phe	His	Cys	Val	Cys	Asn	Ala	Gly		
545					550					555					560		
Phe	His	Val	Thr	Arg	Asp	Gly	Lys	Asn	Cys	Glu	Asp	Met	Asp	Glu	Cys		
			565					570					575				
Ser	Ile	Arg	Asn	Met	Cys	Leu	Asn	Gly	Met	Cys	Ile	Asn	Glu	Asp	Gly		
		580					585					590					
Ser	Phe	Lys	Cys	Ile	Cys	Lys	Pro	Gly	Phe	Gln	Leu	Ala	Ser	Asp	Gly		
	595						600					605					
Arg	Tyr	Cys	Lys	Asp	Ile	Asn	Glu	Cys	Glu	Thr	Pro	Gly	Ile	Cys	Met		
	610				615						620						
Asn	Gly	Arg	Cys	Val	Asn	Thr	Asp	Gly	Ser	Tyr	Arg	Cys	Glu	Cys	Phe		
625					630					635					640		
Pro	Gly	Leu	Ala	Val	Gly	Leu	Asp	Gly	Arg	Val	Cys	Val	Asp	Thr	His		
			645					650						655			
Met	Arg	Ser	Thr	Cys	Tyr	Gly	Gly	Tyr	Lys	Arg	Gly	Gln	Cys	Ile	Lys		
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Pro	Leu	Phe	Gly	Ala	Val	Thr	Lys	Ser	Glu	Cys	Cys	Cys	Ala	Ser	Thr		
	675						680					685					
Glu	Tyr	Ala	Phe	Gly	Glu	Pro	Cys	Gln	Pro	Cys	Pro	Ala	Gln	Asn	Ser		
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Ala	Glu	Tyr	Gln	Ala	Leu	Cys	Ser	Ser	Gly	Pro	Gly	Met	Thr	Ser	Ala		
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			725					730						735			
Gly	Ile	Cys	Glu	Asn	Leu	Arg	Gly	Thr	Tyr	Lys	Cys	Ile	Cys	Asn	Ser		
	740						745					750					
Gly	Tyr	Glu	Val	Asp	Ser	Thr	Gly	Lys	Asn	Cys	Val	Asp	Ile	Asn	Glu		
	755						760					765					
Cys	Val	Leu	Asn	Ser	Leu	Leu	Cys	Asp	Asn	Gly	Gln	Cys	Arg	Asn	Thr		
	770				775						780						
Pro	Gly	Ser	Phe	Val	Cys	Thr	Cys	Pro	Lys	Gly	Phe	Ile	Tyr	Lys	Pro		
785				790					795						800		
Asp	Leu	Lys	Thr	Cys	Glu	Asp	Ile	Asp	Glu	Cys	Glu	Ser	Ser	Pro	Cys		
			805					810						815			
Ile	Asn	Gly	Val	Cys	Lys	Asn	Ser	Pro	Gly	Ser	Phe	Ile	Cys	Glu	Cys		
	820						825					830					
Ser	Ser	Glu	Ser	Thr	Leu	Asp	Pro	Thr	Lys	Thr	Ile	Cys	Ile	Glu	Thr		
	835					840						845					
Ile	Lys	Gly	Thr	Cys	Trp	Gln	Thr	Val	Ile	Asp	Gly	Arg	Cys	Glu	Ile		
	850				855						860						
Asn	Ile	Asn	Gly	Ala	Thr	Leu	Lys	Ser	Gln	Cys	Cys	Ser	Ser	Leu	Gly		
865				870					875						880		
Ala	Ala	Trp	Gly	Ser	Pro	Cys	Thr	Leu	Cys	Gln	Val	Asp	Pro	Ile	Cys		
			885					890						895			
Gly	Lys	Gly	Tyr	Ser	Arg	Ile	Lys	Gly	Thr	Gln	Cys	Glu	Asp	Ile	Asp		
	900						905					910					
Glu	Cys	Glu	Val	Phe	Pro	Gly	Val	Cys	Lys	Asn	Gly	Leu	Cys	Val	Asn		
	915					920					925						
Thr	Arg	Gly	Ser	Phe	Lys	Cys	Gln	Cys	Pro	Ser	Gly	Met	Thr	Leu	Asp		

930		935		940
Ala Thr Gly Arg Ile Cys Leu Asp Ile Arg Leu Glu Thr Cys Phe Leu				
945		950		955
Arg Tyr Glu Asp Glu Glu Cys Thr Leu Pro Ile Ala Gly Arg His Arg				
	965		970	975
Met Asp Ala Cys Cys Cys Ser Val Gly Ala Ala Trp Gly Thr Glu Glu				
	980		985	990
Cys Glu Glu Cys Pro Met Arg Asn Thr Pro Glu Tyr Glu Glu Leu Cys				
	995		1000	1005
Pro Arg Gly Pro Gly Phe Ala Thr Lys Glu Ile Thr Asn Gly Lys Pro				
	1010		1015	1020
Phe Phe Lys Asp Ile Asn Glu Cys Lys Met Ile Pro Ser Leu Cys Thr				
1025		1030		1035
His Gly Lys Cys Arg Asn Thr Ile Gly Ser Phe Lys Cys Arg Cys Asp				
	1045		1050	1055
Ser Gly Phe Ala Leu Asp Ser Glu Glu Arg Asn Cys Thr Asp Ile Asp				
	1060		1065	1070
Glu Cys Arg Ile Ser Pro Asp Leu Cys Gly Arg Gly Gln Cys Val Asn				
	1075		1080	1085
Thr Pro Gly Asp Phe Glu Cys Lys Cys Asp Glu Gly Tyr Glu Ser Gly				
	1090		1095	1100
Phe Met Met Met Lys Asn Cys Met Asp Ile Asp Glu Cys Gln Arg Asp				
1105		1110		1115
Pro Leu Leu Cys Arg Gly Gly Val Cys His Asn Thr Glu Gly Ser Tyr				
	1125		1130	1135
Arg Cys Glu Cys Pro Pro Gly His Gln Leu Ser Pro Asn Ile Ser Ala				
	1140		1145	1150
Cys Ile Asp Ile Asn Glu Cys Glu Leu Ser Ala His Leu Cys Pro Asn				
	1155		1160	1165
Gly Arg Cys Val Asn Leu Ile Gly Lys Tyr Gln Cys Ala Cys Asn Pro				
	1170		1175	1180
Gly Tyr His Ser Thr Pro Asp Arg Leu Phe Cys Val Asp Ile Asp Glu				
1185		1190		1195
Cys Ser Ile Met Asn Gly Gly Cys Glu Thr Phe Cys Thr Asn Ser Glu				
	1205		1210	1215
Gly Ser Tyr Glu Cys Ser Cys Gln Pro Gly Phe Ala Leu Met Pro Asp				
	1220		1225	1230
Gln Arg Ser Cys Thr Asp Ile Asp Glu Cys Glu Asp Asn Pro Asn Ile				
	1235		1240	1245
Cys Asp Gly Gly Gln Cys Thr Asn Ile Pro Gly Glu Tyr Arg Cys Leu				
	1250		1255	1260
Cys Tyr Asp Gly Phe Met Ala Ser Glu Asp Met Lys Thr Cys Val Asp				
1265		1270		1275
Val Asn Glu Cys Asp Leu Asn Pro Asn Ile Cys Leu Ser Gly Thr Cys				
	1285		1290	1295
Glu Asn Thr Lys Gly Ser Phe Ile Cys His Cys Asp Met Gly Tyr Ser				
	1300		1305	1310
Gly Lys Lys Gly Lys Thr Gly Cys Thr Asp Ile Asn Glu Cys Glu Ile				
	1315		1320	1325
Gly Ala His Asn Cys Gly Lys His Ala Val Cys Thr Asn Thr Ala Gly				
	1330		1335	1340
Ser Phe Lys Cys Ser Cys Ser Pro Gly Trp Ile Gly Asp Gly Ile Lys				
1345		1350		1355
Cys Thr Asp Leu Asp Glu Cys Ser Asn Gly Thr His Met Cys Ser Gln				

