

SEQUENCE LISTING

<110> Daiichi Sankyo Company, Limited
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<150> EP10251744.8
 <151> 2010-10-05

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<170> PatentIn version 3.3

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Pro	Gly	Gly	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	
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Ser	Asn	Tyr	Trp	Met	Thr	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	
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Glu	Trp	Val	Ser	Phe	Ile	Ser	Tyr	Ser	Gly	Ser	Thr	Thr	Tyr	Tyr	Ala	
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Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	
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 Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser
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Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys Tyr Ala			
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Tyr Tyr Ala Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu			
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Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys Tyr Ala
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Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser His Arg
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gtc ctg tcc cag gtg caa ttg gtg gaa agc ggc ggc ggc ctg gtg caa 96
 Val Leu Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
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 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
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 Thr Asn Tyr Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
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gag tgg gtg agc act atc tct tat att ggt agc aat acc tat tat gcg 240
 Glu Trp Val Ser Thr Ile Ser Tyr Ile Gly Ser Asn Thr Tyr Tyr Ala
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 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
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acc ctg tat ctg caa atg aac agc ctg cgt gcg gaa gat acg gcc gtg 336
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 100 105 110

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

Glu Trp Val Ser Thr Ile Ser Tyr Ile Gly Ser Asn Thr Tyr Tyr Ala
 65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
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Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
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Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
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Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala
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Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 165 170 175

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

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

Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
385 390 395 400

Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp
405 410 415

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

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
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Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
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Ser Trp Ala Asp Ile Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ala	
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cca ggt cag acc gcg cgt atc tcg tgt agc ggc gat aat ctt cgt tct	144
Pro Gly Gln Thr Ala Arg Ile Ser Cys Ser Gly Asp Asn Leu Arg Ser	
35 40 45	
aag tat gtt tat tgg tac cag cag aaa ccc ggg cag gcg cca gtt ctt	192
Lys Tyr Val Tyr Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu	
50 55 60	
gtg att tat gat act aat gat cgt ccc tca ggc atc ccg gaa cgc ttt	240
Val Ile Tyr Asp Thr Asn Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe	
65 70 75 80	
agc gga tcc aac agc ggc aac acc gcg acc ctg acc att agc ggc act	288
Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr	
85 90 95	
cag gcg gaa gac gaa gcg gat tat tat tgc cag act tat gat atg act	336
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Thr Tyr Asp Met Thr	
100 105 110	
tct cag gat gtg ttt ggc ggc ggc acg aag tta acc gtc cta ggt cag	384
Ser Gln Asp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gln	
115 120 125	
ccc aag gct gcc ccc tcg gtc act ctg ttc ccg ccc tcc tct gag gag	432
Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu Glu	
130 135 140	
ctt caa gcc aac aag gcc aca ctg gtg tgt ctc ata agt gac ttc tac	480
Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe Tyr	
145 150 155 160	
ccg gga gcc gtg aca gtg gcc tgg aag gca gat agc agc ccc gtc aag	528
Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val Lys	
165 170 175	
gcg gga gtg gag acc acc aca ccc tcc aaa caa agc aac aac aag tac	576
Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys Tyr	
180 185 190	
gcg gcc agc agc tat ctg agc ctg acg cct gag cag tgg aag tcc cac	624
Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser His	
195 200 205	
aga agc tac agc tgc cag gtc acg cat gaa ggg agc acc gtg gag aag	672
Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu Lys	
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aca gtg gcc cct aca gaa tgt tca	696
Thr Val Ala Pro Thr Glu Cys Ser	
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Pro Gly Gln Thr Ala Arg Ile Ser Cys Ser Gly Asp Asn Leu Arg Ser
35 40 45

Lys Tyr Val Tyr Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu
50 55 60

Val Ile Tyr Asp Thr Asn Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe
65 70 75 80

Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr
85 90 95

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Thr Tyr Asp Met Thr
100 105 110

Ser Gln Asp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gln
115 120 125

Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu Glu
130 135 140

Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe Tyr
145 150 155 160

Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val Lys
165 170 175

Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys Tyr
180 185 190

Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser His
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 Val Leu Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
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 ccg ggc ggc agc ctg cgt ctg agc tgc gcg gcc tcc gga ttt acc ttt 144
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45
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Ser	Ser	Tyr	Ala	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	
50						55					60					
gag	tgg	gtg	agc	tat	atc	tct	tat	tct	ggt	agc	aat	acc	tat	tat	gcg	240
Glu	Trp	Val	Ser	Tyr	Ile	Ser	Tyr	Ser	Gly	Ser	Asn	Thr	Tyr	Tyr	Ala	
65					70					75					80	
gat	agc	gtg	aaa	ggc	cgt	ttt	acc	att	tca	cgt	gat	aat	tcg	aaa	aac	288
Asp	Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	
				85					90					95		
acc	ctg	tat	ctg	caa	atg	aac	agc	ctg	cgt	gcg	gaa	gat	acg	gcc	gtg	336
Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	
			100					105					110			
tat	tat	tgc	gcg	cgt	ggc	tgg	ggc	ggc	ttt	gat	tat	tgg	ggc	caa	ggc	384
Tyr	Tyr	Cys	Ala	Arg	Gly	Trp	Gly	Gly	Phe	Asp	Tyr	Trp	Gly	Gln	Gly	
		115				120						125				
acc	ctg	gtg	acg	gtt	agc	tca	gcc	agc	acc	aag	ggc	ccc	agc	gtg	ttc	432
Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	
	130					135					140					
ccc	ctg	gcc	ccc	tgc	agc	aga	agc	acc	agc	gag	agc	aca	gcc	gcc	ctg	480
Pro	Leu	Ala	Pro	Cys	Ser	Arg	Ser	Thr	Ser	Glu	Ser	Thr	Ala	Ala	Leu	
145					150					155					160	
ggc	tgc	ctg	gtg	aag	gac	tac	ttc	ccc	gag	ccc	gtg	acc	gtg	agc	tgg	528
Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	
				165					170					175		
aac	agc	gga	gcc	ctg	acc	agc	ggc	gtg	cac	acc	ttc	ccc	gcc	gtg	ctg	576
Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	
			180					185					190			
cag	agc	agc	ggc	ctg	tac	agc	ctg	agc	agc	gtg	gtg	acc	gtg	ccc	agc	624
Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	
			195				200					205				
agc	aac	ttc	ggc	acc	cag	acc	tac	acc	tgc	aac	gtg	gac	cac	aag	ccc	672
Ser	Asn	Phe	Gly	Thr	Gln	Thr	Tyr	Thr	Cys	Asn	Val	Asp	His	Lys	Pro	
	210					215					220					
agc	aac	acc	aag	gtg	gac	aag	acc	gtg	gag	cgg	aag	tgc	tgc	gtg	gag	720
Ser	Asn	Thr	Lys	Val	Asp	Lys	Thr	Val	Glu	Arg	Lys	Cys	Cys	Val	Glu	
225					230				235					240		
tgc	ccc	ccc	tgc	cct	gcc	cct	cct	gtg	gcc	gga	ccc	tcc	gtg	ttc	ctg	768
Cys	Pro	Pro	Cys	Pro	Ala	Pro	Pro	Val	Ala	Gly	Pro	Ser	Val	Phe	Leu	
				245					250					255		
ttc	ccc	ccc	aag	ccc	aag	gac	acc	ctg	atg	atc	agc	cgg	acc	ccc	gag	816
Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	
			260					265					270			
gtg	acc	tgc	gtg	gtg	gtg	gac	gtg	agc	cac	gag	gac	ccc	gag	gtg	cag	864
Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Gln	
		275					280					285				
ttt	aat	tgg	tac	gtg	gac	ggc	gtg	gag	gtg	cac	aac	gcc	aag	acc	aag	912
Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	
	290					295					300					
ccc	cgg	gag	gaa	cag	ttc	aac	agc	acc	ttc	cgg	gtg	gtg	tcc	gtg	ctg	960
Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Phe	Arg	Val	Val	Ser	Val	Leu	
305					310					315					320	
acc	gtg	gtg	cac	cag	gac	tgg	ctg	aac	ggc	aaa	gaa	tac	aag	tgc	aag	1008

Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
 325 330 335
 gtg tcc aac aag ggc ctg cct gcc ccc atc gag aaa acc atc agc aag 1056
 Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
 340 345 350
 aca aag ggc cag ccc agg gaa ccc cag gtg tac acc ctg ccc ccc agc 1104
 Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
 355 360 365
 cgg gag gaa atg acc aag aac cag gtg tcc ctg acc tgt ctg gtg aag 1152
 Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
 370 375 380
 ggc ttc tac ccc agc gac atc gcc gtg gag tgg gag agc aac ggc cag 1200
 Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
 385 390 395 400
 ccc gag aac aac tac aag acc acc ccc ccc atg ctg gac agc gac ggc 1248
 Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp Gly
 405 410 415
 agc ttc ttc ctg tac agc aag ctg aca gtg gac aag agc cgg tgg cag 1296
 Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
 420 425 430
 cag ggc aac gtg ttc agc tgc agc gtg atg cac gag gcc ctg cac aac 1344
 Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
 435 440 445
 cac tac acc cag aag agc ctg agc ctg tcc ccc ggc aaa 1383
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 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45
 Ser Ser Tyr Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60
 Glu Trp Val Ser Tyr Ile Ser Tyr Ser Gly Ser Asn Thr Tyr Tyr Ala
 65 70 75 80
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 85 90 95
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val

100					105					110					
Tyr	Tyr	Cys	Ala	Arg	Gly	Trp	Gly	Gly	Phe	Asp	Tyr	Trp	Gly	Gln	Gly
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Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe
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Pro	Leu	Ala	Pro	Cys	Ser	Arg	Ser	Thr	Ser	Glu	Ser	Thr	Ala	Ala	Leu
145					150					155					160
Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp
				165					170					175	
Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu
			180					185					190		
Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser
		195					200					205			
Ser	Asn	Phe	Gly	Thr	Gln	Thr	Tyr	Thr	Cys	Asn	Val	Asp	His	Lys	Pro
	210					215					220				
Ser	Asn	Thr	Lys	Val	Asp	Lys	Thr	Val	Glu	Arg	Lys	Cys	Cys	Val	Glu
225					230					235					240
Cys	Pro	Pro	Cys	Pro	Ala	Pro	Pro	Val	Ala	Gly	Pro	Ser	Val	Phe	Leu
				245					250					255	
Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu
			260					265					270		
Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Gln
		275					280					285			
Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys
	290					295					300				
Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Phe	Arg	Val	Val	Ser	Val	Leu
305					310					315					320
Thr	Val	Val	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys
				325					330					335	
Val	Ser	Asn	Lys	Gly	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys
			340					345					350		
Thr	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser
		355					360					365			
Arg	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys

370 375 380
 Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
 385 390 395 400
 Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp Gly
 405 410 415
 Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
 420 425 430
 Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
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 His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 450 455 460

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Ser Tyr Ala Met His
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Gly

