

SEQUENCE LISTING

<110> EISAI R&D MANAGEMENT CO., LTD.

<120> Method of Producing Tumour Cell

<130> PCT11-0025

<150> JP 2010-125256

<151> 2010-05-31

<160> 26

<170> PatentIn version 3.4

<210> 1

<211> 1581

<212> DNA

<213> Rous sarcoma virus

<220>

<221> CDS

<222> (1).. (1581)

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agc ctg gag cca ccc gac agc acc cac cac ggg gga ttc cca gcc tcg 96

Ser Leu Glu Pro Pro Asp Ser Thr His His Gly Gly Phe Pro Ala Ser

20 25 30

cag acc ccc aac aag aca gca gcc ccc gac acg cac cgc acc ccc agc 144

Gln Thr Pro Asn Lys Thr Ala Ala Pro Asp Thr His Arg Thr Pro Ser

35 40 45

cgc tcc ttc ggg acc gtg gcc acc gag ccc aag ctc ttc ggg ggc ttc	192
Arg Ser Phe Gly Thr Val Ala Thr Glu Pro Lys Leu Phe Gly Gly Phe	
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aac act tct gac acc gtt acg tcg ccg cag cgt gcc ggg gca ctg gct	240
Asn Thr Ser Asp Thr Val Thr Ser Pro Gln Arg Ala Gly Ala Leu Ala	
65 70 75 80	
ggc ggc gtc acc act ttc gtg gct ctc tac gac tac gag tcc tgg att	288
Gly Gly Val Thr Thr Phe Val Ala Leu Tyr Asp Tyr Glu Ser Trp Ile	
85 90 95	
gaa acg gac ttg tcc ttc aag aaa gga gaa cgg ctg cag att gtc aac	336
Glu Thr Asp Leu Ser Phe Lys Lys Gly Glu Arg Leu Gln Ile Val Asn	
100 105 110	
aac acg gaa ggt aac tgg tgg ctg gct cat tcc ctc act aca gga cag	384
Asn Thr Glu Gly Asn Trp Trp Leu Ala His Ser Leu Thr Thr Gly Gln	
115 120 125	
acg ggc tac atc ccc agt aac tat gtc gcg ccc tca gac tcc atc cag	432
Thr Gly Tyr Ile Pro Ser Asn Tyr Val Ala Pro Ser Asp Ser Ile Gln	
130 135 140	
gct gaa gag tgg tac ttt ggg aag atc act cgt cgg gag tcc gag cgg	480
Ala Glu Glu Trp Tyr Phe Gly Lys Ile Thr Arg Arg Glu Ser Glu Arg	
145 150 155 160	
ctg ctg ctc aac ccc gaa aac ccc cgg gga acc ttc ttg gtc cgg gag	528
Leu Leu Leu Asn Pro Glu Asn Pro Arg Gly Thr Phe Leu Val Arg Glu	
165 170 175	
agc gag acg aca aaa ggt gcc tat tgc ctc tcc gtt tct gac ttt gac	576
Ser Glu Thr Thr Lys Gly Ala Tyr Cys Leu Ser Val Ser Asp Phe Asp	
180 185 190	
aac gcc aag ggg ctc aat gtg aag cac tac aag atc cgc aag ctg gac	624
Asn Ala Lys Gly Leu Asn Val Lys His Tyr Lys Ile Arg Lys Leu Asp	

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Ser Gly Gly Phe Tyr Ile Thr Ser Arg Thr Gln Phe Ser Ser Leu Gln			
210	215	220	
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Gln Leu Val Ala Tyr Tyr Ser Lys His Ala Asp Gly Leu Cys His Arg			
225	230	235	240
ctg acc aac gtc tgc ccc acg tcc aag ccc cag acc cag gga ctc gcc			768
Leu Thr Asn Val Cys Pro Thr Ser Lys Pro Gln Thr Gln Gly Leu Ala			
245	250	255	
aag gac gcg tgg gaa atc ccc cgg gag tcg ctg cgg ctg gag gtg aag			816
Lys Asp Ala Trp Glu Ile Pro Arg Glu Ser Leu Arg Leu Glu Val Lys			
260	265	270	
ctg ggg cag ggc tgc ttt gga gag gtc tgg atg ggg acc tgg aac ggc			864
Leu Gly Gln Gly Cys Phe Gly Glu Val Trp Met Gly Thr Trp Asn Gly			
275	280	285	
acc acc aga gtg gcc ata aag act ctg aag ccc ggc acc atg tcc ccg			912
Thr Thr Arg Val Ala Ile Lys Thr Leu Lys Pro Gly Thr Met Ser Pro			
290	295	300	
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Glu Ala Phe Leu Gln Glu Ala Gln Val Met Lys Lys Leu Arg His Glu			
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aag ctg gtt caa ctg tac gca gtg gtg tcg gaa gag ccc atc tac atc			1008
Lys Leu Val Gln Leu Tyr Ala Val Val Ser Glu Glu Pro Ile Tyr Ile			
325	330	335	
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Val Ile Glu Tyr Met Ser Lys Gly Ser Leu Leu Asp Phe Leu Lys Gly			
340	345	350	

gag atg ggc aag tac ctg cgg ctg cca cag ctc gtt gat atg gct gct	1104
Glu Met Gly Lys Tyr Leu Arg Leu Pro Gln Leu Val Asp Met Ala Ala	
355 360 365	
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Gln Ile Ala Ser Gly Met Ala Tyr Val Glu Arg Met Asn Tyr Val His	
370 375 380	
cga gac ctg cgg gcg gcc aac atc ctg gtg ggg gag aac ctg gtg tgc	1200
Arg Asp Leu Arg Ala Ala Asn Ile Leu Val Gly Glu Asn Leu Val Cys	
385 390 395 400	
aag gtg gct gac ttt ggg ctg gca cgc ctc atc gag gac aac gag tac	1248
Lys Val Ala Asp Phe Gly Leu Ala Arg Leu Ile Glu Asp Asn Glu Tyr	
405 410 415	
aca gca cgg caa ggt gcc aag ttc ccc atc aag tgg aca gcc ccc gag	1296
Thr Ala Arg Gln Gly Ala Lys Phe Pro Ile Lys Trp Thr Ala Pro Glu	
420 425 430	
gca gcc ctc tat ggc cgg ttc acc atc aag tgc gat gtc tgg tcc ttc	1344
Ala Ala Leu Tyr Gly Arg Phe Thr Ile Lys Ser Asp Val Trp Ser Phe	
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ggc atc ctg ctg act gag ctg acc acc aag ggc cgg gtg cca tac cca	1392
Gly Ile Leu Leu Thr Glu Leu Thr Thr Lys Gly Arg Val Pro Tyr Pro	
450 455 460	
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Gly Met Gly Asn Gly Glu Val Leu Asp Arg Val Glu Arg Gly Tyr Arg	
465 470 475 480	
atg ccc tgc ccg ccc gag tgc ccc gag tgc ctg cat gac ctt atg tgc	1488
Met Pro Cys Pro Pro Glu Cys Pro Glu Ser Leu His Asp Leu Met Cys	
485 490 495	
cag tgc tgg cgg agg gac cct gag gag cgg ccc act ttc gag tac ctg	1536
Gln Cys Trp Arg Arg Asp Pro Glu Glu Arg Pro Thr Phe Glu Tyr Leu	

500

505

510

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515

520

525

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<211> 526

<212> PRT

<213> Rous sarcoma virus

<400> 2

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1

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10

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Ser Leu Glu Pro Pro Asp Ser Thr His His Gly Gly Phe Pro Ala Ser

20

25

30

Gln Thr Pro Asn Lys Thr Ala Ala Pro Asp Thr His Arg Thr Pro Ser

35

40

45

Arg Ser Phe Gly Thr Val Ala Thr Glu Pro Lys Leu Phe Gly Gly Phe

50

55

60

Asn Thr Ser Asp Thr Val Thr Ser Pro Gln Arg Ala Gly Ala Leu Ala

65

70

75

80

Gly Gly Val Thr Thr Phe Val Ala Leu Tyr Asp Tyr Glu Ser Trp Ile

85

90

95

Glu Thr Asp Leu Ser Phe Lys Lys Gly Glu Arg Leu Gln Ile Val Asn
 100 105 110

Asn Thr Glu Gly Asn Trp Trp Leu Ala His Ser Leu Thr Thr Gly Gln
 115 120 125

Thr Gly Tyr Ile Pro Ser Asn Tyr Val Ala Pro Ser Asp Ser Ile Gln
 130 135 140

Ala Glu Glu Trp Tyr Phe Gly Lys Ile Thr Arg Arg Glu Ser Glu Arg
 145 150 155 160

Leu Leu Leu Asn Pro Glu Asn Pro Arg Gly Thr Phe Leu Val Arg Glu
 165 170 175

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

Asn Ala Lys Gly Leu Asn Val Lys His Tyr Lys Ile Arg Lys Leu Asp
 195 200 205

Ser Gly Gly Phe Tyr Ile Thr Ser Arg Thr Gln Phe Ser Ser Leu Gln
 210 215 220

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

Leu Thr Asn Val Cys Pro Thr Ser Lys Pro Gln Thr Gln Gly Leu Ala
 245 250 255

Lys Asp Ala Trp Glu Ile Pro Arg Glu Ser Leu Arg Leu Glu Val Lys
 260 265 270

Leu Gly Gln Gly Cys Phe Gly Glu Val Trp Met Gly Thr Trp Asn Gly
 275 280 285

Thr Thr Arg Val Ala Ile Lys Thr Leu Lys Pro Gly Thr Met Ser Pro
 290 295 300

Glu Ala Phe Leu Gln Glu Ala Gln Val Met Lys Lys Leu Arg His Glu
 305 310 315 320

Lys Leu Val Gln Leu Tyr Ala Val Val Ser Glu Glu Pro Ile Tyr Ile
 325 330 335

Val Ile Glu Tyr Met Ser Lys Gly Ser Leu Leu Asp Phe Leu Lys Gly
 340 345 350

Glu Met Gly Lys Tyr Leu Arg Leu Pro Gln Leu Val Asp Met Ala Ala
 355 360 365

Gln Ile Ala Ser Gly Met Ala Tyr Val Glu Arg Met Asn Tyr Val His
 370 375 380

Arg Asp Leu Arg Ala Ala Asn Ile Leu Val Gly Glu Asn Leu Val Cys
 385 390 395 400

Lys Val Ala Asp Phe Gly Leu Ala Arg Leu Ile Glu Asp Asn Glu Tyr
 405 410 415

Thr Ala Arg Gln Gly Ala Lys Phe Pro Ile Lys Trp Thr Ala Pro Glu
 420 425 430

Ala Ala Leu Tyr Gly Arg Phe Thr Ile Lys Ser Asp Val Trp Ser Phe
 435 440 445

Gly Ile Leu Leu Thr Glu Leu Thr Thr Lys Gly Arg Val Pro Tyr Pro
 450 455 460

Gly Met Gly Asn Gly Glu Val Leu Asp Arg Val Glu Arg Gly Tyr Arg
 465 470 475 480

Met Pro Cys Pro Pro Glu Cys Pro Glu Ser Leu His Asp Leu Met Cys
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<211> 1320

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1).. (1320)

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gac tcg gtg cag ccg tat ttc tac tgc gac gag gag gag aac ttc tac	96
Asp Ser Val Gln Pro Tyr Phe Tyr Cys Asp Glu Glu Glu Asn Phe Tyr	
20 25 30	

cag cag cag cag cag agc gag ctg cag ccc ccg gcg ccc agc gag gat	144
Gln Gln Gln Gln Gln Ser Glu Leu Gln Pro Pro Ala Pro Ser Glu Asp	
35 40 45	

atc tgg aag aaa ttc gag ctg ctg ccc acc ccg ccc ctg tcc cct agc	192
Ile Trp Lys Lys Phe Glu Leu Leu Pro Thr Pro Pro Leu Ser Pro Ser	
50 55 60	

cgc cgc tcc ggg ctc tgc tcg ccc tcc tac gtt gcg gtc aca ccc ttc	240
Arg Arg Ser Gly Leu Cys Ser Pro Ser Tyr Val Ala Val Thr Pro Phe	
65 70 75 80	

tcc ctt cgg gga gac aac gac ggc ggt ggc ggg agc ttc tcc acg gcc	288
Ser Leu Arg Gly Asp Asn Asp Gly Gly Gly Gly Ser Phe Ser Thr Ala	
85 90 95	

gac cag ctg gag atg gtg acc gag ctg ctg gga gga gac atg gtg aac	336
Asp Gln Leu Glu Met Val Thr Glu Leu Leu Gly Gly Asp Met Val Asn	
100 105 110	

cag agt ttc atc tgc gac ccg gac gac gag acc ttc atc aaa aac atc	384
Gln Ser Phe Ile Cys Asp Pro Asp Asp Glu Thr Phe Ile Lys Asn Ile	
115 120 125	

atc atc cag gac tgt atg tgg agc ggc ttc tcg gcc gcc gcc aag ctc	432
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Val Ser Glu Lys Leu Ala Ser Tyr Gln Ala Ala Arg Lys Asp Ser Gly	
145	150
155	160
agc ccg aac ccc gcc cgc ggc cac agc gtc tgc tcc acc tcc agc ttg	528
Ser Pro Asn Pro Ala Arg Gly His Ser Val Cys Ser Thr Ser Ser Leu	
165	170
175	
tac ctg cag gat ctg agc gcc gcc gcc tca gag tgc atc gac ccc tcg	576
Tyr Leu Gln Asp Leu Ser Ala Ala Ala Ser Glu Cys Ile Asp Pro Ser	
180	185
190	
gtg gtc ttc ccc tac cct ctc aac gac agc agc tcg ccc aag tcc tgc	624
Val Val Phe Pro Tyr Pro Leu Asn Asp Ser Ser Ser Pro Lys Ser Cys	
195	200
205	
gcc tcg caa gac tcc agc gcc ttc tct ccg tcc tcg gat tct ctg ctc	672
Ala Ser Gln Asp Ser Ser Ala Phe Ser Pro Ser Ser Asp Ser Leu Leu	
210	215
220	
tcc tcg acg gag tcc tcc ccg cag ggc agc ccc gag ccc ctg gtg ctc	720
Ser Ser Thr Glu Ser Ser Pro Gln Gly Ser Pro Glu Pro Leu Val Leu	
225	230
235	240
cat gag gag aca ccg ccc acc acc agc agc gac tct gag gag gaa caa	768
His Glu Glu Thr Pro Pro Thr Thr Ser Ser Asp Ser Glu Glu Glu Gln	
245	250
255	
gaa gat gag gaa gaa atc gat gtt gtt tct gtg gaa aag agg cag gct	816
Glu Asp Glu Glu Glu Ile Asp Val Val Ser Val Glu Lys Arg Gln Ala	
260	265
270	
cct ggc aaa agg tca gag tct gga tca cct tct gct gga ggc cac agc	864
Pro Gly Lys Arg Ser Glu Ser Gly Ser Pro Ser Ala Gly Gly His Ser	
275	280
285	

aaa cct cct cac agc cca ctg gtc ctc aag agg tgc cac gtc tcc aca	912
Lys Pro Pro His Ser Pro Leu Val Leu Lys Arg Cys His Val Ser Thr	
290 295 300	
cat cag cac aac tac gca gcg cct ccc tcc act cgg aag gac tat cct	960
His Gln His Asn Tyr Ala Ala Pro Pro Ser Thr Arg Lys Asp Tyr Pro	
305 310 315 320	
gct gcc aag agg gtc aag ttg gac agt gtc aga gtc ctg aga cag atc	1008
Ala Ala Lys Arg Val Lys Leu Asp Ser Val Arg Val Leu Arg Gln Ile	
325 330 335	
agc aac aac cga aaa tgc acc agc ccc agg tcc tcg gac acc gag gag	1056
Ser Asn Asn Arg Lys Cys Thr Ser Pro Arg Ser Ser Asp Thr Glu Glu	
340 345 350	
aat gtc aag agg cga aca cac aac gtc ttg gag cgc cag agg agg aac	1104
Asn Val Lys Arg Arg Thr His Asn Val Leu Glu Arg Gln Arg Arg Asn	
355 360 365	
gag cta aaa cgg agc ttt ttt gcc ctg cgt gac cag atc ccg gag ttg	1152
Glu Leu Lys Arg Ser Phe Phe Ala Leu Arg Asp Gln Ile Pro Glu Leu	
370 375 380	
gaa aac aat gaa aag gcc ccc aag gta gtt atc ctt aaa aaa gcc aca	1200
Glu Asn Asn Glu Lys Ala Pro Lys Val Val Ile Leu Lys Lys Ala Thr	
385 390 395 400	
gca tac atc ctg tcc gtc caa gca gag gag caa aag ctc att tct gaa	1248
Ala Tyr Ile Leu Ser Val Gln Ala Glu Glu Gln Lys Leu Ile Ser Glu	
405 410 415	
gag gac ttg ttg cgg aaa cga cga gaa cag ttg aaa cac aaa ctt gaa	1296
Glu Asp Leu Leu Arg Lys Arg Arg Glu Gln Leu Lys His Lys Leu Glu	
420 425 430	
cag cta cgg aac tct tgt gcg taa	1320