												1365				1370				1375			
His	Ala	Asp	Cys	Lys	Asn	Thr	Met	Gly	Ser	Tyr	Arg	Cys	Leu	Cys	Lys								
												1380				1385				1390			
Glu	Gly	Tyr	Thr	Gly	Asp	Gly	Phe	Thr	Cys	Thr	Asp	Leu	Asp	Glu	Cys								
												1395				1400				1405			
Ser	Glu	Asn	Leu	Asn	Leu	Cys	Gly	Asn	Gly	Gln	Cys	Leu	Asn	Ala	Pro								
												1410				1415				1420			
Gly	Gly	Tyr	Arg	Cys	Glu	Cys	Asp	Met	Gly	Phe	Val	Pro	Ser	Ala	Asp								
												1425				1430				1435			
Gly	Lys	Ala	Cys	Glu	Asp	Ile	Asp	Glu	Cys	Ser	Leu	Pro	Asn	Ile	Cys								
												1445				1450				1455			
Val	Phe	Gly	Thr	Cys	His	Asn	Leu	Pro	Gly	Leu	Phe	Arg	Cys	Glu	Cys								
												1460				1465				1470			
Glu	Ile	Gly	Tyr	Glu	Leu	Asp	Arg	Ser	Gly	Gly	Asn	Cys	Thr	Asp	Val								
												1475				1480				1485			
Asn	Glu	Cys	Leu	Asp	Pro	Thr	Thr	Cys	Ile	Ser	Gly	Asn	Cys	Val	Asn								
												1490				1495				1500			
Thr	Pro	Gly	Ser	Tyr	Ile	Cys	Asp	Cys	Pro	Pro	Asp	Phe	Glu	Leu	Asn								
												1505				1510				1515			
Pro	Thr	Arg	Val	Gly	Cys	Val	Asp	Thr	Arg	Ser	Gly	Asn	Cys	Tyr	Leu								
												1525				1530				1535			
Asp	Ile	Arg	Pro	Arg	Gly	Asp	Asn	Gly	Asp	Thr	Ala	Cys	Ser	Asn	Glu								
												1540				1545				1550			
Ile	Gly	Val	Gly	Val	Ser	Lys	Ala	Ser	Cys	Cys	Cys	Ser	Leu	Gly	Lys								
												1555				1560				1565			
Ala	Trp	Gly	Thr	Pro	Cys	Glu	Met	Cys	Pro	Ala	Val	Asn	Thr	Ser	Glu								
												1570				1575				1580			
Tyr	Lys	Ile	Leu	Cys	Pro	Gly	Gly	Glu	Gly	Phe	Arg	Pro	Asn	Pro	Ile								
												1585				1590				1595			
Thr	Val	Ile	Leu	Glu	Asp	Ile	Asp	Glu	Cys	Gln	Glu	Leu	Pro	Gly	Leu								
												1605				1610				1615			
Cys	Gln	Gly	Gly	Lys	Cys	Ile	Asn	Thr	Phe	Gly	Ser	Phe	Gln	Cys	Arg								
												1620				1625				1630			
Cys	Pro	Thr	Gly	Tyr	Tyr	Leu	Asn	Glu	Asp	Thr	Arg	Val	Cys	Asp	Asp								
												1635				1640				1645			
Val	Asn	Glu	Cys	Glu	Thr	Pro	Gly	Ile	Cys	Gly	Pro	Gly	Thr	Cys	Tyr								
												1650				1655				1660			
Asn	Thr	Val	Gly	Asn	Tyr	Thr	Cys	Ile	Cys	Pro	Pro	Asp	Tyr	Met	Gln								
												1665				1670				1675			
Val	Asn	Gly	Gly	Asn	Asn	Cys	Met	Asp	Met	Arg	Arg	Ser	Leu	Cys	Tyr								
												1685				1690				1695			
Arg	Asn	Tyr	Tyr	Ala	Asp	Asn	Gln	Thr	Cys	Asp	Gly	Glu	Leu	Leu	Phe								
												1700				1705				1710			
Asn	Met	Thr	Lys	Lys	Met	Cys	Cys	Cys	Ser	Tyr	Asn	Ile	Gly	Arg	Ala								
												1715				1720				1725			
Trp	Asn	Lys	Pro	Cys	Glu	Gln	Cys	Pro	Ile	Pro	Ser	Thr	Asp	Glu	Phe								
												1730				1735				1740			
Ala	Thr	Leu	Cys	Gly	Ser	Gln	Arg	Pro	Gly	Phe	Val	Ile	Asp	Ile	Tyr								
												1745				1750				1755			
Thr	Gly	Leu	Pro	Val	Asp	Ile	Asp	Glu	Cys	Arg	Glu	Ile	Pro	Gly	Val								
												1765				1770				1775			
Cys	Glu	Asn	Gly	Val	Cys	Ile	Asn	Met	Val	Gly	Ser												

	1795					1800					1805					
Ile	Asp	Glu	Cys	Gln	Asn	Gly	Pro	Val	Cys	Gln	Arg	Asn	Ala	Glu	Cys	
	1810					1815					1820					
Ile	Asn	Thr	Ala	Gly	Ser	Tyr	Arg	Cys	Asp	Cys	Lys	Pro	Gly	Tyr	Arg	
1825					1830					1835					1840	
Phe	Thr	Ser	Thr	Gly	Gln	Cys	Asn	Asp	Arg	Asn	Glu	Cys	Gln	Glu	Ile	
				1845					1850					1855		
Pro	Asn	Ile	Cys	Ser	His	Gly	Gln	Cys	Ile	Asp	Thr	Val	Gly	Ser	Phe	
			1860					1865					1870			
Tyr	Cys	Leu	Cys	His	Thr	Gly	Phe	Lys	Thr	Asn	Asp	Asp	Gln	Thr	Met	
		1875					1880					1885				
Cys	Leu	Asp	Ile	Asn	Glu	Cys	Glu	Arg	Asp	Ala	Cys	Gly	Asn	Gly	Thr	
	1890					1895					1900					
Cys	Arg	Asn	Thr	Ile	Gly	Ser	Phe	Asn	Cys	Arg	Cys	Asn	His	Gly	Phe	
1905				1910					1915					1920		
Ile	Leu	Ser	His	Asn	Asn	Asp	Cys	Ile	Asp	Val	Asp	Glu	Cys	Ala	Ser	
			1925					1930					1935			
Gly	Asn	Gly	Asn	Leu	Cys	Arg	Asn	Gly	Gln	Cys	Ile	Asn	Thr	Val	Gly	
		1940					1945					1950				
Ser	Phe	Gln	Cys	Gln	Cys	Asn	Glu	Gly	Tyr	Glu	Val	Ala	Pro	Asp	Gly	
	1955					1960					1965					
Arg	Thr	Cys	Val	Asp	Ile	Asn	Glu	Cys	Leu	Leu	Glu	Pro	Arg	Lys	Cys	
	1970					1975					1980					
Ala	Pro	Gly	Thr	Cys	Gln	Asn	Leu	Asp	Gly	Ser	Tyr	Arg	Cys	Ile	Cys	
1985				1990					1995					2000		
Pro	Pro	Gly	Tyr	Ser	Leu	Gln	Asn	Glu	Lys	Cys	Glu	Asp	Ile	Asp	Glu	
			2005					2010					2015			
Cys	Val	Glu	Glu	Pro	Glu	Ile	Cys	Ala	Leu	Gly	Thr	Cys	Ser	Asn	Thr	
		2020					2025					2030				
Glu	Gly	Ser	Phe	Lys	Cys	Leu	Cys	Pro	Glu	Gly	Phe	Ser	Leu	Ser	Ser	
	2035					2040					2045					
Ser	Gly	Arg	Arg	Cys	Gln	Asp	Leu	Arg	Met	Ser	Tyr	Cys	Tyr	Ala	Lys	
	2050					2055					2060					
Phe	Glu	Gly	Gly	Lys	Cys	Ser	Ser	Pro	Lys	Ser	Arg	Asn	His	Ser	Lys	
2065				2070					2075					2080		
Gln	Glu	Cys	Cys	Cys	Ala	Leu	Lys	Gly	Glu	Gly	Trp	Gly	Asp	Pro	Cys	
			2085					2090					2095			
Glu	Leu	Cys	Pro	Thr	Glu	Pro	Asp	Glu	Ala	Phe	Arg	Gln	Ile	Cys	Pro	
		2100					2105					2110				
Tyr	Gly	Ser	Gly	Ile	Ile	Val	Gly	Pro	Asp	Asp	Ser	Ala	Val	Asp	Met	
	2115					2120					2125					
Asp	Glu	Cys	Lys	Glu	Pro	Asp	Val	Cys	Lys	His	Gly	Gln	Cys	Ile	Asn	
	2130					2135					2140					
Thr	Asp	Gly	Ser	Tyr	Arg	Cys	Glu	Cys	Pro	Phe	Gly	Tyr	Ile	Leu	Ala	
2145				2150					2155					2160		
Gly	Asn	Glu	Cys	Val	Asp	Thr	Asp	Glu	Cys	Ser	Val	Gly	Asn	Pro	Cys	
			2165					2170					2175			
Gly	Asn	Gly	Thr	Cys	Lys	Asn	Val	Ile	Gly	Gly	Phe	Glu	Cys	Thr	Cys	
		2180					2185					2190				
Glu	Glu	Gly	Phe	Glu	Pro	Gly	Pro	Met	Met	Thr	Cys	Glu	Asp	Ile	Asn	
	2195					2200					2205					
Glu	Cys	Ala	Gln	Asn	Pro	Leu	Leu	Cys	Ala	Phe	Arg	Cys	Val	Asn	Thr	
	2210					2215					2220					
Tyr	Gly	Ser	Tyr	Glu	Cys	Lys	Cys	Pro								

