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<110> ANGERS, STEPHANE
SIDHU, SACHDEV
TAO, YUYONG

<120> MULTIVALENT BINDING MOLECULES ACTIVATING WNT SIGNALING AND USES
THEREOF

<130> 115773.PA895WO

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<150> 62/630,772

<151> 2018-02-14

<160> 75

<170> PatentIn version 3.5

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<211> 2169

<212> DNA

<213> Homo sapiens

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

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

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Ala Ser Ile Tyr Ser Ala Phe Ala Ser Thr Ser Tyr Ala Asp Ser Val
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Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
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Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
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Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln
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Thr Ile Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp
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Ser Ser Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser
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Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe
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Ala Thr Tyr Tyr Cys Gln Gln Gly Val Tyr Leu Phe Thr Phe Gly Gln
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Gly Thr Lys Val Glu Ile Lys Leu Glu Asp Lys Thr His Thr Lys Val
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Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
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Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
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Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
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Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
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Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Val
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Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
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Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
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Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser
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Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Tyr Ser
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Gly Ser Lys Lys Pro Tyr Phe Ser Gly Trp Ala Met Asp Tyr Trp Gly
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Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile
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Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
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Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
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Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
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Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
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Ala Arg Tyr His Phe Pro Phe Gly Phe Ala Leu Asp Tyr Trp Gly Gln
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Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val
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Thr Ile Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp
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Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala
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Ser Ser Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser
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Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe
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Ala Thr Tyr Tyr Cys Gln Gln Gly Val Tyr Leu Phe Thr Phe Gly Gln
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Gly Thr Lys Val Glu Ile Lys Leu Glu Asp Lys Thr His Thr Lys Val
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Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
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Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
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Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
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Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser Leu Tyr
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ggcaaggagt acaagtgcaa ggtctccaac aaagccctcc cagcccccat cgagaaaacc	1080
atctccaaag ccaaagggca gccccgagaa ccacaggtgt acaccctgcc cccatcccgg	1140
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gacatcgccg tggagtggga gagcaatggg cagccggaga acaactacaa gaccacgcct	1260
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tcttcttatt atatccactg ggtgcgtcag gccccgggta agggcctgga atgggttgca	1620
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cagggtacca aggtggagat caaa 2184

<210> 8
<211> 728
<212> PRT
<213> Homo sapiens

<400> 8
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20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Tyr Ser Ala Phe Ala Ser Thr Ser Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Tyr His Phe Pro Phe Gly Phe Ala Leu Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln
115 120 125

Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val
130 135 140

Thr Ile Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp
145 150 155 160

Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala
165 170 175

Ser Ser Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser
180 185 190

Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe
195 200 205

Ala Thr Tyr Tyr Cys Gln Gln Gly Val Tyr Leu Phe Thr Phe Gly Gln
210 215 220

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

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
245 250 255

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
260 265 270

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
275 280 285

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
290 295 300

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
305 310 315 320

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
325 330 335

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
340 345 350

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
355 360 365

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
370 375 380

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
385 390 395 400

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
405 410 415

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
420 425 430

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
435 440 445

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys

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

<210> 9
<211> 2175
<212> DNA
<213> Homo sapiens

<400> 9
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ccgggtaagg gcctggaatg ggttgcatct atttattctt attatggcta tacttattat 180
gccgatagcg tcaagggccg ttctactata agcgcagaca catccaaaaa cacagcctac 240
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ggtggcagtg atatccagat gaccagctcc ccgagctccc tgtccgcctc tgtgggcgat 420
agggtcacca tcacctgccg tgccagtcag tccgtgtcca gcgctgtagc ctggtatcaa 480
cagaaaccag gaaaagctcc gaagcttctg atttactcgg catccagcct ctactctgga 540
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aagttcaact ggtacgtgga cggcgtggag gtgcataatg ccaagacaaa gccgcgcgag 960
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ttctctggta gccgttcgg gacggatttc actctgacca tcagcagtct gcagccggaa	2100
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aaggtggaga tcaaa	2175

<210> 10
 <211> 725
 <212> PRT
 <213> Homo sapiens

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

195

200

205

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

Gly Thr Ser Glu Ser Ala Thr Pro Glu Ser Gly Gly Gly Glu Val Gln
 485 490 495

Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg
 500 505 510

Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Ser Tyr Ser Ser Ile His
 515 520 525

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

Ser Ser Tyr Tyr Gly Tyr Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg
 545 550 555 560

Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met
 565 570 575

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Ala
 580 585 590

His Tyr Phe Pro Trp Ala Gly Ala Met Asp Tyr Trp Gly Gln Gly Thr
 595 600 605

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr
 610 615 620

Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
 625 630 635 640

Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr Gln
 645 650 655

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser
 660 665 670

Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr
 675 680 685

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
 690 695 700

Tyr Tyr Cys Gln Gln Tyr Tyr Trp Pro Ile Thr Phe Gly Gln Gly Thr
 705 710 715 720

Lys Val Glu Ile Lys
 725

<210> 11
 <211> 2193
 <212> DNA

<213> Homo sapiens

<400> 11

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ccgggtaagg	gcctggaatg	ggttgcatct	atttattctt	attatggcta	tacttattat	180
gccgatagcg	tcaagggccg	tttactata	agcgcagaca	catccaaaaa	cacagcctac	240
ctacaaatga	acagcttaag	agctgaggac	actgccgtct	attattgtgc	tcgctcttct	300
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agggtcacca	tcacctgccg	tgccagtcag	tccgtgtcca	gcgctgtagc	ctggtatcaa	480
cagaaaccag	gaaaagctcc	gaagcttctg	atttactcgg	catccagcct	ctactctgga	540
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ctgatcacgt	tcggacaggg	taccaaggtg	gagatcaaac	tcgaggacaa	aactcacaca	720
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ggcggtgggc	tggtgcagcc	aggggggtca	ctccgtttgt	cctgtgcagc	ttctggcttc	1560
aacatctctt	cttattatat	ccactgggtg	cgtcaggccc	cgggtaaggg	cctggaatgg	1620
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ggaggtggca	gtgatatcca	gatgaccag	tccccgagct	ccctgtccgc	ctctgtgggc	1920
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caacagaaac caggaaaagc tccgaagctt ctgatttact cggcatccag cctctactct	2040
ggagtccctt ctcgcttctc tggtagccgt tccgggacgg atttcactct gaccatcagc	2100
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acgttcggac agggtagcaa ggtggagatc aaa	2193

<210> 12
 <211> 731
 <212> PRT
 <213> Homo sapiens

<400> 12
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Ser Tyr Tyr
 20 25 30

Tyr Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Tyr Ser Tyr Tyr Gly Tyr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Ser Phe Ser Trp Ala Met Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr
 115 120 125

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

Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr Gln
 145 150 155 160

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser
 165 170 175

Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr
 180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
 195 200 205

Tyr Tyr Cys Gln Gln His Pro Trp Ser Gly Gly Tyr Leu Ile Thr Phe
 210 215 220

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

Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg
500 505 510

Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Ser Ser Tyr Tyr Ile His
515 520 525

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ser Ile
530 535 540

Tyr Ser Ser Tyr Gly Tyr Thr Ser Tyr Ala Asp Ser Val Lys Gly Arg
545 550 555 560

Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met
565 570 575

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Thr
580 585 590

Val Arg Gly Ser Lys Lys Pro Tyr Phe Ser Gly Trp Ala Met Asp Tyr
595 600 605

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser
610 615 620

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
625 630 635 640

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala
645 650 655

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
660 665 670

Tyr Ser Ala Ser Ser Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
675 680 685

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
690 695 700

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Trp Gly Pro Phe
705 710 715 720