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<211> 439

<212> PRT

〈213〉 Homo sapiens

$\langle 400 \rangle$ 4

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Gln Gln Gln Gln Gln Ser Glu Leu Gln Pro Pro Ala Pro Ser Glu Asp
35 40 45

Ile Trp Lys Lys Phe Glu Leu Leu Pro Thr Pro Pro Leu Ser Pro Ser
50 55 60

Arg Arg Ser Gly Leu Cys Ser Pro Ser Tyr Val Ala Val Thr Pro Phe
65 70 75 80

Ser Leu Arg Gly Asp Asn Asp Gly Gly Gly Gly Ser Phe Ser Thr Ala
85 90 95

Asp Gln Leu Glu Met Val Thr Glu Leu Leu Gly Gly Asp Met Val Asn
100 105 110

Gln Ser Phe Ile Cys Asp Pro Asp Asp Glu Thr Phe Ile Lys Asn Ile
 115 120 125

Ile Ile Gln Asp Cys Met Trp Ser Gly Phe Ser Ala Ala Ala Lys Leu
 130 135 140

Val Ser Glu Lys Leu Ala Ser Tyr Gln Ala Ala Arg Lys Asp Ser Gly
 145 150 155 160

Ser Pro Asn Pro Ala Arg Gly His Ser Val Cys Ser Thr Ser Ser Leu
 165 170 175

Tyr Leu Gln Asp Leu Ser Ala Ala Ala Ser Glu Cys Ile Asp Pro Ser
 180 185 190

Val Val Phe Pro Tyr Pro Leu Asn Asp Ser Ser Ser Pro Lys Ser Cys
 195 200 205

Ala Ser Gln Asp Ser Ser Ala Phe Ser Pro Ser Ser Asp Ser Leu Leu
 210 215 220

Ser Ser Thr Glu Ser Ser Pro Gln Gly Ser Pro Glu Pro Leu Val Leu
 225 230 235 240

His Glu Glu Thr Pro Pro Thr Thr Ser Ser Asp Ser Glu Glu Glu Gln
 245 250 255

Glu Asp Glu Glu Glu Ile Asp Val Val Ser Val Glu Lys Arg Gln Ala

260	265	270
Pro Gly Lys Arg Ser Glu Ser Gly Ser Pro Ser Ala Gly Gly His Ser		
275	280	285
Lys Pro Pro His Ser Pro Leu Val Leu Lys Arg Cys His Val Ser Thr		
290	295	300
His Gln His Asn Tyr Ala Ala Pro Pro Ser Thr Arg Lys Asp Tyr Pro		
305	310	315
Ala Ala Lys Arg Val Lys Leu Asp Ser Val Arg Val Leu Arg Gln Ile		
325	330	335
Ser Asn Asn Arg Lys Cys Thr Ser Pro Arg Ser Ser Asp Thr Glu Glu		
340	345	350
Asn Val Lys Arg Arg Thr His Asn Val Leu Glu Arg Gln Arg Arg Asn		
355	360	365
Glu Leu Lys Arg Ser Phe Phe Ala Leu Arg Asp Gln Ile Pro Glu Leu		
370	375	380
Glu Asn Asn Glu Lys Ala Pro Lys Val Val Ile Leu Lys Lys Ala Thr		
385	390	395
Ala Tyr Ile Leu Ser Val Gln Ala Glu Glu Gln Lys Leu Ile Ser Glu		
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Gln Leu Arg Asn Ser Cys Ala
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 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1).. (567)

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 Ser Ala Leu Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr
 20 25 30
 gat cca aca ata gag gat tcc tac agg aag caa gta gta att gat gga 144
 Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly
 35 40 45
 gaa acc tgt ctc ttg gat att ctc gac aca gca ggt caa gag gag tac 192
 Glu Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr
 50 55 60
 agt gca atg agg gac cag tac atg agg act ggg gag ggc ttt ctt tgt 240
 Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys

65	70	75	80	
gta ttt gcc ata aat aat act aaa tca ttt gaa gat att cac cat tat				288
Val Phe Ala Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr				
	85	90	95	
aga gaa caa att aaa aga gtt aag gac tct gaa gat gta cct atg gtc				336
Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val				
	100	105	110	
cta gta gga aat aaa tgt gat ttg cct tct aga aca gta gac aca aaa				384
Leu Val Gly Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys				
	115	120	125	
cag gct cag gac tta gca aga agt tat gga att cct ttt att gaa aca				432
Gln Ala Gln Asp Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr				
	130	135	140	
tca gca aag aca aga cag ggt gtt gat gat gcc ttc tat aca tta gtt				480
Ser Ala Lys Thr Arg Gln Gly Val Asp Asp Ala Phe Tyr Thr Leu Val				
	145	150	155	160
cga gaa att cga aaa cat aaa gaa aag atg agc aaa gat ggt aaa aag				528
Arg Glu Ile Arg Lys His Lys Glu Lys Met Ser Lys Asp Gly Lys Lys				
	165	170	175	
aag aaa aag aag tca aag aca aag tgt gta att atg taa				567
Lys Lys Lys Lys Ser Lys Thr Lys Cys Val Ile Met				
	180	185		

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<212> PRT

<213> Homo sapiens

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Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly
 35 40 45

Glu Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr
 50 55 60

Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys
 65 70 75 80

Val Phe Ala Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr
 85 90 95

Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val
 100 105 110

Leu Val Gly Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys
 115 120 125

Gln Ala Gln Asp Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr
 130 135 140

Ser Ala Lys Thr Arg Gln Gly Val Asp Asp Ala Phe Tyr Thr Leu Val
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Arg Glu Ile Arg Lys His Lys Glu Lys Met Ser Lys Asp Gly Lys Lys
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Lys Lys Lys Lys Ser Lys Thr Lys Cys Val Ile Met
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 <222> (1).. (720)

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 Lys Tyr Ile His Tyr Lys Leu Ser Gln Arg Gly Tyr Glu Trp Asp Ala
 20 25 30
 gga gat gtg ggc gcc gcg ccc ccg ggg gcc gcc ccc gca ccg ggc atc 144
 Gly Asp Val Gly Ala Ala Pro Pro Gly Ala Ala Pro Ala Pro Gly Ile
 35 40 45
 ttc tcc tcc cag ccc ggg cac acg ccc cat cca gcc gca tcc cgc gac 192
 Phe Ser Ser Gln Pro Gly His Thr Pro His Pro Ala Ala Ser Arg Asp
 50 55 60
 ccg gtc gcc agg acc tcg ccg ctg cag acc ccg gct gcc ccc ggc gcc 240

ctg gtg gga gct tgc atc acc ctg ggt gcc tat ctg agc cac aag tga 720
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 225 230 235

<210> 8
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 <213> Homo sapiens

<400> 8

Met Ala His Ala Gly Arg Thr Gly Tyr Asp Asn Arg Glu Ile Val Met
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 35 40 45

Phe Ser Ser Gln Pro Gly His Thr Pro His Pro Ala Ala Ser Arg Asp
 50 55 60

Pro Val Ala Arg Thr Ser Pro Leu Gln Thr Pro Ala Ala Pro Gly Ala
 65 70 75 80

Ala Ala Gly Pro Ala Leu Ser Pro Val Pro Pro Val Val His Leu Ala
 85 90 95

Leu Arg Gln Ala Gly Asp Asp Phe Ser Arg Arg Tyr Arg Gly Asp Phe

100	105	110
Ala Glu Met Ser Ser Gln Leu His Leu Thr Pro Phe Thr Ala Arg Gly		
115	120	125
Arg Phe Ala Thr Val Val Glu Glu Leu Phe Arg Asp Gly Val Asn Trp		
130	135	140
Gly Arg Ile Val Ala Phe Phe Glu Phe Gly Gly Val Met Cys Val Glu		
145	150	155
		160
Ser Val Asn Arg Glu Met Ser Pro Leu Val Asp Asn Ile Ala Leu Trp		
165	170	175
Met Thr Glu Tyr Leu Asn Arg His Leu His Thr Trp Ile Gln Asp Asn		
180	185	190
Gly Gly Trp Asp Ala Phe Val Glu Leu Tyr Gly Pro Ser Met Arg Pro		
195	200	205
Leu Phe Asp Phe Ser Trp Leu Ser Leu Lys Thr Leu Leu Ser Leu Ala		
210	215	220
Leu Val Gly Ala Cys Ile Thr Leu Gly Ala Tyr Leu Ser His Lys		
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<211> 3207

<212> DNA

<213> Homo sapiens

<220>

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<222> (1).. (3207)

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ccc cca aga atc cta gta gaa tgt tta cta cca aat ggg atg ata gtg	96
Pro Pro Arg Ile Leu Val Glu Cys Leu Leu Pro Asn Gly Met Ile Val	
20 25 30	

act tta gaa tgc ctc cgt gag gct acg tta ata acg ata aag cat gaa	144
Thr Leu Glu Cys Leu Arg Glu Ala Thr Leu Ile Thr Ile Lys His Glu	
35 40 45	

cta ttt aaa gaa gca aga aaa tac cct ctc cat caa ctt ctt caa gat	192
Leu Phe Lys Glu Ala Arg Lys Tyr Pro Leu His Gln Leu Leu Gln Asp	
50 55 60	

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Leu Asn Arg Glu Ile Gly Phe Ala Ile Gly Met Pro Val Cys Glu Phe	

115	120	125	
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Asp Met Val Lys Asp Pro Glu Val Gln Asp Phe Arg Arg Asn Ile Leu			
130	135	140	
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Asn Val Cys Lys Glu Ala Val Asp Leu Arg Asp Leu Asn Ser Pro His			
145	150	155	160
agt aga gca atg tat gtc tat cct cca aat gta gaa tct tca cca gaa			528
Ser Arg Ala Met Tyr Val Tyr Pro Pro Asn Val Glu Ser Ser Pro Glu			
165	170	175	
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Leu Pro Lys His Ile Tyr Asn Lys Leu Asp Lys Gly Gln Ile Ile Val			
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Val Ile Trp Val Ile Val Ser Pro Asn Asn Asp Lys Gln Lys Tyr Thr			
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Leu Lys Ile Asn His Asp Cys Val Pro Glu Gln Val Ile Ala Glu Ala			
210	215	220	
atc agg aaa aaa act cga agt atg ttg cta tcc tct gaa caa cta aaa			720
Ile Arg Lys Lys Thr Arg Ser Met Leu Leu Ser Ser Glu Gln Leu Lys			
225	230	235	240
ctc tgt gtt tta gaa tat cag ggc aag tat att tta aaa gtg tgt gga			768
Leu Cys Val Leu Glu Tyr Gln Gly Lys Tyr Ile Leu Lys Val Cys Gly			
245	250	255	
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Cys Asp Glu Tyr Phe Leu Glu Lys Tyr Pro Leu Ser Gln Tyr Lys Tyr			
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Ile Arg Ser Cys Ile Met Leu Gly Arg Met Pro Asn Leu Met Leu Met	
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Lys Ile Leu Cys Ala Thr Tyr Val Asn Val Asn Ile Arg Asp Ile Asp	
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Lys Ile Tyr Val Arg Thr Gly Ile Tyr His Gly Gly Glu Pro Leu Cys	
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Thr Asp Thr Leu Val Ser Gly Lys Met Ala Leu Asn Leu Trp Pro Val			
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Pro His Gly Leu Glu Asp Leu Leu Asn Pro Ile Gly Val Thr Gly Ser			
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Ile Lys Pro Glu Gln Ala Met Glu Leu Leu Asp Cys Asn Tyr Pro Asp	
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Pro Met Val Arg Gly Phe Ala Val Arg Cys Leu Glu Lys Tyr Leu Thr	
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Gln Glu Lys Lys Asp Glu Thr Gln Lys Val Gln Met Lys Phe Leu Val	

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Ser Pro Leu Asn Pro Ala His Gln Leu Gly Asn Leu Arg Leu Glu Glu			
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Cys Arg Ile Met Ser Ser Ala Lys Arg Pro Leu Trp Leu Asn Trp Glu			
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Phe Lys Asn Gly Asp Asp Leu Arg Gln Asp Met Leu Thr Leu Gln Ile			
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Met Leu Pro Tyr Gly Cys Leu Ser Ile Gly Asp Cys Val Gly Leu Ile			
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Ser Arg Ala Met Tyr Val Tyr Pro Pro Asn Val Glu Ser Ser Pro Glu
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515 520 525	
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Glu Gln Leu Arg Ala Ile Cys Thr Arg Asp Pro Leu Ser Glu Ile Thr	
530 535 540	
gag caa gag aaa gat ttt ctg tgg agc cac aga cac tat tgt gta act	1680
Glu Gln Glu Lys Asp Phe Leu Trp Ser His Arg His Tyr Cys Val Thr	
545 550 555 560	
atc ccc gaa att cta ccc aaa ttg ctt ctg tct gtt aaa tgg aac tct	1728
Ile Pro Glu Ile Leu Pro Lys Leu Leu Leu Ser Val Lys Trp Asn Ser	
565 570 575	
aga gat gaa gta gct cag atg tac tgc ttg gta aaa gat tgg cct cca	1776
Arg Asp Glu Val Ala Gln Met Tyr Cys Leu Val Lys Asp Trp Pro Pro	
580 585 590	
atc aag cct gaa cag gct atg gag ctt ctg gac tgc aat tac cca gat	1824
Ile Lys Pro Glu Gln Ala Met Glu Leu Leu Asp Cys Asn Tyr Pro Asp	
595 600 605	
cct atg gtt cga ggt ttt gct gtt cgg tgc tta gaa aaa tat tta aca	1872
Pro Met Val Arg Gly Phe Ala Val Arg Cys Leu Glu Lys Tyr Leu Thr	
610 615 620	
gat gac aaa ctt tct cag tac cta att cag cta gta cag gta cta aaa	1920

aac cca gac atc atg tca gaa tta ctc ttt cag aac aat gag atc atc	2400
Asn Pro Asp Ile Met Ser Glu Leu Leu Phe Gln Asn Asn Glu Ile Ile	
785 790 795 800	
ttt aaa aat ggg gat gat tta cgg caa gat atg cta acc ctt cag att	2448
Phe Lys Asn Gly Asp Asp Leu Arg Gln Asp Met Leu Thr Leu Gln Ile	
805 810 815	
att cgc att atg gaa aat atc tgg caa aat caa ggt ctt gat ctt cga	2496
Ile Arg Ile Met Glu Asn Ile Trp Gln Asn Gln Gly Leu Asp Leu Arg	
820 825 830	
atg tta cct tat gga tgt ctg tca atc ggt gac tgt gtg gga ctt atc	2544
Met Leu Pro Tyr Gly Cys Leu Ser Ile Gly Asp Cys Val Gly Leu Ile	
835 840 845	
gag gtg gtg aga aat tct cac act ata atg cag att cag tgt aaa gga	2592
Glu Val Val Arg Asn Ser His Thr Ile Met Gln Ile Gln Cys Lys Gly	
850 855 860	
ggc ctg aaa ggt gca ctg cag ttt aac agc cac aca ctc cat cag tgg	2640
Gly Leu Lys Gly Ala Leu Gln Phe Asn Ser His Thr Leu His Gln Trp	
865 870 875 880	
ctc aaa gac aag aac aag ggg gaa ata tat gat gcg gcc atc gat ttg	2688
Leu Lys Asp Lys Asn Lys Gly Glu Ile Tyr Asp Ala Ala Ile Asp Leu	
885 890 895	
ttt aca cga tca tgt gct gga tat tgt gtt gcc acc ttc att ttg gga	2736
Phe Thr Arg Ser Cys Ala Gly Tyr Cys Val Ala Thr Phe Ile Leu Gly	
900 905 910	
att gga gat cgt cac aat agt aat atc atg gtt aaa gat gat gga caa	2784
Ile Gly Asp Arg His Asn Ser Asn Ile Met Val Lys Asp Asp Gly Gln	
915 920 925	
ctg ttt cat ata gat ttt gga cac ttt ttg gat cac aag aag aaa aaa	2832