2225		2230		2235		2240
Asp Arg Arg Met Cys Lys Asp Glu Asp Glu Cys Glu Glu Gly Lys His						
	2245		2250		2255	
Asp Cys Thr Glu Lys Gln Met Glu Cys Lys Asn Leu Ile Gly Thr Tyr						
	2260		2265		2270	
Met Cys Ile Cys Gly Pro Gly Tyr Gln Arg Arg Pro Asp Gly Glu Gly						
	2275		2280		2285	
Cys Val Asp Glu Asn Glu Cys Gln Thr Lys Pro Gly Ile Cys Glu Asn						
	2290		2295		2300	
Gly Arg Cys Leu Asn Thr Arg Gly Ser Tyr Thr Cys Glu Cys Asn Asp						
2305		2310		2315		2320
Gly Phe Thr Ala Ser Pro Asn Gln Asp Glu Cys Leu Asp Asn Arg Glu						
	2325		2330		2335	
Gly Tyr Cys Phe Thr Glu Val Leu Gln Asn Met Cys Gln Ile Gly Ser						
	2340		2345		2350	
Ser Asn Arg Asn Pro Val Thr Lys Ser Glu Cys Cys Cys Asp Gly Gly						
	2355		2360		2365	
Arg Gly Trp Gly Pro His Cys Glu Ile Cys Pro Phe Gln Gly Thr Val						
	2370		2375		2380	
Ala Phe Lys Lys Leu Cys Pro His Gly Arg Gly Phe Met Thr Asn Gly						
2385		2390		2395		2400
Ala Asp Ile Asp Glu Cys Lys Val Ile His Asp Val Cys Arg Asn Gly						
	2405		2410		2415	
Glu Cys Val Asn Asp Arg Gly Ser Tyr His Cys Ile Cys Lys Thr Gly						
	2420		2425		2430	
Tyr Thr Pro Asp Ile Thr Gly Thr Ser Cys Val Asp Leu Asn Glu Cys						
	2435		2440		2445	
Asn Gln Ala Pro Lys Pro Cys Asn Phe Ile Cys Lys Asn Thr Glu Gly						
	2450		2455		2460	
Ser Tyr Gln Cys Ser Cys Pro Lys Gly Tyr Ile Leu Gln Glu Asp Gly						
2465		2470		2475		2480
Arg Ser Cys Lys Asp Leu Asp Glu Cys Ala Thr Lys Gln His Asn Cys						
	2485		2490		2495	
Gln Phe Leu Cys Val Asn Thr Ile Gly Gly Phe Thr Cys Lys Cys Pro						
	2500		2505		2510	
Pro Gly Phe Thr Gln His His Thr Ser Cys Ile Asp Asn Asn Glu Cys						
	2515		2520		2525	
Thr Ser Asp Ile Asn Leu Cys Gly Ser Lys Gly Ile Cys Gln Asn Thr						
	2530		2535		2540	
Pro Gly Ser Phe Thr Cys Glu Cys Gln Arg Gly Phe Ser Leu Asp Gln						
2545		2550		2555		2560
Thr Gly Ser Ser Cys Glu Asp Val Asp Glu Cys Glu Gly Asn His Arg						
	2565		2570		2575	
Cys Gln His Gly Cys Gln Asn Ile Ile Gly Gly Tyr Arg Cys Ser Cys						
	2580		2585		2590	
Pro Gln Gly Tyr Leu Gln His Tyr Gln Trp Asn Gln Cys Val Asp Glu						
	2595		2600		2605	
Asn Glu Cys Leu Ser Ala His Ile Cys Gly Gly Ala Ser Cys His Asn						
	2610		2615		2620	
Thr Leu Gly Ser Tyr Lys Cys Met Cys Pro Ala Gly Phe Gln Tyr Glu						
2625		2630		2635		2640
Gln Phe Ser Gly Gly Cys Gln Asp Ile Asn Glu Cys Gly Ser Ala Gln						
	2645		2650		2655	
Ala Pro Cys Ser Tyr Gly Cys Ser Asn Thr Glu Gly Gly Tyr Leu Cys						

Asp	Asp	His	Cys	Gln	Cys	Gln	Lys	Gly	Tyr	Ile	Gly	Thr	Tyr	Cys	Gly	
				165					170					175		
Gln	Pro	Val	Cys	Glu	Asn	Gly	Cys	Gln	Asn	Gly	Gly	Arg	Cys	Ile	Gly	
			180					185					190			
Pro	Asn	Arg	Cys	Ala	Cys	Val	Tyr	Gly	Phe	Thr	Gly	Pro	Gln	Cys	Glu	
		195					200					205				
Arg	Asp	Tyr	Arg	Thr	Gly	Pro	Cys	Phe	Thr	Gln	Val	Asn	Asn	Gln	Met	
	210					215					220					
Cys	Gln	Gly	Gln	Leu	Thr	Gly	Ile	Val	Cys	Thr	Lys	Thr	Leu	Cys	Cys	
225					230					235					240	
Ala	Thr	Ile	Gly	Arg	Ala	Trp	Gly	His	Pro	Cys	Glu	Met	Cys	Pro	Ala	
				245					250					255		
Gln	Pro	Gln	Pro	Cys	Arg	Arg	Gly	Phe	Ile	Pro	Asn	Ile	Arg	Thr	Gly	
			260					265						270		
Ala	Cys	Gln	Asp	Val	Asp	Glu	Cys	Gln	Ala	Ile	Pro	Gly	Ile	Cys	Gln	
		275					280					285				
Gly	Gly	Asn	Cys	Ile	Asn	Thr	Val	Gly	Ser	Phe	Glu	Cys	Arg	Cys	Pro	
	290					295					300					
Ala	Gly	His	Lys	Gln	Ser	Glu	Thr	Thr	Gln	Lys	Cys	Glu	Asp	Ile	Asp	
305					310					315					320	
Glu	Cys	Ser	Ile	Ile	Pro	Gly	Ile	Cys	Glu	Thr	Gly	Glu	Cys	Ser	Asn	
				325					330					335		
Thr	Val	Gly	Ser	Tyr	Phe	Cys	Val	Cys	Pro	Arg	Gly	Tyr	Val	Thr	Ser	
		340						345					350			
Thr	Asp	Gly	Ser	Arg	Cys	Ile	Asp	Gln	Arg	Thr	Gly	Met	Cys	Phe	Ser	
	355						360					365				
Gly	Leu	Val	Asn	Gly	Arg	Cys	Ala	Gln	Glu	Leu	Pro	Gly	Arg	Met	Thr	
	370					375					380					
Lys	Met	Gln	Cys	Cys	Cys	Glu	Pro	Gly	Arg	Cys	Trp	Gly	Ile	Gly	Thr	
385					390					395					400	
Ile	Pro	Glu	Ala	Cys	Pro	Val	Arg	Gly	Ser	Glu	Glu	Tyr	Arg	Arg	Leu	
				405					410					415		
Cys	Met	Asp	Gly	Leu	Pro	Met	Gly	Gly	Ile	Pro	Gly	Ser	Ala	Gly	Ser	
			420					425					430			
Arg	Pro	Gly	Gly	Thr	Gly	Gly	Asn	Gly	Phe	Ala	Pro	Ser	Gly	Asn	Gly	
		435					440					445				
Asn	Gly	Tyr	Gly	Pro	Gly	Gly	Thr	Gly	Phe	Ile	Pro	Ile	Pro	Gly	Gly	
	450					455					460					
Asn	Gly	Phe	Ser	Pro	Gly	Val	Gly	Gly	Ala	Gly	Val	Gly	Ala	Gly	Gly	
465					470					475					480	
Gln	Gly	Pro	Ile	Ile	Thr	Gly	Leu	Thr	Ile	Leu	Asn	Gln	Thr	Ile	Asp	
				485					490					495		
Ile	Cys	Lys	His	His	Ala	Asn	Leu	Cys	Leu	Asn	Gly	Arg	Cys	Ile	Pro	
		500						505					510			
Thr	Val	Ser	Ser	Tyr	Arg	Cys	Glu	Cys	Asn	Met	Gly	Tyr	Lys	Gln	Asp	
		515					520					525				
Ala	Asn	Gly	Asp	Cys	Ile	Asp	Val	Asp	Glu	Cys	Thr	Ser	Asn	Pro	Cys	
	530					535					540					
Thr	Asn	Gly	Asp	Cys	Val	Asn	Thr	Pro	Gly	Ser	Tyr	Tyr	Cys	Lys	Cys	
545					550					555					560	
His	Ala	Gly	Phe	Gln	Arg	Thr	Pro	Thr	Lys	Gln	Ala	Cys	Ile	Asp	Ile	
				565					570					575		
Asp	Glu	Cys	Ile	Gln	Asn	Gly	Val	Leu	Cys	Lys	Asn	Gly	Arg	Cys	Val	
			580					585					590			