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 1 5

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1 5 10 15	

tcc tgg gct gat atc gaa ctg acc cag ccg cct tca gtg agc gtt gca	96
Ser Trp Ala Asp Ile Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ala	
20 25 30	

cca ggt cag acc gcg cgt atc tcg tgt agc ggc gat aat ctt cct aat	144
Pro Gly Gln Thr Ala Arg Ile Ser Cys Ser Gly Asp Asn Leu Pro Asn	
35 40 45	

cgt tat gtt cat tgg tac cag cag aaa ccc ggg cag gcg cca gtt ctt	192
Arg Tyr Val His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu	
50 55 60	

gtg att tat gat gat aat aat cgt ccc tca ggc atc ccg gaa cgc ttt	240
Val Ile Tyr Asp Asp Asn Asn Arg Pro Ser Gly Ile Pro Glu Arg Phe	
65 70 75 80	

agc gga tcc aac agc ggc aac acc gcg acc ctg acc att agc ggc act	288
Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr	
85 90 95	

cag gcg gaa gac gaa gcg gat tat tat tgc cag act tat gat atg ttt	336
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Thr Tyr Asp Met Phe	
100 105 110	

tct atg tct gat gtg ttt ggc ggc ggc acg aag tta acc gtc cta ggt	384
Ser Met Ser Asp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly	
115 120 125	

cag ccc aag gct gcc ccc tcg gtc act ctg ttc ccg ccc tcc tct gag	432
Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu	
130 135 140	

gag ctt caa gcc aac aag gcc aca ctg gtg tgt ctc ata agt gac ttc	480
Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe	
145 150 155 160	

tac ccg gga gcc gtg aca gtg gcc tgg aag gca gat agc agc ccc gtc	528
Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val	

	165	170	175	
aag gcg gga gtg gag acc acc aca ccc tcc aaa caa agc aac aac aag				576
Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys				
	180	185	190	
tac gcg gcc agc agc tat ctg agc ctg acg cct gag cag tgg aag tcc				624
Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser				
	195	200	205	
cac aga agc tac agc tgc cag gtc acg cat gaa ggg agc acc gtg gag				672
His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu				
	210	215	220	
aag aca gtg gcc cct aca gaa tgt tca				699
Lys Thr Val Ala Pro Thr Glu Cys Ser				
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Pro Gly Gln Thr Ala Arg Ile Ser Cys Ser Gly Asp Asn Leu Pro Asn				
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Arg Tyr Val His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu				
	50	55	60	
Val Ile Tyr Asp Asp Asn Asn Arg Pro Ser Gly Ile Pro Glu Arg Phe				
	65	70	75	80
Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr				
	85	90	95	
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Thr Tyr Asp Met Phe				
	100	105	110	
Ser Met Ser Asp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly				
	115	120	125	
Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu				
	130	135	140	
Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe				
	145	150	155	160
Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val				
	165	170	175	

Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys
 180 185 190

Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser
 195 200 205

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

gtc ctg tcc cag gtg caa ttg gtg gaa agc ggc ggc ggc ctg gtg caa 96
 Val Leu Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30

ccg ggc ggc agc ctg cgt ctg agc tgc gcg gcc tcc gga ttt acc ttt 144
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45

tct aat tat tgg atg tct tgg gtg cgc caa gcc cct ggg aag ggt ctc 192
 Ser Asn Tyr Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

gag tgg gtg agc ctt atc tct tat tct ggt agc act acc tat tat gcg 240
 Glu Trp Val Ser Leu Ile Ser Tyr Ser Gly Ser Thr Thr Tyr Tyr Ala
 65 70 75 80

gat agc gtg aaa ggc cgt ttt acc att tca cgt gat aat tcg aaa aac 288
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 85 90 95

acc ctg tat ctg caa atg aac agc ctg cgt gcg gaa gat acg gcc gtg 336
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 100 105 110

tat tat tgc gcg cgt gat act cct att ggt atg gat ttt tgg ggc caa 384
 Tyr Tyr Cys Ala Arg Asp Thr Pro Ile Gly Met Asp Phe Trp Gly Gln
 115 120 125

ggc acc ctg gtg acg gtt agc tca gcc agc acc aag ggc ccc agc gtg 432
 Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
 130 135 140

ttc ccc ctg gcc ccc tgc agc aga agc acc agc gag agc aca gcc gcc 480
 Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala
 145 150 155 160

ctg ggc tgc ctg gtg aag gac tac ttc ccc gag ccc gtg acc gtg agc 528
 Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 165 170 175

tgg aac agc gga gcc ctg acc agc ggc gtg cac acc ttc ccc gcc gtg 576
 Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 180 185 190

ctg cag agc agc ggc ctg tac agc ctg agc agc gtg gtg acc gtg ccc 624
 Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 195 200 205

agc agc aac ttc ggc acc cag acc tac acc tgc aac gtg gac cac aag Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys 210 215 220	672
ccc agc aac acc aag gtg gac aag acc gtg gag cgg aag tgc tgc gtg Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val 225 230 235 240	720
gag tgc ccc ccc tgc cct gcc cct cct gtg gcc gga ccc tcc gtg ttc Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe 245 250 255	768
ctg ttc ccc ccc aag ccc aag gac acc ctg atg atc agc cgg acc ccc Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro 260 265 270	816
gag gtg acc tgc gtg gtg gtg gac gtg agc cac gag gac ccc gag gtg Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val 275 280 285	864
cag ttt aat tgg tac gtg gac ggc gtg gag gtg cac aac gcc aag acc Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr 290 295 300	912
aag ccc cgg gag gaa cag ttc aac agc acc ttc cgg gtg gtg tcc gtg Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val 305 310 315 320	960
ctg acc gtg gtg cac cag gac tgg ctg aac ggc aaa gaa tac aag tgc Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys 325 330 335	1008
aag gtg tcc aac aag ggc ctg cct gcc ccc atc gag aaa acc atc agc Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser 340 345 350	1056
aag aca aag ggc cag ccc agg gaa ccc cag gtg tac acc ctg ccc ccc Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro 355 360 365	1104
agc cgg gag gaa atg acc aag aac cag gtg tcc ctg acc tgt ctg gtg Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val 370 375 380	1152
aag ggc ttc tac ccc agc gac atc gcc gtg gag tgg gag agc aac ggc Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly 385 390 395 400	1200
cag ccc gag aac aac tac aag acc acc ccc ccc atg ctg gac agc gac Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp 405 410 415	1248
ggc agc ttc ttc ctg tac agc aag ctg aca gtg gac aag agc cgg tgg Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp 420 425 430	1296
cag cag ggc aac gtg ttc agc tgc agc gtg atg cac gag gcc ctg cac Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His 435 440 445	1344
aac cac tac acc cag aag agc ctg agc ctg tcc ccc ggc aaa Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys 450 455 460	1386

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<211> 462

<212> PRT

<213> Homo sapiens

<400> 32

Met Lys His Leu Trp Phe Phe Leu Leu Leu Val Ala Ala Pro Arg Trp
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Val Leu Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45

Ser Asn Tyr Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

Glu Trp Val Ser Leu Ile Ser Tyr Ser Gly Ser Thr Thr Tyr Tyr Ala
 65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 100 105 110

Tyr Tyr Cys Ala Arg Asp Thr Pro Ile Gly Met Asp Phe Trp Gly Gln
 115 120 125

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
 130 135 140

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala
 145 150 155 160

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 165 170 175

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 180 185 190

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 195 200 205

Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys
 210 215 220

Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val
 225 230 235 240

Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe
 245 250 255

Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
 260 265 270

Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
 275 280 285

Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
 290 295 300

Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val
 305 310 315 320

Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
 325 330 335

Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
 340 345 350

Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
 355 360 365

Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
 370 375 380

Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
 385 390 395 400

Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp
 405 410 415

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

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
 435 440 445

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 450 455 460

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<400> 33

Asn Tyr Trp Met Ser
 1 5

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<400> 34

Leu Ile Ser Tyr Ser Gly Ser Thr Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 35

<211> 8

<212> PRT

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<400> 35

Asp Thr Pro Ile Gly Met Asp Phe
1 5

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<212> DNA

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<223> CDR3

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Met Ala Trp Ala Leu Leu Leu Leu Thr Leu Leu Thr Gln Gly Thr Gly
1 5 10 15

tcc tgg gct gat atc gaa ctg acc cag ccg cct tca gtg agc gtt gca 96
Ser Trp Ala Asp Ile Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ala
20 25 30

cca ggt cag atc gcg cgt atc tcg tgt agc ggc gat aat ctt ggt tct 144
Pro Gly Gln Ile Ala Arg Ile Ser Cys Ser Gly Asp Asn Leu Gly Ser
35 40 45

tat tat gct tat tgg tac cag cag aaa ccc ggg cag gcg cca gtt ctt 192
 Tyr Tyr Ala Tyr Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu
 50 55 60

gtg att tat ggt gat aat gat cgt ccc tca ggc atc ccg gaa cgc ttt 240
 Val Ile Tyr Gly Asp Asn Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe
 65 70 75 80

agc gga tcc aac agc ggc aac acc gcg acc ctg acc att agc ggc act 288
 Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr
 85 90 95

cag gcg gaa gac gaa gcg gat tat tat tgc tct tct tat gat att gtt 336
 Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Asp Ile Val
 100 105 110

cag cct tat gtg ttt ggc ggc ggc acg aag tta acc gtc cta ggt cag 384
 Gln Pro Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gln
 115 120 125

ccc aag gct gcc ccc tcg gtc act ctg ttc ccg ccc tcc tct gag gag 432
 Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu Glu
 130 135 140

ctt caa gcc aac aag gcc aca ctg gtg tgt ctc ata agt gac ttc tac 480
 Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe Tyr
 145 150 155 160

ccg gga gcc gtg aca gtg gcc tgg aag gca gat agc agc ccc gtc aag 528
 Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val Lys
 165 170 175

gcg gga gtg gag acc acc aca ccc tcc aaa caa agc aac aac aag tac 576
 Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys Tyr
 180 185 190

gcg gcc agc agc tat ctg agc ctg acg cct gag cag tgg aag tcc cac 624
 Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser His
 195 200 205

aga agc tac agc tgc cag gtc acg cat gaa ggg agc acc gtg gag aag 672
 Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu Lys
 210 215 220

aca gtg gcc cct aca gaa tgt tca 696
 Thr Val Ala Pro Thr Glu Cys Ser
 225 230

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 <211> 232
 <212> PRT
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<400> 37

Met Ala Trp Ala Leu Leu Leu Thr Leu Leu Thr Gln Gly Thr Gly
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Ser Trp Ala Asp Ile Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ala
 20 25 30

Pro Gly Gln Ile Ala Arg Ile Ser Cys Ser Gly Asp Asn Leu Gly Ser
 35 40 45

Tyr Tyr Ala Tyr Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu
 50 55 60

Val Ile Tyr Gly Asp Asn Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe
 65 70 75 80

Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr
 85 90 95

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Asp Ile Val
 100 105 110

Gln Pro Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gln
 115 120 125

Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu Glu
 130 135 140

Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe Tyr
 145 150 155 160

Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val Lys
 165 170 175

Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys Tyr
 180 185 190

Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser His
 195 200 205

Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu Lys
 210 215 220

Thr Val Ala Pro Thr Glu Cys Ser
 225 230

<210> 38
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 <212> PRT
 <213> Homo sapiens

<400> 38

Ser Gly Asp Asn Leu Gly Ser Tyr Tyr Ala Tyr
 1 5 10

<210> 39
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 <212> PRT
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Gly Asp Asn Asp Arg Pro Ser
 1 5

<210> 40
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<400> 40

Ser Ser Tyr Asp Ile Val Gln Pro Tyr Val
 1 5 10

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 Met Lys His Leu Trp Phe Phe Leu Leu Leu Val Ala Ala Pro Arg Trp
 1 5 10 15
 gtc ctg tcc cag gtg caa ttg gtg gaa agc ggc ggc ggc ctg gtg caa 96
 Val Leu Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30
 ccg ggc ggc agc ctg cgt ctg agc tgc gcg gcc tcc gga ttt acc ttt 144
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45
 tct tct tat gct atg cat tgg gtg cgc caa gcc cct ggg aag ggt ctc 192
 Ser Ser Tyr Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60
 gag tgg gtg agc tat atc tct tat tct ggt agc aat acc tat tat gcg 240
 Glu Trp Val Ser Tyr Ile Ser Tyr Ser Gly Ser Asn Thr Tyr Tyr Ala
 65 70 75 80
 gat agc gtg aaa ggc cgt ttt acc att tca cgt gat aat tcg aaa aac 288

Asp	Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	
				85					90					95		
acc	ctg	tat	ctg	caa	atg	aac	agc	ctg	cgt	gcg	gaa	gat	acg	gcc	gtg	336
Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	
			100					105					110			
tat	tat	tgc	gcg	cgt	ggc	tgg	ggc	ggc	ttt	gat	tat	tgg	ggc	caa	ggc	384
Tyr	Tyr	Cys	Ala	Arg	Gly	Trp	Gly	Gly	Phe	Asp	Tyr	Trp	Gly	Gln	Gly	
		115					120					125				
acc	ctg	gtg	acg	gtt	agc	tca	gcc	agc	acc	aag	ggc	ccc	agc	gtg	ttc	432
Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	
	130					135					140					
ccc	ctg	gcc	ccc	tgc	agc	aga	agc	acc	agc	gag	agc	aca	gcc	gcc	ctg	480
Pro	Leu	Ala	Pro	Cys	Ser	Arg	Ser	Thr	Ser	Glu	Ser	Thr	Ala	Ala	Leu	
145					150					155					160	
ggc	tgc	ctg	gtg	aag	gac	tac	ttc	ccc	gag	ccc	gtg	acc	gtg	agc	tgg	528
Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	
				165				170						175		
aac	agc	gga	gcc	ctg	acc	agc	ggc	gtg	cac	acc	ttc	ccc	gcc	gtg	ctg	576
Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	
			180				185						190			
cag	agc	agc	ggc	ctg	tac	agc	ctg	agc	agc	gtg	gtg	acc	gtg	ccc	agc	624
Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	
		195					200					205				
agc	aac	ttc	ggc	acc	cag	acc	tac	acc	tgc	aac	gtg	gac	cac	aag	ccc	672
Ser	Asn	Phe	Gly	Thr	Gln	Thr	Tyr	Thr	Cys	Asn	Val	Asp	His	Lys	Pro	
	210					215					220					
agc	aac	acc	aag	gtg	gac	aag	acc	gtg	gag	cgg	aag	tgc	tgc	gtg	gag	720
Ser	Asn	Thr	Lys	Val	Asp	Lys	Thr	Val	Glu	Arg	Lys	Cys	Cys	Val	Glu	
225					230				235					240		
tgc	ccc	ccc	tgc	cct	gcc	cct	cct	gtg	gcc	gga	ccc	tcc	gtg	ttc	ctg	768
Cys	Pro	Pro	Cys	Pro	Ala	Pro	Pro	Val	Ala	Gly	Pro	Ser	Val	Phe	Leu	
				245					250					255		
ttc	ccc	ccc	aag	ccc	aag	gac	acc	ctg	atg	atc	agc	cgg	acc	ccc	gag	816
Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	
			260					265					270			
gtg	acc	tgc	gtg	gtg	gtg	gac	gtg	agc	cac	gag	gac	ccc	gag	gtg	cag	864
Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Gln	
	275						280					285				
ttt	aat	tgg	tac	gtg	gac	ggc	gtg	gag	gtg	cac	aac	gcc	aag	acc	aag	912
Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	
	290					295					300					
ccc	cgg	gag	gaa	cag	ttc	aac	agc	acc	ttc	cgg	gtg	gtg	tcc	gtg	ctg	960
Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Phe	Arg	Val	Val	Ser	Val	Leu	
305					310					315					320	
acc	gtg	gtg	cac	cag	gac	tgg	ctg	aac	ggc	aaa	gaa	tac	aag	tgc	aag	1008
Thr	Val	Val	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	
				325					330					335		
gtg	tcc	aac	aag	ggc	ctg	cct	gcc	ccc	atc	gag	aaa	acc	atc	agc	aag	1056
Val	Ser	Asn	Lys	Gly	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	
			340				345						350			
aca	aag	ggc	cag	ccc	agg	gaa	ccc	cag	gtg	tac	acc	ctg	ccc	ccc	agc	1104

Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
 355 360 365
 cgg gag gaa atg acc aag aac cag gtg tcc ctg acc tgt ctg gtg aag 1152
 Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
 370 375 380
 ggc ttc tac ccc agc gac atc gcc gtg gag tgg gag agc aac ggc cag 1200
 Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
 385 390 395 400
 ccc gag aac aac tac aag acc acc ccc ccc atg ctg gac agc gac ggc 1248
 Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp Gly
 405 410 415
 agc ttc ttc ctg tac agc aag ctg aca gtg gac aag agc cgg tgg cag 1296
 Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
 420 425 430
 cag ggc aac gtg ttc agc tgc agc gtg atg cac gag gcc ctg cac aac 1344
 Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
 435 440 445
 cac tac acc cag aag agc ctg agc ctg tcc ccc ggc aaa 1383
 His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 450 455 460
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 Met Lys His Leu Trp Phe Phe Leu Leu Leu Val Ala Ala Pro Arg Trp
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 Val Leu Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45
 Ser Ser Tyr Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60
 Glu Trp Val Ser Tyr Ile Ser Tyr Ser Gly Ser Asn Thr Tyr Tyr Ala
 65 70 75 80
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 85 90 95
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 100 105 110
 Tyr Tyr Cys Ala Arg Gly Trp Gly Gly Phe Asp Tyr Trp Gly Gln Gly
 115 120 125
 Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe

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

405 410 415
 Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
 420 425 430
 Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
 435 440 445
 His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 450 455 460

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<400> 43

Ser Tyr Ala Met His
 1 5

<210> 44
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<400> 44

Tyr Ile Ser Tyr Ser Gly Ser Asn Thr Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

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Gly Trp Gly Gly Phe Asp Tyr
 1 5

<210> 46
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<400> 46

atg gcc tgg gct ctg ctg ctc ctc acc ctc ctc act cag ggc aca gga	48
Met Ala Trp Ala Leu Leu Leu Leu Thr Leu Leu Thr Gln Gly Thr Gly	
1 5 10 15	

tcc tgg gct gat atc gaa ctg acc cag ccg cct tca gtg agc gtt gca	96
Ser Trp Ala Asp Ile Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ala	
20 25 30	

cca ggt cag acc gcg cgt atc tcg tgt agc ggc gat aat ctt cct aat	144
Pro Gly Gln Thr Ala Arg Ile Ser Cys Ser Gly Asp Asn Leu Pro Asn	
35 40 45	

cgt tat gtt cat tgg tac cag cag aaa ccc ggg cag gcg cca gtt ctt	192
Arg Tyr Val His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu	
50 55 60	

gtg att tat gat gat aat aat cgt ccc tca ggc atc ccg gaa cgc ttt	240
Val Ile Tyr Asp Asp Asn Asn Arg Pro Ser Gly Ile Pro Glu Arg Phe	
65 70 75 80	

agc gga tcc aac agc ggc aac acc gcg acc ctg acc att agc ggc act	288
Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr	
85 90 95	

cag gcg gaa gac gaa gcg gat tat tat tgc cag tct cgt gat ctt cat	336
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Arg Asp Leu His	
100 105 110	

tat tct cct gtg ttt ggc ggc ggc acg aag tta acc gtc cta ggt cag	384
Tyr Ser Pro Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gln	
115 120 125	

ccc aag gct gcc ccc tcg gtc act ctg ttc ccg ccc tcc tct gag gag	432
Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu Glu	
130 135 140	

ctt caa gcc aac aag gcc aca ctg gtg tgt ctc ata agt gac ttc tac	480
Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe Tyr	
145 150 155 160	

ccg gga gcc gtg aca gtg gcc tgg aag gca gat agc agc ccc gtc aag	528
Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val Lys	
165 170 175	

gcg gga gtg gag acc acc aca ccc tcc aaa caa agc aac aac aag tac	576
Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys Tyr	
180 185 190	

gcg gcc agc agc tat ctg agc ctg acg cct gag cag tgg aag tcc cac	624
Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser His	

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195                200                205
aga agc tac agc tgc cag gtc acg cat gaa ggg agc acc gtg gag aag      672
Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu Lys
210                215                220

aca gtg gcc cct aca gaa tgt tca      696
Thr Val Ala Pro Thr Glu Cys Ser
225                230

<210> 47
<211> 232
<212> PRT
<213> Homo sapiens

<400> 47

Met Ala Trp Ala Leu Leu Leu Leu Thr Leu Leu Thr Gln Gly Thr Gly
1                5                10                15

Ser Trp Ala Asp Ile Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ala
20                25                30

Pro Gly Gln Thr Ala Arg Ile Ser Cys Ser Gly Asp Asn Leu Pro Asn
35                40                45

Arg Tyr Val His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu
50                55                60

Val Ile Tyr Asp Asp Asn Asn Arg Pro Ser Gly Ile Pro Glu Arg Phe
65                70                75                80

Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr
85                90                95

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Arg Asp Leu His
100               105               110

Tyr Ser Pro Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gln
115               120               125

Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu Glu
130               135               140

Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe Tyr
145               150               155               160

Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val Lys
165               170               175

Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys Tyr
180               185               190

Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser His
195               200               205

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Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu Lys
 210 215 220

Thr Val Ala Pro Thr Glu Cys Ser
 225 230

<210> 48
 <211> 11
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 <213> Homo sapiens

<400> 48

Ser Gly Asp Asn Leu Pro Asn Arg Tyr Val His
 1 5 10

<210> 49
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 <212> PRT
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<400> 49