Leu Phe His Ile Asp Phe Gly His Phe Leu Asp His Lys Lys Lys Lys	
930	935 940
ttt ggt tat aaa cga gag cgc gtg ccg ttt gtt ttg aca caa gat ttc	2880
Phe Gly Tyr Lys Arg Glu Arg Val Pro Phe Val Leu Thr Gln Asp Phe	
945	950 955 960
tta ata gtg att agt aaa gga gcc caa gaa tgc aca aag aca aga gaa	2928
Leu Ile Val Ile Ser Lys Gly Ala Gln Glu Cys Thr Lys Thr Arg Glu	
	965 970 975
ttt gag agg ttt cag gag atg tgt tac aag gct tat cta gct att cgg	2976
Phe Glu Arg Phe Gln Glu Met Cys Tyr Lys Ala Tyr Leu Ala Ile Arg	
	980 985 990
cag cat gcc aat ctc ttc ata aat ctt ttc tca atg atg ctt ggc tct	3024
Gln His Ala Asn Leu Phe Ile Asn Leu Phe Ser Met Met Leu Gly Ser	
	995 1000 1005
gga atg cca gaa ctg caa tct ttt gat gat att gca tac att cga	3069
Gly Met Pro Glu Leu Gln Ser Phe Asp Asp Ile Ala Tyr Ile Arg	
	1010 1015 1020
aag acc cta gct tta gat aaa act gag caa gag gct ttg gag tat	3114
Lys Thr Leu Ala Leu Asp Lys Thr Glu Gln Glu Ala Leu Glu Tyr	
	1025 1030 1035
ttc atg aaa caa atg aat gat gca cac cat ggt ggc tgg aca aca	3159
Phe Met Lys Gln Met Asn Asp Ala His His Gly Gly Trp Thr Thr	
	1040 1045 1050
aaa atg gat tgg atc ttc cac aca att aag cag cat gct ttg aac	3204
Lys Met Asp Trp Ile Phe His Thr Ile Lys Gln His Ala Leu Asn	
	1055 1060 1065
tga	3207

<210> 12

<211> 1068

<212> PRT

<213> Bos taurus

<400> 12

Met	Pro	Pro	Arg	Pro	Ser	Ser	Gly	Glu	Leu	Trp	Gly	Ile	His	Leu	Met
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Pro	Pro	Arg	Ile	Leu	Val	Glu	Cys	Leu	Leu	Pro	Asn	Gly	Met	Ile	Val
			20					25					30		

Thr	Leu	Glu	Cys	Leu	Arg	Glu	Ala	Thr	Leu	Ile	Thr	Ile	Lys	His	Glu
		35					40					45			

Leu	Phe	Lys	Glu	Ala	Arg	Lys	Tyr	Pro	Leu	His	Gln	Leu	Leu	Gln	Asp
	50					55					60				

Glu	Ser	Ser	Tyr	Ile	Phe	Val	Ser	Val	Thr	Gln	Glu	Ala	Glu	Arg	Glu
65					70					75				80	

Glu	Phe	Phe	Asp	Glu	Thr	Arg	Arg	Leu	Cys	Asp	Leu	Arg	Leu	Phe	Gln
				85					90					95	

Pro	Phe	Leu	Lys	Val	Ile	Glu	Pro	Val	Gly	Asn	Arg	Glu	Glu	Lys	Ile
			100						105					110	

Leu	Asn	Arg	Glu	Ile	Gly	Phe	Ala	Ile	Gly	Met	Pro	Val	Cys	Glu	Phe
			115					120						125	

Asp Met Val Lys Asp Pro Glu Val Gln Asp Phe Arg Arg Asn Ile Leu
 130 135 140

Asn Val Cys Lys Glu Ala Val Asp Leu Arg Asp Leu Asn Ser Pro His
 145 150 155 160

Ser Arg Ala Met Tyr Val Tyr Pro Pro Asn Val Glu Ser Ser Pro Glu
 165 170 175

Leu Pro Lys His Ile Tyr Asn Lys Leu Asp Lys Gly Gln Ile Ile Val
 180 185 190

Val Ile Trp Val Ile Val Ser Pro Asn Asn Asp Lys Gln Lys Tyr Thr
 195 200 205

Leu Lys Ile Asn His Asp Cys Val Pro Glu Gln Val Ile Ala Glu Ala
 210 215 220

Ile Arg Lys Lys Thr Arg Ser Met Leu Leu Ser Ser Glu Gln Leu Lys
 225 230 235 240

Leu Cys Val Leu Glu Tyr Gln Gly Lys Tyr Ile Leu Lys Val Cys Gly
 245 250 255

Cys Asp Glu Tyr Phe Leu Glu Lys Tyr Pro Leu Ser Gln Tyr Lys Tyr
 260 265 270

Ile Arg Ser Cys Ile Met Leu Gly Arg Met Pro Asn Leu Met Leu Met

275

280

285

Ala Lys Glu Ser Leu Tyr Ser Gln Leu Pro Met Asp Cys Phe Thr Met
 290 295 300

Pro Ser Tyr Ser Arg Arg Ile Ser Thr Ala Thr Pro Tyr Met Asn Gly
 305 310 315 320

Glu Thr Ser Thr Lys Ser Leu Trp Val Ile Asn Ser Ala Leu Arg Ile
 325 330 335

Lys Ile Leu Cys Ala Thr Tyr Val Asn Val Asn Ile Arg Asp Ile Asp
 340 345 350

Lys Ile Tyr Val Arg Thr Gly Ile Tyr His Gly Gly Glu Pro Leu Cys
 355 360 365

Asp Asn Val Asn Thr Gln Arg Val Pro Cys Ser Asn Pro Arg Trp Asn
 370 375 380

Glu Trp Leu Asn Tyr Asp Ile Tyr Ile Pro Asp Leu Pro Arg Ala Ala
 385 390 395 400

Arg Leu Cys Leu Ser Ile Cys Ser Val Lys Gly Arg Lys Gly Ala Lys
 405 410 415

Glu Glu His Cys Pro Leu Ala Trp Gly Asn Ile Asn Leu Phe Asp Tyr
 420 425 430

Thr Asp Thr Leu Val Ser Gly Lys Met Ala Leu Asn Leu Trp Pro Val
 435 440 445

Pro His Gly Leu Glu Asp Leu Leu Asn Pro Ile Gly Val Thr Gly Ser
 450 455 460

Asn Pro Asn Lys Glu Thr Pro Cys Leu Glu Leu Glu Phe Asp Trp Phe
 465 470 475 480

Ser Ser Val Val Lys Phe Pro Asp Met Ser Val Ile Glu Glu His Ala
 485 490 495

Asn Trp Ser Val Ser Arg Glu Ala Gly Phe Ser Tyr Ser His Ala Gly
 500 505 510

Leu Ser Asn Arg Leu Ala Arg Asp Asn Glu Leu Arg Glu Asn Asp Lys
 515 520 525

Glu Gln Leu Arg Ala Ile Cys Thr Arg Asp Pro Leu Ser Glu Ile Thr
 530 535 540

Glu Gln Glu Lys Asp Phe Leu Trp Ser His Arg His Tyr Cys Val Thr
 545 550 555 560

Ile Pro Glu Ile Leu Pro Lys Leu Leu Leu Ser Val Lys Trp Asn Ser
 565 570 575

Arg Asp Glu Val Ala Gln Met Tyr Cys Leu Val Lys Asp Trp Pro Pro

580

585

590

Ile Lys Pro Glu Gln Ala Met Glu Leu Leu Asp Cys Asn Tyr Pro Asp
 595 600 605

Pro Met Val Arg Gly Phe Ala Val Arg Cys Leu Glu Lys Tyr Leu Thr
 610 615 620

Asp Asp Lys Leu Ser Gln Tyr Leu Ile Gln Leu Val Gln Val Leu Lys
 625 630 635 640

Tyr Glu Gln Tyr Leu Asp Asn Leu Leu Val Arg Phe Leu Leu Lys Lys
 645 650 655

Ala Leu Thr Asn Gln Arg Ile Gly His Phe Phe Phe Trp His Leu Lys
 660 665 670

Ser Glu Met His Asn Lys Thr Val Ser Gln Arg Phe Gly Leu Leu Leu
 675 680 685

Glu Ser Tyr Cys Arg Ala Cys Gly Met Tyr Leu Lys His Leu Asn Arg
 690 695 700

Gln Val Glu Ala Met Glu Lys Leu Ile Asn Leu Thr Asp Ile Leu Lys
 705 710 715 720

Gln Glu Lys Lys Asp Glu Thr Gln Lys Val Gln Met Lys Phe Leu Val
 725 730 735

Glu Gln Met Arg Arg Pro Asp Phe Met Asp Ala Leu Gln Gly Phe Leu
740 745 750

Ser Pro Leu Asn Pro Ala His Gln Leu Gly Asn Leu Arg Leu Glu Glu
755 760 765

Cys Arg Ile Met Ser Ser Ala Lys Arg Pro Leu Trp Leu Asn Trp Glu
770 775 780

Asn Pro Asp Ile Met Ser Glu Leu Leu Phe Gln Asn Asn Glu Ile Ile
785 790 795 800

Phe Lys Asn Gly Asp Asp Leu Arg Gln Asp Met Leu Thr Leu Gln Ile
805 810 815

Ile Arg Ile Met Glu Asn Ile Trp Gln Asn Gln Gly Leu Asp Leu Arg
820 825 830

Met Leu Pro Tyr Gly Cys Leu Ser Ile Gly Asp Cys Val Gly Leu Ile
835 840 845

Glu Val Val Arg Asn Ser His Thr Ile Met Gln Ile Gln Cys Lys Gly
850 855 860

Gly Leu Lys Gly Ala Leu Gln Phe Asn Ser His Thr Leu His Gln Trp
865 870 875 880

Leu Lys Asp Lys Asn Lys Gly Glu Ile Tyr Asp Ala Ala Ile Asp Leu

885

890

895

Phe Thr Arg Ser Cys Ala Gly Tyr Cys Val Ala Thr Phe Ile Leu Gly
 900 905 910

Ile Gly Asp Arg His Asn Ser Asn Ile Met Val Lys Asp Asp Gly Gln
 915 920 925

Leu Phe His Ile Asp Phe Gly His Phe Leu Asp His Lys Lys Lys Lys
 930 935 940

Phe Gly Tyr Lys Arg Glu Arg Val Pro Phe Val Leu Thr Gln Asp Phe
 945 950 955 960

Leu Ile Val Ile Ser Lys Gly Ala Gln Glu Cys Thr Lys Thr Arg Glu
 965 970 975

Phe Glu Arg Phe Gln Glu Met Cys Tyr Lys Ala Tyr Leu Ala Ile Arg
 980 985 990

Gln His Ala Asn Leu Phe Ile Asn Leu Phe Ser Met Met Leu Gly Ser
 995 1000 1005

Gly Met Pro Glu Leu Gln Ser Phe Asp Asp Ile Ala Tyr Ile Arg
 1010 1015 1020

Lys Thr Leu Ala Leu Asp Lys Thr Glu Gln Glu Ala Leu Glu Tyr
 1025 1030 1035

Phe Met Lys Gln Met Asn Asp Ala His His Gly Gly Trp Thr Thr
 1040 1045 1050

Lys Met Asp Trp Ile Phe His Thr Ile Lys Gln His Ala Leu Asn
 1055 1060 1065

<210> 13

<211> 888

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1).. (888)

<400> 13

atg gaa cac cag ctc ctg tgc tgc gaa gtg gaa acc atc cgc cgc gcg 48
 Met Glu His Gln Leu Leu Cys Cys Glu Val Glu Thr Ile Arg Arg Ala
 1 5 10 15

tac ccc gat gcc aac ctc ctc aac gac cgg gtg ctg cgg gcc atg ctg 96
 Tyr Pro Asp Ala Asn Leu Leu Asn Asp Arg Val Leu Arg Ala Met Leu
 20 25 30

aag gcg gag gag acc tgc gcg ccc tgc gtg tcc tac ttc aaa tgt gtg 144
 Lys Ala Glu Glu Thr Cys Ala Pro Ser Val Ser Tyr Phe Lys Cys Val
 35 40 45

cag aag gag gtc ctg ccg tcc atg cgg aag atc gtc gcc acc tgg atg 192
 Gln Lys Glu Val Leu Pro Ser Met Arg Lys Ile Val Ala Thr Trp Met
 50 55 60

ctg gag gtc tgc gag gaa cag aag tgc gag gag gag gtc ttc ccg ctg 240
 Leu Glu Val Cys Glu Glu Gln Lys Cys Glu Glu Glu Val Phe Pro Leu

65	70	75	80	
gcc atg aac tac ctg gac cgc ttc ctg tgc ctg gag ccc gtg aaa aag				288
Ala Met Asn Tyr Leu Asp Arg Phe Leu Ser Leu Glu Pro Val Lys Lys				
85	90	95		
agc cgc ctg cag ctg ctg ggg gcc act tgc atg ttc gtg gcc tct aag				336
Ser Arg Leu Gln Leu Leu Gly Ala Thr Cys Met Phe Val Ala Ser Lys				
100	105	110		
atg aag gag acc atc ccc ctg acg gcc gag aag ctg tgc atc tac acc				384
Met Lys Glu Thr Ile Pro Leu Thr Ala Glu Lys Leu Cys Ile Tyr Thr				
115	120	125		
gac aac tcc atc cgg ccc gag gag ctg ctg caa atg gag ctg ctc ctg				432
Asp Asn Ser Ile Arg Pro Glu Glu Leu Leu Gln Met Glu Leu Leu Leu				
130	135	140		
gtg aac aag ctc aag tgg aac ctg gcc gca atg acc ccg cac gat ttc				480
Val Asn Lys Leu Lys Trp Asn Leu Ala Ala Met Thr Pro His Asp Phe				
145	150	155	160	
att gaa cac ttc ctc tcc aaa atg cca gag gcg gag gag aac aaa cag				528
Ile Glu His Phe Leu Ser Lys Met Pro Glu Ala Glu Glu Asn Lys Gln				
165	170	175		
atc atc cgc aaa cac gcg cag acc ttc gtt gcc ctc tgt gcc aca gat				576
Ile Ile Arg Lys His Ala Gln Thr Phe Val Ala Leu Cys Ala Thr Asp				
180	185	190		
gtg aag ttc att tcc aat ccg ccc tcc atg gtg gca gcg ggg agc gtg				624
Val Lys Phe Ile Ser Asn Pro Pro Ser Met Val Ala Ala Gly Ser Val				
195	200	205		
gtg gcc gca gtg caa ggc ctg aac ctg agg agc ccc aac aac ttc ctg				672
Val Ala Ala Val Gln Gly Leu Asn Leu Arg Ser Pro Asn Asn Phe Leu				
210	215	220		

tcc tac tac cgc ctc aca cgc ttc ctc tcc aga gtg atc aag tgt gac 720
 Ser Tyr Tyr Arg Leu Thr Arg Phe Leu Ser Arg Val Ile Lys Cys Asp
 225 230 235 240

ccg gac tgc ctc cgg gcc tgc cag gag cag atc gaa gcc ctg ctg gag 768
 Pro Asp Cys Leu Arg Ala Cys Gln Glu Gln Ile Glu Ala Leu Leu Glu
 245 250 255

tca agc ctg cgc cag gcc cag cag aac atg gac ccc aag gcc gcc gag 816
 Ser Ser Leu Arg Gln Ala Gln Gln Asn Met Asp Pro Lys Ala Ala Glu
 260 265 270