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
725 730

<210> 13

<211> 2169

<212> DNA

<213> Homo sapiens

<400> 13

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ccgggtaagg gcctggaatg ggttgcatat atttcttctt attatggcta tacttattat	180
gccgatagcg tcaagggccg ttctactata agcgcagaca catccaaaaa cacagcctac	240
ctacaaatga acagcttaag agctgaggac actgccgtct attattgtgc tcgcccggct	300
ccgggtcatt ggggttttga ctactgggggt caaggaaccc tggtcaccgt ctctcgggt	360
ggaggtggca gtgatatcca gatgaccag tccccgagct ccctgtccgc ctctgtgggc	420
gatagggtca ccatcacctg ccgtgccagt cagtcctgtt ccagcgtgt agcctgggat	480
caacagaaac caggaaaagc tccgaagctt ctgatttact cggcatccag cctctactct	540
ggagtccctt ctcgcttctc tggtagccgt tccgggacgg atttcactct gaccatcagc	600
agtctgcagc cggaagactt cgcaacttat tactgtcagc aatggtacta cgctccgatc	660
acgttcggac agggtagcaa ggtggagatc aaactcgagg acaaaactca cacaaaagt	720
gagccaaaaa cttctgataa gaccatact tgcccaccgt gccagcacc tgaactcctg	780
gggggaccgt cagtcttctt cttccccca aaaccaagg acaccctcat gatctcccgg	840
accctgagg tcacatgcgt ggtggtggac gtgagccacg aagaccctga ggtcaagttc	900
aactggtacg tggacggcgt ggaggtgcat aatgccaaga caaagccgcg cgaggagcag	960
tacaacagca cgtaccgtgt ggtcagcgtc ctcaccgtcc tgcaccagga ctggctgaat	1020
ggcaaggagt acaagtgcaa ggtctccaac aaagccctcc cagccccat cgagaaaacc	1080
atctccaaag ccaaagggca gccccagaa ccaatggtgt ttgacctgcc cccatcccgg	1140
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gacatcgccg tggagtggga gagcaatggg cagccggaga acaactacaa gaccacgcct	1260
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ggcctggtgc agccaggggg ctcactccgt ttgtcctgtg cagcttctgg cttcaacatc	1560
tcttattctt ctatccactg ggtgcgtcag gccccgggta agggcctgga atgggttgca	1620
tatatcttctt cttattatgg ctatacttat tatgccgata gcgtcaaggg ccgtttcact	1680
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gacactgccg tctattattg tgctcgcgt cattacttcc cgtgggctgg tgctatggac	1800
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atgaccagct ccccgagctc cctgtccgcc tctgtgggcg atagggtcac catcacctgc	1920
cgtgccagtc agtccgtgtc cagcgtgta gcctggatat aacagaaacc aggaaaagct	1980
ccgaagcttc tgatttactc ggcatccagc ctctactctg gagtcccttc tcgcttctct	2040
ggtagccgtt ccgggacgga ttctactctg accatcagca gtctgcagcc ggaagacttc	2100
gcaacttatt actgtcagca atactactgg ccgatcacgt tcggacaggg taccaaggtg	2160

<210> 14

<211> 723

<212> PRT

<213> Homo sapiens

<400> 14

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Leu Ser Ser Tyr
20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Ser Ser Tyr Tyr Gly Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Pro Ala Pro Gly His Trp Gly Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met
115 120 125

Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr
130 135 140

Ile Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr
145 150 155 160

Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser
165 170 175

Ser Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly
180 185 190

Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala
195 200 205

Thr Tyr Tyr Cys Gln Gln Trp Tyr Tyr Ala Pro Ile Thr Phe Gly Gln
210 215 220

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

Glu	Pro	Lys	Thr	Ser	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	Cys	Pro	Ala	245	250	255
Pro	Glu	Leu	Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	260	265	270
Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	275	280	285
Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	Val	290	295	300
Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	305	310	315
Tyr	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	325	330	335
Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	340	345	350
Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	355	360	365
Arg	Glu	Pro	Met	Val	Phe	Asp	Leu	Pro	Pro	Ser	Arg	Glu	Glu	Met	Thr	370	375	380
Lys	Asn	Gln	Val	Ser	Leu	Trp	Cys	Met	Val	Lys	Gly	Phe	Tyr	Pro	Ser	385	390	395
Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	405	410	415
Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	420	425	430
Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	435	440	445
Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	450	455	460
Ser	Leu	Ser	Leu	Ser	Pro	Gly	Lys	Ser	Gly	Ser	Glu	Thr	Pro	Gly	Thr	465	470	475
Ser	Glu	Ser	Ala	Thr	Pro	Glu	Ser	Gly	Gly	Gly	Glu	Val	Gln	Leu	Val	485	490	495
Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly	Ser	Leu	Arg	Leu	Ser	500	505	510

Cys	Ala	Ala	Ser	Gly	Phe	Asn	Ile	Ser	Tyr	Ser	Ser	Ile	His	Trp	Val
	515						520					525			
Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val	Ala	Tyr	Ile	Ser	Ser
	530					535					540				
Tyr	Tyr	Gly	Tyr	Thr	Tyr	Tyr	Ala	Asp	Ser	Val	Lys	Gly	Arg	Phe	Thr
545					550					555					560
Ile	Ser	Ala	Asp	Thr	Ser	Lys	Asn	Thr	Ala	Tyr	Leu	Gln	Met	Asn	Ser
				565					570					575	
Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys	Ala	Arg	Ala	His	Tyr
			580					585					590		
Phe	Pro	Trp	Ala	Gly	Ala	Met	Asp	Tyr	Trp	Gly	Gln	Gly	Thr	Leu	Val
		595					600					605			
Thr	Val	Ser	Ser	Gly	Gly	Gly	Gly	Ser	Asp	Ile	Gln	Met	Thr	Gln	Ser
	610					615					620				
Pro	Ser	Ser	Leu	Ser	Ala	Ser	Val	Gly	Asp	Arg	Val	Thr	Ile	Thr	Cys
625					630					635					640
Arg	Ala	Ser	Gln	Ser	Val	Ser	Ser	Ala	Val	Ala	Trp	Tyr	Gln	Gln	Lys
			645						650					655	
Pro	Gly	Lys	Ala	Pro	Lys	Leu	Leu	Ile	Tyr	Ser	Ala	Ser	Ser	Leu	Tyr
			660					665					670		
Ser	Gly	Val	Pro	Ser	Arg	Phe	Ser	Gly	Ser	Arg	Ser	Gly	Thr	Asp	Phe
		675					680					685			
Thr	Leu	Thr	Ile	Ser	Ser	Leu	Gln	Pro	Glu	Asp	Phe	Ala	Thr	Tyr	Tyr
	690					695					700				
Cys	Gln	Gln	Tyr	Tyr	Trp	Pro	Ile	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Val
705					710					715					720

Glu Ile Lys

<210> 15
<211> 2187
<212> DNA
<213> Homo sapiens

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ccgggtaagg gcctggaatg ggttgcatat atttcttctt attatggcta tacttattat	180
gccgatagcg tcaagggccg tttcactata agcgcagaca catcaaaaa cacagcctac	240

ctacaaatga acagcttaag agctgaggac actgccgtct attattgtgc tcgcccggct	300
ccgggtcatt ggggttttga ctactgggggt caaggaaccc tggtcaccgt ctcctcgggt	360
ggagggtggca gtgatatcca gatgaccag tccccgagct ccctgtccgc ctctgtgggc	420
gatagggtca ccatcacctg ccgtgccagt cagtccgtgt ccagcgctgt agcctggtat	480
caacagaaac caggaaaagc tccgaagctt ctgatttact cggcatccag cctctactct	540
ggagtccctt ctcgcttctc tggtagccgt tccgggacgg atttcactct gaccatcagc	600
agtctgcagc cggaagactt cgcaacttat tactgtcagc aatggtacta cgctccgac	660
acgttcggac agggtagcaa ggtggagatc aaactcgagg acaaaactca cacaaaagtt	720
gagcccaaatt cttctgataa gaccataat tgcccaccgt gccagcacc tgaactcctg	780
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acccctgagg tcacatgcgt ggtggtggac gtgagccacg aagaccctga ggtcaagttc	900
aactggtacg tggacggcgt ggagggtgcat aatgccaaga caaagccgcg ggaggagcag	960
tacaacagca cgtaccgtgt ggtcagcgtc ctcaccgtcc tgcaccagga ctggctgaat	1020
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atctccaaag ccaaagggca gccccagaaa ccacaggtgt acaccctgcc cccaatccgg	1140
gagctgatga ccagcaacca ggtcagcctg agctgcgccg tcaaaggctt ctatcccagc	1200
gacatcgccg tggagtggga gagcaatggg cagccggaga acaactaaa gaccacgcct	1260
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ggacagggta ccaaggtgga gatcaaa	2187

<211> 729
<212> PRT
<213> Homo sapiens

<400> 16

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Leu Ser Ser Tyr
20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Ser Ser Tyr Tyr Gly Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Pro Ala Pro Gly His Trp Gly Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met
115 120 125

Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr
130 135 140

Ile Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr
145 150 155 160

Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser
165 170 175

Ser Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly
180 185 190

Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala
195 200 205

Thr Tyr Tyr Cys Gln Gln Trp Tyr Tyr Ala Pro Ile Thr Phe Gly Gln
210 215 220

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

Glu Pro Lys Ser Ser Asp Lys Thr His Asn Cys Pro Pro Cys Pro Ala
245 250 255

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
260 265 270

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
275 280 285

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
290 295 300

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
305 310 315 320

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
325 330 335

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
340 345 350

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
355 360 365

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ile Arg Glu Leu Met Thr
370 375 380

Ser Asn Gln Val Ser Leu Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser
385 390 395 400

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
405 410 415

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Val
420 425 430

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
435 440 445

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
450 455 460

Ser Leu Ser Leu Ser Pro Gly Lys Ser Gly Ser Glu Thr Pro Gly Thr
465 470 475 480

Ser Glu Ser Ala Thr Pro Glu Ser Gly Gly Gly Glu Val Gln Leu Val
485 490 495

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser
500 505 510

Cys Ala Ala Ser Gly Phe Asn Ile Ser Ser Tyr Tyr Ile His Trp Val
515 520 525

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Tyr Ser

530

535

540

Ser Tyr Gly Tyr Thr Ser Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr
545 550 555 560

Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser
565 570 575

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Thr Val Arg
580 585 590

Gly Ser Lys Lys Pro Tyr Phe Ser Gly Trp Ala Met Asp Tyr Trp Gly
595 600 605

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile
610 615 620

Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
625 630 635 640

Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala
645 650 655

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser
660 665 670

Ala Ser Ser Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg
675 680 685

Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
690 695 700

Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Trp Gly Pro Phe Thr Phe
705 710 715 720

Gly Gln Gly Thr Lys Val Glu Ile Lys
725

<210> 17

<211> 2175

<212> DNA

<213> Homo sapiens

<400> 17

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ccgggtaagg gcctggaatg ggttgcatct atttcttctt attatggctc tacttattat 180

gccgatagcg tcaagggccg ttctactata agcgcagaca catccaaaaa cacagcctac 240

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<210> 18

<211> 725

<212> PRT

<213> Homo sapiens

<400> 18

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Ser Tyr Tyr
20 25 30

Tyr Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Ser Tyr Tyr Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Trp Trp Ala Trp Ala Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr
115 120 125

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

Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr Gln
145 150 155 160

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser
165 170 175

Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr
180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
195 200 205

Tyr Tyr Cys Gln Gln His Tyr Ser Val Tyr Ala Ser Leu Ile Thr Phe
210 215 220

Gly Gln Gly Thr Lys Val Glu Ile Lys Leu Glu Asp Lys Thr His Thr
225 230 235 240

Lys Val Glu Pro Lys Thr Ser Asp Lys Thr His Thr Cys Pro Pro Cys
245 250 255

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
260 265 270

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys

275

280

285

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
 290 295 300

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
 305 310 315 320

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
 325 330 335

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
 340 345 350

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
 355 360 365

Gln Pro Arg Glu Pro Met Val Phe Asp Leu Pro Pro Ser Arg Glu Glu
 370 375 380

Met Thr Lys Asn Gln Val Ser Leu Trp Cys Met Val Lys Gly Phe Tyr
 385 390 395 400

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
 405 410 415

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
 420 425 430

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
 435 440 445

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
 450 455 460

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys Ser Gly Ser Glu Thr Pro
 465 470 475 480

Gly Thr Ser Glu Ser Ala Thr Pro Glu Ser Gly Gly Gly Glu Val Gln
 485 490 495

Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg
 500 505 510

Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Ser Tyr Ser Ser Ile His
 515 520 525

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

Ser Ser Tyr Tyr Gly Tyr Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg
 545 550 555 560

Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met
565 570 575

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Ala
580 585 590

His Tyr Phe Pro Trp Ala Gly Ala Met Asp Tyr Trp Gly Gln Gly Thr
595 600 605

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr
610 615 620

Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
625 630 635 640

Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr Gln
645 650 655

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser
660 665 670

Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr
675 680 685

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
690 695 700

Tyr Tyr Cys Gln Gln Tyr Tyr Trp Pro Ile Thr Phe Gly Gln Gly Thr
705 710 715 720

Lys Val Glu Ile Lys
725

<210> 19
<211> 2193
<212> DNA
<213> Homo sapiens

<400> 19
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ccgggtaagg gcctggaatg gggtgcatct atttcttctt attatggctc tacttattat 180
gccgatagcg tcaagggccg ttctactata agcgcagaca catccaaaaa cacagcctac 240
ctacaaatga acagcttaag agctgaggac actgccgtct attattgtgc tcgctcttgg 300
tgggcttggg cttttgacta ctgggggtcaa ggaaccctgg tcaccgtctc ctcgggtgga 360
ggtggcagtg atatccagat gacccagtcc ccgagctccc tgtccgcctc tgtgggcgat 420
agggtcacca tcacctgccg tgccagtcag tccgtgtcca gcgctgtagc ctggtatcaa 480
cagaaaccag gaaaagctcc gaagcttctg atttactcgg catccagcct ctactctgga 540

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Ser Tyr Tyr

20

25

30

Tyr Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Ser Ser Tyr Tyr Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Trp Trp Ala Trp Ala Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr
 115 120 125

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

Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr Gln
 145 150 155 160

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser
 165 170 175

Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr
 180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
 195 200 205

Tyr Tyr Cys Gln Gln His Tyr Ser Val Tyr Ala Ser Leu Ile Thr Phe
 210 215 220

Gly Gln Gly Thr Lys Val Glu Ile Lys Leu Glu Asp Lys Thr His Thr
 225 230 235 240

Lys Val Glu Pro Lys Ser Ser Asp Lys Thr His Asn Cys Pro Pro Cys
 245 250 255

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
 260 265 270

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
 275 280 285

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
 290 295 300

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
 305 310 315 320

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
 325 330 335

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
 340 345 350

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
 355 360 365

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ile Arg Glu Leu
 370 375 380

Met Thr Ser Asn Gln Val Ser Leu Ser Cys Ala Val Lys Gly Phe Tyr
 385 390 395 400

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
 405 410 415

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
 420 425 430

Leu Val Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
 435 440 445

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
 450 455 460

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys Ser Gly Ser Glu Thr Pro
 465 470 475 480

Gly Thr Ser Glu Ser Ala Thr Pro Glu Ser Gly Gly Gly Glu Val Gln
 485 490 495

Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg
 500 505 510

Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Ser Ser Tyr Tyr Ile His
 515 520 525

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ser Ile
 530 535 540

Tyr Ser Ser Tyr Gly Tyr Thr Ser Tyr Ala Asp Ser Val Lys Gly Arg
 545 550 555 560

Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met
 565 570 575

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Thr
580 585 590

Val Arg Gly Ser Lys Lys Pro Tyr Phe Ser Gly Trp Ala Met Asp Tyr
595 600 605

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser
610 615 620

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
625 630 635 640

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala
645 650 655

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
660 665 670

Tyr Ser Ala Ser Ser Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
675 680 685

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
690 695 700

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Trp Gly Pro Phe
705 710 715 720

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
725 730

<210> 21
<211> 2175
<212> DNA
<213> Homo sapiens

<400> 21
gaggttcagc tgggtggagtc tggcgggtggc ctggtgcagc cagggggctc actccgtttg 60
tcctgtgcag cttctggctt caacatctct tattattata tccactgggt gcgtcaggcc 120
ccgggtaagg gcctggaatg ggttgcattt atttattctt cttctagcta tacttattat 180
gccgatagcg tcaagggccg ttctactata agcgcagaca catccaaaaa cacagcctac 240
ctacaaatga acagcttaag agctgaggac actgccgtct attattgtgc tcgctcttct 300
tacgcttggg ctattgacta ctgggggtcaa ggaaccctgg tcaccgtctc ctcgggtgga 360
ggtggcagtg atatccagat gaccagctcc ccgagctccc tgtccgcctc tgtgggcgat 420
agggtcacca tcacctgccg tgccagtcag tccgtgtcca gcgctgtagc ctggtatcaa 480
cagaaaccag gaaaagctcc gaagcttctg atttactcgg catccagcct ctactctgga 540
gtcccttctc gcttctctgg tagccgttcc gggacggatt tcaactctgac catcagcagt 600
ctgcagccgg aagacttcgc aacttattac tgtcagcaat ctggttggtg gggtgtttct 660

ctgatcacgt tcggacaggg taccaaggtg gagatcaaac tcgaggacaa aactcacaca	720
aaagtggagc caaaaacttc tgataagacc catacttgcc caccgtgccc agcacctgaa	780
ctcctggggg gaccgtcagt ttctctcttc ccccaaaaac ccaaggacac cctcatgac	840
tcccggaacc ctgaggtcac atgcgtggtg gtggacgtga gccacgaaga ccctgaggtc	900
aagttcaact ggtacgtgga cggcgtggag gtgcataatg ccaagacaaa gccgcgcgag	960
gagcagtaca acagcacgta ccgtgtggtc agcgtcctca ccgtcctgca ccaggactgg	1020
ctgaatggca aggagtacaa gtgcaaggtc tccaacaaag ccctcccagc ccccatcgag	1080
aaaaccatct ccaaagccaa agggcagccc cgagaaccaa tgggtgtttga cctgccccca	1140
tcccgggagg agatgaccaa gaaccaggtc agcctgtggt gcatgggtcaa gggcttctat	1200
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ggcgggtggc tgggtgcagc agggggctca ctccgtttgt cctgtgcagc ttctggcttc	1560
aacatctctt attcttctat ccactgggtg cgtcaggccc cgggtaaggg cctggaatgg	1620
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gctgaggaca ctgccgtcta ttattgtgct cgcgctcatt acttcccgtg ggctggtgct	1800
atggactact ggggtcaagg aaccctggtc accgtctcct cgggtggagg tggcagtgat	1860
atccagatga ccagtcctcc gagctccctg tccgcctctg tgggcgatag ggtcaccatc	1920
acctgccgtg ccagtcagtc cgtgtccagc gctgtagcct ggtatcaaca gaaaccagga	1980
aaagctccga agcttctgat ttactcgga tccagcctct actctggagt cccttctcgc	2040
ttctctggta gccgttccgg gacggatttc actctgacca tcagcagtct gcagccggaa	2100
gacttcgcaa cttattactg tcagcaatac tactggccga tcacgttcgg acagggtagc	2160
aagtggtgaga tcaaa	2175