Asp Asp Asn Asn Arg Pro Ser
 1 5

<210> 50
 <211> 10
 <212> PRT
 <213> Homo sapiens

<400> 50

Gln Ser Arg Asp Leu His Tyr Ser Pro Val
 1 5 10

<210> 51
 <211> 1389
 <212> DNA
 <213> Homo sapiens

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 <222> (58)..(411)

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 <223> CDR1

<220>
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<222> (205)..(255)

<223> CDR2

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<221> misc_feature

<222> (352)..(378)

<223> CDR3

<400> 51

atg aaa cac ctg tgg ttc ttc ctc ctg ctg gtg gca gct ccc aga tgg	48
Met Lys His Leu Trp Phe Phe Leu Leu Val Ala Ala Pro Arg Trp	
1 5 10 15	
gtc ctg tcc cag gtg caa ttg gtg gaa agc ggc ggc ggc ctg gtg caa	96
Val Leu Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln	
20 25 30	
ccg ggc ggc agc ctg cgt ctg agc tgc gcg gcc tcc gga ttt acc ttt	144
Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe	
35 40 45	
tct aat tat tgg atg act tgg gtg cgc caa gcc cct ggg aag ggt ctc	192
Ser Asn Tyr Trp Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu	
50 55 60	
gag tgg gtg agc ttt atc tct tat tct ggt agc act acc tat tat gcg	240
Glu Trp Val Ser Phe Ile Ser Tyr Ser Gly Ser Thr Thr Tyr Tyr Ala	
65 70 75 80	
gat agc gtg aaa ggc cgt ttt acc att tca cgt gat aat tcg aaa aac	288
Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn	
85 90 95	
acc ctg tat ctg caa atg aac agc ctg cgt gcg gaa gat acg gcc gtg	336
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val	
100 105 110	
tat tat tgc gcg cgt gag ggt act tct tct atg ttt gat gtt tgg ggc	384
Tyr Tyr Cys Ala Arg Glu Gly Thr Ser Ser Met Phe Asp Val Trp Gly	
115 120 125	
caa ggc acc ctg gtg acg gtt agc tca gcc agc acc aag ggc ccc agc	432
Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser	
130 135 140	
gtg ttc ccc ctg gcc ccc tgc agc aga agc acc agc gag agc aca gcc	480
Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala	
145 150 155 160	
gcc ctg ggc tgc ctg gtg aag gac tac ttc ccc gag ccc gtg acc gtg	528
Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val	
165 170 175	
agc tgg aac agc gga gcc ctg acc agc ggc gtg cac acc ttc ccc gcc	576
Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala	
180 185 190	
gtg ctg cag agc agc ggc ctg tac agc ctg agc agc gtg gtg acc gtg	624
Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val	
195 200 205	
ccc agc agc aac ttc ggc acc cag acc tac acc tgc aac gtg gac cac	672
Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His	
210 215 220	
aag ccc agc aac acc aag gtg gac aag acc gtg gag cgg aag tgc tgc	720
Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys	
225 230 235 240	

gtg gag tgc ccc ccc tgc cct gcc cct cct gtg gcc gga ccc tcc gtg	768
Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val	
245 250 255	
ttc ctg ttc ccc ccc aag ccc aag gac acc ctg atg atc agc cgg acc	816
Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr	
260 265 270	
ccc gag gtg acc tgc gtg gtg gtg gac gtg agc cac gag gac ccc gag	864
Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu	
275 280 285	
gtg cag ttt aat tgg tac gtg gac ggc gtg gag gtg cac aac gcc aag	912
Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys	
290 295 300	
acc aag ccc cgg gag gaa cag ttc aac agc acc ttc cgg gtg gtg tcc	960
Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser	
305 310 315 320	
gtg ctg acc gtg gtg cac cag gac tgg ctg aac ggc aaa gaa tac aag	1008
Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys	
325 330 335	
tgc aag gtg tcc aac aag ggc ctg cct gcc ccc atc gag aaa acc atc	1056
Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile	
340 345 350	
agc aag aca aag ggc cag ccc agg gaa ccc cag gtg tac acc ctg ccc	1104
Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro	
355 360 365	
ccc agc cgg gag gaa atg acc aag aac cag gtg tcc ctg acc tgt ctg	1152
Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu	
370 375 380	
gtg aag ggc ttc tac ccc agc gac atc gcc gtg gag tgg gag agc aac	1200
Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn	
385 390 395 400	
ggc cag ccc gag aac aac tac aag acc acc ccc ccc atg ctg gac agc	1248
Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser	
405 410 415	
gac ggc agc ttc ttc ctg tac agc aag ctg aca gtg gac aag agc cgg	1296
Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg	
420 425 430	
tgg cag cag ggc aac gtg ttc agc tgc agc gtg atg cac gag gcc ctg	1344
Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu	
435 440 445	
cac aac cac tac acc cag aag agc ctg agc ctg tcc ccc ggc aaa	1389
His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys	
450 455 460	

<210> 52
 <211> 463
 <212> PRT
 <213> Homo sapiens

<400> 52

Met Lys His Leu Trp Phe Phe Leu Leu Leu Val Ala Ala Pro Arg Trp
1 5 10 15

Val Leu Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45
 Ser Asn Tyr Trp Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60
 Glu Trp Val Ser Phe Ile Ser Tyr Ser Gly Ser Thr Thr Tyr Tyr Ala
 65 70 75 80
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 85 90 95
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 100 105 110
 Tyr Tyr Cys Ala Arg Glu Gly Thr Ser Ser Met Phe Asp Val Trp Gly
 115 120 125
 Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
 130 135 140
 Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala
 145 150 155 160
 Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
 165 170 175
 Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
 180 185 190
 Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
 195 200 205
 Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His
 210 215 220
 Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys
 225 230 235 240
 Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val
 245 250 255
 Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
 260 265 270
 Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
 275 280 285

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

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser
 305 310 315 320

Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
 325 330 335

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

Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
 355 360 365

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

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
 385 390 395 400

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser
 405 410 415

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

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
 435 440 445

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 450 455 460

<210> 53
 <211> 5
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 <213> Homo sapiens

<400> 53

Asn Tyr Trp Met Thr
 1 5

<210> 54
 <211> 17
 <212> PRT
 <213> Homo sapiens

<400> 54

Phe Ile Ser Tyr Ser Gly Ser Thr Thr Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

<210> 55
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 <212> PRT
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<400> 55

Glu Gly Thr Ser Ser Met Phe Asp Val
 1 5

<210> 56
 <211> 696
 <212> DNA
 <213> Homo sapiens

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 <222> (124)..(156)
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<220>
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 <222> (202)..(222)
 <223> CDR2

<220>
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 <222> (319)..(348)
 <223> CDR3

<400> 56
 atg gcc tgg gct ctg ctg ctc ctc acc ctc ctc act cag ggc aca gga 48
 Met Ala Trp Ala Leu Leu Leu Leu Thr Leu Leu Thr Gln Gly Thr Gly
 1 5 10 15
 tcc tgg gct gat atc gaa ctg acc cag ccg cct tca gtg agc gtt gca 96
 Ser Trp Ala Asp Ile Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ala
 20 25 30
 cca ggt cag acc gcg cgt atc tcg tgt agc ggc gat gct ctt cgt tct 144
 Pro Gly Gln Thr Ala Arg Ile Ser Cys Ser Gly Asp Ala Leu Arg Ser
 35 40 45
 tat tat gct tct tgg tac cag cag aaa ccc ggg cag gcg cca gtt ctt 192
 Tyr Tyr Ala Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu
 50 55 60
 gtg att tat gat gat aat aag cgt ccc tca ggc atc ccg gaa cgc ttt 240
 Val Ile Tyr Asp Asp Asn Lys Arg Pro Ser Gly Ile Pro Glu Arg Phe
 65 70 75 80

agc gga tcc aac agc ggc aac acc gcg acc ctg acc att agc ggc act 288
 Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr
 85 90 95

cag gcg gaa gac gaa gcg gat tat tat tgc gct tct ttt act tat atg 336
 Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Phe Thr Tyr Met
 100 105 110

tct gat ttt gtg ttt ggc ggc ggc acg aag tta acc gtc cta ggt cag 384
 Ser Asp Phe Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gln
 115 120 125

ccc aag gct gcc ccc tcg gtc act ctg ttc ccg ccc tcc tct gag gag 432
 Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu Glu
 130 135 140

ctt caa gcc aac aag gcc aca ctg gtg tgt ctc ata agt gac ttc tac 480
 Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe Tyr
 145 150 155 160

ccg gga gcc gtg aca gtg gcc tgg aag gca gat agc agc ccc gtc aag 528
 Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val Lys
 165 170 175

gcg gga gtg gag acc acc aca ccc tcc aaa caa agc aac aac aag tac 576
 Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys Tyr
 180 185 190

gcg gcc agc agc tat ctg agc ctg acg cct gag cag tgg aag tcc cac 624
 Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser His
 195 200 205

aga agc tac agc tgc cag gtc acg cat gaa ggg agc acc gtg gag aag 672
 Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu Lys
 210 215 220

aca gtg gcc cct aca gaa tgt tca 696
 Thr Val Ala Pro Thr Glu Cys Ser
 225 230

<210> 57
 <211> 232
 <212> PRT
 <213> Homo sapiens

<400> 57

Met Ala Trp Ala Leu Leu Leu Leu Thr Leu Leu Thr Gln Gly Thr Gly
 1 5 10 15

Ser Trp Ala Asp Ile Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ala
 20 25 30

Pro Gly Gln Thr Ala Arg Ile Ser Cys Ser Gly Asp Ala Leu Arg Ser
 35 40 45

Tyr Tyr Ala Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu
 50 55 60

Val Ile Tyr Asp Asp Asn Lys Arg Pro Ser Gly Ile Pro Glu Arg Phe
 65 70 75 80

Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr
85 90 95

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Phe Thr Tyr Met
100 105 110

Ser Asp Phe Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gln
115 120 125

Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu Glu
130 135 140

Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe Tyr
145 150 155 160

Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val Lys
165 170 175

Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys Tyr
180 185 190

Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser His
195 200 205

Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu Lys
210 215 220

Thr Val Ala Pro Thr Glu Cys Ser
225 230

<210> 58
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<212> PRT
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<400> 58

Ser Gly Asp Ala Leu Arg Ser Tyr Tyr Ala Ser
1 5 10

<210> 59
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<400> 59

Asp Asp Asn Lys Arg Pro Ser
1 5

<210> 60
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<400> 60

Ala Ser Phe Thr Tyr Met Ser Asp Phe Val
 1 5 10

<210> 61
 <211> 1386
 <212> DNA
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 <222> (1)..(1386)

<220>
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 <222> (58)..(408)

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 <223> CDR1

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 <223> CDR2

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 <222> (352)..(375)
 <223> CDR3