gag gag gaa gag gag gag gag gag gtg gac ctg gct tgc aca ccc acc 864
 Glu Glu Glu Glu Glu Glu Glu Glu Val Asp Leu Ala Cys Thr Pro Thr
 275 280 285

gac gtg cgg gac gtg gac atc tga 888
 Asp Val Arg Asp Val Asp Ile
 290 295

<210> 14

<211> 295

<212> PRT

<213> Homo sapiens

<400> 14

Met Glu His Gln Leu Leu Cys Cys Glu Val Glu Thr Ile Arg Arg Ala
 1 5 10 15

Tyr Pro Asp Ala Asn Leu Leu Asn Asp Arg Val Leu Arg Ala Met Leu
 20 25 30

Lys Ala Glu Glu Thr Cys Ala Pro Ser Val Ser Tyr Phe Lys Cys Val
 35 40 45

Gln Lys Glu Val Leu Pro Ser Met Arg Lys Ile Val Ala Thr Trp Met
 50 55 60

Leu Glu Val Cys Glu Glu Gln Lys Cys Glu Glu Glu Val Phe Pro Leu
 65 70 75 80

Ala Met Asn Tyr Leu Asp Arg Phe Leu Ser Leu Glu Pro Val Lys Lys
 85 90 95

Ser Arg Leu Gln Leu Leu Gly Ala Thr Cys Met Phe Val Ala Ser Lys
 100 105 110

Met Lys Glu Thr Ile Pro Leu Thr Ala Glu Lys Leu Cys Ile Tyr Thr
 115 120 125

Asp Asn Ser Ile Arg Pro Glu Glu Leu Leu Gln Met Glu Leu Leu Leu
 130 135 140

Val Asn Lys Leu Lys Trp Asn Leu Ala Ala Met Thr Pro His Asp Phe
 145 150 155 160

Ile Glu His Phe Leu Ser Lys Met Pro Glu Ala Glu Glu Asn Lys Gln
 165 170 175

Ile Ile Arg Lys His Ala Gln Thr Phe Val Ala Leu Cys Ala Thr Asp
 180 185 190

Val Lys Phe Ile Ser Asn Pro Pro Ser Met Val Ala Ala Gly Ser Val
 195 200 205

Val Ala Ala Val Gln Gly Leu Asn Leu Arg Ser Pro Asn Asn Phe Leu
 210 215 220

Ser Tyr Tyr Arg Leu Thr Arg Phe Leu Ser Arg Val Ile Lys Cys Asp
 225 230 235 240

Pro Asp Cys Leu Arg Ala Cys Gln Glu Gln Ile Glu Ala Leu Leu Glu
 245 250 255

Ser Ser Leu Arg Gln Ala Gln Gln Asn Met Asp Pro Lys Ala Ala Glu
 260 265 270

Glu Glu Glu Glu Glu Glu Glu Glu Val Asp Leu Ala Cys Thr Pro Thr
 275 280 285

Asp Val Arg Asp Val Asp Ile
 290 295

<210> 15
 <211> 1302
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1).. (1302)

<400> 15

atg gag gtg gtg gac ccg cag cag ctg ggc atg ttc acg gag ggc gag 48
 Met Glu Val Val Asp Pro Gln Gln Leu Gly Met Phe Thr Glu Gly Glu
 1 5 10 15

ctg atg tcg gtg ggt atg gac acg ttc atc cac cgc atc gac tcc acc 96
 Leu Met Ser Val Gly Met Asp Thr Phe Ile His Arg Ile Asp Ser Thr
 20 25 30

gag gtc atc tac cag ccg cgc cgc aag cgg gcc aag ctc atc ggc aag 144
 Glu Val Ile Tyr Gln Pro Arg Arg Lys Arg Ala Lys Leu Ile Gly Lys
 35 40 45

tac ctg atg ggg gac ctg ctg ggg gaa ggc tct tac ggc aag gtg aag 192
 Tyr Leu Met Gly Asp Leu Leu Gly Glu Gly Ser Tyr Gly Lys Val Lys
 50 55 60

gag gtg ctg gac tcg gag acg ctg tgc agg agg gcc gtc aag atc ctc 240
 Glu Val Leu Asp Ser Glu Thr Leu Cys Arg Arg Ala Val Lys Ile Leu
 65 70 75 80

aag aag aag aag ttg cga agg atc ccc aac ggg gag gcc aac gtg aag 288
 Lys Lys Lys Lys Leu Arg Arg Ile Pro Asn Gly Glu Ala Asn Val Lys
 85 90 95

aag gaa att caa cta ctg agg agg tta cgg cac aaa aat gtc atc cag 336
 Lys Glu Ile Gln Leu Leu Arg Arg Leu Arg His Lys Asn Val Ile Gln
 100 105 110

ctg gtg gat gtg tta tac aac gaa gag aag cag aaa atg tat atg gtg 384
 Leu Val Asp Val Leu Tyr Asn Glu Glu Lys Gln Lys Met Tyr Met Val
 115 120 125

atg gag tac tgc gtg tgt ggc atg cag gaa atg ctg gac agc gtg ccg 432
 Met Glu Tyr Cys Val Cys Gly Met Gln Glu Met Leu Asp Ser Val Pro
 130 135 140

gag aag cgt ttc cca gtg tgc cag gcc cac ggg tac ttc tgt cag ctg 480

Glu Lys Arg Phe Pro Val Cys Gln Ala His Gly Tyr Phe Cys Gln Leu	
145	150
	155
	160
att gac ggc ctg gag tac ctg cat agc cag ggc att gtg cac aag gac	528
Ile Asp Gly Leu Glu Tyr Leu His Ser Gln Gly Ile Val His Lys Asp	
	165
	170
	175
atc aag ccg ggg aac ctg ctg ctc acc acc ggt ggc acc ctc aaa atc	576
Ile Lys Pro Gly Asn Leu Leu Leu Thr Thr Gly Gly Thr Leu Lys Ile	
	180
	185
	190
tcc gcc ctg ggc gtg gcc gag gca ctg cac ccg ttc gcg gcg gac gac	624
Ser Ala Leu Gly Val Ala Glu Ala Leu His Pro Phe Ala Ala Asp Asp	
	195
	200
	205
acc tgc cgg acc agc cag ggc tcc ccg gct ttc cag ccg ccc gag att	672
Thr Cys Arg Thr Ser Gln Gly Ser Pro Ala Phe Gln Pro Pro Glu Ile	
	210
	215
	220
gcc aac ggc ctg gac acc ttc tcc ggc ttc aag gtg gac atc tgg tcg	720
Ala Asn Gly Leu Asp Thr Phe Ser Gly Phe Lys Val Asp Ile Trp Ser	
225	230
	235
	240
gct ggg gtc acc ctc tac aac atc acc acg ggt ctg tac ccc ttc gaa	768
Ala Gly Val Thr Leu Tyr Asn Ile Thr Thr Gly Leu Tyr Pro Phe Glu	
	245
	250
	255
ggg gac aac atc tac aag ttg ttt gag aac atc ggg aag ggg agc tac	816
Gly Asp Asn Ile Tyr Lys Leu Phe Glu Asn Ile Gly Lys Gly Ser Tyr	
	260
	265
	270
gcc atc ccg ggc gac tgt ggc ccc ccg ctc tct gac ctg ctg aaa ggg	864
Ala Ile Pro Gly Asp Cys Gly Pro Pro Leu Ser Asp Leu Leu Lys Gly	
	275
	280
	285
atg ctt gag tac gaa ccg gcc aag agg ttc tcc atc cgg cag atc cgg	912
Met Leu Glu Tyr Glu Pro Ala Lys Arg Phe Ser Ile Arg Gln Ile Arg	
	290
	295
	300

cag cac agc tgg ttc cgg aag aaa cat cct ccg gct gaa gca cca gtg	960
Gln His Ser Trp Phe Arg Lys Lys His Pro Pro Ala Glu Ala Pro Val	
305 310 315 320	
ccc atc cca ccg agc cca gac acc aag gac cgg tgg cgc agc atg act	1008
Pro Ile Pro Pro Ser Pro Asp Thr Lys Asp Arg Trp Arg Ser Met Thr	
325 330 335	
gtg gtg ccg tac ttg gag gac ctg cac ggc gcg gac gag gac gag gac	1056
Val Val Pro Tyr Leu Glu Asp Leu His Gly Ala Asp Glu Asp Glu Asp	
340 345 350	
ctc ttc gac atc gag gat gac atc atc tac act cag gac ttc acg gtg	1104
Leu Phe Asp Ile Glu Asp Asp Ile Ile Tyr Thr Gln Asp Phe Thr Val	
355 360 365	
ccc gga cag gtc cca gaa gag gag gcc agt cac aat gga cag cgc cgg	1152
Pro Gly Gln Val Pro Glu Glu Glu Ala Ser His Asn Gly Gln Arg Arg	
370 375 380	
ggc ctc ccc aag gcc gtg tgt atg aac ggc aca gag gcg gcg cag ctg	1200
Gly Leu Pro Lys Ala Val Cys Met Asn Gly Thr Glu Ala Ala Gln Leu	
385 390 395 400	
agc acc aaa tcc agg gcg gag ggc cgg gcc ccc aac cct gcc cgc aag	1248
Ser Thr Lys Ser Arg Ala Glu Gly Arg Ala Pro Asn Pro Ala Arg Lys	
405 410 415	
gcc tgc tcc gcc agc agc aag atc cgc cgg ctg tcg gcc tgc aag cag	1296
Ala Cys Ser Ala Ser Ser Lys Ile Arg Arg Leu Ser Ala Cys Lys Gln	
420 425 430	
cag tga	1302
Gln	

<210> 16
 <211> 433
 <212> PRT
 <213> Homo sapiens

<400> 16

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

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

Tyr Leu Met Gly Asp Leu Leu Gly Glu Gly Ser Tyr Gly Lys Val Lys
 50 55 60

Glu Val Leu Asp Ser Glu Thr Leu Cys Arg Arg Ala Val Lys Ile Leu
 65 70 75 80

Lys Lys Lys Lys Leu Arg Arg Ile Pro Asn Gly Glu Ala Asn Val Lys
 85 90 95

Lys Glu Ile Gln Leu Leu Arg Arg Leu Arg His Lys Asn Val Ile Gln
 100 105 110

Leu Val Asp Val Leu Tyr Asn Glu Glu Lys Gln Lys Met Tyr Met Val
 115 120 125

Met Glu Tyr Cys Val Cys Gly Met Gln Glu Met Leu Asp Ser Val Pro
 130 135 140

Glu Lys Arg Phe Pro Val Cys Gln Ala His Gly Tyr Phe Cys Gln Leu
 145 150 155 160

Ile Asp Gly Leu Glu Tyr Leu His Ser Gln Gly Ile Val His Lys Asp
 165 170 175

Ile Lys Pro Gly Asn Leu Leu Leu Thr Thr Gly Gly Thr Leu Lys Ile
 180 185 190

Ser Ala Leu Gly Val Ala Glu Ala Leu His Pro Phe Ala Ala Asp Asp
 195 200 205

Thr Cys Arg Thr Ser Gln Gly Ser Pro Ala Phe Gln Pro Pro Glu Ile
 210 215 220

Ala Asn Gly Leu Asp Thr Phe Ser Gly Phe Lys Val Asp Ile Trp Ser
 225 230 235 240

Ala Gly Val Thr Leu Tyr Asn Ile Thr Thr Gly Leu Tyr Pro Phe Glu
 245 250 255

Gly Asp Asn Ile Tyr Lys Leu Phe Glu Asn Ile Gly Lys Gly Ser Tyr
 260 265 270

Ala Ile Pro Gly Asp Cys Gly Pro Pro Leu Ser Asp Leu Leu Lys Gly

275	280	285
Met Leu Glu Tyr Glu Pro Ala Lys Arg Phe Ser Ile Arg Gln Ile Arg		
290	295	300
Gln His Ser Trp Phe Arg Lys Lys His Pro Pro Ala Glu Ala Pro Val		
305	310	315 320
Pro Ile Pro Pro Ser Pro Asp Thr Lys Asp Arg Trp Arg Ser Met Thr		
	325	330 335
Val Val Pro Tyr Leu Glu Asp Leu His Gly Ala Asp Glu Asp Glu Asp		
	340	345 350
Leu Phe Asp Ile Glu Asp Asp Ile Ile Tyr Thr Gln Asp Phe Thr Val		
	355	360 365
Pro Gly Gln Val Pro Glu Glu Glu Ala Ser His Asn Gly Gln Arg Arg		
	370	375 380
Gly Leu Pro Lys Ala Val Cys Met Asn Gly Thr Glu Ala Ala Gln Leu		
	385	390 395 400
Ser Thr Lys Ser Arg Ala Glu Gly Arg Ala Pro Asn Pro Ala Arg Lys		
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Gln

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gcg ctc tgc ccg gcg agt cgg gct ctg gag gaa aag aaa gtt tgc caa 96

Ala Leu Cys Pro Ala Ser Arg Ala Leu Glu Glu Lys Lys Val Cys Gln

20

25

30

ggc acg agt aac aag ctc acg cag ttg ggc act ttt gaa gat cat ttt 144

Gly Thr Ser Asn Lys Leu Thr Gln Leu Gly Thr Phe Glu Asp His Phe

35

40

45

ctc agc ctc cag agg atg ttc aat aac tgt gag gtg gtc ctt ggg aat 192

Leu Ser Leu Gln Arg Met Phe Asn Asn Cys Glu Val Val Leu Gly Asn

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ttg gaa att acc tat gtg cag agg aat tat gat ctt tcc ttc tta aag 240

Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys

65

70

75

80

acc atc cag gag gtg gct ggt tat gtc ctc att gcc ctc aac aca gtg 288

Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val

85	90	95	
gag cga att cct ttg gaa aac ctg cag atc atc aga gga aat atg tac			336
Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Met Tyr			
100	105	110	
tac gaa aat tcc tat gcc tta gca gtc tta tct aac tat gat gca aat			384
Tyr Glu Asn Ser Tyr Ala Leu Ala Val Leu Ser Asn Tyr Asp Ala Asn			
115	120	125	
aaa acc gga ctg aag gag ctg ccc atg aga aat tta cag gaa atc ctg			432
Lys Thr Gly Leu Lys Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu			
130	135	140	
cat ggc gcc gtg cgg ttc agc aac aac cct gcc ctg tgc aac gtg gag			480
His Gly Ala Val Arg Phe Ser Asn Asn Pro Ala Leu Cys Asn Val Glu			
145	150	155	160
agc atc cag tgg cgg gac ata gtc agc agt gac ttt ctc agc aac atg			528
Ser Ile Gln Trp Arg Asp Ile Val Ser Ser Asp Phe Leu Ser Asn Met			
165	170	175	
tcg atg gac ttc cag aac cac ctg ggc agc tgc caa aag tgt gat cca			576
Ser Met Asp Phe Gln Asn His Leu Gly Ser Cys Gln Lys Cys Asp Pro			
180	185	190	
agc tgt ccc aat ggg agc tgc tgg ggt gca gga gag gag aac tgc cag			624
Ser Cys Pro Asn Gly Ser Cys Trp Gly Ala Gly Glu Glu Asn Cys Gln			
195	200	205	
aaa ctg acc aaa atc atc tgt gcc cag cag tgc tcc ggg cgc tgc cgt			672
Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser Gly Arg Cys Arg			
210	215	220	
ggc aag tcc ccc agt gac tgc tgc cac aac cag tgt gct gca ggc tgc			720
Gly Lys Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys			
225	230	235	240

aca ggc ccc cgg gag agc gac tgc ctg gtc tgc cgc aaa ttc cga gac	768
Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Arg Lys Phe Arg Asp	
245 250 255	
gaa gcc acg tgc aag gac acc tgc ccc cca ctc atg ctc tac aac ccc	816
Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro	
260 265 270	
acc acg tac cag atg gat gtg aac ccc gag ggc aaa tac agc ttt ggt	864
Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly	
275 280 285	
gcc acc tgc gtg aag aag tgt ccc cgt aat tat gtg gtg aca gat cac	912
Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His	
290 295 300	
ggc tcg tgc gtc cga gcc tgt ggg gcc gac agc tat gag atg gag gaa	960
Gly Ser Cys Val Arg Ala Cys Gly Ala Asp Ser Tyr Glu Met Glu Glu	
305 310 315 320	
gac ggc gtc cgc aag tgt aag aag tgc gaa ggg cct tgc cgc aaa gtg	1008
Asp Gly Val Arg Lys Cys Lys Lys Cys Glu Gly Pro Cys Arg Lys Val	
325 330 335	
tgt aac gga ata ggt att ggt gaa ttt aaa gac tca ctc tcc ata aat	1056
Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Ser Leu Ser Ile Asn	
340 345 350	
gct acg aat att aaa cac ttc aaa aac tgc acc tcc atc agt ggc gat	1104
Ala Thr Asn Ile Lys His Phe Lys Asn Cys Thr Ser Ile Ser Gly Asp	
355 360 365	
ctc cac atc ctg ccg gtg gca ttt agg ggt gac tcc ttc aca cat act	1152
Leu His Ile Leu Pro Val Ala Phe Arg Gly Asp Ser Phe Thr His Thr	
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cct cct ctg gat cca cag gaa ctg gat att ctg aaa acc gta aag gaa	1200
Pro Pro Leu Asp Pro Gln Glu Leu Asp Ile Leu Lys Thr Val Lys Glu	