<210> 22
 <211> 725
 <212> PRT
 <213> Homo sapiens

<400> 22
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Ser Tyr Tyr
 20 25 30

Tyr Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Tyr Ser Ser Ser Ser Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Ser Tyr Ala Trp Ala Ile Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr
115 120 125

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

Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr Gln
145 150 155 160

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser
165 170 175

Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr
180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
195 200 205

Tyr Tyr Cys Gln Gln Ser Gly Trp Trp Gly Val Ser Leu Ile Thr Phe
210 215 220

Gly Gln Gly Thr Lys Val Glu Ile Lys Leu Glu Asp Lys Thr His Thr
225 230 235 240

Lys Val Glu Pro Lys Thr Ser Asp Lys Thr His Thr Cys Pro Pro Cys
245 250 255

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
260 265 270

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
275 280 285

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
290 295 300

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
305 310 315 320

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
325 330 335

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
340 345 350

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
355 360 365

Gln Pro Arg Glu Pro Met Val Phe Asp Leu Pro Pro Ser Arg Glu Glu
370 375 380

Met Thr Lys Asn Gln Val Ser Leu Trp Cys Met Val Lys Gly Phe Tyr
385 390 395 400

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
405 410 415

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
420 425 430

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
435 440 445

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
450 455 460

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys Ser Gly Ser Glu Thr Pro
465 470 475 480

Gly Thr Ser Glu Ser Ala Thr Pro Glu Ser Gly Gly Gly Glu Val Gln
485 490 495

Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg
500 505 510

Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Ser Tyr Ser Ser Ile His
515 520 525

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

Ser Ser Tyr Tyr Gly Tyr Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg
545 550 555 560

Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met
565 570 575

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Ala
580 585 590

His Tyr Phe Pro Trp Ala Gly Ala Met Asp Tyr Trp Gly Gln Gly Thr
595 600 605

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr
610 615 620

Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
625 630 635 640

Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr Gln
645 650 655

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser
660 665 670

Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr
675 680 685

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
690 695 700

Tyr Tyr Cys Gln Gln Tyr Tyr Trp Pro Ile Thr Phe Gly Gln Gly Thr
705 710 715 720

Lys Val Glu Ile Lys
725

<210> 23
<211> 2193
<212> DNA
<213> Homo sapiens

<400> 23
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tcctgtgcag cttctggctt caacatctct tattattata tccactgggt gcgtcaggcc 120
ccgggtaagg gcctggaatg ggttgcatct atttattctt cttctagcta tacttattat 180
gccgatagcg tcaagggccg ttctactata agcgcagaca catccaaaaa cacagcctac 240
ctacaaatga acagcttaag agctgaggac actgccgtct attattgtgc tcgctcttct 300
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ggtggcagtg atatccagat gacccagtcc ccgagctccc tgtccgcctc tgtgggcgat 420
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gtcccttctc gcttctctgg tagccgttcc gggacggatt tcaactctgac catcagcagt 600
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ctgatcacgt tcggacaggg taccaaggtg gagatcaaac tcgaggacaa aactcacaca 720
aaagttgagc ccaaatcttc tgataagacc cataattgcc caccgtgccc agcacctgaa 780
ctcctggggg gaccgtcagt cttcctcttc ccccaaaaac ccaaggacac cctcatgatc 840

tcccggaccc ctgaggtcac atgcgtggtg gtggacgtga gccacgaaga ccctgaggtc	900
aagttcaact ggtacgtgga cggcgtggag gtgcataatg ccaagacaaa gccgcgggag	960
gagcagtaca acagcacgta ccgtgtggtc agcgtcctca ccgtcctgca ccaggactgg	1020
ctgaatggca aggagtacaa gtgcaaggtc tccaacaaag ccctcccagc ccccatcgag	1080
aaaaccatct ccaaagccaa agggcagccc cgagaaccac aggtgtacac cctgccccca	1140
atccgggagc tgatgaccag caaccaggtc agcctgagct gcgccgtcaa aggtttctat	1200
cccagcgaca tcgccgtgga gtgggagagc aatgggcagc cggagaacaa ctacaagacc	1260
acgcctcccg tgctggactc cgacggctcc ttcttcctcg tgagcaagct caccgtggac	1320
aagagcaggt ggagcaggg gaacgtcttc tcatgctccg tgatgcatga ggctctgcac	1380
aaccactaca cgagaagag cctctccctg tctccgggta aaagcggcag cgagactccc	1440
gggacctcag agtccgccac acccgaaagt ggtggcggag aggttcagct ggtggagtct	1500
ggcggtaggc tggtgcagcc agggggctca ctccgtttgt cctgtgcagc ttctggcttc	1560
aacatctctt cttattatat cactgggtg cgtagggccc cgggtaaggg cctggaatgg	1620
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ttctctgggt gggctatgga ctactgggt caaggaacc tggtcaccgt ctctcgggt	1860
ggaggtggca gtgatatcca gatgaccag tccccgagct ccctgtccgc ctctgtgggc	1920
gatagggtca ccatcacctg ccgtgccagt cagtccgtgt ccagcgtgt agcctggtat	1980
caacagaaac caggaaaagc tccgaagctt ctgatttact cggcatccag cctctactct	2040
ggagtccctt ctcgcttctc tggtagccgt tccgggacgg atttcactct gaccatcagc	2100
agtctgcagc cggaagactt cgcaacttat tactgtcagc aatactcttg ggtccgttc	2160
acgttcggac aggttaccaa ggtggagatc aaa	2193

<210> 24
 <211> 731
 <212> PRT
 <213> Homo sapiens

<400> 24
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Ser Tyr Tyr
 20 25 30

Tyr Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Tyr Ser Ser Ser Ser Tyr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Ser Tyr Ala Trp Ala Ile Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr
115 120 125

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

Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr Gln
145 150 155 160

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser
165 170 175

Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr
180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
195 200 205

Tyr Tyr Cys Gln Gln Ser Gly Trp Trp Gly Val Ser Leu Ile Thr Phe
210 215 220

Gly Gln Gly Thr Lys Val Glu Ile Lys Leu Glu Asp Lys Thr His Thr
225 230 235 240

Lys Val Glu Pro Lys Ser Ser Asp Lys Thr His Asn Cys Pro Pro Cys
245 250 255

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
260 265 270

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
275 280 285

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
290 295 300

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
305 310 315 320

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
325 330 335

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
340 345 350

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
355 360 365

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ile Arg Glu Leu
370 375 380

Met Thr Ser Asn Gln Val Ser Leu Ser Cys Ala Val Lys Gly Phe Tyr
385 390 395 400

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
405 410 415

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
420 425 430

Leu Val Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
435 440 445

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
450 455 460

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys Ser Gly Ser Glu Thr Pro
465 470 475 480

Gly Thr Ser Glu Ser Ala Thr Pro Glu Ser Gly Gly Gly Glu Val Gln
485 490 495

Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg
500 505 510

Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Ser Ser Tyr Tyr Ile His
515 520 525

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ser Ile
530 535 540

Tyr Ser Ser Tyr Gly Tyr Thr Ser Tyr Ala Asp Ser Val Lys Gly Arg
545 550 555 560

Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met
565 570 575

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Thr
580 585 590

Val Arg Gly Ser Lys Lys Pro Tyr Phe Ser Gly Trp Ala Met Asp Tyr
595 600 605

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser

610

615

620

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
625 630 635 640

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala
645 650 655

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
660 665 670

Tyr Ser Ala Ser Ser Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
675 680 685

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
690 695 700

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Trp Gly Pro Phe
705 710 715 720

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
725 730

<210> 25

<211> 2169

<212> DNA

<213> Homo sapiens

<400> 25

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<210> 26
<211> 723
<212> PRT
<213> Homo sapiens

<400> 26
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Ser Tyr Tyr
20 25 30

Tyr Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Tyr Pro Ser Ser Gly Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Ser Phe Tyr Trp Ala Met Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr
115 120 125

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

Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr Gln
145 150 155 160

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser
165 170 175

Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr
180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
195 200 205

Tyr Tyr Cys Gln Gln Ser Tyr Ala Ala Tyr Leu Phe Thr Phe Gly Gln
210 215 220

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

Glu Pro Lys Thr Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
245 250 255

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
260 265 270

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
275 280 285

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
290 295 300

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
305 310 315 320

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
325 330 335

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
340 345 350

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro

355

360

365

Arg Glu Pro Met Val Phe Asp Leu Pro Pro Ser Arg Glu Glu Met Thr
 370 375 380

Lys Asn Gln Val Ser Leu Trp Cys Met Val Lys Gly Phe Tyr Pro Ser
 385 390 395 400

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
 405 410 415

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
 420 425 430

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
 435 440 445

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
 450 455 460

Ser Leu Ser Leu Ser Pro Gly Lys Ser Gly Ser Glu Thr Pro Gly Thr
 465 470 475 480

Ser Glu Ser Ala Thr Pro Glu Ser Gly Gly Gly Glu Val Gln Leu Val
 485 490 495

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser
 500 505 510

Cys Ala Ala Ser Gly Phe Asn Ile Ser Tyr Ser Ser Ile His Trp Val
 515 520 525

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Tyr Ile Ser Ser
 530 535 540

