

SEQUENCE LISTING

<110> Externautics S.p.A.

<120> Prostate tumor markers and methods of use thereof

<130> 1296PCT

<160> 20

<170> PatentIn version 3.3

<210> 1

<211> 236

<212> PRT

<213> Homo sapiens

<400> 1

Met	Thr	Ala	Glu	Phe	Leu	Ser	Leu	Leu	Cys	Leu	Gly	Leu	Cys	Leu	Gly
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			20					25					30		

Ala	Trp	Pro	Ser	Ser	Val	Val	Glu	Ala	Glu	Ser	Asn	Val	Thr	Leu	Lys
		35					40					45			

Cys	Gln	Ala	His	Ser	Gln	Asn	Val	Thr	Phe	Val	Leu	Arg	Lys	Val	Asn
50						55					60				

Asp	Ser	Gly	Tyr	Lys	Gln	Glu	Gln	Ser	Ser	Ala	Glu	Asn	Glu	Ala	Glu
65					70					75					80

Phe	Pro	Phe	Thr	Asp	Leu	Lys	Pro	Lys	Asp	Ala	Gly	Arg	Tyr	Phe	Cys
				85					90					95	

Ala	Tyr	Lys	Thr	Thr	Ala	Ser	His	Glu	Trp	Ser	Glu	Ser	Ser	Glu	His
			100					105					110		

Leu	Gln	Leu	Val	Val	Thr	Asp	Lys	His	Asp	Glu	Leu	Glu	Ala	Pro	Ser
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Met	Lys	Thr	Asp	Thr	Arg	Thr	Ile	Phe	Val	Ala	Ile	Phe	Ser	Cys	Ile
	130					135					140				

Ser	Ile	Leu	Leu	Leu	Phe	Leu	Ser	Val	Phe	Ile	Ile	Tyr	Arg	Cys	Ser
145					150				155						160

Gln	His	Ser	Ser	Ser	Ser	Glu	Glu	Ser	Thr	Lys	Arg	Thr	Ser	His	Ser
				165					170					175	

2

Lys Leu Pro Glu Gln Glu Ala Ala Glu Ala Asp Leu Ser Asn Met Glu
 180 185 190

Arg Val Ser Leu Ser Thr Ala Asp Pro Gln Gly Val Thr Tyr Ala Glu
 195 200 205

Leu Ser Thr Ser Ala Leu Ser Glu Ala Ala Ser Asp Thr Thr Gln Glu
 210 215 220

Pro Pro Gly Ser His Glu Tyr Ala Ala Leu Lys Val
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<210> 2

<211> 205

<212> PRT

<213> Homo sapiens

<400> 2

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

Ala Trp Pro Ser Ser Val Val Glu Ala Glu Ser Asn Val Thr Leu Lys
 35 40 45

Cys Gln Ala His Ser Gln Asn Val Thr Phe Val Leu Arg Lys Val Asn
 50 55 60

Asp Ser Gly Tyr Lys Gln Glu Gln Ser Ser Ala Glu Asn Glu Ala Glu
 65 70 75 80

Phe Pro Phe Thr Asp Leu Lys Pro Lys Asp Ala Gly Arg Tyr Phe Cys
 85 90 95

Ala Tyr Lys Thr Thr Ala Ser His Glu Trp Ser Glu Ser Ser Glu His
 100 105 110

Leu Gln Leu Val Val Thr Asp Lys His Asp Glu Leu Glu Ala Pro Ser
 115 120 125

Met Lys Thr Gly Ser Ser Ser Glu Glu Ser Thr Lys Arg Thr Ser His
 130 135 140

Ser Lys Leu Pro Glu Gln Glu Ala Ala Glu Ala Asp Leu Ser Asn Met
 145 150 155 160

3

Glu Arg Val Ser Leu Ser Thr Ala Asp Pro Gln Gly Val Thr Tyr Ala
165 170 175

Glu Leu Ser Thr Ser Ala Leu Ser Glu Ala Ala Ser Asp Thr Thr Gln
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Glu Pro Pro Gly Ser His Glu Tyr Ala Ala Leu Lys Val
195 200 205

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<212> DNA
<213> Homo sapiens
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<210> 5
<211> 180
<212> PRT
<213> Homo sapiens