385	390	395	400	
atc aca ggg ttt ttg ctg att cag gct tgg cct gaa aac agg acg gac				1248
Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Glu Asn Arg Thr Asp				
	405	410	415	
ctc cat gcc ttt gag aac cta gaa atc ata cgc ggc agg acc aag caa				1296
Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln				
	420	425	430	
cat ggt cag ttt tct ctt gca gtc gtc agc ctg aac ata aca tcc ttg				1344
His Gly Gln Phe Ser Leu Ala Val Val Ser Leu Asn Ile Thr Ser Leu				
	435	440	445	
gga tta cgc tcc ctc aag gag ata agt gat gga gat gtg ata att tca				1392
Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser				
	450	455	460	
gga aac aaa aat ttg tgc tat gca aat aca ata aac tgg aaa aaa ctg				1440
Gly Asn Lys Asn Leu Cys Tyr Ala Asn Thr Ile Asn Trp Lys Lys Leu				
	465	470	475	480
ttt ggg acc tcc ggt cag aaa acc aaa att ata agc aac aga ggt gaa				1488
Phe Gly Thr Ser Gly Gln Lys Thr Lys Ile Ile Ser Asn Arg Gly Glu				
	485	490	495	
aac agc tgc aag gcc aca ggc cag gtc tgc cat gcc ttg tgc tcc ccc				1536
Asn Ser Cys Lys Ala Thr Gly Gln Val Cys His Ala Leu Cys Ser Pro				
	500	505	510	
gag ggc tgc tgg ggc ccg gag ccc agg gac tgc gtc tct tgc cgg aat				1584
Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Arg Asn				
	515	520	525	
gtc agc cga ggc agg gaa tgc gtg gac aag tgc aac ctt ctg gag ggt				1632
Val Ser Arg Gly Arg Glu Cys Val Asp Lys Cys Asn Leu Leu Glu Gly				
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Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro
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gag tgc ctg cct cag gcc atg aac atc acc tgc aca gga cgg gga cca 1728
Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro
565 570 575

gac aac tgt atc cag tgt gcc cac tac att gac ggc ccc cac tgc gtc 1776
Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val
580 585 590

aag acc tgc ccg gca gga gtc atg gga gaa aac aac acc ctg gtc tgg 1824
Lys Thr Cys Pro Ala Gly Val Met Gly Glu Asn Asn Thr Leu Val Trp
595 600 605

aag tac gca gac gcc ggc cat gtg tgc cac ctg tgc cat cca aac tgc 1872
Lys Tyr Ala Asp Ala Gly His Val Cys His Leu Cys His Pro Asn Cys
610 615 620

acc tac gga tgc act ggg cca ggt ctt gaa ggc tgt cca acg aat ggg 1920
Thr Tyr Gly Cys Thr Gly Pro Gly Leu Glu Gly Cys Pro Thr Asn Gly
625 630 635 640

cct aag atc ccg tcc atc gcc act ggg atg gtg ggg gcc ctc ctc ttg 1968
Pro Lys Ile Pro Ser Ile Ala Thr Gly Met Val Gly Ala Leu Leu Leu
645 650 655

ctg ctg gtg gtg gcc ctg ggg atc ggc ctc ttc atg cga agg cgc cac 2016
Leu Leu Val Val Ala Leu Gly Ile Gly Leu Phe Met Arg Arg Arg His
660 665 670

atc gtt cgg aag cgc acg ctg cgg agg ctg ctg cag gag agg gag ctt 2064
Ile Val Arg Lys Arg Thr Leu Arg Arg Leu Leu Gln Glu Arg Glu Leu
675 680 685

gtg gag cct ctt aca ccc agt gga gaa gct ccc aac caa gct ctc ttg 2112
Val Glu Pro Leu Thr Pro Ser Gly Glu Ala Pro Asn Gln Ala Leu Leu

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Arg Ile Leu Lys Glu Thr Glu Phe Lys Lys Ile Lys Val Leu Gly Ser			
705	710	715	720
ggg ggc ttc ggc acg gtg tat aag gga ctc tgg atc cca gaa ggt gag			2208
Gly Ala Phe Gly Thr Val Tyr Lys Gly Leu Trp Ile Pro Glu Gly Glu			
	725	730	735
aaa gtt aaa att ccc gtc gct atc aag gaa tta aga gaa gca aca tct			2256
Lys Val Lys Ile Pro Val Ala Ile Lys Glu Leu Arg Glu Ala Thr Ser			
	740	745	750
ccg aaa gcc aac aag gaa atc ctc gat gaa gcc tac gtg atg gcc agc			2304
Pro Lys Ala Asn Lys Glu Ile Leu Asp Glu Ala Tyr Val Met Ala Ser			
	755	760	765
gtg gac aac ccc cac gtg tgc cgc ctg ctg ggc atc tgc ctc acc tcc			2352
Val Asp Asn Pro His Val Cys Arg Leu Leu Gly Ile Cys Leu Thr Ser			
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acc gtg cag ctc atc atg cag ctc atg ccc ttc ggc tgc ctc ctg gac			2400
Thr Val Gln Leu Ile Met Gln Leu Met Pro Phe Gly Cys Leu Leu Asp			
	785	790	800
tat gtc cgg gaa cac aaa gac aat att ggc tcc cag tac ctg ctc aac			2448
Tyr Val Arg Glu His Lys Asp Asn Ile Gly Ser Gln Tyr Leu Leu Asn			
	805	810	815
tgg tgt gtg cag atc gca aag ggc atg aac tac ttg gag gac cgt cgc			2496
Trp Cys Val Gln Ile Ala Lys Gly Met Asn Tyr Leu Glu Asp Arg Arg			
	820	825	830
ttg gtg cac cgc gac ctg gca gcc agg aac gta ctg gtg aaa aca ccg			2544
Leu Val His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Lys Thr Pro			
	835	840	845

cag cat gtc aag atc aca gat ttt ggg cgg gcc aaa ctg ctg ggt gcg	2592
Gln His Val Lys Ile Thr Asp Phe Gly Arg Ala Lys Leu Leu Gly Ala	
850 855 860	
 gaa gag aaa gaa tac cat gca gaa gga ggc aaa gtg cct atc aag tgg	2640
Glu Glu Lys Glu Tyr His Ala Glu Gly Gly Lys Val Pro Ile Lys Trp	
865 870 875 880	
 atg gca ttg gaa tca att tta cac aga atc tat acc cac cag agt gat	2688
Met Ala Leu Glu Ser Ile Leu His Arg Ile Tyr Thr His Gln Ser Asp	
885 890 895	
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Val Trp Ser Tyr Gly Val Thr Val Trp Glu Leu Met Thr Phe Gly Ser	
900 905 910	
 aag cca tat gac gga atc cct gcc agc gag atc tcc tcc atc ctg gag	2784
Lys Pro Tyr Asp Gly Ile Pro Ala Ser Glu Ile Ser Ser Ile Leu Glu	
915 920 925	
 aaa gga gaa cgc ctc cct cag cca ccc ata tgt acc atc gat gtc tac	2832
Lys Gly Glu Arg Leu Pro Gln Pro Pro Ile Cys Thr Ile Asp Val Tyr	
930 935 940	
 atg atc atg gtc aag tgc tgg atg ata gac gca gat agt cgc cca aag	2880
Met Ile Met Val Lys Cys Trp Met Ile Asp Ala Asp Ser Arg Pro Lys	
945 950 955 960	
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Phe Arg Glu Leu Ile Ile Glu Phe Ser Lys Met Ala Arg Asp Pro Gln	
965 970 975	
 cgc tac ctt gtc att cag ggg gat gaa aga atg cat ttg cca agt cct	2976
Arg Tyr Leu Val Ile Gln Gly Asp Glu Arg Met His Leu Pro Ser Pro	
980 985 990	
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Thr Asp Ser Asn Phe Tyr Arg Ala Leu Met Asp Glu Glu Asp Met Asp	

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Asp Val Val Asp Ala Asp Glu	Tyr Leu Ile Pro Gln	Gln Gly Phe	
1010	1015	1020	
ttc agc agc ccc tcc acg tca	cgg act ccc ctc ctg	agc tct ctg	3114
Phe Ser Ser Pro Ser Thr Ser	Arg Thr Pro Leu Leu	Ser Ser Leu	
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agt gca acc agc aac aat tcc	acc gtg gct tgc att	gat aga aat	3159
Ser Ala Thr Ser Asn Asn Ser	Thr Val Ala Cys Ile	Asp Arg Asn	
1040	1045	1050	
ggg ctg caa agc tgt ccc atc	aag gaa gac agc ttc	ttg cag cga	3204
Gly Leu Gln Ser Cys Pro Ile	Lys Glu Asp Ser Phe	Leu Gln Arg	
1055	1060	1065	
tac agc tca gac ccc aca ggc	gcc ttg act gag gac	agc ata gac	3249
Tyr Ser Ser Asp Pro Thr Gly	Ala Leu Thr Glu Asp	Ser Ile Asp	
1070	1075	1080	
gac acc ttc ctc cca gtg cct	gaa tac ata aac cag	tcc gtt ccc	3294
Asp Thr Phe Leu Pro Val Pro	Glu Tyr Ile Asn Gln	Ser Val Pro	
1085	1090	1095	
aaa agg ccc gct ggc tct gtg	cag aat cct gtc tat	cac aat cag	3339
Lys Arg Pro Ala Gly Ser Val	Gln Asn Pro Val Tyr	His Asn Gln	
1100	1105	1110	
cct ctg aac ccc gcg ccc agc	aga gac cca cac tac	cag gac ccc	3384
Pro Leu Asn Pro Ala Pro Ser	Arg Asp Pro His Tyr	Gln Asp Pro	
1115	1120	1125	
cac agc act gca gtg ggc aac	ccc gag tat ctc aac	act gtc cag	3429
His Ser Thr Ala Val Gly Asn	Pro Glu Tyr Leu Asn	Thr Val Gln	
1130	1135	1140	

ccc acc tgt gtc aac agc aca ttc gac agc cct gcc cac tgg gcc 3474
 Pro Thr Cys Val Asn Ser Thr Phe Asp Ser Pro Ala His Trp Ala
 1145 1150 1155

cag aaa ggc agc cac caa att agc ctg gac aac cct gac tac cag 3519
 Gln Lys Gly Ser His Gln Ile Ser Leu Asp Asn Pro Asp Tyr Gln
 1160 1165 1170

cag gac ttc ttt ccc aag gaa gcc aag cca aat ggc atc ttt aag 3564
 Gln Asp Phe Phe Pro Lys Glu Ala Lys Pro Asn Gly Ile Phe Lys
 1175 1180 1185

ggc tcc aca gct gaa aat gca gaa tac cta agg gtc gcg cca caa 3609
 Gly Ser Thr Ala Glu Asn Ala Glu Tyr Leu Arg Val Ala Pro Gln
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agc agt gaa ttt att gga gca tga 3633
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 35 40 45

Leu Ser Leu Gln Arg Met Phe Asn Asn Cys Glu Val Val Leu Gly Asn
 50 55 60

Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys
 65 70 75 80

Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val
 85 90 95

Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Met Tyr
 100 105 110

Tyr Glu Asn Ser Tyr Ala Leu Ala Val Leu Ser Asn Tyr Asp Ala Asn
 115 120 125

Lys Thr Gly Leu Lys Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu
 130 135 140

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

Ser Ile Gln Trp Arg Asp Ile Val Ser Ser Asp Phe Leu Ser Asn Met
 165 170 175

Ser Met Asp Phe Gln Asn His Leu Gly Ser Cys Gln Lys Cys Asp Pro
 180 185 190

Ser Cys Pro Asn Gly Ser Cys Trp Gly Ala Gly Glu Glu Asn Cys Gln
 195 200 205

Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser Gly Arg Cys Arg
 210 215 220

Gly Lys Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys
 225 230 235 240

Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Arg Lys Phe Arg Asp
 245 250 255

Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro
 260 265 270

Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly
 275 280 285

Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His
 290 295 300

Gly Ser Cys Val Arg Ala Cys Gly Ala Asp Ser Tyr Glu Met Glu Glu
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Asp Gly Val Arg Lys Cys Lys Lys Cys Glu Gly Pro Cys Arg Lys Val
 325 330 335

Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Ser Leu Ser Ile Asn
 340 345 350

Ala Thr Asn Ile Lys His Phe Lys Asn Cys Thr Ser Ile Ser Gly Asp
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Leu His Ile Leu Pro Val Ala Phe Arg Gly Asp Ser Phe Thr His Thr
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Pro Pro Leu Asp Pro Gln Glu Leu Asp Ile Leu Lys Thr Val Lys Glu
 385 390 395 400

Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Glu Asn Arg Thr Asp
 405 410 415

Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln
 420 425 430

His Gly Gln Phe Ser Leu Ala Val Val Ser Leu Asn Ile Thr Ser Leu
 435 440 445

Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser
 450 455 460

Gly Asn Lys Asn Leu Cys Tyr Ala Asn Thr Ile Asn Trp Lys Lys Leu
 465 470 475 480

Phe Gly Thr Ser Gly Gln Lys Thr Lys Ile Ile Ser Asn Arg Gly Glu
 485 490 495

Asn Ser Cys Lys Ala Thr Gly Gln Val Cys His Ala Leu Cys Ser Pro
 500 505 510

Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Arg Asn
 515 520 525

Val Ser Arg Gly Arg Glu Cys Val Asp Lys Cys Asn Leu Leu Glu Gly
 530 535 540

Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro
 545 550 555 560

Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro
 565 570 575

Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val
 580 585 590

Lys Thr Cys Pro Ala Gly Val Met Gly Glu Asn Asn Thr Leu Val Trp
 595 600 605

Lys Tyr Ala Asp Ala Gly His Val Cys His Leu Cys His Pro Asn Cys
 610 615 620

Thr Tyr Gly Cys Thr Gly Pro Gly Leu Glu Gly Cys Pro Thr Asn Gly
 625 630 635 640

Pro Lys Ile Pro Ser Ile Ala Thr Gly Met Val Gly Ala Leu Leu Leu
 645 650 655

Leu Leu Val Val Ala Leu Gly Ile Gly Leu Phe Met Arg Arg Arg His
 660 665 670

Ile Val Arg Lys Arg Thr Leu Arg Arg Leu Leu Gln Glu Arg Glu Leu
 675 680 685

Val Glu Pro Leu Thr Pro Ser Gly Glu Ala Pro Asn Gln Ala Leu Leu
 690 695 700

Arg Ile Leu Lys Glu Thr Glu Phe Lys Lys Ile Lys Val Leu Gly Ser
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Gly Ala Phe Gly Thr Val Tyr Lys Gly Leu Trp Ile Pro Glu Gly Glu
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Lys Val Lys Ile Pro Val Ala Ile Lys Glu Leu Arg Glu Ala Thr Ser
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Pro Lys Ala Asn Lys Glu Ile Leu Asp Glu Ala Tyr Val Met Ala Ser
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Trp Cys Val Gln Ile Ala Lys Gly Met Asn Tyr Leu Glu Asp Arg Arg
820 825 830

Leu Val His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Lys Thr Pro
835 840 845