Tyr Tyr Gly Tyr Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr
 545 550 555 560

Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser
 565 570 575

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Ala His Tyr
 580 585 590

Phe Pro Trp Ala Gly Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val
 595 600 605

Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser
 610 615 620

Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys
 625 630 635 640

Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr Gln Gln Lys
645 650 655

Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser Leu Tyr
660 665 670

Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr Asp Phe
675 680 685

Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr
690 695 700

Cys Gln Gln Tyr Tyr Trp Pro Ile Thr Phe Gly Gln Gly Thr Lys Val
705 710 715 720

Glu Ile Lys

<210> 27
<211> 2187
<212> DNA
<213> Homo sapiens

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<210> 28
<211> 729
<212> PRT
<213> Homo sapiens

<400> 28
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Ser Tyr Tyr
20 25 30

Tyr Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Tyr Pro Ser Ser Gly Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Ser Phe Tyr Trp Ala Met Asp Tyr Trp Gly Gln Gly Thr

110

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ile Arg Glu Leu Met Thr
370 375 380

Ser Asn Gln Val Ser Leu Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser
 385 390 395 400

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
 405 410 415

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Val
 420 425 430

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
 435 440 445

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
 450 455 460

Ser Leu Ser Leu Ser Pro Gly Lys Ser Gly Ser Glu Thr Pro Gly Thr
 465 470 475 480

Ser Glu Ser Ala Thr Pro Glu Ser Gly Gly Gly Glu Val Gln Leu Val
 485 490 495

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser
 500 505 510

Cys Ala Ala Ser Gly Phe Asn Ile Ser Ser Tyr Tyr Ile His Trp Val
 515 520 525

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Tyr Ser
 530 535 540

Ser Tyr Gly Tyr Thr Ser Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr
 545 550 555 560

Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser
 565 570 575

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Thr Val Arg
 580 585 590

Gly Ser Lys Lys Pro Tyr Phe Ser Gly Trp Ala Met Asp Tyr Trp Gly
 595 600 605

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile
 610 615 620

Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
 625 630 635 640

Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala
 645 650 655

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser
660 665 670

Ala Ser Ser Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg
675 680 685

Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
690 695 700

Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Trp Gly Pro Phe Thr Phe
705 710 715 720

Gly Gln Gly Thr Lys Val Glu Ile Lys
725

<210> 29
<211> 2163
<212> DNA
<213> Homo sapiens

<400> 29
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<210> 30
<211> 721
<212> PRT
<213> Homo sapiens

<400> 30
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Ser Tyr Tyr
20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Ser Ser Tyr Tyr Ser Ser Thr Ser Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Phe Trp Tyr Pro Gly Met Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
115 120 125

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
 130 135 140

Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr Gln Gln
 145 150 155 160

Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser Leu
 165 170 175

Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr Asp
 180 185 190

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
 195 200 205

Tyr Cys Gln Gln His Trp Ser Tyr Pro Ile Thr Phe Gly Gln Gly Thr
 210 215 220

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

Lys Thr Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
 245 250 255

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
 260 265 270

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
 275 280 285

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
 290 295 300

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

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
 325 330 335

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
 340 345 350

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
 355 360 365

Pro Met Val Phe Asp Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn
 370 375 380

Gln Val Ser Leu Trp Cys Met Val Lys Gly Phe Tyr Pro Ser Asp Ile
 385 390 395 400

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
405 410 415

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
420 425 430

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
435 440 445

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
450 455 460

Ser Leu Ser Pro Gly Lys Ser Gly Ser Glu Thr Pro Gly Thr Ser Glu
465 470 475 480

Ser Ala Thr Pro Glu Ser Gly Gly Gly Glu Val Gln Leu Val Glu Ser
485 490 495

Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala
500 505 510

Ala Ser Gly Phe Asn Ile Ser Tyr Ser Ser Ile His Trp Val Arg Gln
515 520 525

Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Tyr Ile Ser Ser Tyr Tyr
530 535 540

Gly Tyr Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser
545 550 555 560

Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg
565 570 575

Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Ala His Tyr Phe Pro
580 585 590

Trp Ala Gly Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val
595 600 605

Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser
610 615 620

Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
625 630 635 640

Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly
645 650 655

Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser Leu Tyr Ser Gly
660 665 670

Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr Asp Phe Thr Leu
675 680 685

Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln
690 695 700

Gln Tyr Tyr Trp Pro Ile Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
705 710 715 720

Lys

<210> 31
<211> 2181
<212> DNA
<213> Homo sapiens

<400> 31
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ggtaccaagg tggagatcaa a	2181

<210> 32
 <211> 727
 <212> PRT
 <213> Homo sapiens

<400> 32
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 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Ser Tyr Tyr
 20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Ser Ser Tyr Tyr Ser Ser Thr Ser Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Phe Trp Tyr Pro Gly Met Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
 115 120 125

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
 130 135 140

Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr Gln Gln
145 150 155 160

Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser Leu
165 170 175

Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr Asp
180 185 190

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
195 200 205

Tyr Cys Gln Gln His Trp Ser Tyr Pro Ile Thr Phe Gly Gln Gly Thr
210 215 220

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

Lys Ser Ser Asp Lys Thr His Asn Cys Pro Pro Cys Pro Ala Pro Glu
245 250 255

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
260 265 270

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
275 280 285

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
290 295 300

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

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
325 330 335

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
340 345 350

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
355 360 365

Pro Gln Val Tyr Thr Leu Pro Pro Ile Arg Glu Leu Met Thr Ser Asn
370 375 380

Gln Val Ser Leu Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile
385 390 395 400

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
405 410 415

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Val Ser Lys
420 425 430

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
435 440 445

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
450 455 460

Ser Leu Ser Pro Gly Lys Ser Gly Ser Glu Thr Pro Gly Thr Ser Glu
465 470 475 480

Ser Ala Thr Pro Glu Ser Gly Gly Gly Glu Val Gln Leu Val Glu Ser
485 490 495

Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala
500 505 510

Ala Ser Gly Phe Asn Ile Ser Ser Tyr Tyr Ile His Trp Val Arg Gln
515 520 525

Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Tyr Ser Ser Tyr
530 535 540

Gly Tyr Thr Ser Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser
545 550 555 560

Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg
565 570 575

Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Thr Val Arg Gly Ser
580 585 590

Lys Lys Pro Tyr Phe Ser Gly Trp Ala Met Asp Tyr Trp Gly Gln Gly
595 600 605

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met
610 615 620

Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr
625 630 635 640

Ile Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr
645 650 655

Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser
660 665 670

Ser Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly
675 680 685

Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala

Thr Tyr Tyr Cys Gln Gln Tyr Ser Trp Gly Pro Phe Thr Phe Gly Gln
705 710 715 720

Gly Thr Lys Val Glu Ile Lys
725

<210> 33

<211> 2166

<212> DNA

<213> Homo sapiens

<400> 33

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ccgggtaagg gcctggaatg ggttgcatct atttattctt attctggcta tacttattat	180
gccgatagcg tcaagggccg tttcactata agcgcagaca catccaaaaa cacagcctac	240
ctacaaatga acagcttaag agctgaggac actgccgtct attattgtgc tcgctcttct	300
ttcgcttggg cttttgacta ctgggggtcaa ggaaccctgg tcaccgtctc ctcgggtgga	360
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cagaaaccag gaaaagctcc gaagcttctg atttactcgg catccagcct ctactctgga	540
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ctgcagccgg aagacttcgc aacttattac tgtcagcaag gtggttgggg tccgttcacg	660
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cccaaaactt ctgataagac ccatacttgc ccaccgtgcc cagcacctga actcctgggg	780
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cctgaggtca catgcgtggg ggtggacgtg agccacgaag accctgaggt caagttcaac	900
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atcaaa 2166

<210> 34
<211> 722
<212> PRT
<213> Homo sapiens

<400> 34
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Leu Ser Tyr Tyr
20 25 30

Tyr Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Tyr Ser Tyr Ser Gly Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Ser Phe Ala Trp Ala Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr
115 120 125

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

Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr Gln
145 150 155 160

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser
165 170 175

Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr
180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
195 200 205