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<400> 5

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Met Ala Ala Ala Glu Glu Glu Asp Gly Gly Pro Glu Gly Pro Asn Arg
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```

```

Glu Arg Gly Gly Ala Gly Ala Thr Phe Glu Cys Asn Ile Cys Leu Glu
20           25           30

```

```

Thr Ala Arg Glu Ala Val Val Ser Val Cys Gly His Leu Tyr Cys Trp
35           40           45

```

```

Pro Cys Leu His Gln Trp Leu Glu Thr Arg Pro Glu Arg Gln Glu Cys
50           55           60

```

```

Pro Val Cys Lys Ala Gly Ile Ser Arg Glu Lys Val Val Pro Leu Tyr
65           70           75           80

```

```

Gly Arg Gly Ser Gln Lys Pro Gln Asp Pro Arg Leu Lys Thr Pro Pro
85           90           95

```

```

Arg Pro Gln Gly Gln Arg Pro Ala Pro Glu Ser Arg Gly Gly Phe Gln
100          105          110

```

5

Pro Phe Gly Asp Thr Gly Gly Phe His Phe Ser Phe Gly Val Gly Ala
 115 120 125

Phe Pro Phe Gly Phe Phe Thr Thr Val Phe Asn Ala His Glu Pro Phe
 130 135 140

Arg Arg Gly Thr Gly Val Asp Leu Gly Gln Gly His Pro Ala Ser Ser
 145 150 155 160

Trp Gln Asp Ser Leu Phe Leu Phe Leu Ala Ile Phe Phe Phe Phe Trp
 165 170 175

Leu Leu Ser Ile
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<210> 6
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 ctctctctct aagtctttgc tttccctgat ttcttgattt gatcttcaaa ggtgggcaaa 1020
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6

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acaaattcaa taaaaaaggt gaaatata 1168

<210> 7
 <211> 157
 <212> PRT
 <213> Homo sapiens

<400> 7

Met Leu Pro Glu Gln Gly Pro Gln Pro Ser Thr Met Pro Leu Trp Cys
 1 5 10 15

Leu Leu Ala Ala Cys Thr Ser Leu Pro Arg Gln Ala Ala Thr Met Leu
 20 25 30

Glu Glu Ala Ala Ser Pro Asn Glu Ala Val His Ala Ser Thr Ser Gly
 35 40 45

Ser Gly Ala Leu Thr Asp Gln Thr Phe Thr Asp Leu Ser Ala Ala Glu
 50 55 60

Ala Ser Ser Glu Glu Val Pro Asp Phe Met Glu Val Pro His Ser Val
 65 70 75 80

His His Lys Ile Asn Cys Phe Phe Tyr Leu Glu Lys Gln Leu Cys Gln
 85 90 95

Leu Pro Ser Pro Leu Cys Leu Ser Ser Leu Leu Thr Leu Lys Leu Lys
 100 105 110

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

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

Asp Pro Ala Trp Ala Ala Pro Ser Gln Pro Ser Pro Gly
 145 150 155

<210> 8
 <211> 474
 <212> DNA
 <213> Homo sapiens

<400> 8

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tgcaccagcc tcccaaggca ggcagccacc atgctggagg aagctgcttc tcccaacgag 120

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gctgtccacg catcaacatc aggcagtggc gcactcactg atcagacatt tacagacctc      180
tcagctgccg aggcctcctc agaggaggtt cctgacttca tggaggtgcc acactctgtt      240
caccataaaa ttaactgctt tttctactta gaaaaacaac tctgccaact gccgtcccca      300
ctgtgtctaa gcagcttgct tacttttaaaa ttaaaaacaa cgggtcccagc tcctggcagg      360
tggtggagct tccagcctca caaggcattc ccacttctgg tgggcactcc tggaagctgg      420
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<210> 9
<211> 279
<212> PRT
<213> Homo sapiens

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<400> 9

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Met Met Leu Met Gln Ala Leu Val Leu Phe Thr Leu Asp Ser Leu Asp
1          5          10          15

```

```

Met Leu Pro Ala Val Lys Ala Thr Trp Leu Tyr Gly Ile Gln Ile Thr
          20          25          30

```