Asn	Thr	Asp	Gly	Ser	Phe	Gln	Cys	Ile	Cys	Asn	Ala	Gly	Phe	Glu	Leu
		595					600					605			
Thr	Thr	Asp	Gly	Lys	Asn	Cys	Val	Asp	His	Asp	Glu	Cys	Thr	Thr	Thr
		610				615					620				
Asn	Met	Cys	Leu	Asn	Gly	Met	Cys	Ile	Asn	Glu	Asp	Gly	Ser	Phe	Lys
625					630					635					640
Cys	Ile	Cys	Lys	Pro	Gly	Phe	Val	Leu	Ala	Pro	Asn	Gly	Arg	Tyr	Cys
				645					650					655	
Thr	Asp	Val	Asp	Glu	Cys	Gln	Thr	Pro	Gly	Ile	Cys	Met	Asn	Gly	His
			660					665					670		
Cys	Ile	Asn	Ser	Glu	Gly	Ser	Phe	Arg	Cys	Asp	Cys	Pro	Pro	Gly	Leu
		675					680					685			
Ala	Val	Gly	Met	Asp	Gly	Arg	Val	Cys	Val	Asp	Thr	His	Met	Arg	Ser
		690				695					700				
Thr	Cys	Tyr	Gly	Gly	Ile	Lys	Lys	Gly	Val	Cys	Val	Arg	Pro	Phe	Pro
705				710					715						720
Gly	Ala	Val	Thr	Lys	Ser	Glu	Cys	Cys	Cys	Ala	Asn	Pro	Asp	Tyr	Gly
				725				730					735		
Phe	Gly	Glu	Pro	Cys	Gln	Pro	Cys	Pro	Ala	Lys	Asn	Ser	Ala	Glu	Phe
			740				745						750		
His	Gly	Leu	Cys	Ser	Ser	Gly	Val	Gly	Ile	Thr	Val	Asp	Gly	Arg	Asp
		755					760					765			
Ile	Asn	Glu	Cys	Ala	Leu	Asp	Pro	Asp	Ile	Cys	Ala	Asn	Gly	Ile	Cys
		770				775					780				
Glu	Asn	Leu	Arg	Gly	Ser	Tyr	Arg	Cys	Asn	Cys	Asn	Ser	Gly	Tyr	Glu
785				790						795					800
Pro	Asp	Ala	Ser	Gly	Arg	Asn	Cys	Ile	Asp	Ile	Asp	Glu	Cys	Leu	Val
				805					810					815	
Asn	Arg	Leu	Leu	Cys	Asp	Asn	Gly	Leu	Cys	Arg	Asn	Thr	Pro	Gly	Ser
		820					825						830		
Tyr	Ser	Cys	Thr	Cys	Pro	Pro	Gly	Tyr	Val	Phe	Arg	Thr	Glu	Thr	Glu
		835					840					845			
Thr	Cys	Glu	Asp	Ile	Asn	Glu	Cys	Glu	Ser	Asn	Pro	Cys	Val	Asn	Gly
		850				855					860				
Ala	Cys	Arg	Asn	Asn	Leu	Gly	Ser	Phe	Asn	Cys	Glu	Cys	Ser	Pro	Gly
865				870						875					880
Ser	Lys	Leu	Ser	Ser	Thr	Gly	Leu	Ile	Cys	Ile	Asp	Ser	Leu	Lys	Gly
				885					890					895	
Thr	Cys	Trp	Leu	Asn	Ile	Gln	Asp	Ser	Arg	Cys	Glu	Val	Asn	Ile	Asn
		900					905						910		
Gly	Ala	Thr	Leu	Lys	Ser	Glu	Cys	Cys	Ala	Thr	Leu	Gly	Ala	Ala	Trp
		915					920					925			
Gly	Ser	Pro	Cys	Glu	Arg	Cys	Glu	Leu	Asp	Thr	Ala	Cys	Pro	Arg	Gly
		930				935					940				
Leu	Ala	Arg	Ile												

Cys 1025	Cys	Cys	Ala	Val	Gly	Ala	Ala	Trp	Gly	Thr	Glu	Cys	Glu	Glu	Cys
Pro	Lys	Pro	Gly	Thr	Lys	Glu	Tyr	Glu	Thr	Leu	Cys	Pro	Arg	Gly	Ala
Gly	Phe	Ala	Asn	Arg	Gly	Asp	Val	Leu	Thr	Gly	Arg	Pro	Phe	Tyr	Lys
Asp	Ile	Asn	Glu	Cys	Lys	Ala	Phe	Pro	Gly	Met	Cys	Thr	Tyr	Gly	Lys
Cys	Arg	Asn	Thr	Ile	Gly	Ser	Phe	Lys	Cys	Arg	Cys	Asn	Ser	Gly	Phe
Ala	Leu	Asp	Met	Glu	Glu	Arg	Asn	Cys	Thr	Asp	Ile	Asp	Glu	Cys	Arg
Ile	Ser	Pro	Asp	Leu	Cys	Gly	Ser	Gly	Ile	Cys	Val	Asn	Thr	Pro	Gly
Ser	Phe	Glu	Cys	Glu	Cys	Phe	Glu	Gly	Tyr	Glu	Ser	Gly	Phe	Met	Met
Met	Lys	Asn	Cys	Met	Asp	Ile	Asp	Glu	Cys	Glu	Arg	Asn	Pro	Leu	Leu
Cys	Arg	Gly	Gly	Thr	Cys	Val	Asn	Thr	Glu	Gly	Ser	Phe	Gln	Cys	Asp
Cys	Pro	Leu	Gly	His	Glu	Leu	Ser	Pro	Ser	Arg	Glu	Asp	Cys	Val	Asp
Ile	Asn	Glu	Cys	Ser	Leu	Ser	Asp	Asn	Leu	Cys	Arg	Asn	Gly	Lys	Cys
Val	Asn	Met	Ile	Gly	Thr	Tyr	Gln	Cys	Ser	Cys	Asn	Pro	Gly	Tyr	Gln
Ala	Thr	Pro	Asp	Arg	Gln	Gly	Cys	Thr	Asp	Ile	Asp	Glu	Cys	Met	Ile
Met	Asn	Gly	Gly	Cys	Asp	Thr	Gln	Cys	Thr	Asn	Ser	Glu	Gly	Ser	Tyr
Glu	Cys	Ser	Cys	Ser	Glu	Gly	Tyr	Ala	Leu	Met	Pro	Asp	Gly	Arg	Ser
Cys	Ala	Asp	Ile	Asp	Glu	Cys	Glu	Asn	Asn	Pro	Asp	Ile	Cys	Asp	Gly
Gly	Gln	Cys	Thr	Asn	Ile	Pro	Gly	Glu	Tyr	Arg	Cys	Leu	Cys	Tyr	Asp
Gly	Phe	Met	Ala	Ser	Met	Asp	Met	Lys	Thr	Cys	Ile	Asp	Val	Asn	Glu
Cys	Asp	Leu	Asn	Ser	Asn	Ile	Cys	Met	Phe	Gly	Glu	Cys	Glu	Asn	Thr
Lys	Gly	Ser	Phe	Ile	Cys	His	Cys	Gln	Leu	Gly	Tyr	Ser	Val	Lys	Lys
Gly	Thr	Thr	Gly	Cys	Thr	Asp	Val	Asp	Glu	Cys	Glu	Ile	Gly	Ala	His
Asn	Cys	Asp	Met	His	Ala	Ser	Cys	Leu	Asn	Ile	Pro	Gly	Ser	Phe	Lys
Cys	Ser	Cys	Arg	Glu	Gly	Trp	Ile	Gly	Asn	Gly	Ile	Lys	Cys	Ile	Asp
Leu	Asp	Glu	Cys	Ser	Asn	Gly	Thr	His	Gln	Cys	Ser	Ile	Asn	Ala	Gln
Cys	Val	Asn	Thr	Pro	Gly	Ser	Tyr	Arg	Cys	Ala	Cys	Ser	Glu	Gly	Phe
Thr	Gly	Asp	Gly	Phe	Thr	Cys	Ser	Asp	Val	Asp	Glu	Cys	Ala	Glu	Asn