Gln His Val Lys Ile Thr Asp Phe Gly Arg Ala Lys Leu Leu Gly Ala
850 855 860

Glu Glu Lys Glu Tyr His Ala Glu Gly Gly Lys Val Pro Ile Lys Trp
865 870 875 880

Met Ala Leu Glu Ser Ile Leu His Arg Ile Tyr Thr His Gln Ser Asp
885 890 895

Val Trp Ser Tyr Gly Val Thr Val Trp Glu Leu Met Thr Phe Gly Ser
900 905 910

Lys Pro Tyr Asp Gly Ile Pro Ala Ser Glu Ile Ser Ser Ile Leu Glu
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Lys Gly Glu Arg Leu Pro Gln Pro Pro Ile Cys Thr Ile Asp Val Tyr
930 935 940

Met Ile Met Val Lys Cys Trp Met Ile Asp Ala Asp Ser Arg Pro Lys
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Phe Arg Glu Leu Ile Ile Glu Phe Ser Lys Met Ala Arg Asp Pro Gln
 965 970 975

Arg Tyr Leu Val Ile Gln Gly Asp Glu Arg Met His Leu Pro Ser Pro
 980 985 990

Thr Asp Ser Asn Phe Tyr Arg Ala Leu Met Asp Glu Glu Asp Met Asp
 995 1000 1005

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 1010 1015 1020

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Gly Leu Gln Ser Cys Pro Ile Lys Glu Asp Ser Phe Leu Gln Arg
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Tyr Ser Ser Asp Pro Thr Gly Ala Leu Thr Glu Asp Ser Ile Asp
 1070 1075 1080

Asp Thr Phe Leu Pro Val Pro Glu Tyr Ile Asn Gln Ser Val Pro
 1085 1090 1095

Lys Arg Pro Ala Gly Ser Val Gln Asn Pro Val Tyr His Asn Gln
 1100 1105 1110

Pro Leu Asn Pro Ala Pro Ser Arg Asp Pro His Tyr Gln Asp Pro
 1115 1120 1125

His Ser Thr Ala Val Gly Asn Pro Glu Tyr Leu Asn Thr Val Gln
 1130 1135 1140

Pro Thr Cys Val Asn Ser Thr Phe Asp Ser Pro Ala His Trp Ala
 1145 1150 1155

Gln Lys Gly Ser His Gln Ile Ser Leu Asp Asn Pro Asp Tyr Gln
 1160 1165 1170

Gln Asp Phe Phe Pro Lys Glu Ala Lys Pro Asn Gly Ile Phe Lys
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Ser Ser Glu Phe Ile Gly Ala
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Tyr Thr Asn Leu Gly Leu Leu Asn Ser Met Asp Gln Gln Ile Gln Asn	
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ggc tcc tcg tcc acc agt ccc tat aac aca gac cac gcg cag aac agc	144
Gly Ser Ser Ser Thr Ser Pro Tyr Asn Thr Asp His Ala Gln Asn Ser	
35 40 45	

gtc acg gcg ccc tcg ccc tac gca cag ccc agc tcc acc ttc gat gct	192
Val Thr Ala Pro Ser Pro Tyr Ala Gln Pro Ser Ser Thr Phe Asp Ala	
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ctc tct cca tca ccc gcc atc ccc tcc aac acc gac tac cca ggc ccg	240
Leu Ser Pro Ser Pro Ala Ile Pro Ser Asn Thr Asp Tyr Pro Gly Pro	
65 70 75 80	

cac agt ttc gac gtg tcc ttc cag cag tcg agc acc gcc aag tcg gcc	288
His Ser Phe Asp Val Ser Phe Gln Gln Ser Ser Thr Ala Lys Ser Ala	
85 90 95	

acc tgg acg tat tcc act gaa ctg aag aaa ctc tac tgc caa att gca	336
Thr Trp Thr Tyr Ser Thr Glu Leu Lys Lys Leu Tyr Cys Gln Ile Ala	
100 105 110	

aag aca tgc ccc atc cag atc aag gtg atg acc cca cct cct cag gga	384
Lys Thr Cys Pro Ile Gln Ile Lys Val Met Thr Pro Pro Pro Gln Gly	
115 120 125	

gct gtt atc cgc gcc atg cct gtc tac aaa aaa gct gag cac gtc acg	432
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Ala Val Ile Arg Ala Met Pro Val Tyr Lys Lys Ala Glu His Val Thr	
130 135 140	
gag gtg gtg aag cgg tgc ccc aac cat gag ctg agc cgt gaa ttc aac	480
Glu Val Val Lys Arg Cys Pro Asn His Glu Leu Ser Arg Glu Phe Asn	
145 150 155 160	
gag gga cag att gcc cct cct agt cat ttg att cga gta gag ggg aac	528
Glu Gly Gln Ile Ala Pro Pro Ser His Leu Ile Arg Val Glu Gly Asn	
165 170 175	
agc cat gcc cag tat gta gaa gat ccc atc aca gga aga cag agt gtg	576
Ser His Ala Gln Tyr Val Glu Asp Pro Ile Thr Gly Arg Gln Ser Val	
180 185 190	
ctg gta cct tat gag cca ccc cag gtt ggc act gaa ttc acg aca gtc	624
Leu Val Pro Tyr Glu Pro Pro Gln Val Gly Thr Glu Phe Thr Thr Val	
195 200 205	
ttg tac aat ttc atg tgt aac agc agt tgt gtt gga ggg atg aac cgc	672
Leu Tyr Asn Phe Met Cys Asn Ser Ser Cys Val Gly Gly Met Asn Arg	
210 215 220	
cgt cca att tta atc att gtt act ctg gaa acc aga gat ggg caa gtc	720
Arg Pro Ile Leu Ile Ile Val Thr Leu Glu Thr Arg Asp Gly Gln Val	
225 230 235 240	
ctg ggc cga cgc tgc ttt gag gcc cgg atc tgt gct tgc cca gga aga	768
Leu Gly Arg Arg Cys Phe Glu Ala Arg Ile Cys Ala Cys Pro Gly Arg	
245 250 255	
gac agg aag gcg gat gaa gat agc atc aga aag cag caa gtt tcg gac	816
Asp Arg Lys Ala Asp Glu Asp Ser Ile Arg Lys Gln Gln Val Ser Asp	
260 265 270	
agt aca aag aac ggt gat ggt acg aag cgc ccg ttt cgt cag aac aca	864
Ser Thr Lys Asn Gly Asp Gly Thr Lys Arg Pro Phe Arg Gln Asn Thr	
275 280 285	

cat ggt atc cag atg aca tcc atc aag aaa cga aga tcc cca gat gat	912
His Gly Ile Gln Met Thr Ser Ile Lys Lys Arg Arg Ser Pro Asp Asp	
290 295 300	
 gaa ctg tta tac tta cca gtg agg ggc cgt gag act tat gaa atg ctg	960
Glu Leu Leu Tyr Leu Pro Val Arg Gly Arg Glu Thr Tyr Glu Met Leu	
305 310 315 320	
 ttg aag atc aaa gag tcc ctg gaa ctc atg cag tac ctt cct cag cac	1008
Leu Lys Ile Lys Glu Ser Leu Glu Leu Met Gln Tyr Leu Pro Gln His	
325 330 335	
 aca att gaa acg tac agg caa cag caa cag cag cag cac cag cac tta	1056
Thr Ile Glu Thr Tyr Arg Gln Gln Gln Gln Gln Gln His Gln His Leu	
340 345 350	
 ctt cag aaa cag acc tca ata cag tct cca tct tca tat ggt aac agc	1104
Leu Gln Lys Gln Thr Ser Ile Gln Ser Pro Ser Ser Tyr Gly Asn Ser	
355 360 365	
 tcc cca cct ctg aac aaa atg aac agc atg aac aag ctg cct tct gtg	1152
Ser Pro Pro Leu Asn Lys Met Asn Ser Met Asn Lys Leu Pro Ser Val	
370 375 380	
 agc cag ctt atc aac cct cag cag cgc aac gcc ctc act cct aca acc	1200
Ser Gln Leu Ile Asn Pro Gln Gln Arg Asn Ala Leu Thr Pro Thr Thr	
385 390 395 400	
 att cct gat ggc atg gga gcc aac att ccc atg atg ggc acc cac atg	1248
Ile Pro Asp Gly Met Gly Ala Asn Ile Pro Met Met Gly Thr His Met	
405 410 415	
 cca atg gct gga gac atg aat gga ctc agc ccc acc cag gca ctc cct	1296
Pro Met Ala Gly Asp Met Asn Gly Leu Ser Pro Thr Gln Ala Leu Pro	
420 425 430	
 ccc cca ctc tcc atg cca tcc acc tcc cac tgc aca ccc cca cct ccg	1344

Pro Pro Leu Ser Met Pro Ser Thr Ser His Cys Thr Pro Pro Pro	
435	440
445	
tat ccc aca gat tgc agc att gtc agt ttc tta gcg agg ttg ggc tgt	1392
Tyr Pro Thr Asp Cys Ser Ile Val Ser Phe Leu Ala Arg Leu Gly Cys	
450	455
460	
tca tca tgt ctg gac tat ttc acg acc cag ggg ctg acc acc atc tat	1440
Ser Ser Cys Leu Asp Tyr Phe Thr Thr Gln Gly Leu Thr Thr Ile Tyr	
465	470
475	480
cag att gag cat tac tcc atg gat gat ctg gca agt ctg aaa atc cct	1488
Gln Ile Glu His Tyr Ser Met Asp Asp Leu Ala Ser Leu Lys Ile Pro	
485	490
495	
gag caa ttt cga cat gcg atc tgg aag ggc atc ctg gac cac cgg cag	1536
Glu Gln Phe Arg His Ala Ile Trp Lys Gly Ile Leu Asp His Arg Gln	
500	505
510	
ctc cac gaa ttc tcc tcc cct tct cat ctc ctg cgg acc cca agc agt	1584
Leu His Glu Phe Ser Ser Pro Ser His Leu Leu Arg Thr Pro Ser Ser	
515	520
525	
gcc tct aca gtc agt gtg ggc tcc agt gag acc cgg ggt gag cgt gtt	1632
Ala Ser Thr Val Ser Val Gly Ser Ser Glu Thr Arg Gly Glu Arg Val	
530	535
540	
att gat gct gtg cga ttc acc ctc cgc cag acc atc tct ttc cca ccc	1680
Ile Asp Ala Val Arg Phe Thr Leu Arg Gln Thr Ile Ser Phe Pro Pro	
545	550
555	560
cga gat gag tgg aat gac ttc aac ttt gac atg gat gct cgc cgc aat	1728
Arg Asp Glu Trp Asn Asp Phe Asn Phe Asp Met Asp Ala Arg Arg Asn	
565	570
575	
aag caa cag cgc atc aaa gag gag ggg gag tga	1761
Lys Gln Gln Arg Ile Lys Glu Glu Gly Glu	
580	585

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<212> PRT

<213> Homo sapiens

<400> 20

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

Gly Ser Ser Ser Thr Ser Pro Tyr Asn Thr Asp His Ala Gln Asn Ser
 35 40 45

Val Thr Ala Pro Ser Pro Tyr Ala Gln Pro Ser Ser Thr Phe Asp Ala
 50 55 60

Leu Ser Pro Ser Pro Ala Ile Pro Ser Asn Thr Asp Tyr Pro Gly Pro
 65 70 75 80

His Ser Phe Asp Val Ser Phe Gln Gln Ser Ser Thr Ala Lys Ser Ala
 85 90 95

Thr Trp Thr Tyr Ser Thr Glu Leu Lys Lys Leu Tyr Cys Gln Ile Ala
 100 105 110

Lys Thr Cys Pro Ile Gln Ile Lys Val Met Thr Pro Pro Pro Gln Gly

115	120	125	
Ala Val Ile Arg Ala Met Pro Val Tyr Lys Lys Ala Glu His Val Thr			
130	135	140	
Glu Val Val Lys Arg Cys Pro Asn His Glu Leu Ser Arg Glu Phe Asn			
145	150	155	160
Glu Gly Gln Ile Ala Pro Pro Ser His Leu Ile Arg Val Glu Gly Asn			
	165	170	175
Ser His Ala Gln Tyr Val Glu Asp Pro Ile Thr Gly Arg Gln Ser Val			
	180	185	190
Leu Val Pro Tyr Glu Pro Pro Gln Val Gly Thr Glu Phe Thr Thr Val			
	195	200	205
Leu Tyr Asn Phe Met Cys Asn Ser Ser Cys Val Gly Gly Met Asn Arg			
	210	215	220
Arg Pro Ile Leu Ile Ile Val Thr Leu Glu Thr Arg Asp Gly Gln Val			
	225	230	235
Leu Gly Arg Arg Cys Phe Glu Ala Arg Ile Cys Ala Cys Pro Gly Arg			
	245	250	255
Asp Arg Lys Ala Asp Glu Asp Ser Ile Arg Lys Gln Gln Val Ser Asp			
	260	265	270

Ser Thr Lys Asn Gly Asp Gly Thr Lys Arg Pro Phe Arg Gln Asn Thr
 275 280 285

His Gly Ile Gln Met Thr Ser Ile Lys Lys Arg Arg Ser Pro Asp Asp
 290 295 300

Glu Leu Leu Tyr Leu Pro Val Arg Gly Arg Glu Thr Tyr Glu Met Leu
 305 310 315 320

Leu Lys Ile Lys Glu Ser Leu Glu Leu Met Gln Tyr Leu Pro Gln His
 325 330 335

Thr Ile Glu Thr Tyr Arg Gln Gln Gln Gln Gln His Gln His Leu
 340 345 350

Leu Gln Lys Gln Thr Ser Ile Gln Ser Pro Ser Ser Tyr Gly Asn Ser
 355 360 365

Ser Pro Pro Leu Asn Lys Met Asn Ser Met Asn Lys Leu Pro Ser Val
 370 375 380

Ser Gln Leu Ile Asn Pro Gln Gln Arg Asn Ala Leu Thr Pro Thr Thr
 385 390 395 400

Ile Pro Asp Gly Met Gly Ala Asn Ile Pro Met Met Gly Thr His Met
 405 410 415

Pro Met Ala Gly Asp Met Asn Gly Leu Ser Pro Thr Gln Ala Leu Pro

420	425	430
Pro Pro Leu Ser Met Pro Ser Thr Ser His Cys Thr Pro Pro Pro Pro		
435	440	445
Tyr Pro Thr Asp Cys Ser Ile Val Ser Phe Leu Ala Arg Leu Gly Cys		
450	455	460
Ser Ser Cys Leu Asp Tyr Phe Thr Thr Gln Gly Leu Thr Thr Ile Tyr		
465	470	475
		480
Gln Ile Glu His Tyr Ser Met Asp Asp Leu Ala Ser Leu Lys Ile Pro		
485	490	495
Glu Gln Phe Arg His Ala Ile Trp Lys Gly Ile Leu Asp His Arg Gln		
500	505	510
Leu His Glu Phe Ser Ser Pro Ser His Leu Leu Arg Thr Pro Ser Ser		
515	520	525
Ala Ser Thr Val Ser Val Gly Ser Ser Glu Thr Arg Gly Glu Arg Val		
530	535	540
Ile Asp Ala Val Arg Phe Thr Leu Arg Gln Thr Ile Ser Phe Pro Pro		
545	550	555
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Arg Asp Glu Trp Asn Asp Phe Asn Phe Asp Met Asp Ala Arg Arg Asn		
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Lys Gln Gln Arg Ile Lys Glu Glu Gly Glu
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<210> 21

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 Met Pro Arg Ala Pro Arg Cys Arg Ala Val Arg Ser Leu Leu Arg Ser
 1 5 10 15

cac tac cgc gag gtg ctg ccg ctg gcc acg ttc gtg cgg cgc ctg ggg 96
 His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly
 20 25 30

ccc cag ggc tgg cgg ctg gtg cag cgc ggg gac ccg gcg gct ttc cgc 144
 Pro Gln Gly Trp Arg Leu Val Gln Arg Gly Asp Pro Ala Ala Phe Arg
 35 40 45

gcg ctg gtg gcc cag tgc ctg gtg tgc gtg ccc tgg gac gca cgg ccg 192
 Ala Leu Val Ala Gln Cys Leu Val Cys Val Pro Trp Asp Ala Arg Pro
 50 55 60

ccc ccc gcc gcc ccc tcc ttc cgc cag gtg tcc tgc ctg aag gag ctg 240
 Pro Pro Ala Ala Pro Ser Phe Arg Gln Val Ser Cys Leu Lys Glu Leu
 65 70 75 80

gtg gcc cga gtg ctg cag agg ctg tgc gag cgc gcc gcg aag aac gtg 288
 Val Ala Arg Val Leu Gln Arg Leu Cys Glu Arg Gly Ala Lys Asn Val