```

Ser Leu Leu Leu Val Cys Ile Leu Gln Phe Phe Asn Ser Met Ile Leu
          35          40          45

```

```

Gly Ser Leu Leu Ile Ser Phe Asn Leu Ser Val Phe Ile Ala Arg Lys
          50          55          60

```

```

Leu Gln Lys Asn Leu Lys Thr Gly Ser Phe Leu Asn Arg Leu Gly Lys
65          70          75          80

```

```

Leu Leu Leu His Leu Phe Met Val Leu Cys Leu Thr Leu Phe Leu Asn
          85          90          95

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```

Asn Ile Ile Lys Lys Ile Leu Asn Leu Lys Ser Asp Glu His Ile Phe
          100          105          110

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```

Lys Phe Leu Lys Ala Lys Phe Gly Leu Gly Ala Thr Arg Asp Phe Asp
          115          120          125

```

```

Ala Asn Leu Tyr Leu Cys Glu Glu Ala Phe Gly Leu Leu Pro Phe Asn
          130          135          140

```

```

Thr Phe Gly Arg Leu Ser Asp Thr Leu Leu Phe Tyr Ala Tyr Ile Phe
145          150          155          160

```

```

Val Leu Ser Ile Thr Val Ile Val Ala Phe Val Val Ala Phe His Asn
          165          170          175

```

8

Leu Ser Asp Ser Thr Asn Gln Gln Ser Val Gly Lys Met Glu Lys Gly
 180 185 190

Thr Val Asp Leu Lys Pro Glu Thr Ala Tyr Asn Leu Ile His Thr Ile
 195 200 205

Leu Phe Gly Phe Leu Ala Leu Ser Thr Met Arg Met Lys Tyr Leu Trp
 210 215 220

Thr Ser His Met Cys Val Phe Ala Ser Phe Gly Leu Cys Ser Pro Glu
 225 230 235 240

Ile Trp Glu Leu Leu Leu Lys Ser Val His Leu Tyr Asn Pro Lys Arg
 245 250 255

Ile Cys Ile Met Arg Tyr Ser Val Pro Ile Leu Ile Leu Leu Tyr Leu
 260 265 270

Cys Tyr Lys Asn Gln Lys Ser
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<210> 10

<211> 102

<212> PRT

<213> Homo sapiens

<400> 10

Met Met Ser Ile Arg Gln Arg Arg Glu Ile Arg Ala Thr Glu Val Ser
 1 5 10 15

Glu Asp Phe Pro Ala Gln Glu Glu Asn Val Lys Leu Glu Asn Lys Leu
 20 25 30

Pro Ser Gly Cys Thr Ser Arg Arg Leu Trp Lys Ile Leu Ser Leu Thr
 35 40 45

Ile Gly Gly Thr Ile Ala Leu Cys Ile Gly Leu Leu Thr Ser Val Tyr
 50 55 60

Leu Ala Thr Leu His Glu Asn Asp Leu Trp Phe Ser Asn Ile Lys Val
 65 70 75 80

Trp Ser Phe Phe Asp His Cys Ile Ile His Ser Val Gly Ser Pro Val
 85 90 95

Val Ser His Val Asp Glu
 100

<210> 11
 <211> 716
 <212> PRT
 <213> Homo sapiens

<400> 11

Met Met Ser Ile Arg Gln Arg Arg Glu Ile Arg Ala Thr Glu Val Ser
 1 5 10 15

Glu Asp Phe Pro Ala Gln Glu Glu Asn Val Lys Leu Glu Asn Lys Leu
 20 25 30

Pro Ser Gly Cys Thr Ser Arg Arg Leu Trp Lys Ile Leu Ser Leu Thr
 35 40 45

Ile Gly Gly Thr Ile Ala Leu Cys Ile Gly Leu Leu Thr Ser Val Tyr
 50 55 60

Leu Ala Thr Leu His Glu Asn Asp Leu Trp Phe Ser Asn Ile Lys Glu
 65 70 75 80

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

Tyr Tyr Lys Gln Met Leu Gln Ala Pro Thr Leu Val Gln Gly Phe His
 100 105 110