Tyr Tyr Cys Gln Gln Gly Gly Trp Gly Pro Phe Thr Phe Gly Gln Gly
210 215 220

Thr Lys Val Glu Ile Lys Leu Glu Asp Lys Thr His Thr Lys Val Glu
225 230 235 240

Pro Lys Thr Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro
245 250 255

Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys
260 265 270

Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val
275 280 285

Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp
290 295 300

Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr
305 310 315 320

Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp
325 330 335

Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu
340 345 350

Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg
355 360 365

Glu Pro Met Val Phe Asp Leu Pro Pro Ser Arg Glu Glu Met Thr Lys
370 375 380

Asn Gln Val Ser Leu Trp Cys Met Val Lys Gly Phe Tyr Pro Ser Asp
385 390 395 400

Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys
405 410 415

Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser
420 425 430

Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser

435

440

445

Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser
 450 455 460

Leu Ser Leu Ser Pro Gly Lys Ser Gly Ser Glu Thr Pro Gly Thr Ser
 465 470 475 480

Glu Ser Ala Thr Pro Glu Ser Gly Gly Gly Glu Val Gln Leu Val Glu
 485 490 495

Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys
 500 505 510

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

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Tyr Ile Ser Ser Tyr
 530 535 540

Tyr Gly Tyr Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile
 545 550 555 560

Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu
 565 570 575

Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Ala His Tyr Phe
 580 585 590

Pro Trp Ala Gly Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr
 595 600 605

Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
 610 615 620

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg
 625 630 635 640

Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
 645 650 655

Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser Leu Tyr Ser
 660 665 670

Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr Asp Phe Thr
 675 680 685

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
 690 695 700

Gln Gln Tyr Tyr Trp Pro Ile Thr Phe Gly Gln Gly Thr Lys Val Glu
 705 710 715 720

Ile Lys

<210> 35

<211> 2184

<212> DNA

<213> Homo sapiens

<400> 35

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tcctgtgcag cttctggctt caacctctct tattattata tgcactgggt gcgtcaggcc	120
ccgggtaagg gcctggaatg ggttgcatct atttattctt attctggcta tacttattat	180
gccgatagcg tcaagggccg ttctactata agcgcagaca catccaaaaa cacagcctac	240
ctacaaatga acagcttaag agctgaggac actgccgtct attattgtgc tcgctcttct	300
ttcgcttggt cttttgacta ctgggggtcaa ggaaccctgg tcaccgtctc ctcgggtgga	360
ggtggcagtg atatccagat gacccagtcc ccgagctccc tgtccgcctc tgtgggcgat	420
agggtcacca tcacctgccg tgccagtcag tccgtgtcca gcgctgtagc ctggtatcaa	480
cagaaaccag gaaaagctcc gaagcttctg atttactcgg catccagcct ctactctgga	540
gtcccttctc gcttctctgg tagccgttcc gggacggatt tcactctgac catcagcagt	600
ctgcagccgg aagacttcgc aacttattac tgtcagcaag gtggttgggg tccgttcacg	660
ttcggacagg gtaccaaggt ggagatcaaa ctcgaggaca aaactcacac aaaagttgag	720
cccaaattct ctgataagac ccataattgc ccaccgtgcc cagcacctga actcctgggg	780
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aaggagtaca agtgcaaggt ctccaacaaa gccctcccag ccccatcga gaaaaccatc	1080
tccaaagcca aagggcagcc ccgagaacca cagggtgtaca ccctgcccc aatccgggag	1140
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cagggtacca aggtggagat caaa 2184

<210> 36
<211> 728
<212> PRT
<213> Homo sapiens

<400> 36
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Leu Ser Tyr Tyr
20 25 30

Tyr Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Tyr Ser Tyr Ser Gly Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Ser Phe Ala Trp Ala Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr
115 120 125

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

Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr Gln
145 150 155 160

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser
165 170 175

Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr

180

185

190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
 195 200 205

Tyr Tyr Cys Gln Gln Gly Gly Trp Gly Pro Phe Thr Phe Gly Gln Gly
 210 215 220

Thr Lys Val Glu Ile Lys Leu Glu Asp Lys Thr His Thr Lys Val Glu
 225 230 235 240

Pro Lys Ser Ser Asp Lys Thr His Asn Cys Pro Pro Cys Pro Ala Pro
 245 250 255

Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys
 260 265 270

Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val
 275 280 285

Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp
 290 295 300

Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr
 305 310 315 320

Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp
 325 330 335

Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu
 340 345 350

Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg
 355 360 365

Glu Pro Gln Val Tyr Thr Leu Pro Pro Ile Arg Glu Leu Met Thr Ser
 370 375 380

Asn Gln Val Ser Leu Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser Asp
 385 390 395 400

Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys
 405 410 415

Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Val Ser
 420 425 430

Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser
 435 440 445

Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser
 450 455 460

Leu Ser Leu Ser Pro Gly Lys Ser Gly Ser Glu Thr Pro Gly Thr Ser
465 470 475 480

Glu Ser Ala Thr Pro Glu Ser Gly Gly Gly Glu Val Gln Leu Val Glu
485 490 495

Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys
500 505 510

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

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Tyr Ser Ser
530 535 540

Tyr Gly Tyr Thr Ser Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile
545 550 555 560

Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu
565 570 575

Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Thr Val Arg Gly
580 585 590

Ser Lys Lys Pro Tyr Phe Ser Gly Trp Ala Met Asp Tyr Trp Gly Gln
595 600 605

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln
610 615 620

Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val
625 630 635 640

Thr Ile Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp
645 650 655

Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala
660 665 670

Ser Ser Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser
675 680 685

Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe
690 695 700

Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Trp Gly Pro Phe Thr Phe Gly
705 710 715 720

Gln Gly Thr Lys Val Glu Ile Lys
725

<210> 37
<211> 2157
<212> DNA
<213> Homo sapiens

<400> 37
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ccgagctccc	tgtccgcctc	tgtgggcgat	agggtcacca	tcacctgccg	tgccagtcag	1920
tccgtgtcca	gcgctgtagc	ctggtatcaa	cagaaaccag	gaaaagctcc	gaagcttctg	1980
atttactcgg	catccagcct	ctactctgga	gtcccttctc	gcttctctgg	tagccgttcc	2040
gggacggatt	tcactctgac	catcagcagt	ctgcagccgg	aagacttcgc	aacttattac	2100
tgtcagcaat	actactggcc	gatcacgttc	ggacagggta	ccaaggtgga	gatcaaaa	2157

<400> 38
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Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
65 70 75 80

Ala Arg Tyr Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg
130 135 140

Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser Leu Tyr Ser
165 170 175

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

Gln Gln Ala Phe Tyr Tyr Pro Ile Thr Phe Gly Gln Gly Thr Lys Val
210 215 220

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

Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
245 250 255

Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
260 265 270

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
275 280 285

His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
290 295 300

Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
305 310 315 320

Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
325 330 335

Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
340 345 350

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Met
355 360 365

Val Phe Asp Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val
370 375 380

Ser Leu Trp Cys Met Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
385 390 395 400

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
405 410 415

Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
420 425 430

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
435 440 445

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
450 455 460

Ser Pro Gly Lys Ser Gly Ser Glu Thr Pro Gly Thr Ser Glu Ser Ala
465 470 475 480

Thr Pro Glu Ser Gly Gly Gly Glu Val Gln Leu Val Glu Ser Gly Gly

485

490

495

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
500 505 510

Gly Phe Asn Ile Ser Tyr Ser Ser Ile His Trp Val Arg Gln Ala Pro
515 520 525

Gly Lys Gly Leu Glu Trp Val Ala Tyr Ile Ser Ser Tyr Tyr Gly Tyr
530 535 540

Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
545 550 555 560

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
565 570 575

Asp Thr Ala Val Tyr Tyr Cys Ala Arg Ala His Tyr Phe Pro Trp Ala
580 585 590

Gly Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
595 600 605

Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu
610 615 620

Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln
625 630 635 640

Ser Val Ser Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala
645 650 655

Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser Leu Tyr Ser Gly Val Pro
660 665 670

Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile
675 680 685

Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr
690 695 700

Tyr Trp Pro Ile Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
705 710 715

<210> 39

<211> 2175

<212> DNA

<213> Homo sapiens

<400> 39

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tcctgtgcag cttctggcct caacatctct tattcttcta tccactgggt gcgtcaggcc 120