Ile	Asn	Leu	Cys	Glu	Asn	Gly	Gln	Cys	Leu	Asn	Val	Pro	Gly	Ala	Tyr		
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Arg	Cys	Glu	Cys	Glu	Met	Gly	Phe	Thr	Pro	Ala	Ser	Asp	Ser	Arg	Ser		
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Cys	Gln	Asp	Ile	Asp	Glu	Cys	Ser	Phe	Gln	Asn	Ile	Cys	Val	Phe	Gly		
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Thr	Cys	Asn	Asn	Leu	Pro	Gly	Met	Phe	His	Cys	Ile	Cys	Asp	Asp	Gly		
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Tyr	Glu	Leu	Asp	Arg	Thr	Gly	Gly	Asn	Cys	Thr	Asp	Ile	Asp	Glu	Cys		
			1525					1530						1535			
Ala	Asp	Pro	Ile	Asn	Cys	Val	Asn	Gly	Leu	Cys	Val	Asn	Thr	Pro	Gly		
			1540					1545					1550				
Arg	Tyr	Glu	Cys	Asn	Cys	Pro	Pro	Asp	Phe	Gln	Leu	Asn	Pro	Thr	Gly		
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Val	Gly	Cys	Val	Asp	Asn	Arg	Val	Gly	Asn	Cys	Tyr	Leu	Lys	Phe	Gly		
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Pro	Arg	Gly	Asp	Gly	Ser	Leu	Ser	Cys	Asn	Thr	Glu	Ile	Gly	Val	Gly		
1585					1590				1595					1600			
Val	Ser	Arg	Ser	Ser	Cys	Cys	Cys	Ser	Leu	Gly	Lys	Ala	Trp	Gly	Asn		
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Pro	Cys	Glu	Thr	Cys	Pro	Pro	Val	Asn	Ser	Thr	Glu	Tyr	Tyr	Thr	Leu		
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Cys	Pro	Gly	Gly	Glu	Gly	Phe	Arg	Pro	Asn	Pro	Ile	Thr	Ile	Ile	Leu		
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Tyr	Tyr	Leu	Ser	Glu	Asp	Thr	Arg	Ile	Cys	Glu	Asp	Ile	Asp	Glu	Cys		
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Phe	Ala	His	Pro	Gly	Val	Cys	Gly	Pro	Gly	Thr	Cys	Tyr	Asn	Thr	Leu		
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Gly	Asn	Tyr	Thr	Cys	Ile	Cys	Pro	Pro	Glu	Tyr	Met	Gln	Val	Asn	Gly		
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Gly	His	Asn	Cys	Met	Asp	Met	Arg	Lys	Ser	Phe	Cys	Tyr	Arg	Ser	Tyr		
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Asn	Gly	Thr	Thr	Cys	Glu	Asn	Glu	Leu	Pro	Phe	Asn	Val	Thr	Lys	Arg		
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Met	Cys	Cys	Cys	Thr	Tyr	Asn	Val	Gly	Lys	Ala	Trp	Asn	Lys	Pro	Cys		
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Glu	Pro	Cys	Pro	Thr	Pro	Gly	Thr	Ala	Asp	Phe	Lys	Thr	Ile	Cys	Gly		
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Ile	Asp	Glu	Cys	Lys	Glu	Ile	Pro	Gly	Ile	Cys	Ala	Asn	Gly	Val	Cys		
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Tyr	Asn	Asp	Leu	Leu	Leu	Val	Cys	Glu	Asp	Ile	Asp	Glu	Cys	Ser	Asn		
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Ser	Tyr	Arg	Cys	Glu	Cys	Ala	Ala	Gly	Phe	Lys	Leu	Ser	Pro	Asn	Gly		
	1875					1880					1885						

Ala	Cys	Val	Asp	Arg	Asn	Glu	Cys	Leu	Glu	Ile	Pro	Asn	Val	Cys	Ser	1890	1895	1900
His	Gly	Leu	Cys	Val	Asp	Leu	Gln	Gly	Ser	Tyr	Gln	Cys	Ile	Cys	His	1905	1910	1915
Asn	Gly	Phe	Lys	Ala	Ser	Gln	Asp	Gln	Thr	Met	Cys	Met	Asp	Val	Asp	1925	1930	1935
Glu	Cys	Glu	Arg	His	Pro	Cys	Gly	Asn	Gly	Thr	Cys	Lys	Asn	Thr	Val	1940	1945	1950
Gly	Ser	Tyr	Asn	Cys	Leu	Cys	Tyr	Pro	Gly	Phe	Glu	Leu	Thr	His	Asn	1955	1960	1965
Asn	Asp	Cys	Leu	Asp	Ile	Asp	Glu	Cys	Ser	Ser	Phe	Phe	Gly	Gln	Val	1970	1975	1980
Cys	Arg	Asn	Gly	Arg	Cys	Phe	Asn	Glu	Ile	Gly	Ser	Phe	Lys	Cys	Leu	1985	1990	1995
Cys	Asn	Glu	Gly	Tyr	Glu	Leu	Thr	Pro	Asp	Gly	Lys	Asn	Cys	Ile	Asp	2005	2010	2015
Thr	Asn	Glu	Cys	Val	Ala	Leu	Pro	Gly	Ser	Cys	Ser	Pro	Gly	Thr	Cys	2020	2025	2030
Gln	Asn	Leu	Glu	Gly	Ser	Phe	Arg	Cys	Ile	Cys	Pro	Pro	Gly	Tyr	Glu	2035	2040	2045
Val	Lys	Ser	Glu	Asn	Cys	Ile	Asp	Ile	Asn	Glu	Cys	Asp	Glu	Asp	Pro	2050	2055	2060
Asn	Ile	Cys	Leu	Phe	Gly	Ser	Cys	Thr	Asn	Thr	Pro	Gly	Gly	Phe	Gln	2065	2070	2075
Cys	Leu	Cys	Pro	Pro	Gly	Phe	Val	Leu	Ser	Asp	Asn	Gly	Arg	Arg	Cys	2085	2090	2095
Phe	Asp	Thr	Arg	Gln	Ser	Phe	Cys	Phe	Thr	Asn	Phe	Glu	Asn	Gly	Lys	2100	2105	2110
Cys	Ser	Val	Pro	Lys	Ala	Phe	Asn	Thr	Thr	Lys	Ala	Lys	Cys	Cys	Cys	2115	2120	2125
Ser	Lys	Met	Pro	Gly	Glu	Gly	Trp	Gly	Asp	Pro	Cys	Glu	Leu	Cys	Pro	2130	2135	2140
Lys	Asp	Asp	Glu	Val	Ala	Phe	Gln	Asp	Leu	Cys	Pro	Tyr	Gly	His	Gly	2145	2150	2155
Thr	Val	Pro	Ser	Leu	His	Asp	Thr	Arg	Glu	Asp	Val	Asn	Glu	Cys	Leu	2165	2170	2175
Glu	Ser	Pro	Gly	Ile	Cys	Ser	Asn	Gly	Gln	Cys	Ile	Asn	Thr	Asp	Gly	2180	2185	2190
Ser	Phe	Arg	Cys	Glu	Cys	Pro	Met	Gly	Tyr	Asn	Leu	Asp	Tyr	Thr	Gly	2195	2200	2205
Val	Arg	Cys	Val	Asp	Thr	Asp	Glu	Cys	Ser	Ile	Gly	Asn	Pro	Cys	Gly	2210	2215	2220
Asn	Gly	Thr	Cys	Thr	Asn	Val	Ile	Gly	Ser	Phe	Glu	Cys	Asn	Cys	Asn	2225	2230	2235
Glu	Gly	Phe	Glu	Pro	Gly	Pro	Met	Met	Asn	Cys	Glu	Asp	Ile	Asn	Glu	2245	2250	2255
Cys	Ala	Gln	Asn	Pro	Leu	Leu	Cys	Ala	Phe	Arg	Cys	Met	Asn	Thr	Phe	2260	2265	2270
Gly	Ser	Tyr	Glu	Cys	Thr	Cys	Pro	Ile	Gly	Tyr	Ala	Leu	Arg	Glu	Asp	2275	2280	2285
Gln	Lys	Met	Cys	Lys	Asp	Leu	Asp	Glu	Cys	Ala	Glu	Gly	Leu	His	Asp	2290	2295	2300
Cys	Glu	Ser	Arg	Gly	Met	Met	Cys	Lys	Asn	Leu	Ile	Gly	Thr	Phe	Met	2305	2310	2315
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Cys	Ile	Cys	Pro	Pro	Gly	Met	Ala	Arg	Arg	Pro	Asp	Gly	Glu	Gly	Cys	
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Val	Asp	Glu	Asn	Glu	Cys	Arg	Thr	Lys	Pro	Gly	Ile	Cys	Glu	Asn	Gly	
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Arg	Cys	Val	Asn	Ile	Ile	Gly	Ser	Tyr	Arg	Cys	Glu	Cys	Asn	Glu	Gly	
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Phe	Gln	Ser	Ser	Ser	Ser	Gly	Thr	Glu	Cys	Leu	Asp	Asn	Arg	Gln	Gly	
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Leu	Cys	Phe	Ala	Glu	Val	Leu	Gln	Thr	Ile	Cys	Gln	Met	Ala	Ser	Ser	
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Ser	Arg	Asn	Leu	Val	Thr	Lys	Ser	Glu	Cys	Cys	Cys	Asp	Gly	Gly	Arg	
			2405					2410						2415		
Gly	Trp	Gly	His	Gln	Cys	Glu	Leu	Cys	Pro	Leu	Pro	Gly	Thr	Ala	Gln	
			2420					2425						2430		
Tyr	Lys	Lys	Ile	Cys	Pro	His	Gly	Pro	Gly	Tyr	Thr	Thr	Asp	Gly	Arg	
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Asp	Ile	Asp	Glu	Cys	Lys	Val	Met	Pro	Asn	Leu	Cys	Thr	Asn	Gly	Gln	
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Cys	Ile	Asn	Thr	Met	Gly	Ser	Phe	Arg	Cys	Phe	Cys	Lys	Val	Gly	Tyr	
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Thr	Thr	Asp	Ile	Ser	Gly	Thr	Ser	Cys	Ile	Asp	Leu	Asp	Glu	Cys	Ser	
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Gln	Ser	Pro	Lys	Pro	Cys	Asn	Tyr	Ile	Cys	Lys	Asn	Thr	Glu	Gly	Ser	
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Tyr	Gln	Cys	Ser	Cys	Pro	Arg	Gly	Tyr	Val	Leu	Gln	Glu	Asp	Gly	Lys	
	2515						2520					2525				
Thr	Cys	Lys	Asp	Leu	Asp	Glu	Cys	Gln	Thr	Lys	Gln	His	Asn	Cys	Gln	
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Phe	Leu	Cys	Val	Asn	Thr	Leu	Gly	Gly	Phe	Thr	Cys	Lys	Cys	Pro	Pro	
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Gly	Phe	Thr	Gln	His	His	Thr	Ala	Cys	Ile	Asp	Asn	Asn	Glu	Cys	Gly	
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Gln	His	Gly	Cys	Gln	Asn	Ile	Leu	Gly	Gly	Tyr	Arg	Cys	Gly	Cys	Pro	
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Gln	Gly	Tyr	Ile	Gln	His	Tyr	Gln	Trp	Asn	Gln	Cys	Val	Asp	Glu	Asn	
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Cys	Pro	Pro	Gly	Tyr	Tyr	Arg	Val	Gly	Gln	Gly	His	Cys	Val	Ser	Gly	
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Met	Gly	Phe	Asn	Lys	Gly	Gln	Tyr	Leu	Ser	Leu	Asp	Thr	Glu	Val	Asp	
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Glu	Glu	Asn	Ala	Leu	Ser	Pro	Glu	Ala	Cys	Tyr	Glu	Cys	Lys	Ile	Asn
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Gly	Tyr	Ser	Lys	Lys	Asp	Ser	Arg	Gln	Lys	Arg	Ser	Ile	His	Glu	Pro
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Asp	Pro	Thr	Ala	Val	Glu	Gln	Ile	Ser	Leu	Glu	Ser	Val	Asp	Met	Asp
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Ser	Pro	Val	Asn	Met	Lys	Phe	Asn	Leu	Ser	His	Leu	Gly	Ser	Lys	Glu
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His	Ile	Leu	Glu	Leu	Arg	Pro	Ala	Ile	Gln	Pro	Leu	Asn	Asn	His	Ile
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Arg	Tyr	Val	Ile	Ser	Gln	Gly	Asn	Asp	Asp	Ser	Val	Phe	Arg	Ile	His
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Gln	Arg	Asn	Gly	Leu	Ser	Tyr	Leu	His	Thr	Ala	Lys	Lys	Lys	Leu	Met
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Pro	Gly	Thr	Tyr	Thr	Leu	Glu	Ile	Thr	Ser	Ile	Pro	Leu	Tyr	Lys	Lys
2865					2870					2875				2880	
Lys	Glu	Leu	Lys	Lys	Leu	Glu	Glu	Ser	Asn	Glu	Asp	Asp	Tyr	Leu	Leu
			2885						2890					2895	
Gly	Glu	Leu	Gly	Glu	Ala	Leu	Arg	Met	Arg	Leu	Gln	Ile	Gln	Leu	Tyr
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<210> 64