Gly Leu Ile Tyr Asp Asn Lys Thr Glu Ser Met Lys Thr Ile Asn Leu
 115 120 125

Leu Gln Arg Met Asn Ile Tyr Gln Glu Val Phe Leu Ser Ile Leu Tyr
 130 135 140

Arg Val Leu Pro Ile Gln Lys Tyr Leu Glu Pro Val Tyr Phe Tyr Ile
 145 150 155 160

Tyr Thr Leu Phe Gly Leu Gln Ala Ile Tyr Val Thr Ala Leu Tyr Ile
 165 170 175

Thr Ser Trp Leu Leu Ser Gly Thr Trp Leu Ser Gly Leu Leu Ala Ala
 180 185 190

Phe Trp Tyr Val Thr Asn Arg Ile Asp Thr Thr Arg Val Glu Phe Thr
 195 200 205

Ile Pro Leu Arg Glu Asn Trp Ala Leu Pro Phe Phe Ala Ile Gln Ile
 210 215 220

10

Ala Ala Ile Thr Tyr Phe Leu Arg Pro Asn Leu Gln Pro Leu Ser Glu
 225 230 235 240

Arg Leu Thr Leu Leu Ala Ile Phe Ile Ser Thr Phe Leu Phe Ser Leu
 245 250 255

Thr Trp Gln Phe Asn Gln Phe Met Met Leu Met Gln Ala Leu Val Leu
 260 265 270

Phe Thr Leu Asp Ser Leu Asp Met Leu Pro Ala Val Lys Ala Thr Trp
 275 280 285

Leu Tyr Gly Ile Gln Ile Thr Ser Leu Leu Leu Val Cys Ile Leu Gln
 290 295 300

Phe Phe Asn Ser Met Ile Leu Gly Ser Leu Leu Ile Ser Phe Asn Leu
 305 310 315 320

Ser Val Phe Ile Ala Arg Lys Leu Gln Lys Asn Leu Lys Thr Gly Ser
 325 330 335

Phe Leu Asn Arg Leu Gly Lys Leu Leu Leu His Leu Phe Met Val Leu
 340 345 350

Cys Leu Thr Leu Phe Leu Asn Asn Ile Ile Lys Lys Ile Leu Asn Leu
 355 360 365

Lys Ser Asp Glu His Ile Phe Lys Phe Leu Lys Ala Lys Phe Gly Leu
 370 375 380

Gly Ala Thr Arg Asp Phe Asp Ala Asn Leu Tyr Leu Cys Glu Glu Ala
 385 390 395 400

Phe Gly Leu Leu Pro Phe Asn Thr Phe Gly Arg Leu Ser Asp Thr Leu
 405 410 415

Leu Phe Tyr Ala Tyr Ile Phe Val Leu Ser Ile Thr Val Ile Val Ala
 420 425 430

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

Val Gly Lys Met Glu Lys Gly Thr Val Asp Leu Lys Pro Glu Thr Ala
 450 455 460

Tyr Asn Leu Ile His Thr Ile Leu Phe Gly Phe Leu Ala Leu Ser Thr
 465 470 475 480

11

Met Arg Met Lys Tyr Leu Trp Thr Ser His Met Cys Val Phe Ala Ser
485 490 495

Phe Gly Leu Cys Ser Pro Glu Ile Trp Glu Leu Leu Leu Lys Ser Val
500 505 510

His Leu Tyr Asn Pro Lys Arg Ile Cys Ile Met Arg Tyr Ser Val Pro
515 520 525

Ile Leu Ile Leu Leu Tyr Leu Cys Tyr Lys Phe Trp Pro Gly Met Met
530 535 540

Asp Glu Leu Ser Glu Leu Arg Glu Phe Tyr Asp Pro Asp Thr Val Glu
545 550 555 560

Leu Met Asn Trp Ile Asn Ser Asn Thr Pro Arg Lys Ala Val Phe Ala
565 570 575

Gly Ser Met Gln Leu Leu Ala Gly Val Lys Leu Cys Thr Gly Arg Thr
580 585 590

Leu Thr Asn His Pro His Tyr Glu Asp Ser Ser Leu Arg Glu Arg Thr
595 600 605

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

Ala Leu Leu Arg Ser Phe Gly Thr Asp Tyr Val Ile Leu Glu Asp Ser
625 630 635 640

Ile Cys Tyr Glu Arg Arg His Arg Arg Gly Cys Arg Leu Arg Asp Leu
645 650 655

Leu Asp Ile Ala Asn Gly His Met Met Asp Gly Pro Gly Glu Asn Asp
660 665 670

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

Arg Asn Leu Pro Pro Tyr Val Ala Tyr Phe Thr Arg Val Phe Gln Asn