ccgggtaagg gcctggaatg ggttgcattt atttatcctt cttatagctc tacttattat	180
gccgatagcg tcaagggccg ttctactata agcgcagaca catccaaaaa cacagcctac	240
ctacaaatga acagcttaag agctgaggac actgccgtct attattgtgc tcgctactac	300
gctatggact actgggggtca aggaaccctg gtcaccgtct cctcgggtgg aggtggcagt	360
gatatccaga tgaccagtc cccgagctcc ctgtccgcct ctgtgggcga tagggtcacc	420
atcacctgcc gtgccagtca gtccgtgtcc agcgtgttag cctggatatca acagaaacca	480
ggaaaagctc cgaagcttct gatttactcg gcatccagcc tctactctgg agtccttct	540
cgcttctctg gtagccgttc cgggacggat ttactctga ccatcagcag tctgcagccg	600
gaagacttcg caacttatta ctgtcagcaa gctttctact acccgatcac gttcggacag	660
ggtaccaagg tggagatcaa actcgaggac aaaactcaca caaaagttga gcccaaactt	720
tctgataaga ccataattg cccaccgtgc ccagcacctg aactcctggg gggaccgtca	780
gtcttctctt tcccccaaa acccaaggac accctcatga tctcccgac ccctgaggtc	840
acatgcgtgg tggggagct gagccacgaa gaccctgagg tcaagttcaa ctggtacgtg	900
gacggcgtgg aggtgcataa tgccaagaca aagccgcggg aggagcagta caacagcacg	960
taccgtgtgg tcagcgtcct caccgtcctg caccaggact ggctgaatgg caaggagtac	1020
aagtgaagg tctccaacaa agccctccca gccccatcg agaaaacat ctccaaagcc	1080
aaagggcagc cccgagaacc acaggtgtac accctgcccc caatccggga gctgatgacc	1140
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gagtgggaga gcaatgggca gccggagaac aactacaaga ccacgcctcc cgtgctggac	1260
tccgacggct ccttcttctt cgtgagcaag ctaccgtgg acaagagcag gtggcagcag	1320
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agcctctccc tgtctccggg taaaagcggc agcgagactc ccgggacctc agagtccgcc	1440
acaccgaaa gtgggtggcg agaggttcag ctgggtggagt ctggcgggtg cctggtgcag	1500
ccagggggct cactccgttt gtccgtgtga gcttctggct tcaacatctc ttcttattat	1560
atccactggg tgcgtcaggc cccgggtaag ggcctggaat gggttgcatc tattttattt	1620
tcttatggct atacttctta tgccgatagc gtcaagggcc gtttactat aagcgagac	1680
acatccaaaa acacagccta cctacaaatg aacagcttaa gagctgagga cactgccgtc	1740
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gactactggg gtcaaggaac cctggtcacc gtctcctcgg gtggaggtgg cagtgatatc	1860
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tgccgtgcca gtcagtccgt gtccagcgtc gtagcctggg atcaacagaa accaggaaaa	1980
gctccgaagc ttctgattta ctcgcatcc agcctctact ctggagtccc ttctcgcttc	2040
tctggtagcc gttccgggac ggatttact ctgaccatca gcagtctgca gccggaagac	2100
ttcgcaactt attactgtca gcaatactct tggggtccgt tcacgttcgg acagggtacc	2160
aaggtggaga tcaaa	2175

<210> 40
<211> 725
<212> PRT
<213> Homo sapiens

<400> 40
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Ser Tyr Ser
20 25 30

Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Tyr Pro Ser Tyr Ser Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Tyr Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
115 120 125

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg
130 135 140

Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
145 150 155 160

Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser Leu Tyr Ser
165 170 175

Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr Asp Phe Thr
180 185 190

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

Gln Gln Ala Phe Tyr Tyr Pro Ile Thr Phe Gly Gln Gly Thr Lys Val
210 215 220

Glu Ile Lys Leu Glu Asp Lys Thr His Thr Lys Val Glu Pro Lys Ser
225 230 235 240

Ser Asp Lys Thr His Asn Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu

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

Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Tyr Ser Ser Tyr Gly Tyr
530 535 540

Thr Ser Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp
545 550 555 560

Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
565 570 575

Asp Thr Ala Val Tyr Tyr Cys Ala Arg Thr Val Arg Gly Ser Lys Lys
580 585 590

Pro Tyr Phe Ser Gly Trp Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu
595 600 605

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
610 615 620

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
625 630 635 640

Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp Tyr Gln Gln
645 650 655

Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Ser Leu
660 665 670

Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr Asp
675 680 685

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
690 695 700

Tyr Cys Gln Gln Tyr Ser Trp Gly Pro Phe Thr Phe Gly Gln Gly Thr
705 710 715 720

Lys Val Glu Ile Lys
725

<210> 41
<211> 2196
<212> DNA
<213> Homo sapiens

<400> 41
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tcctgtgcag cttctggctt caacatcggt tcttcttcta tccactgggt gcgtcaggcc 120
ccgggtaagg gcctggaatg ggttgcatct atttattctg cttttgcctc tacttcttat 180
gccgatagcg tcaagggccg ttctactata agcgcagaca catcaaaaa cacagcctac 240
ctacaaatga acagcttaag agctgaggac actgccgtct attattgtgc tcgctaccat 300

ttcccgttcg gttttgcttt ggactactgg ggtcaaggaa ccctgggtcac cgtctcctcg	360
ggtggagggtg gcagtgatat ccagatgacc cagtccccga gctccctgtc cgcctctgtg	420
ggcgataggg tcaccatcac ctgccgtgcc agtcagtcgc tgtccagcgc tgtagcctgg	480
tatcaacaga aaccaggaaa agctccgaag cttctgattt actcggcatc cagcctctac	540
tctggagtcc cttctcgctt ctctggtagc cgttccggga cggatttcac tctgaccatc	600
agcagtctgc agccggaaga cttcgcaact tattactgtc agcaagggtt ttacctgttc	660
acgttcggac aggggtacaa ggtggagatc aaactcgagg acaaaactca cacaaaagtg	720
gagcccaaaa cttctgataa gaccatact tgcccaccgt gccagcacc tgaactcctg	780
gggggaccgt cagtcttcct cttccccca aaaccaagg acaccctcat gatctcccgg	840
acccctgagg tcacatgcgt ggtggtggac gtgagccacg aagaccctga ggtcaagttc	900
aactggtacg tggacggcgt ggagggtgcat aatgccaaga caaagccgcg cgaggagcag	960
tacaacagca cgtaccgtgt ggtcagcgtc ctcaccgtcc tgcaccagga ctggctgaat	1020
ggcaaggagt acaagtgcaa ggtctccaac aaagccctcc cagccccat cgagaaaacc	1080
atctccaaag ccaaagggca gccccagaa ccaatggtgt ttgacctgcc cccatcccgg	1140
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gacatcgccg tggagtggga gagcaatggg cagccggaga acaactacaa gaccacgcct	1260
cccgtgctgg actccgacgg ctcttcttc ctgtacagca agctcaccgt ggacaagagc	1320
cgctggcagc aggggaacgt cttctcatgc tccgtgatgc atgaggctct gcacaaccac	1380
tacacgcaga agagcctctc cctgtctccg ggtaaaagcg gcagcgagac tcccgggacc	1440
tcagagtccg ccacaccga aagtgggtggc ggagaggttc agctgggtga gtctggcggg	1500
ggcctggtgc agccaggggg ctcactccgt ttgtcctgtg cagcttctgg cttcaacttt	1560
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tctatttctt cttcttatgg ctatacttat tatgccgata gcgtcaaggg ccgtttcact	1680
ataagcgcag acacatccaa aaacacagcc tacctacaaa tgaacagctt aagagctgag	1740
gacactgccg tctattattg tgctcgcggg ggttctgggt tttctcatta cggttctgtt	1800
tactactctt ggtgggcttt ggactactgg ggtcaaggaa ccctgggtcac cgtctcctcg	1860
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ggcgataggg tcaccatcac ctgccgtgcc agtcagtcgc tgtccagcgc tgtagcctgg	1980
tatcaacaga aaccaggaaa agctccgaag cttctgattt actcggcatc cagcctctac	2040
tctggagtcc cttctcgctt ctctggtagc cgttccggga cggatttcac tctgaccatc	2100
agcagtctgc agccggaaga cttcgcaact tattactgtc agcaagcttc ttacgctccg	2160
atcacgttcg gacagggtac caaggtggag atcaaa	2196

<213> Homo sapiens

<400> 42

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

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
 275 280 285

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
 290 295 300

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
 305 310 315 320

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
 325 330 335

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
 340 345 350

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
 355 360 365

Arg Glu Pro Met Val Phe Asp Leu Pro Pro Ser Arg Glu Glu Met Thr
 370 375 380

Lys Asn Gln Val Ser Leu Trp Cys Met Val Lys Gly Phe Tyr Pro Ser
 385 390 395 400

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
 405 410 415

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
 420 425 430

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
 435 440 445

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
 450 455 460

Ser Leu Ser Leu Ser Pro Gly Lys Ser Gly Ser Glu Thr Pro Gly Thr
 465 470 475 480

Ser Glu Ser Ala Thr Pro Glu Ser Gly Gly Gly Glu Val Gln Leu Val
 485 490 495

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser
 500 505 510

Cys Ala Ala Ser Gly Phe Asn Phe Ser Ser Ser Ser Ile His Trp Val
 515 520 525

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Ser Ser
 530 535 540

Ser Tyr Gly Tyr Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr
545 550 555 560

Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser
565 570 575

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Gly Ser
580 585 590

Gly Val Ser His Tyr Gly Ser Val Tyr Tyr Ser Trp Trp Ala Leu Asp
595 600 605

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly
610 615 620

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

Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Val Ser Ser
645 650 655

Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu
660 665 670

Ile Tyr Ser Ala Ser Ser Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser
675 680 685