85	90	95	
ctg gcc ttc ggc ttc gcg ctg ctg gac ggg gcc cgc ggg ggc ccc ccc			336
Leu Ala Phe Gly Phe Ala Leu Leu Asp Gly Ala Arg Gly Gly Pro Pro			
100	105	110	
gag gcc ttc acc acc agc gtg cgc agc tac ctg ccc aac acg gtg acc			384
Glu Ala Phe Thr Thr Ser Val Arg Ser Tyr Leu Pro Asn Thr Val Thr			
115	120	125	
gac gca ctg cgg ggg agc ggg gcg tgg ggg ctg ctg ttg cgc cgc gtg			432
Asp Ala Leu Arg Gly Ser Gly Ala Trp Gly Leu Leu Leu Arg Arg Val			
130	135	140	
ggc gac gac gtg ctg gtt cac ctg ctg gca cgc tgc gcg ctc ttt gtg			480
Gly Asp Asp Val Leu Val His Leu Leu Ala Arg Cys Ala Leu Phe Val			
145	150	155	160
ctg gtg gct ccc agc tgc gcc tac cag gtg tgc ggg ccg ccg ctg tac			528
Leu Val Ala Pro Ser Cys Ala Tyr Gln Val Cys Gly Pro Pro Leu Tyr			
165	170	175	
cag ctc ggc gct gcc act cag gcc cgg ccc ccg cca cac gct agt gga			576
Gln Leu Gly Ala Ala Thr Gln Ala Arg Pro Pro Pro His Ala Ser Gly			
180	185	190	
ccc cga agg cgt ctg gga tgc gaa cgg gcc tgg aac cat agc gtc agg			624
Pro Arg Arg Arg Leu Gly Cys Glu Arg Ala Trp Asn His Ser Val Arg			
195	200	205	
gag gcc ggg gtc ccc ctg ggc ctg cca gcc ccg ggt gcg agg agg cgc			672
Glu Ala Gly Val Pro Leu Gly Leu Pro Ala Pro Gly Ala Arg Arg Arg			
210	215	220	
ggg ggc agt gcc agc cga agt ctg ccg ttg ccc aag agg ccc agg cgt			720
Gly Gly Ser Ala Ser Arg Ser Leu Pro Leu Pro Lys Arg Pro Arg Arg			
225	230	235	240

ggc gct gcc cct gag ccg gag cgg acg ccc gtt ggg cag ggg tcc tgg	768
Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp	
245 250 255	
gcc cac ccg ggc agg acg cgt gga ccg agt gac cgt ggt ttc tgt gtg	816
Ala His Pro Gly Arg Thr Arg Gly Pro Ser Asp Arg Gly Phe Cys Val	
260 265 270	
gtg tca cct gcc aga ccc gcc gaa gaa gcc acc tct ttg gag ggt gcg	864
Val Ser Pro Ala Arg Pro Ala Glu Glu Ala Thr Ser Leu Glu Gly Ala	
275 280 285	
ctc tct ggc acg cgc cac tcc cac cca tcc gtg ggc cgc cag cac cac	912
Leu Ser Gly Thr Arg His Ser His Pro Ser Val Gly Arg Gln His His	
290 295 300	
gcg ggc ccc cca tcc aca tcg cgg cca cca cgt ccc tgg gac acg cct	960
Ala Gly Pro Pro Ser Thr Ser Arg Pro Pro Arg Pro Trp Asp Thr Pro	
305 310 315 320	
tgt ccc ccg gtg tac gcc gag acc aag cac ttc ctc tac tcc tca ggc	1008
Cys Pro Pro Val Tyr Ala Glu Thr Lys His Phe Leu Tyr Ser Ser Gly	
325 330 335	
gac aag gag cag ctg cgg ccc tcc ttc cta ctc agc tct ctg agg ccc	1056
Asp Lys Glu Gln Leu Arg Pro Ser Phe Leu Leu Ser Ser Leu Arg Pro	
340 345 350	
agc ctg act ggc gct cgg agg ctc gtg gag acc atc ttt ctg ggt tcc	1104
Ser Leu Thr Gly Ala Arg Arg Leu Val Glu Thr Ile Phe Leu Gly Ser	
355 360 365	
agg ccc tgg atg cca ggg act ccc cgc agg ttg ccc cgc ctg ccc cag	1152
Arg Pro Trp Met Pro Gly Thr Pro Arg Arg Leu Pro Arg Leu Pro Gln	
370 375 380	
cgc tac tgg caa atg cgg ccc ctg ttt ctg gag ctg ctt ggg aac cac	1200
Arg Tyr Trp Gln Met Arg Pro Leu Phe Leu Glu Leu Leu Gly Asn His	

385	390	395	400	
gcg cag tgc ccc tac ggg gtg ctc ctc aag acg cac tgc ccg ctg cga				1248
Ala Gln Cys Pro Tyr Gly Val Leu Leu Lys Thr His Cys Pro Leu Arg				
	405	410	415	
gct gcg gtc acc cca gca gcc ggt gtc tgt gcc cgg gag aag ccc cag				1296
Ala Ala Val Thr Pro Ala Ala Gly Val Cys Ala Arg Glu Lys Pro Gln				
	420	425	430	
ggc tct gtg gcg gcc ccc gag gag gag gac aca gac ccc cgt cgc ctg				1344
Gly Ser Val Ala Ala Pro Glu Glu Glu Asp Thr Asp Pro Arg Arg Leu				
	435	440	445	
gtg cag ctg ctc cgc cag cac agc agc ccc tgg cag gtg tac ggc ttc				1392
Val Gln Leu Leu Arg Gln His Ser Ser Pro Trp Gln Val Tyr Gly Phe				
	450	455	460	
gtg cgg gcc tgc ctg cgc cgg ctg gtg ccc cca ggc ctc tgg ggc tcc				1440
Val Arg Ala Cys Leu Arg Arg Leu Val Pro Pro Gly Leu Trp Gly Ser				
465	470	475	480	
agg cac aac gaa cgc cgc ttc ctc agg aac acc aag aag ttc atc tcc				1488
Arg His Asn Glu Arg Arg Phe Leu Arg Asn Thr Lys Lys Phe Ile Ser				
	485	490	495	
ctg ggg aag cat gcc aag ctc tcg ctg cag gag ctg acg tgg aag atg				1536
Leu Gly Lys His Ala Lys Leu Ser Leu Gln Glu Leu Thr Trp Lys Met				
	500	505	510	
agc gtg cgg ggc tgc gct tgg ctg cgc agg agc cca ggg gtt ggc tgt				1584
Ser Val Arg Gly Cys Ala Trp Leu Arg Arg Ser Pro Gly Val Gly Cys				
	515	520	525	
gtt ccg gcc gca gag cac cgt ctg cgt gag gag atc ctg gcc aag ttc				1632
Val Pro Ala Ala Glu His Arg Leu Arg Glu Glu Ile Leu Ala Lys Phe				
530	535	540		

ctg cac tgg ctg atg agt gtg tac gtc gtc gag ctg ctc agg tct ttc 1680
Leu His Trp Leu Met Ser Val Tyr Val Val Glu Leu Leu Arg Ser Phe
545 550 555 560

ttt tat gtc acg gag acc acg ttt caa aag aac agg ctc ttt ttc tac 1728
Phe Tyr Val Thr Glu Thr Thr Phe Gln Lys Asn Arg Leu Phe Phe Tyr
565 570 575

cgg aag agt gtc tgg agc aag ttg caa agc att gga atc aga cag cac 1776
Arg Lys Ser Val Trp Ser Lys Leu Gln Ser Ile Gly Ile Arg Gln His
580 585 590

itg aag agg gtg cag ctg cgg gag ctg tcg gaa gca gag gtc agg cag 1824
 Leu Lys Arg Val Gln Leu Arg Glu Leu Ser Glu Ala Glu Val Arg Gln
 595 600 605

cat cgg gaa gcc agg ccc gcc ctg ctg acg tcc aga ctc cgc ttc atc 1872
His Arg Glu Ala Arg Pro Ala Leu Leu Thr Ser Arg Leu Arg Phe Ile
610 615 620

ccc aag cct gac ggg ctg cgg ccg att gtg aac atg gac tac gtc gtg 1920
Pro Lys Pro Asp Gly Leu Arg Pro Ile Val Asn Met Asp Tyr Val Val
625 630 635 640

gga gcc aga acg ttc cgc aga gaa aag agg gcc gag cgt ctc acc tcg 1968
Gly Ala Arg Thr Phe Arg Arg Glu Lys Arg Ala Glu Arg Leu Thr Ser
645 650 655

agg gtg aag gca ctg ttc agc gtg ctc aac tac gag cgg gcg cgg cgc 2016
Arg Val Lys Ala Leu Phe Ser Val Leu Asn Tyr Glu Arg Ala Arg Arg
660 665 670

ccc ggc ctc ctg ggc gcc tct gtg ctg ggc ctg gac gat atc cac agg 2064
Pro Gly Leu Leu Gly Ala Ser Val Leu Gly Leu Asp Asp Ile His Arg
675 680 685

gcc tgg cgc acc ttc gtg ctg cgt gtg cgg gcc cag gac ccg ccg cct 2112
Ala Trp Arg Thr Phe Val Leu Arg Val Arg Ala Gln Asp Pro Pro Pro

690	695	700	
gag ctg tac ttt gtc aag gtg gat gtg acg ggc gcg tac gac acc atc			2160
Glu Leu Tyr Phe Val Lys Val Asp Val Thr Gly Ala Tyr Asp Thr Ile			
705	710	715	720
ccc cag gac agg ctc acg gag gtc atc gcc agc atc atc aaa ccc cag			2208
Pro Gln Asp Arg Leu Thr Glu Val Ile Ala Ser Ile Ile Lys Pro Gln			
	725	730	735
aac acg tac tgc gtg cgt cgg tat gcc gtg gtc cag aag gcc gcc cat			2256
Asn Thr Tyr Cys Val Arg Arg Tyr Ala Val Val Gln Lys Ala Ala His			
	740	745	750
ggg cac gtc cgc aag gcc ttc aag agc cac gtc tct acc ttg aca gac			2304
Gly His Val Arg Lys Ala Phe Lys Ser His Val Ser Thr Leu Thr Asp			
	755	760	765
ctc cag ccg tac atg cga cag ttc gtg gct cac ctg cag gag acc agc			2352
Leu Gln Pro Tyr Met Arg Gln Phe Val Ala His Leu Gln Glu Thr Ser			
	770	775	780
ccg ctg agg gat gcc gtc gtc atc gag cag agc tcc tcc ctg aat gag			2400
Pro Leu Arg Asp Ala Val Val Ile Glu Gln Ser Ser Ser Leu Asn Glu			
	785	790	800
gcc agc agt ggc ctc ttc gac gtc ttc cta cgc ttc atg tgc cac cac			2448
Ala Ser Ser Gly Leu Phe Asp Val Phe Leu Arg Phe Met Cys His His			
	805	810	815
gcc gtg cgc atc agg ggc aag tcc tac gtc cag tgc cag ggg atc ccg			2496
Ala Val Arg Ile Arg Gly Lys Ser Tyr Val Gln Cys Gln Gly Ile Pro			
	820	825	830
cag ggc tcc atc ctc tcc acg ctg ctc tgc agc ctg tgc tac ggc gac			2544
Gln Gly Ser Ile Leu Ser Thr Leu Leu Cys Ser Leu Cys Tyr Gly Asp			
	835	840	845

atg gag aac aag ctg ttt gcg ggg att cgg cgg gac ggg ctg ctc ctg	2592
Met Glu Asn Lys Leu Phe Ala Gly Ile Arg Arg Asp Gly Leu Leu Leu	
850 855 860	
cgt ttg gtg gat gat ttc ttg ttg gtg aca cct cac ctc acc cac gcg	2640
Arg Leu Val Asp Asp Phe Leu Leu Val Thr Pro His Leu Thr His Ala	
865 870 875 880	
aaa acc ttc ctc agg acc ctg gtc cga ggt gtc cct gag tat ggc tgc	2688
Lys Thr Phe Leu Arg Thr Leu Val Arg Gly Val Pro Glu Tyr Gly Cys	
885 890 895	
gtg gtg aac ttg cgg aag aca gtg gtg aac ttc cct gta gaa gac gag	2736
Val Val Asn Leu Arg Lys Thr Val Val Asn Phe Pro Val Glu Asp Glu	
900 905 910	
gcc ctg ggt ggc acg gct ttt gtt cag atg ccg gcc cac ggc cta ttc	2784
Ala Leu Gly Gly Thr Ala Phe Val Gln Met Pro Ala His Gly Leu Phe	
915 920 925	
ccc tgg tgc ggc ctg ctg ctg gat acc cgg acc ctg gag gtg cag agc	2832
Pro Trp Cys Gly Leu Leu Leu Asp Thr Arg Thr Leu Glu Val Gln Ser	
930 935 940	
gac tac tcc agc tat gcc cgg acc tcc atc aga gcc agt ctc acc ttc	2880
Asp Tyr Ser Ser Tyr Ala Arg Thr Ser Ile Arg Ala Ser Leu Thr Phe	
945 950 955 960	
aac cgc ggc ttc aag gct ggg agg aac atg cgt cgc aaa ctc ttt ggg	2928
Asn Arg Gly Phe Lys Ala Gly Arg Asn Met Arg Arg Lys Leu Phe Gly	
965 970 975	
gtc ttg cgg ctg aag tgt cac agc ctg ttt ctg gat ttg cag gtg aac	2976
Val Leu Arg Leu Lys Cys His Ser Leu Phe Leu Asp Leu Gln Val Asn	
980 985 990	
agc ctc cag acg gtg tgc acc aac atc tac aag atc ctc ctg ctg cag	3024
Ser Leu Gln Thr Val Cys Thr Asn Ile Tyr Lys Ile Leu Leu Leu Gln	

995	1000	1005	
gcg tac agg ttt cac gca tgt	gtg ctg cag ctc cca	ttt cat cag	3069
Ala Tyr Arg Phe His Ala Cys	Val Leu Gln Leu Pro	Phe His Gln	
1010	1015	1020	
caa gtt tgg aag aac ccc aca	ttt ttc ctg cgc gtc	atc tct gac	3114
Gln Val Trp Lys Asn Pro Thr	Phe Phe Leu Arg Val	Ile Ser Asp	
1025	1030	1035	
acg gcc tcc ctc tgc tac tcc	atc ctg aaa gcc aag	aac gca ggg	3159
Thr Ala Ser Leu Cys Tyr Ser	Ile Leu Lys Ala Lys	Asn Ala Gly	
1040	1045	1050	
atg tcg ctg ggg gcc aag ggc	gcc gcc ggc cct ctg	ccc tcc gag	3204
Met Ser Leu Gly Ala Lys Gly	Ala Ala Gly Pro Leu	Pro Ser Glu	
1055	1060	1065	
gcc gtg cag tgg ctg tgc cac	caa gca ttc ctg ctc	aag ctg act	3249
Ala Val Gln Trp Leu Cys His	Gln Ala Phe Leu Leu	Lys Leu Thr	
1070	1075	1080	
cga cac cgt gtc acc tac gtg	cca ctc ctg ggg tca	ctc agg aca	3294
Arg His Arg Val Thr Tyr Val	Pro Leu Leu Gly Ser	Leu Arg Thr	
1085	1090	1095	
gcc cag acg cag ctg agt cgg	aag ctc ccg ggg acg	acg ctg act	3339
Ala Gln Thr Gln Leu Ser Arg	Lys Leu Pro Gly Thr	Thr Leu Thr	
1100	1105	1110	
gcc ctg gag gcc gca gcc aac	ccg gca ctg ccc tca	gac ttc aag	3384
Ala Leu Glu Ala Ala Ala Asn	Pro Ala Leu Pro Ser	Asp Phe Lys	
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Thr Ile Leu Asp			
1130			