690 695 700

Lys Thr Phe His Val Tyr Lys Leu Ser Arg Asn Lys
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$\langle 210 \rangle$	12
$\langle 211 \rangle$	112

<212> PRT
 <213> Homo sapiens

<400> 12

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 20 25 30

Pro Ser Gly Cys Thr Ser Arg Arg Leu Trp Lys Ile Leu Ser Leu Thr
 35 40 45

Ile Gly Gly Thr Pro Phe Ala Leu Asp Phe Leu His Leu Ser Thr Leu
 50 55 60

Pro Arg Tyr Met Lys Met Ile Tyr Gly Phe Leu Ile Leu Arg Lys Trp
 65 70 75 80

Ser Glu Lys Ser His Ser Glu Gln Ser Val Ala Cys Ile Thr Pro Thr
 85 90 95

Thr Ser Arg Cys Cys Arg Leu Gln Pro Ser Cys Lys Val Ile Thr Thr
 100 105 110

<210> 13
 <211> 1841
 <212> DNA
 <213> Homo sapiens

<400> 13

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<210> 14

<211> 2206

<212> DNA

<213> Homo sapiens

<400> 14

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<212> DNA
<213> Homo sapiens

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<212> DNA
<213> Homo sapiens

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ctgtctacct tgccacgtta catgaaaatg atttatgggt ttctaataatt aaggaagtgg 240
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<210> 17
<211> 831
<212> PRT
<213> Homo sapiens

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<400> 17

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Met Lys Val His Met His Thr Lys Phe Cys Leu Ile Cys Leu Thr
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Phe Ile Phe His His Cys Asn His Cys His Glu Glu His Asp His Gly
20           25           30

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Pro Glu Ala Leu His Arg Gln His Arg Gly Met Thr Glu Leu Glu Pro
35           40           45

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18

Ser Lys Phe Ser Lys Gln Ala Ala Glu Asn Glu Lys Lys Tyr Tyr Ile
 50 55 60

Glu Lys Leu Phe Glu Arg Tyr Gly Glu Asn Gly Arg Leu Ser Phe Phe
 65 70 75 80

Gly Leu Glu Lys Leu Leu Thr Asn Leu Gly Leu Gly Glu Arg Lys Val
 85 90 95

Val Glu Ile Asn His Glu Asp Leu Gly His Asp His Val Ser His Leu
 100 105 110

Asp Ile Leu Ala Val Gln Glu Gly Lys His Phe His Ser His Asn His
 115 120 125

Gln His Ser His Asn His Leu Asn Ser Glu Asn Gln Thr Val Thr Ser
 130 135 140

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

Glu Val Ser Val Lys Ser Asp Asp Lys His Met His Asp His Asn His
 165 170 175

Arg Leu Arg His His His Arg Leu His His His Leu Asp His Asn Asn
 180 185 190

Thr His His Phe His Asn Asp Ser Ile Thr Pro Ser Glu Arg Gly Glu
 195 200 205

Pro Ser Asn Glu Pro Ser Thr Glu Thr Asn Lys Thr Gln Glu Gln Ser
 210 215 220

Asp Val Lys Leu Pro Lys Gly Lys Arg Lys Lys Lys Gly Arg Lys Ser
 225 230 235 240

Asn Glu Asn Ser Glu Val Ile Thr Pro Gly Phe Pro Pro Asn His Asp
 245 250 255

Gln Gly Glu Gln Tyr Glu His Asn Arg Val His Lys Pro Asp Arg Val