<211> 2809

<212> PRT

<213> Homo sapiens

<400> 64

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

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

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Leu	Cys	Pro	Ala	Lys	Asp	Ser	Ala	Glu	Phe	Gln	Ala	Leu	Cys	Ser	Ser		
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Gly	Leu	Gly	Ile	Thr	Thr	Asp	Gly	Arg	Asp	Ile	Asn	Glu	Cys	Ala	Leu		
		675					680					685					
Asp	Pro	Glu	Val	Cys	Ala	Asn	Gly	Val	Cys	Glu	Asn	Leu	Arg	Gly	Ser		
	690					695					700						
Tyr	Arg	Cys	Val	Cys	Asn	Leu	Gly	Tyr	Glu	Ala	Gly	Ala	Ser	Gly	Lys		
705					710					715					720		
Asp	Cys	Thr	Asp	Val	Asp	Glu	Cys	Ala	Leu	Asn	Ser	Leu	Leu	Cys	Asp		
			725					730						735			
Asn	Gly	Trp	Cys	Gln	Asn	Ser	Pro	Gly	Ser	Tyr	Ser	Cys	Ser	Cys	Pro		
		740						745					750				
Pro	Gly	Phe	His	Phe	Trp	Gln	Asp	Thr	Glu	Ile	Cys	Lys	Asp	Val	Asp		
		755					760					765					
Glu	Cys	Leu	Ser	Ser	Pro	Cys	Val	Ser	Gly	Val	Cys	Arg	Asn	Leu	Ala		
	770					775					780						
Gly	Ser	Tyr	Thr	Cys	Lys	Cys	Gly	Pro	Gly	Ser	Arg	Leu	Asp	Pro	Ser		
785					790					795					800		
Gly	Thr	Phe	Cys	Leu	Asp	Ser	Thr	Lys	Gly	Thr	Cys	Trp	Leu	Lys	Ile		
			805					810						815			
Gln	Glu	Ser	Arg	Cys	Glu	Val	Asn	Leu	Gln	Gly	Ala	Ser	Leu	Arg	Ser		
		820					825						830				
Glu	Cys	Cys	Ala	Thr	Leu	Gly	Ala	Ala	Trp	Gly	Ser	Pro	Cys	Glu	Arg		
	835					840					845						
Cys	Glu	Ile	Asp	Pro	Ala	Cys	Ala	Arg	Gly	Phe	Ala	Arg	Met	Thr	Gly		
	850				855					860							
Val	Thr	Cys	Asp	Asp	Val	Asn	Glu	Cys	Glu	Ser	Phe	Pro	Gly	Val	Cys		
865				870					875						880		
Pro	Asn	Gly	Arg	Cys	Val	Asn	Thr	Ala	Gly	Ser	Phe	Arg	Cys	Glu	Cys		
			885					890						895			
Pro	Glu	Gly	Leu	Met	Leu	Asp	Ala	Ser	Gly	Arg	Leu	Cys	Val	Asp	Val		
		900						905					910				
Arg	Leu	Glu	Pro	Cys	Phe	Leu	Arg	Trp	Asp	Glu	Asp	Glu	Cys	Gly	Val		
	915						920					925					
Thr	Leu	Pro	Gly	Lys	Tyr	Arg	Met	Asp	Val	Cys	Cys	Cys	Ser	Ile	Gly		
	930				935					940							
Ala	Val	Trp	Gly	Val	Glu	Cys	Glu	Ala	Cys	Pro	Asp	Pro	Glu	Ser	Leu		
945					950				955						960		
Glu	Phe	Ala	Ser	Leu	Cys	Pro	Arg	Gly	Leu	Gly	Phe	Ala	Ser	Arg	Asp		
			965					970						975			
Phe	Leu	Ser	Gly	Arg	Pro	Phe	Tyr	Lys	Asp	Val	Asn	Glu	Cys	Lys	Val		
		980						985					990				
Phe	Pro	Gly	Leu	Cys	Thr	His	Gly	Thr	Cys	Arg	Asn	Thr	Val	Gly	Ser		
		995					1000					1005					
Phe	His	Cys	Ala	Cys	Ala	Gly	Gly	Phe	Ala	Leu	Asp	Ala	Gln	Glu	Arg		
	1010					1015					1020						
Asn	Cys	Thr	Asp	Ile	Asp	Glu	Cys	Arg	Ile	Ser	Pro	Asp	Leu	Cys	Gly		
1025					1030					1035					1040		
Gln	Gly	Thr	Cys	Val	Asn	Thr	Pro	Gly	Ser	Phe	Glu	Cys	Glu	Cys	Phe		
			1045					1050					1055				
Pro	Gly	Tyr	Glu	Ser	Gly	Phe	Met	Leu	Met	Lys	Asn	Cys	Met	Asp	Val		
		1060						1065					1070				
Asp	Glu	Cys	Ala	Arg	Asp	Pro	Leu	Leu	Cys	Arg	Gly	Gly	Thr	Cys	Thr		