<400> 61
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 Met Lys His Leu Trp Phe Phe Leu Leu Leu Val Ala Ala Pro Arg Trp
 1 5 10 15
 gtc ctg tcc cag gtg caa ttg gtg gaa agc ggc ggc ggc ctg gtg caa 96
 Val Leu Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30
 ccg ggc ggc agc ctg cgt ctg agc tgc gcg gcc tcc gga ttt acc ttt 144
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45
 act aat tat gct atg aat tgg gtg cgc caa gcc cct ggg aag ggt ctc 192
 Thr Asn Tyr Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60
 gag tgg gtg agc tat atc tct tat tct tct agc aat acc tat tat gcg 240
 Glu Trp Val Ser Tyr Ile Ser Tyr Ser Ser Asn Thr Tyr Tyr Ala
 65 70 75 80
 gat agc gtg aaa ggc cgt ttt acc att tca cgt gat aat tcg aaa aac 288
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 85 90 95
 acc ctg tat ctg caa atg aac agc ctg cgt gcg gaa gat acg gcc gtg 336
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 100 105 110
 tat tat tgc gcg cgt ggt gct ggt ctt ggt tat gat gtt tgg ggc caa 384

Tyr	Tyr	Cys	Ala	Arg	Gly	Ala	Gly	Leu	Gly	Tyr	Asp	Val	Trp	Gly	Gln	
		115					120					125				
ggc	acc	ctg	gtg	acg	gtt	agc	tca	gcc	agc	acc	aag	ggc	ccc	agc	gtg	432
Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	
	130					135					140					
ttc	ccc	ctg	gcc	ccc	tgc	agc	aga	agc	acc	agc	gag	agc	aca	gcc	gcc	480
Phe	Pro	Leu	Ala	Pro	Cys	Ser	Arg	Ser	Thr	Ser	Glu	Ser	Thr	Ala	Ala	
	145				150					155					160	
ctg	ggc	tgc	ctg	gtg	aag	gac	tac	ttc	ccc	gag	ccc	gtg	acc	gtg	agc	528
Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	
				165					170					175		
tgg	aac	agc	gga	gcc	ctg	acc	agc	ggc	gtg	cac	acc	ttc	ccc	gcc	gtg	576
Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	
			180					185					190			
ctg	cag	agc	agc	ggc	ctg	tac	agc	ctg	agc	agc	gtg	gtg	acc	gtg	ccc	624
Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	
		195					200					205				
agc	agc	aac	ttc	ggc	acc	cag	acc	tac	acc	tgc	aac	gtg	gac	cac	aag	672
Ser	Ser	Asn	Phe	Gly	Thr	Gln	Thr	Tyr	Thr	Cys	Asn	Val	Asp	His	Lys	
	210					215					220					
ccc	agc	aac	acc	aag	gtg	gac	aag	acc	gtg	gag	cgg	aag	tgc	tgc	gtg	720
Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Thr	Val	Glu	Arg	Lys	Cys	Cys	Val	
	225				230					235					240	
gag	tgc	ccc	ccc	tgc	cct	gcc	cct	cct	gtg	gcc	gga	ccc	tcc	gtg	ttc	768
Glu	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Pro	Val	Ala	Gly	Pro	Ser	Val	Phe	
				245					250					255		
ctg	ttc	ccc	ccc	aag	ccc	aag	gac	acc	ctg	atg	atc	agc	cgg	acc	ccc	816
Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	
			260					265					270			
gag	gtg	acc	tgc	gtg	gtg	gtg	gac	gtg	agc	cac	gag	gac	ccc	gag	gtg	864
Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	
		275					280					285				
cag	ttt	aat	tgg	tac	gtg	gac	ggc	gtg	gag	gtg	cac	aac	gcc	aag	acc	912
Gln	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	
	290					295					300					
aag	ccc	cgg	gag	gaa	cag	ttc	aac	agc	acc	ttc	cgg	gtg	gtg	tcc	gtg	960
Lys	Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Phe	Arg	Val	Val	Ser	Val	
	305				310					315					320	
ctg	acc	gtg	gtg	cac	cag	gac	tgg	ctg	aac	ggc	aaa	gaa	tac	aag	tgc	1008
Leu	Thr	Val	Val	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	
				325					330					335		
aag	gtg	tcc	aac	aag	ggc	ctg	cct	gcc	ccc	atc	gag	aaa	acc	atc	agc	1056
Lys	Val	Ser	Asn	Lys	Gly	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	
			340					345					350			
aag	aca	aag	ggc	cag	ccc	agg	gaa	ccc	cag	gtg	tac	acc	ctg	ccc	ccc	1104
Lys	Thr	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	
		355					360					365				
agc	cgg	gag	gaa	atg	acc	aag	aac	cag	gtg	tcc	ctg	acc	tgt	ctg	gtg	1152
Ser	Arg	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	
	370					375					380					
aag	ggc	ttc	tac	ccc	agc	gac	atc	gcc	gtg	gag	tgg	gag	agc	aac	ggc	1200

Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
 385 390 395 400
 cag ccc gag aac aac tac aag acc acc ccc ccc atg ctg gac agc gac 1248
 Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp
 405 410 415
 ggc agc ttc ttc ctg tac agc aag ctg aca gtg gac aag agc cgg tgg 1296
 Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
 420 425 430
 cag cag ggc aac gtg ttc agc tgc agc gtg atg cac gag gcc ctg cac 1344
 Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
 435 440 445
 aac cac tac acc cag aag agc ctg agc ctg tcc ccc ggc aaa 1386
 Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 450 455 460

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 <211> 462
 <212> PRT
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 <400> 62
 Met Lys His Leu Trp Phe Phe Leu Leu Leu Val Ala Ala Pro Arg Trp
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 Val Leu Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45
 Thr Asn Tyr Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60
 Glu Trp Val Ser Tyr Ile Ser Tyr Ser Ser Ser Asn Thr Tyr Tyr Ala
 65 70 75 80
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 85 90 95
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 100 105 110
 Tyr Tyr Cys Ala Arg Gly Ala Gly Leu Gly Tyr Asp Val Trp Gly Gln
 115 120 125
 Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
 130 135 140
 Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala
 145 150 155 160
 Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser

				165						170						175
Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	
			180					185					190			
Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	
		195					200					205				
Ser	Ser	Asn	Phe	Gly	Thr	Gln	Thr	Tyr	Thr	Cys	Asn	Val	Asp	His	Lys	
	210					215					220					
Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Thr	Val	Glu	Arg	Lys	Cys	Cys	Val	
225					230					235					240	
Glu	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Pro	Val	Ala	Gly	Pro	Ser	Val	Phe	
				245					250					255		
Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	
			260					265						270		
Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	
		275					280					285				
Gln	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	
	290					295					300					
Lys	Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Phe	Arg	Val	Val	Ser	Val	
305					310					315					320	
Leu	Thr	Val	Val	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	
				325					330					335		
Lys	Val	Ser	Asn	Lys	Gly	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	
			340					345					350			
Lys	Thr	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	
		355					360					365				
Ser	Arg	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	
	370					375					380					
Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	
385					390					395					400	
Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Met	Leu	Asp	Ser	Asp	
			405						410					415		
Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	
			420					425					430			
Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	

435

440

445

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 450 455 460

<210> 63
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 <212> PRT
 <213> Homo sapiens
 <400> 63

Asn Tyr Ala Met Asn
 1 5

<210> 64
 <211> 17
 <212> PRT
 <213> Homo sapiens
 <400> 64

Tyr Ile Ser Tyr Ser Ser Ser Asn Thr Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

<210> 65
 <211> 8
 <212> PRT
 <213> Homo sapiens
 <400> 65

Gly Ala Gly Leu Gly Tyr Asp Val
 1 5

<210> 66
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 <212> DNA
 <213> Homo sapiens

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 <222> (202)..(222)
 <223> CDR2

<220>
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 <222> (319)..(348)
 <223> CDR3

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 Met Ala Trp Ala Leu Leu Leu Leu Thr Leu Leu Thr Gln Gly Thr Gly
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tcc tgg gct gat atc gaa ctg acc cag ccg cct tca gtg agc gtt gca 96
 Ser Trp Ala Asp Ile Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ala
 20 25 30

cca ggt cag acc gcg cgt atc tcg tgt agc ggc gat aat ctt cgt tct 144
 Pro Gly Gln Thr Ala Arg Ile Ser Cys Ser Gly Asp Asn Leu Arg Ser
 35 40 45

aag tat gtt tat tgg tac cag cag aaa ccc ggg cag gcg cca gtt ctt 192
 Lys Tyr Val Tyr Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu
 50 55 60

gtg att tat gat act aat gat cgt ccc tca ggc atc ccg gaa cgc ttt 240
 Val Ile Tyr Asp Thr Asn Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe
 65 70 75 80

agc gga tcc aac agc ggc aac acc gcg acc ctg acc att agc ggc act 288
 Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr
 85 90 95

cag gcg gaa gac gaa gcg gat tat tat tgc cag act tat gat atg act 336
 Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Thr Tyr Asp Met Thr
 100 105 110

tct cag gat gtg ttt ggc ggc ggc acg aag tta acc gtc cta ggt cag 384
 Ser Gln Asp Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly Gln
 115 120 125

ccc aag gct gcc ccc tcg gtc act ctg ttc ccg ccc tcc tct gag gag 432
 Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu Glu
 130 135 140

ctt caa gcc aac aag gcc aca ctg gtg tgt ctc ata agt gac ttc tac 480
 Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe Tyr
 145 150 155 160

ccg gga gcc gtg aca gtg gcc tgg aag gca gat agc agc ccc gtc aag 528
 Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val Lys
 165 170 175

gcg gga gtg gag acc acc aca ccc tcc aaa caa agc aac aac aag tac 576
 Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys Tyr
 180 185 190

gcg gcc agc agc tat ctg agc ctg acg cct gag cag tgg aag tcc cac 624
 Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser His
 195 200 205

aga agc tac agc tgc cag gtc acg cat gaa ggg agc acc gtg gag aag 672
 Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu Lys
 210 215 220

aca gtg gcc cct aca gaa tgt tca 696
 Thr Val Ala Pro Thr Glu Cys Ser

225

230

<210> 67
 <211> 232
 <212> PRT
 <213> Homo sapiens

<400> 67

Met Ala Trp Ala Leu Leu Leu Leu Thr Leu Leu Thr Gln Gly Thr Gly
 1 5 10 15

Ser Trp Ala Asp Ile Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ala
 20 25 30

Pro Gly Gln Thr Ala Arg Ile Ser Cys Ser Gly Asp Asn Leu Arg Ser
 35 40 45

Lys Tyr Val Tyr Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu
 50 55 60

Val Ile Tyr Asp Thr Asn Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe
 65 70 75 80

Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr
 85 90 95

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Thr Tyr Asp Met Thr
 100 105 110

Ser Gln Asp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gln
 115 120 125

Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu Glu
 130 135 140

Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe Tyr
 145 150 155 160

Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val Lys
 165 170 175

Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys Tyr
 180 185 190

Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser His
 195 200 205

Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu Lys
 210 215 220

Thr Val Ala Pro Thr Glu Cys Ser
 225 230

<210> 68
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 68

Ser	Gly	Asp	Asn	Leu	Arg	Ser	Lys	Tyr	Val	Tyr
1				5					10	

<210> 69
 <211> 7
 <212> PRT
 <213> Homo sapiens

<400> 69

Asp	Thr	Asn	Asp	Arg	Pro	Ser
1				5		

<210> 70
 <211> 10
 <212> PRT
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<400> 70