 260 265 270

His Asn Pro Gly His Ser His Val His Leu Pro Glu Arg Asn Gly His
 275 280 285

Asp Pro Gly Arg Gly His Gln Asp Leu Asp Pro Asp Asn Glu Gly Glu
 290 295 300

19

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

Ile Ile Ser Leu Arg Lys Asp Leu Asn Glu Asp Asp His His His Glu
 325 330 335

Cys Leu Asn Val Thr Gln Leu Leu Lys Tyr Tyr Gly His Gly Ala Asn
 340 345 350

Ser Pro Ile Ser Thr Asp Leu Phe Thr Tyr Leu Cys Pro Ala Leu Leu
 355 360 365

Tyr Gln Ile Asp Ser Arg Leu Cys Ile Glu His Phe Asp Lys Leu Leu
 370 375 380

Val Glu Asp Ile Asn Lys Asp Lys Asn Leu Val Pro Glu Asp Glu Ala
 385 390 395 400

Asn Ile Gly Ala Ser Ala Trp Ile Cys Gly Ile Ile Ser Ile Thr Val
 405 410 415

Ile Ser Leu Leu Ser Leu Leu Gly Val Ile Leu Val Pro Ile Ile Asn
 420 425 430

Gln Gly Cys Phe Lys Phe Leu Leu Thr Phe Leu Val Ala Leu Ala Val
 435 440 445

Gly Thr Met Ser Gly Asp Ala Leu Leu His Leu Leu Pro His Ser Gln
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Gly Gly His Asp His Ser His Gln His Ala His Gly His Gly His Ser
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His Gly His Glu Ser Asn Lys Phe Leu Glu Glu Tyr Asp Ala Val Leu
 485 490 495

Lys Gly Leu Val Ala Leu Gly Gly Ile Tyr Leu Leu Phe Ile Ile Glu
 500 505 510

His Cys Ile Arg Met Phe Lys His Tyr Lys Gln Gln Arg Gly Lys Gln
 515 520 525

Lys Trp Phe Met Lys Gln Asn Thr Glu Glu Ser Thr Ile Gly Arg Lys
 530 535 540

Leu Ser Asp His Lys Leu Asn Asn Thr Pro Asp Ser Asp Trp Leu Gln
 545 550 555 560

20

Leu Lys Pro Leu Ala Gly Thr Asp Asp Ser Val Val Ser Glu Asp Arg
565 570 575

Leu Asn Glu Thr Glu Leu Thr Asp Leu Glu Gly Gln Gln Glu Ser Pro
580 585 590

Pro Lys Asn Tyr Leu Cys Ile Glu Glu Glu Lys Ile Ile Asp His Ser
595 600 605

His Ser Asp Gly Leu His Thr Ile His Glu His Asp Leu His Ala Ala
610 615 620

Ala His Asn His His Gly Glu Asn Lys Thr Val Leu Arg Lys His Asn
625 630 635 640

His Gln Trp His His Lys His Ser His His Ser His Gly Pro Cys His
645 650 655

Ser Gly Ser Asp Leu Lys Glu Thr Gly Ile Ala Asn Ile Ala Trp Met
660 665 670

Val Ile Met Gly Asp Gly Ile His Asn Phe Ser Asp Gly Leu Ala Ile
675 680 685

Gly Ala Ala Phe Ser Ala Gly Leu Thr Gly Gly Ile Ser Thr Ser Ile
690 695 700

Ala Val Phe Cys His Glu Leu Pro His Glu Leu Gly Asp Phe Ala Val
705 710 715 720

Leu Leu Lys Ala Gly Met Thr Val Lys Gln Ala Ile Val Tyr Asn Leu
725 730 735

Leu Ser Ala Met Met Ala Tyr Ile Gly Met Leu Ile Gly Thr Ala Val
740 745 750

Gly Gln Tyr Ala Asn Asn Ile Thr Leu Trp Ile Phe Ala Val Thr Ala
755 760 765

Gly Met Phe Leu Tyr Val Ala Leu Val Asp Met Leu Pro Glu Met Leu
770 775 780

His Gly Asp Gly Asp Asn Glu Glu His Gly Phe Cys Pro Val Gly Gln
785 790 795 800

Phe Ile Leu Gln Asn Leu Gly Leu Leu Phe Gly Phe Ala Ile Met Leu
805 810 815

21

Val Ile Ala Leu Tyr Glu Asp Lys Ile Val Phe Asp Ile Gln Phe