1075					1080					1085					
Asn	Thr	Asp	Gly	Ser	Tyr	Lys	Cys	Gln	Cys	Pro	Pro	Gly	His	Glu	Leu
1090					1095					1100					
Thr	Ala	Lys	Gly	Thr	Ala	Cys	Glu	Asp	Ile	Asp	Glu	Cys	Ser	Leu	Ser
1105					1110					1115					1120
Asp	Gly	Leu	Cys	Pro	His	Gly	Gln	Cys	Val	Asn	Val	Ile	Gly	Ala	Phe
1125					1130					1135					
Gln	Cys	Ser	Cys	His	Ala	Gly	Phe	Gln	Ser	Thr	Pro	Asp	Arg	Gln	Gly
1140					1145					1150					
Cys	Val	Asp	Ile	Asn	Glu	Cys	Arg	Val	Gln	Asn	Gly	Gly	Cys	Asp	Val
1155					1160					1165					
His	Cys	Ile	Asn	Thr	Glu	Gly	Ser	Tyr	Arg	Cys	Ser	Cys	Gly	Gln	Gly
1170					1175					1180					
Tyr	Ser	Leu	Met	Pro	Asp	Gly	Arg	Ala	Cys	Ala	Asp	Val	Asp	Glu	Cys
1185					1190					1195					1200
Glu	Glu	Asn	Pro	Arg	Val	Cys	Asp	Gln	Gly	His	Cys	Thr	Asn	Met	Pro
1205					1210					1215					
Gly	Gly	His	Arg	Cys	Leu	Cys	Tyr	Asp	Gly	Phe	Met	Ala	Thr	Pro	Asp
1220					1225					1230					
Met	Arg	Thr	Cys	Val	Asp	Val	Asp	Glu	Cys	Asp	Leu	Asn	Pro	His	Ile
1235					1240					1245					
Cys	Leu	His	Gly	Asp	Cys	Glu	Asn	Thr	Lys	Gly	Ser	Phe	Val	Cys	His
1250					1255					1260					
Cys	Gln	Leu	Gly	Tyr	Met	Val	Arg	Lys	Gly	Ala	Thr	Gly	Cys	Ser	Asp
1265					1270					1275					1280
Val	Asp	Glu	Cys	Glu	Val	Gly	Gly	His	Asn	Cys	Asp	Ser	His	Ala	Ser
1285					1290					1295					
Cys	Leu	Asn	Ile	Pro	Gly	Ser	Phe	Ser	Cys	Arg	Cys	Leu	Pro	Gly	Trp
1300					1305					1310					
Val	Gly	Asp	Gly	Phe	Glu	Cys	His	Asp	Leu	Asp	Glu	Cys	Val	Ser	Gln
1315					1320					1325					
Glu	His	Arg	Cys	Ser	Pro	Arg	Gly	Asp	Cys	Leu	Asn	Val	Pro	Gly	Ser
1330					1335					1340					
Tyr	Arg	Cys	Thr	Cys	Arg	Gln	Gly	Phe	Ala	Gly	Asp	Gly	Phe	Phe	Cys
1345					1350					1355					1360
Glu	Asp	Arg	Asp	Glu	Cys	Ala	Glu	Asn	Val	Asp	Leu	Cys	Asp	Asn	Gly
1365					1370					1375					
Gln	Cys	Leu	Asn	Ala	Pro	Gly	Gly	Tyr	Arg	Cys	Glu	Cys	Glu	Met	Gly
1380					1385					1390					
Phe	Asp	Pro	Thr	Glu	Asp	His	Arg	Ala	Cys	Gln	Asp	Val	Asp	Glu	Cys
1395					1400					1405					
Ala	Gln	Gly	Asn	Leu	Cys	Ala	Phe	Gly	Ser	Cys	Glu	Asn	Leu	Pro	Gly
1410					1415					1420					
Met	Phe	Arg	Cys	Ile	Cys	Asn	Gly	Gly	Tyr	Glu	Leu	Asp	Arg	Gly	Gly
1425					1430					1435					1440
Gly	Asn	Cys	Thr	Asp	Ile	Asn	Glu	Cys	Ala	Asp	Pro	Val	Asn	Cys	Ile
1445					1450					1455					
Asn	Gly	Val	Cys	Ile	Asn	Thr	Pro	Gly	Ser	Tyr	Leu	Cys	Ser	Cys	Pro
1460					1465					1470					
Gln	Asp	Phe	Glu	Leu	Asn	Pro	Ser	Gly	Val	Gly	Cys	Val	Asp	Thr	Arg
1475					1480					1485					
Ala	Gly	Asn	Cys	Phe	Leu	Glu	Thr	His	Asp	Arg	Gly	Asp	Ser	Gly	Ile
1490					1495					1500					
Ser	Cys	Ser	Ala	Glu	Ile	Gly	Val	Gly	Val	Thr	Arg	Ala	Ser	Cys	Cys

1505		1510		1515		1520
Cys Ser Leu Gly Arg	Ala Trp Gly Asn Pro Cys Glu Leu Cys Pro Met					
	1525		1530		1535	
Ala Asn Thr Thr Glu Tyr Arg Thr	Leu Cys Pro Gly Gly Glu Gly Phe					
	1540		1545		1550	
Gln Pro Asn Arg Ile Thr Val Ile Leu Glu Asp Ile Asp Glu Cys Gln						
	1555		1560		1565	
Glu Leu Pro Gly Leu Cys Gln Gly Gly Asp Cys Val Asn Thr Phe Gly						
	1570		1575		1580	
Ser Phe Gln Cys Glu Cys Pro Pro Gly Tyr His Leu Ser Glu His Thr						
1585	1590		1595		1600	
Arg Ile Cys Glu Asp Ile Asp Glu Cys Ser Thr His Ser Gly Ile Cys						
	1605		1610		1615	
Gly Pro Gly Thr Cys Tyr Asn Thr Leu Gly Asn Tyr Thr Cys Val Cys						
	1620		1625		1630	
Pro Ala Glu Tyr Leu Gln Val Asn Gly Gly Asn Asn Cys Met Asp Met						
	1635		1640		1645	
Arg Lys Ser Val Cys Phe Arg His Tyr Asn Gly Thr Cys Gln Asn Glu						
	1650		1655		1660	
Leu Ala Phe Asn Val Thr Arg Lys Met Cys Cys Cys Ser Tyr Asn Ile						
1665	1670		1675		1680	
Gly Gln Ala Trp Asn Arg Pro Cys Glu Ala Cys Pro Thr Pro Ile Ser						
	1685		1690		1695	
Pro Asp Tyr Gln Ile Leu Cys Gly Asn Gln Ala Pro Gly Phe Leu Thr						
	1700		1705		1710	
Asp Ile His Thr Gly Lys Pro Leu Asp Ile Asp Glu Cys Gly Glu Ile						
	1715		1720		1725	
Pro Ala Ile Cys Ala Asn Gly Ile Cys Ile Asn Gln Ile Gly Ser Phe						
	1730		1735		1740	
Arg Cys Glu Cys Pro Ala Gly Phe Asn Tyr Asn Ser Ile Leu Leu Ala						
1745	1750		1755		1760	
Cys Glu Asp Val Asp Glu Cys Gly Ser Arg Glu Ser Pro Cys Gln Gln						
	1765		1770		1775	
Asn Ala Asp Cys Ile Asn Ile Pro Gly Ser Tyr Arg Cys Lys Cys Thr						
	1780		1785		1790	
Arg Gly Tyr Lys Leu Ser Pro Gly Gly Ala Cys Val Gly Arg Asn Glu						
	1795		1800		1805	
Cys Arg Glu Ile Pro Asn Val Cys Ser His Gly Asp Cys Met Asp Thr						
	1810		1815		1820	
Glu Gly Ser Tyr Met Cys Leu Cys His Arg Gly Phe Gln Ala Ser Ala						
1825	1830		1835		1840	
Asp Gln Thr Leu Cys Met Asp Ile Asp Glu Cys Asp Arg Gln Pro Cys						
	1845		1850		1855	
Gly Asn Gly Thr Cys Lys Asn Ile Ile Gly Ser Tyr Asn Cys Leu Cys						
	1860		1865		1870	
Phe Pro Gly Phe Val Val Thr His Asn Gly Asp Cys Val Asp Phe Asp						
	1875		1880		1885	
Glu Cys Thr Thr Leu Val Gly Gln Val Cys Arg Phe Gly His Cys Leu						
	1890		1895		1900	
Asn Thr Ala Gly Ser Phe His Cys Leu Cys Gln Asp Gly Phe Glu Leu						
1905	1910		1915		1920	
Thr Ala Asp Gly Lys Asn Cys Val Asp Thr Asn Glu Cys Leu Ser Leu						
	1925		1930		1935	
Ala Gly Thr Cys Leu Pro Gly Thr Cys Gln Asn Leu Glu Gly Ser Phe						