Gln	Thr	Tyr	Asp	Met	Thr	Ser	Gln	Asp	Val
1				5					10

<210> 71
 <211> 5
 <212> PRT
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 <223> /replace="Ser"

/replace="His"

/replace="Thr"

/replace="Asn"

<400> 71

Xaa Tyr Xaa Met Xaa
1 5

<210> 72
<211> 17
<212> PRT
<213> Homo sapiens

<220>
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/replace="Phe"

<220>
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<223> /replace="Ser"

/replace="Gly"

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<223> /replace="Thr"

/replace="Asn"

<400> 72

Xaa Ile Ser Tyr Ser Xaa Ser Xaa Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 73
<211> 11
<212> PRT
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<223> /replace="Gly"

/replace="Pro"

/replace="Arg"

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<222> (7)..(7)

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<223> /replace="Ser"

/replace="Asn"

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<223> /replace="Tyr"

/replace="Arg"

/replace="Lys"

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<222> (10)..(10)
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/replace="Val"

<220>
<221> VARIANT
<222> (11)..(11)
<223> /replace="Tyr"

/replace="His"

/replace="Ser"

<400> 73

Ser Gly Asp Xaa Leu Xaa Xaa Xaa Tyr Xaa Xaa
1          5          10

<210> 74
<211> 7
<212> PRT
<213> Homo sapiens

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<221> VARIANT
<222> (1)..(1)
<223> /replace="Gly"

/replace="Asp"

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/replace="Asp"

<220>
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<223> /replace="Asn"

/replace="Asp"

/replace="Lys"

<400> 74

Xaa Xaa Asn Xaa Arg Pro Ser
1          5

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<210> 75
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<220>
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 <400> 75

Asn Tyr Ala Met Ser
 1 5

<210> 76
 <211> 1392
 <212> DNA
 <213> Homo sapiens

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 <222> (148)..(162)
 <223> CDR1

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 <222> (205)..(255)
 <223> CDR2

<220>
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 <222> (352)..(381)
 <223> CDR3

<400> 76
 atg aaa cac ctg tgg ttc ttc ctc ctg ctg gtg gca gct ccc aga tgg 48
 Met Lys His Leu Trp Phe Phe Leu Leu Leu Val Ala Ala Pro Arg Trp
 1 5 10 15
 gtc ctg tcc cag gtg caa ttg gtg gaa agc ggc ggc ggc ctg gtg caa 96
 Val Leu Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30
 ccg ggc ggc agc ctg cgt ctg agc tgc gcg gcc tcc gga ttt acc ttt 144
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45
 act act tat gct atg cat tgg gtg cgc caa gcc cct ggg aag ggt ctc 192
 Thr Thr Tyr Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60
 gag tgg gtg agc aat atc gct tat tct ggt agc gtt acc tat tat gcg 240
 Glu Trp Val Ser Asn Ile Ala Tyr Ser Gly Ser Val Thr Tyr Tyr Ala

65	70	75	80	
gat agc gtg aaa ggc cgt ttt acc att tca cgt gat aat tcg aaa aac Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn 85 90 95				288
acc ctg tat ctg caa atg aac agc ctg cgt gcg gaa gat acg gcc gtg Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val 100 105 110				336
tat tat tgc gcg cgt cgt ggt cct ggt atg ggt aat atg gat att tgg Tyr Tyr Cys Ala Arg Arg Gly Pro Gly Met Gly Asn Met Asp Ile Trp 115 120 125				384
ggc caa ggc acc ctg gtg acg gtt agc tca gcc agc acc aag ggc ccc Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro 130 135 140				432
agc gtg ttc ccc ctg gcc ccc tgc agc aga agc acc agc gag agc aca Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr 145 150 155 160				480
gcc gcc ctg ggc tgc ctg gtg aag gac tac ttc ccc gag ccc gtg acc Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr 165 170 175				528
gtg agc tgg aac agc gga gcc ctg acc agc ggc gtg cac acc ttc ccc Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro 180 185 190				576
gcc gtg ctg cag agc agc ggc ctg tac agc ctg agc agc gtg gtg acc Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr 195 200 205				624
gtg ccc agc agc aac ttc ggc acc cag acc tac acc tgc aac gtg gac Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp 210 215 220				672
cac aag ccc agc aac acc aag gtg gac aag acc gtg gag cgg aag tgc His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys 225 230 235 240				720
tgc gtg gag tgc ccc ccc tgc cct gcc cct cct gtg gcc gga ccc tcc Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser 245 250 255				768
gtg ttc ctg ttc ccc ccc aag ccc aag gac acc ctg atg atc agc cgg Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg 260 265 270				816
acc ccc gag gtg acc tgc gtg gtg gtg gac gtg agc cac gag gac ccc Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro 275 280 285				864
gag gtg cag ttt aat tgg tac gtg gac ggc gtg gag gtg cac aac gcc Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala 290 295 300				912
aag acc aag ccc cgg gag gaa cag ttc aac agc acc ttc cgg gtg gtg Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val 305 310 315 320				960
tcc gtg ctg acc gtg gtg cac cag gac tgg ctg aac ggc aaa gaa tac Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr 325 330 335				1008
aag tgc aag gtg tcc aac aag ggc ctg cct gcc ccc atc gag aaa acc Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr				1056

340	345	350	
atc agc aag aca aag ggc cag ccc agg gaa ccc cag gtg tac acc ctg Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu 355 360 365			1104
ccc ccc agc cgg gag gaa atg acc aag aac cag gtg tcc ctg acc tgt Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys 370 375 380			1152
ctg gtg aag ggc ttc tac ccc agc gac atc gcc gtg gag tgg gag agc Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser 385 390 395 400			1200
aac ggc cag ccc gag aac aac tac aag acc acc ccc ccc atg ctg gac Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp 405 410 415			1248
agc gac ggc agc ttc ttc ctg tac agc aag ctg aca gtg gac aag agc Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser 420 425 430			1296
cgg tgg cag cag ggc aac gtg ttc agc tgc agc gtg atg cac gag gcc Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala 435 440 445			1344
ctg cac aac cac tac acc cag aag agc ctg agc ctg tcc ccc ggc aaa Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys 450 455 460			1392
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Val Leu Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln 20 25 30			
Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe 35 40 45			
Thr Thr Tyr Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu 50 55 60			
Glu Trp Val Ser Asn Ile Ala Tyr Ser Gly Ser Val Thr Tyr Tyr Ala 65 70 75 80			
Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn 85 90 95			
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val 100 105 110			
Tyr Tyr Cys Ala Arg Arg Gly Pro Gly Met Gly Asn Met Asp Ile Trp 115 120 125			

Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
 130 135 140

Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr
 145 150 155 160

Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr
 165 170 175

Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro
 180 185 190

Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr
 195 200 205

Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp
 210 215 220

His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys
 225 230 235 240

Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser
 245 250 255

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
 260 265 270

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
 275 280 285

Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
 290 295 300

Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val
 305 310 315 320

Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
 325 330 335

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

Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
 355 360 365

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

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

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp
 405 410 415

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

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
 435 440 445

Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 450 455 460

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 <211> 5
 <212> PRT
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<400> 78

Thr Tyr Ala Met His
 1 5

<210> 79
 <211> 17
 <212> PRT
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<400> 79

Asn Ile Ala Tyr Ser Gly Ser Val Thr Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

<210> 80
 <211> 10
 <212> PRT
 <213> Homo sapiens

<400> 80

Arg Gly Pro Gly Met Gly Asn Met Asp Ile
 1 5 10

<210> 81
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 <223> CDR2

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 <223> CDR3

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 1 5 10 15

tcc tgg gct gat atc gca ctg acc cag cca gct tca gtg agc ggc tca 96
 Ser Trp Ala Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser
 20 25 30

cca ggt cag agc att acc atc tcg tgt acg ggt act agc agc gat gtt 144
 Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val
 35 40 45

ggt gat tat aat tat gtg tct tgg tac cag cag cat ccc ggg aag gcg 192
 Gly Asp Tyr Asn Tyr Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala
 50 55 60

ccg aaa ctt atg att tat tat gtt act aat cgt ccc tca ggc gtg agc 240
 Pro Lys Leu Met Ile Tyr Tyr Val Thr Asn Arg Pro Ser Gly Val Ser
 65 70 75 80

aac cgt ttt agc gga tcc aaa agc ggc aac acc gcg agc ctg acc att 288
 Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile
 85 90 95

agc ggc ctg caa gcg gaa gac gaa gcg gat tat tat tgc cag tct tat 336
 Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr
 100 105 110

gat act ggt tct ttt gct atg gtg ttt ggc ggc ggc acg aag tta acc 384
 Asp Thr Gly Ser Phe Ala Met Val Phe Gly Gly Gly Thr Lys Leu Thr
 115 120 125

gtc cta ggt cag ccc aag gct gcc ccc tcg gtc act ctg ttc ccg ccc 432
 Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro
 130 135 140

tcc tct gag gag ctt caa gcc aac aag gcc aca ctg gtg tgt ctc ata 480
 Ser Ser Glu Glu Leu Ala Asn Lys Ala Thr Leu Val Cys Leu Ile
 145 150 155 160

agt gac ttc tac ccg gga gcc gtg aca gtg gcc tgg aag gca gat agc 528
 Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser
 165 170 175

agc ccc gtc aag gcg gga gtg gag acc acc aca ccc tcc aaa caa agc 576
 Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser
 180 185 190

aac aac aag tac gcg gcc agc agc tat ctg agc ctg acg cct gag cag 624
 Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln
 195 200 205

tgg aag tcc cac aga agc tac agc tgc cag gtc acg cat gaa ggg agc 672
 Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser
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acc gtg gag aag aca gtg gcc cct aca gaa tgt tca 708
 Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
 225 230 235

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Ser Trp Ala Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser
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Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val
 35 40 45

Gly Asp Tyr Asn Tyr Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala
 50 55 60