Gly Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln
690 695 700

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

Ile Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
725 730

<210> 43

<211> 2175

<212> DNA

<213> Homo sapiens

<400> 43

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tcctgtgcag cttctggcctt caacatcggc tcttcttcta tccactgggt gcgtcaggcc 120

ccgggtaagg gcctggaatg ggttgcatct atttattctg cttttgcctc tacttcttat 180

gccgatagcg tcaagggccg tttcactata agcgcagaca catcaaaaaa cacagcctac 240

ctacaaatga acagcttaag agctgaggac actgccgtct attattgtgc tcgctaccat 300

ttcccgttcg gttttgcttt ggactactgg ggtcaaggaa ccctgggtcac cgtctcctcg 360

ggtggagggtg gcagtgatat ccagatgacc cagtccccga gtcacctgtc cgcctctgtg 420

ggcgataggg	tcaccatcac	ctgccgtgcc	agtcagtcgc	tgtccagcgc	tgtagcctgg	480
tatcaacaga	aaccaggaaa	agctccgaag	cttctgattt	actcggcatc	cagcctctac	540
tctggagtc	cttctcgctt	ctctggtagc	cggtccggga	cggatttcac	tctgaccatc	600
agcagtctgc	agccggaaga	cttcgcaact	tattactgtc	agcaaggtgt	ttacctgttc	660
acgttcggac	agggtaccaa	ggtggagatc	aaactcgagg	acaaaactca	cacaaaagtt	720
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gggggaccgt	cagtcttcct	cttccccca	aaaccaagg	acaccctcat	gatctcccgg	840
accctgagg	tcacatgcgt	ggtgggtggac	gtgagccacg	aagaccctga	ggtcaagttc	900
aactggtacg	tggacggcgt	ggaggtgcat	aatgccaaga	caaagccgcg	ggaggagcag	960
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<210> 44

<211> 725

<212> PRT

<213> Homo sapiens

<400> 44

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5

10

15

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Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Tyr Ser Ala Phe Ala Ser Thr Ser Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

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

Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val
 130 135 140

Thr Ile Thr Cys Arg Ala Ser Gln Ser Val Ser Ser Ala Val Ala Trp
 145 150 155 160

Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala
 165 170 175

Ser Ser Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser
 180 185 190

Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe
 195 200 205

Ala Thr Tyr Tyr Cys Gln Gln Gly Val Tyr Leu Phe Thr Phe Gly Gln
 210 215 220

Gly Thr Lys Val Glu Ile Lys Leu Glu Asp Lys Thr His Thr Lys Val
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Glu Pro Lys Ser Ser Asp Lys Thr His Asn Cys Pro Pro Cys Pro Ala
 245 250 255

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
 260 265 270

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
 275 280 285

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
290 295 300

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
305 310 315 320

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
325 330 335

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
340 345 350

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
355 360 365

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ile Arg Glu Leu Met Thr
370 375 380

Ser Asn Gln Val Ser Leu Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser
385 390 395 400

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
405 410 415

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Val
420 425 430

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
435 440 445

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
450 455 460

Ser Leu Ser Leu Ser Pro Gly Lys Ser Gly Ser Glu Thr Pro Gly Thr
465 470 475 480

Ser Glu Ser Ala Thr Pro Glu Ser Gly Gly Gly Glu Val Gln Leu Val
485 490 495

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser
500 505 510

Cys Ala Ala Ser Gly Phe Asn Leu Ser Tyr Tyr Tyr Met His Trp Val
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Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ser Ile Tyr Ser
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<211> 360
<212> DNA
<213> Homo sapiens

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ccgggtaagg gcctggaatg ggttgcatct atttattctg cttttgcctc tacttcttat      180
gccgatagcg tcaagggccg tttcactata agcgcagaca catccaaaaa cacagcctac      240
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<212> DNA
<213> Homo sapiens

<400> 46

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<210> 47

<211> 318

<212> DNA

<213> Homo sapiens

<400> 47

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ggaaaagctc cgaagcttct gatttactcg gcatccagcc tctactctgg agtccttct 180

cgcttctctg gtagccgttc cgggacggat ttcactctga ccatcagcag tctgcagccg 240

gaagacttcg caacttatta ctgtcagcaa ggtgtttacc tgttcacgtt cggacagggt 300

accaaggtgg agatcaaa 318

<210> 48

<211> 780

<212> DNA

<213> Homo sapiens

<400> 48

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ccaccgtgcc cagcacctga actcctgggg ggaccgtcag tcttcctctt cccccaaaa 120

cccaaggaca ccctcatgat ctcccgacc cctgagggtca catgcgtggt ggtggacgtg 180

agccacgaag accctgaggt caagttcaac tggtagctgg acggcgtgga ggtgcataat 240

gccaagacaa agccgcgcga ggagcagtag aacagcacgt accgtgtggt cagcgtcctc 300

accgtcctgc accaggactg gctgaatggc aaggagtaca agtgcaaggt ctccaacaaa 360

gccctcccag ccccatcga gaaaaccatc tccaaagcca aagggcagcc ccgagaacca 420

atggtgtttg acctgcccc atcccgggag gagatgacca agaaccaggt cagcctgtgg 480

tgcatggtca agggcttcta tcccagcgac atcgccgtgg agtgggagag caatgggcag 540

ccggagaaca actacaagac cacgcctccc gtgctggact ccgacggctc cttcttcctg 600

tacagcaagc tcaccgtgga caagagccgc tggcagcagg ggaacgtctt ctcatgctcc 660

gtgatgcatg aggctctgca caaccactac acgcagaaga gcctctccct gtctccgggt 720

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<210> 49

<211> 363

<212> DNA

<213> Homo sapiens

<400> 49

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ccgggtaagg gcctggaatg ggttgcatat atttcttctt attatggcta tacttattat 180

gccgatagcg tcaagggccg tttcactata agcgcagaca catcaaaaa cacagcctac 240

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tcg	363

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 <211> 321
 <212> DNA
 <213> Homo sapiens

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accaaggtgg agatcaaatg a	321

<210> 51
 <211> 780
 <212> DNA
 <213> Homo sapiens

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cccaaggaca cctcatgat ctcccgacc cctgagggtca catgcgtgggt ggtggacgtg	180
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 <212> DNA
 <213> Homo sapiens

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gaagacttcg caacttatta ctgtcagcaa tactcttggg gtccgttcac gttcggacag	300
ggtaccaagg tggagatcaa atga	324

<210> 53
 <211> 378
 <212> DNA
 <213> Homo sapiens

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ccgggtaagg gcctggaatg ggttgcattt atttattctt cttatggcta tacttcttat	180
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ctacaaatga acagcttaag agctgaggac actgccgtct attattgtgc tcgcactgtt	300
cgtggatcca aaaaaccgta cttctctggt tgggctatgg actactgggg tcaaggaacc	360
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<210> 54
 <211> 354
 <212> DNA
 <213> Homo sapiens

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<210> 55
 <211> 330
 <212> DNA
 <213> Homo sapiens

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<210> 56

<211> 780
<212> DNA
<213> Homo sapiens

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cccaaggaca ccctcatgat ctcccgacc cctgaggtca catgcgtggt ggtggacgtg 180
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<210> 57
<211> 357
<212> DNA
<213> Homo sapiens

<400> 57
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gccgatagcg tcaagggccg ttctactata agcgcagaca catcaaaaa cacagcctac 240
ctacaaatga acagcttaag agctgaggac actgccgtct attattgtgc tcgcccggct 300
ccgggtcatt ggggttttga ctactggggt caaggaacct tggtcaccgt ctcctcg 357

<210> 58
<211> 321
<212> DNA
<213> Homo sapiens

<400> 58
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ggaaaagctc cgaagcttct gatttactcg gcatccagcc tctactctgg agtcccttct 180
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gaagacttcg caacttatta ctgtcagcaa tggtagctac ctccgatcac gttcggacag 300
ggtaccaagg tggagatcaa a 321

<210> 59
<211> 354
<212> DNA
<213> Homo sapiens

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<210> 60
<211> 330
<212> DNA
<213> Homo sapiens

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ttcggacagg gtaccaaggt ggagatcaaa 330

<210> 61
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<212> DNA
<213> Homo sapiens

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<212> DNA
<213> Homo sapiens

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cgcttctctg gtagccgttc cgggacggat ttcactctga ccatcagcag tctgcagccg	240
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<210> 63
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<210> 64
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<400> 64	
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taccgggta tggactactg gggtaagga accctggtca ccgtctctc g	351

<210> 66
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<400> 66
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<212> DNA
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<400> 67
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ccgggtaagg gcctggaatg ggttgcatct atttattctt attctggcta tacttattat 180
gccgatagcg tcaagggccg ttctactata agcgcagaca catcaaaaaa cacagcctac 240
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<210> 68
<211> 321
<212> DNA
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<400> 68
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<210> 69
<211> 345
<212> DNA
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<400> 69
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gccgatagcg tcaagggccg ttctactata agcgcagaca catcaaaaaa cacagcctac 240
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<211> 321
<212> DNA
<213> Homo sapiens

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<210> 71
<211> 387
<212> DNA
<213> Homo sapiens

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<211> 321
<212> DNA
<213> Homo sapiens

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<210> 73
<211> 366
<212> DNA
<213> Homo sapiens

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<210> 74
<211> 321
<212> DNA
<213> Homo sapiens

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<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

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