			1940				1945				1950				
Arg	Cys	Ile	Cys	Pro	Pro	Gly	Phe	Gln	Val	Gln	Ser	Asp	His	Cys	Ile
			1955				1960				1965				
Asp	Ile	Asp	Glu	Cys	Ser	Glu	Glu	Pro	Asn	Leu	Cys	Leu	Phe	Gly	Thr
			1970				1975				1980				
Cys	Thr	Asn	Ser	Pro	Gly	Ser	Phe	Gln	Cys	Leu	Cys	Pro	Pro	Gly	Phe
1985			1990				1995				2000				
Val	Leu	Ser	Asp	Asn	Gly	His	Arg	Cys	Phe	Asp	Thr	Arg	Gln	Ser	Phe
			2005				2010				2015				
Cys	Phe	Thr	Arg	Phe	Glu	Ala	Gly	Lys	Cys	Ser	Val	Pro	Lys	Ala	Phe
			2020				2025				2030				
Asn	Thr	Thr	Lys	Thr	Arg	Cys	Cys	Cys	Ser	Lys	Arg	Pro	Gly	Glu	Gly
			2035				2040				2045				
Trp	Gly	Asp	Pro	Cys	Glu	Leu	Cys	Pro	Gln	Glu	Gly	Ser	Ala	Ala	Phe
			2050				2055				2060				
Gln	Glu	Leu	Cys	Pro	Phe	Gly	His	Gly	Ala	Val	Pro	Gly	Pro	Asp	Asp
2065			2070				2075				2080				
Ser	Arg	Glu	Asp	Val	Asn	Glu	Cys	Ala	Glu	Asn	Pro	Gly	Val	Cys	Thr
			2085				2090				2095				
Asn	Gly	Val	Cys	Val	Asn	Thr	Asp	Gly	Ser	Phe	Arg	Cys	Glu	Cys	Pro
			2100				2105				2110				
Phe	Gly	Tyr	Ser	Leu	Asp	Phe	Thr	Gly	Ile	Asn	Cys	Val	Asp	Thr	Asp
			2115				2120				2125				
Glu	Cys	Ser	Val	Gly	His	Pro	Cys	Gly	Gln	Gly	Thr	Cys	Thr	Asn	Val
			2130				2135				2140				
Ile	Gly	Gly	Phe	Glu	Cys	Ala	Cys	Ala	Asp	Gly	Phe	Glu	Pro	Gly	Leu
2145			2150				2155				2160				
Met	Met	Thr	Cys	Glu	Asp	Ile	Asp	Glu	Cys	Ser	Leu	Asn	Pro	Leu	Leu
			2165				2170				2175				
Cys	Ala	Phe	Arg	Cys	His	Asn	Thr	Glu	Gly	Ser	Tyr	Leu	Cys	Thr	Cys
			2180				2185				2190				
Pro	Ala	Gly	Tyr	Thr	Leu	Arg	Glu	Asp	Gly	Ala	Met	Cys	Arg	Asp	Val
			2195				2200				2205				
Asp	Glu	Cys	Ala	Asp	Gly	Gln	Gln	Asp	Cys	His	Ala	Arg	Gly	Met	Glu
			2210				2215				2220				
Cys	Lys	Asn	Leu	Ile	Gly	Thr	Phe	Ala	Cys	Val	Cys	Pro	Pro	Gly	Met
2225			2230				2235				2240				
Arg	Pro	Leu	Pro	Gly	Ser	Gly	Glu	Gly	Cys	Thr	Asp	Asp	Asn	Glu	Cys
			2245				2250				2255				
His	Ala	Gln	Pro	Asp	Leu	Cys	Val	Asn	Gly	Arg	Cys	Val	Asn	Thr	Ala
			2260				2265				2270				
Gly	Ser	Phe	Arg	Cys	Asp	Cys	Asp	Glu	Gly	Phe	Gln	Pro	Ser	Pro	Thr
			2275				2280				2285				
Leu	Thr	Glu	Cys	His	Asp	Ile	Arg	Gln	Gly	Pro	Cys	Phe	Ala	Glu	Val
2290			2295				2300				2305				
Leu	Gln	Thr	Met	Cys	Arg	Ser	Leu	Ser	Ser	Ser	Ser	Glu	Ala	Val	Thr
2305			2310				2315				2320				
Arg	Ala	Glu	Cys	Cys	Cys	Gly	Gly	Gly	Arg	Gly	Trp	Gly	Pro	Arg	Cys
			2325				2330				2335				
Glu	Leu	Cys	Pro	Leu	Pro	Gly	Thr	Ser	Ala	Tyr	Arg	Lys	Leu	Cys	Pro
			2340				2345				2350				
His	Gly	Ser	Gly	Tyr	Thr	Ala	Glu	Gly	Arg	Asp	Val	Asp	Glu	Cys	Arg
			2355				2360				2365				
Met	Leu	Ala	His	Leu	Cys	Ala	His	Gly	Glu	Cys	Ile	Asn	Ser	Leu	Gly

2370	2375	2380
Ser Phe Arg Cys His	Cys Gln Ala Gly Tyr Thr	Pro Asp Ala Thr Ala
2385	2390	2395
Thr Thr Cys Leu Asp	Met Asp Glu Cys Ser	Gln Val Pro Lys Pro Cys
2405	2410	2415
Thr Phe Leu Cys Lys	Asn Thr Lys Gly Ser	Phe Leu Cys Ser Cys Pro
2420	2425	2430
Arg Gly Tyr Leu Leu	Glu Glu Asp Gly Arg	Thr Cys Lys Asp Leu Asp
2435	2440	2445
Glu Cys Thr Ser Arg	Gln His Asn Cys Gln	Phe Leu Cys Val Asn Thr
2450	2455	2460
Val Gly Ala Phe Thr	Cys Arg Cys Pro Pro	Gly Phe Thr Gln His His
2465	2470	2475
Gln Ala Cys Phe Asp	Asn Asp Glu Cys Ser	Ala Gln Pro Gly Pro Cys
2485	2490	2495
Gly Ala His Gly His	Cys His Asn Thr Pro	Gly Ser Phe Arg Cys Glu
2500	2505	2510
Cys His Gln Gly Phe	Thr Leu Val Ser Ser	Gly His Gly Cys Glu Asp
2515	2520	2525
Val Asn Glu Cys Asp	Gly Pro His Arg Cys	Gln His Gly Cys Gln Asn
2530	2535	2540
Gln Leu Gly Gly Tyr	Arg Cys Ser Cys Pro	Gln Gly Phe Thr Gln His
2545	2550	2555
Ser Gln Trp Ala Gln	Cys Val Asp Glu Asn	Glu Cys Ala Leu Ser Pro
2565	2570	2575
Pro Thr Cys Gly Ser	Ala Ser Cys Arg Asn	Thr Leu Gly Gly Phe Arg
2580	2585	2590
Cys Val Cys Pro Ser	Gly Phe Asp Phe Asp	Gln Ala Leu Gly Gly Cys
2595	2600	2605
Gln Glu Val Asp Glu	Cys Ala Gly Arg Arg	Gly Pro Cys Ser Tyr Ser
2610	2615	2620
Cys Ala Asn Thr Pro	Gly Gly Phe Leu Cys	Gly Cys Pro Gln Gly Tyr
2625	2630	2635
Phe Arg Ala Gly Gln	Gly His Cys Val Ser	Gly Leu Gly Phe Ser Pro
2645	2650	2655
Gly Pro Gln Asp Thr	Pro Asp Lys Glu Glu	Leu Leu Ser Ser Glu Ala
2660	2665	2670
Cys Tyr Glu Cys Lys	Ile Asn Gly Leu Ser	Pro Arg Asp Arg Pro Arg
2675	2680	2685
Arg Ser Ala His Arg	Asp His Gln Val Asn	Leu Ala Thr Leu Asp Ser
2690	2695	2700
Glu Ala Leu Leu Thr	Leu Gly Leu Asn Leu	Ser His Leu Gly Arg Ala
2705	2710	2715
Glu Arg Ile Leu Glu	Leu Arg Pro Ala Leu	Glu Gly Leu Glu Gly Arg
2725	2730	2735
Ile Arg Tyr Val Ile	Val Arg Gly Asn Glu	Gln Gly Phe Phe Arg Met
2740	2745	2750
His His Leu Arg Gly	Val Ser Ser Leu Gln	Leu Gly Arg Arg Arg Pro
2755	2760	2765
Gly Pro Gly Thr Tyr	Arg Leu Glu Val Val	Ser His Met Ala Gly Pro
2770	2775	2780
Trp Gly Val Gln Pro	Glu Gly Gln Pro Gly	Pro Trp Gly Gln Ala Leu
2785	2790	2795
Arg Leu Lys Val Gln	Leu Gln Leu Leu	