Pro Lys Leu Met Ile Tyr Tyr Val Thr Asn Arg Pro Ser Gly Val Ser
 65 70 75 80

Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile
 85 90 95

Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr
 100 105 110

Asp Thr Gly Ser Phe Ala Met Val Phe Gly Gly Gly Thr Lys Leu Thr
 115 120 125

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

Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile
 145 150 155 160

Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser
 165 170 175

Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser
 180 185 190

Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln
 195 200 205

Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser
 210 215 220

Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
 225 230 235

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Tyr Val Thr Asn Arg Pro Ser
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tcc tgg gct gat atc gca ctg acc cag cca gct tca gtg agc ggc tca      96
Ser Trp Ala Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser
20          25          30

cca ggt cag agc att acc atc tcg tgt acg ggt act agc agc gat gtt      144
Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val
35          40          45

ggg gat tat aat tat gtg tct tgg tac cag cag cat ccc ggg aag gcg      192
Gly Asp Tyr Asn Tyr Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala
50          55          60

ccg aaa ctt atg att tat tat gtt act aat cgt ccc tca ggc gtg agc      240
Pro Lys Leu Met Ile Tyr Tyr Val Thr Asn Arg Pro Ser Gly Val Ser
65          70          75          80

aac cgt ttt agc gga tcc aaa agc ggc aac acc gcg agc ctg acc att      288
Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile
85          90          95

agc ggc ctg caa gcg gaa gac gaa gcg gat tat tat tgc cag tct tat      336
Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr
100         105         110

gct cct ctt cct tct tct cat att gtg ttt ggc ggc ggc acg aag tta      384
Ala Pro Leu Pro Ser Ser His Ile Val Phe Gly Gly Gly Thr Lys Leu
115         120         125

acc gtc cta ggt cag ccc aag gct gcc ccc tcg gtc act ctg ttc ccg      432
Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro
130         135         140

ccc tcc tct gag gag ctt caa gcc aac aag gcc aca ctg gtg tgt ctc      480
Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
145         150         155         160

ata agt gac ttc tac ccg gga gcc gtg aca gtg gcc tgg aag gca gat      528
Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
165         170         175

agc agc ccc gtc aag gcg gga gtg gag acc acc aca ccc tcc aaa caa      576
Ser Ser Pro Lys Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
180         185         190

agc aac aac aag tac gcg gcc agc agc tat ctg agc ctg acg cct gag      624
Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
195         200         205

cag tgg aag tcc cac aga agc tac agc tgc cag gtc acg cat gaa ggg      672
Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly
210         215         220

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 Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
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711

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Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val
 35 40 45

Gly Asp Tyr Asn Tyr Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala
 50 55 60

Pro Lys Leu Met Ile Tyr Tyr Val Thr Asn Arg Pro Ser Gly Val Ser
 65 70 75 80

Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile
 85 90 95

Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr
 100 105 110

Ala Pro Leu Pro Ser Ser His Ile Val Phe Gly Gly Gly Thr Lys Leu
 115 120 125

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

Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
 145 150 155 160

Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
 165 170 175

Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
 180 185 190

Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
 195 200 205

Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly
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Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
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Tyr Val Thr Asn Arg Pro Ser
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1 5 10 15	
gtc ctg tcc cag gtg caa ttg gtg gaa agc ggc ggc ggc ctg gtg caa	96
Val Leu Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln	
20 25 30	
ccg ggc ggc agc ctg cgt ctg agc tgc gcg gcc tcc gga ttt acc ttt	144
Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe	
35 40 45	
act act tat gct atg cat tgg gtg cgc caa gcc cct ggg aag ggt ctc	192
Thr Thr Tyr Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu	
50 55 60	
gag tgg gtg agc act atc ttt ggt tct tct agc tct acc tat tat gcg	240
Glu Trp Val Ser Thr Ile Phe Gly Ser Ser Ser Ser Thr Tyr Tyr Ala	
65 70 75 80	
gat agc gtg aaa ggc cgt ttt acc att tca cgt gat aat tcg aaa aac	288
Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn	
85 90 95	
acc ctg tat ctg caa atg aac agc ctg cgt gcg gaa gat acg gcc gtg	336
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val	
100 105 110	
tat tat tgc gcg cgt cgt ggt cct ggt atg ggt aat atg gat att tgg	384
Tyr Tyr Cys Ala Arg Arg Gly Pro Gly Met Gly Asn Met Asp Ile Trp	
115 120 125	
ggc caa ggc acc ctg gtg acg gtt agc tca gcc agc acc aag ggc ccc	432
Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro	
130 135 140	
agc gtg ttc ccc ctg gcc ccc tgc agc aga agc acc agc gag agc aca	480
Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr	
145 150 155 160	
gcc gcc ctg ggc tgc ctg gtg aag gac tac ttc ccc gag ccc gtg acc	528
Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr	
165 170 175	
gtg agc tgg aac agc gga gcc ctg acc agc ggc gtg cac acc ttc ccc	576
Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro	
180 185 190	
gcc gtg ctg cag agc agc ggc ctg tac agc ctg agc agc gtg gtg acc	624
Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr	
195 200 205	
gtg ccc agc agc aac ttc ggc acc cag acc tac acc tgc aac gtg gac	672
Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp	
210 215 220	
cac aag ccc agc aac acc aag gtg gac aag acc gtg gag cgg aag tgc	720
His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys	
225 230 235 240	
tgc gtg gag tgc ccc ccc tgc cct gcc cct cct gtg gcc gga ccc tcc	768
Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser	
245 250 255	
gtg ttc ctg ttc ccc ccc aag ccc aag gac acc ctg atg atc agc cgg	816

Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg		
			260					265					270				
acc	ccc	gag	gtg	acc	tgc	gtg	gtg	gtg	gac	gtg	agc	cac	gag	gac	ccc	864	
Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro		
		275					280					285					
gag	gtg	cag	ttt	aat	tgg	tac	gtg	gac	ggc	gtg	gag	gtg	cac	aac	gcc	912	
Glu	Val	Gln	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala		
	290					295					300						
aag	acc	aag	ccc	cgg	gag	gaa	cag	ttc	aac	agc	acc	ttc	cgg	gtg	gtg	960	
Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Phe	Arg	Val	Val		
305					310					315					320		
tcc	gtg	ctg	acc	gtg	gtg	cac	cag	gac	tgg	ctg	aac	ggc	aaa	gaa	tac	1008	
Ser	Val	Leu	Thr	Val	Val	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr		
			325						330					335			
aag	tgc	aag	gtg	tcc	aac	aag	ggc	ctg	cct	gcc	ccc	atc	gag	aaa	acc	1056	
Lys	Cys	Lys	Val	Ser	Asn	Lys	Gly	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr		
			340					345					350				
atc	agc	aag	aca	aag	ggc	cag	ccc	agg	gaa	ccc	cag	gtg	tac	acc	ctg	1104	
Ile	Ser	Lys	Thr	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu		
		355					360					365					
ccc	ccc	agc	cgg	gag	gaa	atg	acc	aag	aac	cag	gtg	tcc	ctg	acc	tgt	1152	
Pro	Pro	Ser	Arg	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys		
	370					375					380						
ctg	gtg	aag	ggc	ttc	tac	ccc	agc	gac	atc	gcc	gtg	gag	tgg	gag	agc	1200	
Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser		
385					390					395					400		
aac	ggc	cag	ccc	gag	aac	aac	tac	aag	acc	acc	ccc	ccc	atg	ctg	gac	1248	
Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Met	Leu	Asp		
			405						410					415			
agc	gac	ggc	agc	ttc	ttc	ctg	tac	agc	aag	ctg	aca	gtg	gac	aag	agc	1296	
Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser		
			420					425					430				
cgg	tgg	cag	cag	ggc	aac	gtg	ttc	agc	tgc	agc	gtg	atg	cac	gag	gcc	1344	
Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala		
		435				440						445					
ctg	cac	aac	cac	tac	acc	cag	aag	agc	ctg	agc	ctg	tcc	ccc	ggc	aaa	1392	
Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Pro	Gly	Lys		
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Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe

35	40	45																	
Thr	Thr	Tyr	Ala	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu				
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Glu	Trp	Val	Ser	Thr	Ile	Phe	Gly	Ser	Ser	Ser	Ser	Thr	Tyr	Tyr	Ala				
65					70					75					80				
Asp	Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn				
				85					90					95					
Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val				
			100					105					110						
Tyr	Tyr	Cys	Ala	Arg	Arg	Gly	Pro	Gly	Met	Gly	Asn	Met	Asp	Ile	Trp				
		115					120					125							
Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro				
130						135					140								
Ser	Val	Phe	Pro	Leu	Ala	Pro	Cys	Ser	Arg	Ser	Thr	Ser	Glu	Ser	Thr				
145					150					155					160				
Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr				
				165					170					175					
Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro				
			180					185					190						
Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr				
		195					200					205							
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His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Thr	Val	Glu	Arg	Lys	Cys				
225					230					235					240				
Cys	Val	Glu	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Pro	Val	Ala	Gly	Pro	Ser				
				245					250					255					
Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg				
			260					265					270						
Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro				
		275					280					285							
Glu	Val	Gln	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala				
290						295					300								
Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Phe	Arg	Val	Val				

305 310 315 320
 Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
 325 330 335
 Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr
 340 345 350
 Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
 355 360 365
 Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys
 370 375 380
 Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
 385 390 395 400
 Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp
 405 410 415
 Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
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 Thr Ile Phe Gly Ser Ser Ser Ser Thr Tyr Tyr Ala Asp Ser Val Lys
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tcc tgg gct gat atc gca ctg acc cag cca gct tca gtg agc ggc tca	96
Ser Trp Ala Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser	
20 25 30	
cca ggt cag agc att acc atc tcg tgt acg ggt act agc agc gat gtt	144
Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val	
35 40 45	
ggt gat tat aat tat gtg tct tgg tac cag cag cat ccc ggg aag gcg	192
Gly Asp Tyr Asn Tyr Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala	
50 55 60	
ccg aaa ctt atg att tat tat gtt act aat cgt ccc tca ggc gtg agc	240
Pro Lys Leu Met Ile Tyr Tyr Val Thr Asn Arg Pro Ser Gly Val Ser	
65 70 75 80	
aac cgt ttt agc gga tcc aaa agc ggc aac acc gcg agc ctg acc att	288
Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile	
85 90 95	
agc ggc ctg caa gcg gaa gac gaa gcg gat tat tat tgc cag tct tat	336
Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr	

100	105	110	
gct ggt gct tct ttt aat ctt gtg ttt ggc ggc ggc acg aag tta acc			384
Ala Gly Ala Ser Phe Asn Leu Val Phe Gly Gly Gly Thr Lys Leu Thr			
115	120	125	
gtc cta ggt cag ccc aag gct gcc ccc tcg gtc act ctg ttc ccg ccc			432
Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro			
130	135	140	
tcc tct gag gag ctt caa gcc aac aag gcc aca ctg gtg tgt ctc ata			480
Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile			
145	150	155	160
agt gac ttc tac ccg gga gcc gtg aca gtg gcc tgg aag gca gat agc			528
Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser			
165	170	175	
agc ccc gtc aag gcg gga gtg gag acc acc aca ccc tcc aaa caa agc			576
Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser			
180	185	190	
aac aac aag tac gcg gcc agc agc tat ctg agc ctg acg cct gag cag			624
Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln			
195	200	205	
tgg aag tcc cac aga agc tac agc tgc cag gtc acg cat gaa ggg agc			672
Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser			
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acc gtg gag aag aca gtg gcc cct aca gaa tgt tca			708
Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser			
225	230	235	
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Ser Trp Ala Asp Ile Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser			
20	25	30	
Pro Gly Gln Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val			
35	40	45	
Gly Asp Tyr Asn Tyr Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala			
50	55	60	
Pro Lys Leu Met Ile Tyr Tyr Val Thr Asn Arg Pro Ser Gly Val Ser			
65	70	75	80
Asn Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile			
85	90	95	
Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr			
100	105	110	