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<400> 22

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Pro Gln Gly Trp Arg Leu Val Gln Arg Gly Asp Pro Ala Ala Phe Arg
 35 40 45

Ala Leu Val Ala Gln Cys Leu Val Cys Val Pro Trp Asp Ala Arg Pro
 50 55 60

Pro Pro Ala Ala Pro Ser Phe Arg Gln Val Ser Cys Leu Lys Glu Leu
 65 70 75 80

Val Ala Arg Val Leu Gln Arg Leu Cys Glu Arg Gly Ala Lys Asn Val
 85 90 95

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

Glu Ala Phe Thr Thr Ser Val Arg Ser Tyr Leu Pro Asn Thr Val Thr
 115 120 125

Asp Ala Leu Arg Gly Ser Gly Ala Trp Gly Leu Leu Leu Arg Arg Val
 130 135 140

Gly Asp Asp Val Leu Val His Leu Leu Ala Arg Cys Ala Leu Phe Val
 145 150 155 160

Leu Val Ala Pro Ser Cys Ala Tyr Gln Val Cys Gly Pro Pro Leu Tyr
 165 170 175

Gln Leu Gly Ala Ala Thr Gln Ala Arg Pro Pro Pro His Ala Ser Gly
 180 185 190

Pro Arg Arg Arg Leu Gly Cys Glu Arg Ala Trp Asn His Ser Val Arg
 195 200 205

Glu Ala Gly Val Pro Leu Gly Leu Pro Ala Pro Gly Ala Arg Arg Arg
 210 215 220

Gly Gly Ser Ala Ser Arg Ser Leu Pro Leu Pro Lys Arg Pro Arg Arg
 225 230 235 240

Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp
 245 250 255

Ala His Pro Gly Arg Thr Arg Gly Pro Ser Asp Arg Gly Phe Cys Val
 260 265 270

Val Ser Pro Ala Arg Pro Ala Glu Glu Ala Thr Ser Leu Glu Gly Ala
 275 280 285

Leu Ser Gly Thr Arg His Ser His Pro Ser Val Gly Arg Gln His His
 290 295 300

Ala Gly Pro Pro Ser Thr Ser Arg Pro Pro Arg Pro Trp Asp Thr Pro
 305 310 315 320

Cys Pro Pro Val Tyr Ala Glu Thr Lys His Phe Leu Tyr Ser Ser Gly
 325 330 335

Asp Lys Glu Gln Leu Arg Pro Ser Phe Leu Leu Ser Ser Leu Arg Pro
 340 345 350

Ser Leu Thr Gly Ala Arg Arg Leu Val Glu Thr Ile Phe Leu Gly Ser
 355 360 365

Arg Pro Trp Met Pro Gly Thr Pro Arg Arg Leu Pro Arg Leu Pro Gln
 370 375 380

Arg Tyr Trp Gln Met Arg Pro Leu Phe Leu Glu Leu Leu Gly Asn His
 385 390 395 400

Ala Gln Cys Pro Tyr Gly Val Leu Leu Lys Thr His Cys Pro Leu Arg
 405 410 415

Ala Ala Val Thr Pro Ala Ala Gly Val Cys Ala Arg Glu Lys Pro Gln
 420 425 430

Gly Ser Val Ala Ala Pro Glu Glu Glu Asp Thr Asp Pro Arg Arg Leu
 435 440 445

Val Gln Leu Leu Arg Gln His Ser Ser Pro Trp Gln Val Tyr Gly Phe
 450 455 460

Val Arg Ala Cys Leu Arg Arg Leu Val Pro Pro Gly Leu Trp Gly Ser
 465 470 475 480

Arg His Asn Glu Arg Arg Phe Leu Arg Asn Thr Lys Lys Phe Ile Ser
 485 490 495

Leu Gly Lys His Ala Lys Leu Ser Leu Gln Glu Leu Thr Trp Lys Met
 500 505 510

Ser Val Arg Gly Cys Ala Trp Leu Arg Arg Ser Pro Gly Val Gly Cys
 515 520 525

Val Pro Ala Ala Glu His Arg Leu Arg Glu Glu Ile Leu Ala Lys Phe
 530 535 540

Leu His Trp Leu Met Ser Val Tyr Val Val Glu Leu Leu Arg Ser Phe
 545 550 555 560

Phe Tyr Val Thr Glu Thr Thr Phe Gln Lys Asn Arg Leu Phe Phe Tyr
 565 570 575

Arg Lys Ser Val Trp Ser Lys Leu Gln Ser Ile Gly Ile Arg Gln His
 580 585 590

Leu Lys Arg Val Gln Leu Arg Glu Leu Ser Glu Ala Glu Val Arg Gln
 595 600 605

His Arg Glu Ala Arg Pro Ala Leu Leu Thr Ser Arg Leu Arg Phe Ile
 610 615 620

Pro Lys Pro Asp Gly Leu Arg Pro Ile Val Asn Met Asp Tyr Val Val
 625 630 635 640

Gly Ala Arg Thr Phe Arg Arg Glu Lys Arg Ala Glu Arg Leu Thr Ser
 645 650 655

Arg Val Lys Ala Leu Phe Ser Val Leu Asn Tyr Glu Arg Ala Arg Arg
 660 665 670

Pro Gly Leu Leu Gly Ala Ser Val Leu Gly Leu Asp Asp Ile His Arg
 675 680 685

Ala Trp Arg Thr Phe Val Leu Arg Val Arg Ala Gln Asp Pro Pro Pro
 690 695 700

Glu Leu Tyr Phe Val Lys Val Asp Val Thr Gly Ala Tyr Asp Thr Ile
 705 710 715 720

Pro Gln Asp Arg Leu Thr Glu Val Ile Ala Ser Ile Ile Lys Pro Gln
 725 730 735

Asn Thr Tyr Cys Val Arg Arg Tyr Ala Val Val Gln Lys Ala Ala His
 740 745 750

Gly His Val Arg Lys Ala Phe Lys Ser His Val Ser Thr Leu Thr Asp
 755 760 765

Leu Gln Pro Tyr Met Arg Gln Phe Val Ala His Leu Gln Glu Thr Ser
 770 775 780

Pro Leu Arg Asp Ala Val Val Ile Glu Gln Ser Ser Ser Leu Asn Glu
 785 790 795 800

Ala Ser Ser Gly Leu Phe Asp Val Phe Leu Arg Phe Met Cys His His
 805 810 815

Ala Val Arg Ile Arg Gly Lys Ser Tyr Val Gln Cys Gln Gly Ile Pro
 820 825 830

Gln Gly Ser Ile Leu Ser Thr Leu Leu Cys Ser Leu Cys Tyr Gly Asp
 835 840 845

Met Glu Asn Lys Leu Phe Ala Gly Ile Arg Arg Asp Gly Leu Leu Leu
 850 855 860

Arg Leu Val Asp Asp Phe Leu Leu Val Thr Pro His Leu Thr His Ala
 865 870 875 880

Lys Thr Phe Leu Arg Thr Leu Val Arg Gly Val Pro Glu Tyr Gly Cys
 885 890 895

Val Val Asn Leu Arg Lys Thr Val Val Asn Phe Pro Val Glu Asp Glu
 900 905 910

Ala Leu Gly Gly Thr Ala Phe Val Gln Met Pro Ala His Gly Leu Phe
 915 920 925

Pro Trp Cys Gly Leu Leu Leu Asp Thr Arg Thr Leu Glu Val Gln Ser
 930 935 940

Asp Tyr Ser Ser Tyr Ala Arg Thr Ser Ile Arg Ala Ser Leu Thr Phe
 945 950 955 960

Asn Arg Gly Phe Lys Ala Gly Arg Asn Met Arg Arg Lys Leu Phe Gly
 965 970 975

Val Leu Arg Leu Lys Cys His Ser Leu Phe Leu Asp Leu Gln Val Asn
 980 985 990

Ser Leu Gln Thr Val Cys Thr Asn Ile Tyr Lys Ile Leu Leu Leu Gln
 995 1000 1005

Ala Tyr Arg Phe His Ala Cys Val Leu Gln Leu Pro Phe His Gln
 1010 1015 1020

Gln Val Trp Lys Asn Pro Thr Phe Phe Leu Arg Val Ile Ser Asp
 1025 1030 1035

Thr Ala Ser Leu Cys Tyr Ser Ile Leu Lys Ala Lys Asn Ala Gly
 1040 1045 1050

Met Ser Leu Gly Ala Lys Gly Ala Ala Gly Pro Leu Pro Ser Glu
 1055 1060 1065

Ala Val Gln Trp Leu Cys His Gln Ala Phe Leu Leu Lys Leu Thr
 1070 1075 1080

Arg His Arg Val Thr Tyr Val Pro Leu Leu Gly Ser Leu Arg Thr
 1085 1090 1095

Ala Gln Thr Gln Leu Ser Arg Lys Leu Pro Gly Thr Thr Leu Thr
 1100 1105 1110

Ala Leu Glu Ala Ala Ala Asn Pro Ala Leu Pro Ser Asp Phe Lys
 1115 1120 1125

Thr Ile Leu Asp
 1130

<210> 23

<211> 912

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1).. (912)

<400> 23

atg gct acc tet cga tat gag cca gtg gct gaa att ggt gtc ggt gcc	48
Met Ala Thr Ser Arg Tyr Glu Pro Val Ala Glu Ile Gly Val Gly Ala	
1 5 10 15	

tat ggg aca gtg tac aag gcc cgt gat ccc cac agt ggc cac ttt gtg	96
Tyr Gly Thr Val Tyr Lys Ala Arg Asp Pro His Ser Gly His Phe Val	
20 25 30	

gcc ctc aag agt gtg aga gtc ccc aat gga gga gga ggt gga gga ggc	144
Ala Leu Lys Ser Val Arg Val Pro Asn Gly Gly Gly Gly Gly Gly Gly	
35 40 45	

ctt ccc atc agc aca gtt cgt gag gtg gct tta ctg agg cga ctg gag	192
Leu Pro Ile Ser Thr Val Arg Glu Val Ala Leu Leu Arg Arg Leu Glu	
50 55 60	

gct ttt gag cat ccc aat gtt gtc cgg ctg atg gac gtc tgt gcc aca	240
Ala Phe Glu His Pro Asn Val Val Arg Leu Met Asp Val Cys Ala Thr	
65 70 75 80	

tcc cga act gac cgg gag atc aag gta acc ctg gtg ttt gag cat gta	288
Ser Arg Thr Asp Arg Glu Ile Lys Val Thr Leu Val Phe Glu His Val	
85 90 95	

gac cag gac cta agg aca tat ctg gac aag gca ccc cca cca ggc ttg	336
Asp Gln Asp Leu Arg Thr Tyr Leu Asp Lys Ala Pro Pro Pro Gly Leu	
100 105 110	

cca gcc gaa acg atc aag gat ctg atg cgc cag ttt cta aga ggc cta	384
Pro Ala Glu Thr Ile Lys Asp Leu Met Arg Gln Phe Leu Arg Gly Leu	
115 120 125	

gat ttc ctt cat gcc aat tgc atc gtt cac cga gat ctg aag cca gag	432
Asp Phe Leu His Ala Asn Cys Ile Val His Arg Asp Leu Lys Pro Glu	
130 135 140	

Ala Leu Gln His Ser Tyr Leu His Lys Asp Glu Gly Asn Pro Glu
 290 295 300

<210> 24

<211> 303

<212> PRT

<213> Homo sapiens

<400> 24

Met Ala Thr Ser Arg Tyr Glu Pro Val Ala Glu Ile Gly Val Gly Ala
 1 5 10 15

Tyr Gly Thr Val Tyr Lys Ala Arg Asp Pro His Ser Gly His Phe Val
 20 25 30

Ala Leu Lys Ser Val Arg Val Pro Asn Gly Gly Gly Gly Gly Gly Gly
 35 40 45

Leu Pro Ile Ser Thr Val Arg Glu Val Ala Leu Leu Arg Arg Leu Glu
 50 55 60

Ala Phe Glu His Pro Asn Val Val Arg Leu Met Asp Val Cys Ala Thr
 65 70 75 80

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

Asp Gln Asp Leu Arg Thr Tyr Leu Asp Lys Ala Pro Pro Pro Gly Leu
 100 105 110

Pro Ala Glu Thr Ile Lys Asp Leu Met Arg Gln Phe Leu Arg Gly Leu
 115 120 125

Asp Phe Leu His Ala Asn Cys Ile Val His Arg Asp Leu Lys Pro Glu
 130 135 140

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

Leu Ala Arg Ile Tyr Ser Tyr Gln Met Ala Leu Thr Pro Val Val Val
 165 170 175

Thr Leu Trp Tyr Arg Ala Pro Glu Val Leu Leu Gln Ser Thr Tyr Ala
 180 185 190

Thr Pro Val Asp Met Trp Ser Val Gly Cys Ile Phe Ala Glu Met Phe
 195 200 205

Arg Arg Lys Pro Leu Phe Cys Gly Asn Ser Glu Ala Asp Gln Leu Gly
 210 215 220

Lys Ile Phe Asp Leu Ile Gly Leu Pro Pro Glu Asp Asp Trp Pro Arg
 225 230 235 240

Asp Val Ser Leu Pro Arg Gly Ala Phe Pro Pro Arg Gly Pro Arg Pro
 245 250 255

Val Gln Ser Val Val Pro Glu Met Glu Glu Ser Gly Ala Gln Leu Leu

260

265

270

Leu Glu Met Leu Thr Phe Asn Pro His Lys Arg Ile Ser Ala Phe Arg
 275 280 285

Ala Leu Gln His Ser Tyr Leu His Lys Asp Glu Gly Asn Pro Glu
 290 295 300

<210> 25

<211> 312

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1).. (312)

<400> 25

atg tac cca tac gat gtt cca gat tac gct cca ggg agc act aag cga 48
 Met Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Pro Gly Ser Thr Lys Arg
 1 5 10 15

gca ctg ccc aac aac acc agc tcc tct ccc cag cca aag aag aaa cca 96
 Ala Leu Pro Asn Asn Thr Ser Ser Ser Pro Gln Pro Lys Lys Lys Pro
 20 25 30

ctg gat gga gaa tat ttc acc ctt cag atc cgt ggg cgt gag cgc ttc 144
 Leu Asp Gly Glu Tyr Phe Thr Leu Gln Ile Arg Gly Arg Glu Arg Phe
 35 40 45

gag atg ttc cga gag ctg aat gag gcc ttg gaa ctc aag gat gcc cag 192
 Glu Met Phe Arg Glu Leu Asn Glu Ala Leu Glu Leu Lys Asp Ala Gln
 50 55 60

gct ggg aag gag cca ggg ggg agc agg gct cac tcc agc cac ctg aag 240
 Ala Gly Lys Glu Pro Gly Gly Ser Arg Ala His Ser Ser His Leu Lys
 65 70 75 80

tcc aaa aag ggt cag tct acc tcc cgc cat aaa aaa ctc atg ttc aag 288
 Ser Lys Lys Gly Gln Ser Thr Ser Arg His Lys Lys Leu Met Phe Lys
 85 90 95

aca gaa ggg cct gac tca gac tga 312
 Thr Glu Gly Pro Asp Ser Asp
 100

<210> 26

<211> 103

<212> PRT

<213> Homo sapiens

<400> 26

Met Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Pro Gly Ser Thr Lys Arg
 1 5 10 15

Ala Leu Pro Asn Asn Thr Ser Ser Ser Pro Gln Pro Lys Lys Lys Pro
 20 25 30

Leu Asp Gly Glu Tyr Phe Thr Leu Gln Ile Arg Gly Arg Glu Arg Phe
 35 40 45

Glu Met Phe Arg Glu Leu Asn Glu Ala Leu Glu Leu Lys Asp Ala Gln
 50 55 60

Ala Gly Lys Glu Pro Gly Gly Ser Arg Ala His Ser Ser His Leu Lys
 65 70 75 80

Ser Lys Lys Gly Gln Ser Thr Ser Arg His Lys Lys Leu Met Phe Lys
85 90 95

Thr Glu Gly Pro Asp Ser Asp
100