Ala Gly Ala Ser Phe Asn Leu Val Phe Gly Gly Gly Thr Lys Leu Thr
 115 120 125

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

Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile
 145 150 155 160

Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser
 165 170 175

Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser
 180 185 190

Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln
 195 200 205

Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser
 210 215 220

Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
 225 230 235

<210> 98
 <211> 14
 <212> PRT
 <213> Homo sapiens

<400> 98

Thr Gly Thr Ser Ser Asp Val Gly Asp Tyr Asn Tyr Val Ser
 1 5 10

<210> 99
 <211> 7
 <212> PRT
 <213> Homo sapiens

<400> 99

Tyr Val Thr Asn Arg Pro Ser
 1 5

<210> 100
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 100

Gln Ser Tyr Ala Gly Ala Ser Phe Asn Leu Val
 1 5 10

<210> 101

<211> 1398
 <212> DNA
 <213> Homo sapiens

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<220>
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 <222> (58)..(420)

<220>
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 <222> (148)..(162)
 <223> CDR1

<220>
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 <222> (205)..(261)
 <223> CDR2

<220>
 <221> misc_feature
 <222> (358)..(387)
 <223> CDR3

<400> 101
 atg aaa cac ctg tgg ttc ttc ctc ctg ctg gtg gca gct ccc aga tgg 48
 Met Lys His Leu Trp Phe Phe Leu Leu Val Ala Ala Pro Arg Trp
 1 5 10 15
 gtc ctg tcc cag gtg caa ttg gtg gaa agc ggc ggc ggc ctg gtg caa 96
 Val Leu Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30
 ccg ggc ggc agc ctg cgt ctg agc tgc gcg gcc tcc gga ttt acc ttt 144
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45
 act act tat gct atg cat tgg gtg cgc caa gcc cct ggg aag ggt ctc 192
 Thr Thr Tyr Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60
 gag tgg gtg agc act att gag att aag gag gct ggt tat gct act aat 240
 Glu Trp Val Ser Thr Ile Glu Ile Lys Glu Ala Gly Tyr Ala Thr Asn
 65 70 75 80
 tat gct gct ggt gtt aag ggt cgt ttt acc att tca cgt gat aat tcg 288
 Tyr Ala Ala Gly Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser
 85 90 95
 aaa aac acc ctg tat ctg caa atg aac agc ctg cgt gcg gaa gat acg 336
 Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
 100 105 110
 gcc gtg tat tat tgc gcg cgt cgt ggt cct ggt atg ggt aat atg gat 384
 Ala Val Tyr Tyr Cys Ala Arg Arg Gly Pro Gly Met Gly Asn Met Asp
 115 120 125
 att tgg ggc caa ggc acc ctg gtg acg gtt agc tca gcc agc acc aag 432
 Ile Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys
 130 135 140

ggc ccc agc gtg ttc ccc ctg gcc ccc tgc agc aga agc acc agc gag Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu 145 150 155 160	480
agc aca gcc gcc ctg ggc tgc ctg gtg aag gac tac ttc ccc gag ccc Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro 165 170 175	528
gtg acc gtg agc tgg aac agc gga gcc ctg acc agc ggc gtg cac acc Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr 180 185 190	576
ttc ccc gcc gtg ctg cag agc agc ggc ctg tac agc ctg agc agc gtg Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val 195 200 205	624
gtg acc gtg ccc agc agc aac ttc ggc acc cag acc tac acc tgc aac Val Thr Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn 210 215 220	672
gtg gac cac aag ccc agc aac acc aag gtg gac aag acc gtg gag cgg Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg 225 230 235 240	720
aag tgc tgc gtg gag tgc ccc ccc tgc cct gcc cct cct gtg gcc gga Lys Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly 245 250 255	768
ccc tcc gtg ttc ctg ttc ccc ccc aag ccc aag gac acc ctg atg atc Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile 260 265 270	816
agc cgg acc ccc gag gtg acc tgc gtg gtg gtg gac gtg agc cac gag Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu 275 280 285	864
gac ccc gag gtg cag ttt aat tgg tac gtg gac ggc gtg gag gtg cac Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His 290 295 300	912
aac gcc aag acc aag ccc cgg gag gaa cag ttc aac agc acc ttc cgg Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg 305 310 315 320	960
gtg gtg tcc gtg ctg acc gtg gtg cac cag gac tgg ctg aac ggc aaa Val Val Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys 325 330 335	1008
gaa tac aag tgc aag gtg tcc aac aag ggc ctg cct gcc ccc atc gag Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu 340 345 350	1056
aaa acc atc agc aag aca aag ggc cag ccc agg gaa ccc cag gtg tac Lys Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr 355 360 365	1104
acc ctg ccc ccc agc cgg gag gaa atg acc aag aac cag gtg tcc ctg Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu 370 375 380	1152
acc tgt ctg gtg aag ggc ttc tac ccc agc gac atc gcc gtg gag tgg Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp 385 390 395 400	1200
gag agc aac ggc cag ccc gag aac aac tac aag acc acc ccc ccc atg Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met 405 410 415	1248

ctg gac agc gac ggc agc ttc ttc ctg tac agc aag ctg aca gtg gac 1296
 Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
 420 425 430

aag agc cgg tgg cag cag ggc aac gtg ttc agc tgc agc gtg atg cac 1344
 Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 435 440 445

gag gcc ctg cac aac cac tac acc cag aag agc ctg agc ctg tcc ccc 1392
 Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 450 455 460

ggc aaa 1398
 Gly Lys
 465

<210> 102
 <211> 466
 <212> PRT
 <213> Homo sapiens

<400> 102

Met Lys His Leu Trp Phe Phe Leu Leu Leu Val Ala Ala Pro Arg Trp
 1 5 10 15

Val Leu Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45

Thr Thr Tyr Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

Glu Trp Val Ser Thr Ile Glu Ile Lys Glu Ala Gly Tyr Ala Thr Asn
 65 70 75 80

Tyr Ala Ala Gly Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser
 85 90 95

Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
 100 105 110

Ala Val Tyr Tyr Cys Ala Arg Arg Gly Pro Gly Met Gly Asn Met Asp
 115 120 125

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

Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu
 145 150 155 160

Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro
 165 170 175

Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
 180 185 190

Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
 195 200 205

Val Thr Val Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn
 210 215 220

Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg
 225 230 235 240

Lys Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly
 245 250 255

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 260 265 270

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

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

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg
 305 310 315 320

Val Val Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys
 325 330 335

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

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

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

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

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

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

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

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

Gly Lys
 465

<210> 103
 <211> 5
 <212> PRT
 <213> Homo sapiens

<400> 103

Thr Tyr Ala Met His
 1 5

<210> 104
 <211> 19
 <212> PRT
 <213> Homo sapiens

<400> 104

Thr Ile Glu Ile Lys Glu Ala Gly Tyr Ala Thr Asn Tyr Ala Ala Gly
 1 5 10 15

Val Lys Gly

<210> 105
 <211> 10
 <212> PRT
 <213> Homo sapiens

<400> 105

Arg Gly Pro Gly Met Gly Asn Met Asp Ile
 1 5 10

<210> 106
 <211> 5
 <212> PRT
 <213> Homo sapiens

<220>
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 <222> (1)..(1)
 <223> /replace="Asn"

/replace="Ser"

/replace="Thr"

<220>
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 <222> (3)..(3)
 <223> /replace="Trp"

/replace="Ala"

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<220>
<221> VARIANT
<222> (5)..(5)
<223> /replace="Ser"

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```

/replace="His"

```

```

/replace="Thr"

```

```

/replace="Asn"

```

```

<400> 106

```

```

Xaa Tyr Xaa Met Xaa
1          5

```

```

<210> 107
<211> 19
<212> PRT
<213> Homo sapiens

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```

<220>
<221> VARIANT
<222> (1)..(1)
<223> /replace="Leu"/replace="Tyr"/replace="Phe"/replace="Asn"/replace="Thr"

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<220>
<221> VARIANT
<222> (3)..(3)
<223> /replace="Ser"/replace="Ala"/replace="Phe"/replace="Glu"

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```

<220>
<221> VARIANT
<222> (4)..(4)
<223> /replace="Tyr"/replace="Gly"/replace="Ile"

```

```

<220>
<221> VARIANT
<222> (5)..(5)
<223> /replace="Lys"/replace=absent

```

```

<220>
<221> VARIANT
<222> (6)..(6)
<223> /replace="Glu"/replace=absent

```

```

<220>
<221> VARIANT
<222> (7)..(7)
<223> /replace="Ser"/replace="Ala"

```

```

<220>
<221> VARIANT
<222> (8)..(8)
<223> /replace="Ser"/replace="Gly"

```

```

<220>
<221> VARIANT
<222> (9)..(9)
<223> /replace="Ser"/replace="Tyr"

```

```

<220>
<221> VARIANT
<222> (10)..(10)
<223> /replace="Thr"/replace="Asn"/replace="Val"/replace="Ser"/replace=

```

"Ala"

<220>
 <221> VARIANT
 <222> (12)..(12)
 <223> /replace="Tyr"/replace="Asn"

<220>
 <221> VARIANT
 <222> (15)..(15)
 <223> /replace="Asp"/replace="Asn"

<220>
 <221> VARIANT
 <222> (16)..(16)
 <223> /replace="Ser"/replace="Gly"

<400> 107

Xaa Ile Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Xaa Tyr Ala Xaa Xaa
 1 5 10 15

Val Lys Gly

<210> 108
 <211> 7
 <212> PRT
 <213> Homo sapiens

<220>
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 <222> (1)..(1)
 <223> /replace="Gly"/replace="Asp"/replace="Tyr"

<220>
 <221> VARIANT
 <222> (2)..(2)
 <223> /replace="Thr"/replace="Asp"/replace="Val"

<220>
 <221> VARIANT
 <222> (3)..(3)
 <223> /replace="Asn"/replace="Thr"

<220>
 <221> VARIANT
 <222> (4)..(4)
 <223> /replace="Asn"/replace="Asp"/replace="Lys"

<400> 108

Xaa Xaa Xaa Xaa Arg Pro Ser
 1 5

<210> 109
 <211> 12
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (5)..(5)


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<223> /replace="Pro"/replace="Gly"

<220>
<221> VARIANT
<222> (6)..(6)
<223> /replace="Leu"/replace="Ala"

<220>
<221> VARIANT
<222> (7)..(7)
<223> /replace="Ser"/replace="Pro"

<220>
<221> VARIANT
<222> (8)..(8)
<223> /replace="Ser"/replace="Phe"

<220>
<221> VARIANT
<222> (9)..(9)
<223> /replace="Ser"/replace="Asn"

<220>
<221> VARIANT
<222> (10)..(10)
<223> /replace="His"/replace=absent

<220>
<221> VARIANT
<222> (11)..(11)
<223> /replace="Ile"/replace="Leu"

<400> 109

Gln Ser Tyr Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Val
1          5          10

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