 820 825 830

<210> 18
 <211> 831
 <212> PRT
 <213> Homo sapiens

<400> 18

Met Lys Val His Met His Thr Lys Phe Cys Leu Ile Cys Leu Leu Thr
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Phe Ile Phe His His Cys Asn His Cys His Glu Glu His Asp His Gly
 20 25 30

Pro Glu Ala Leu His Arg Gln His Arg Gly Met Thr Glu Leu Glu Pro
 35 40 45

Ser Lys Phe Ser Lys Gln Ala Ala Glu Asn Glu Lys Lys Tyr Tyr Ile
 50 55 60

Glu Lys Leu Phe Glu Arg Tyr Gly Glu Asn Gly Arg Leu Ser Phe Phe
 65 70 75 80

Gly Leu Glu Lys Leu Leu Thr Asn Leu Gly Leu Gly Glu Arg Lys Val
 85 90 95

Val Glu Ile Asn His Glu Asp Leu Gly His Asp His Val Ser His Leu
 100 105 110

Asp Ile Leu Ala Val Gln Glu Gly Lys His Phe His Ser His Asn His
 115 120 125

Gln His Ser His Asn His Leu Asn Ser Glu Asn Gln Thr Val Thr Ser
 130 135 140

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

Glu Val Ser Val Lys Ser Asp Asp Lys His Met His Asp His Asn His
 165 170 175

Arg Leu Arg His His His Arg Leu His His His Leu Asp His Asn Asn
 180 185 190

Thr His His Phe His Asn Asp Ser Ile Thr Pro Ser Glu Arg Gly Glu
 195 200 205

22

Pro	Ser	Asn	Glu	Pro	Ser	Thr	Glu	Thr	Asn	Lys	Thr	Gln	Glu	Gln	Ser
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Asp	Val	Lys	Leu	Pro	Lys	Gly	Lys	Arg	Lys	Lys	Lys	Gly	Arg	Lys	Ser
225					230					235					240
Asn	Glu	Asn	Ser	Glu	Val	Ile	Thr	Pro	Gly	Phe	Pro	Pro	Asn	His	Asp
				245					250					255	
Gln	Gly	Glu	Gln	Tyr	Glu	His	Asn	Arg	Val	His	Lys	Pro	Asp	Arg	Val
			260					265					270		
His	Asn	Pro	Gly	His	Ser	His	Val	His	Leu	Pro	Glu	Arg	Asn	Gly	His
		275					280					285			
Asp	Pro	Gly	Arg	Gly	His	Gln	Asp	Leu	Asp	Pro	Asp	Asn	Glu	Gly	Glu
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Leu	Arg	His	Thr	Arg	Lys	Arg	Glu	Ala	Pro	His	Val	Lys	Asn	Asn	Ala
305					310					315					320
Ile	Ile	Ser	Leu	Arg	Lys	Asp	Leu	Asn	Glu	Asp	Asp	His	His	His	Glu
				325					330					335	
Cys	Leu	Asn	Val	Thr	Gln	Leu	Leu	Lys	Tyr	Tyr	Gly	His	Gly	Ala	Asn
			340					345					350		
Ser	Pro	Ile	Ser	Thr	Asp	Leu	Phe	Thr	Tyr	Leu	Cys	Pro	Ala	Leu	Leu
		355					360					365			
Tyr	Gln	Ile	Asp	Ser	Arg	Leu	Cys	Ile	Glu	His	Phe	Asp	Lys	Leu	Leu
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Val	Glu	Asp	Ile	Asn	Lys	Asp	Lys	Asn	Leu	Val	Pro	Glu	Asp	Glu	Ala
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Asn	Ile	Gly	Ala	Ser	Ala	Trp	Ile	Cys	Gly	Ile	Ile	Ser	Ile	Thr	Val
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Gln	Gly	Cys	Phe	Lys	Phe	Leu	Leu	Thr	Phe	Leu	Val	Ala	Leu	Ala	Val
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Gly	Thr	Met	Ser	Gly	Asp	Ala	Leu	Leu	His	Leu	Leu	Pro	His	Ser	Gln
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23

Gly Gly His Asp His Ser His Gln His Ala His Gly His Gly His Ser
465 470 475 480

His Gly His Glu Ser Asn Lys Phe Leu Glu Glu Tyr Asp Ala Val Leu
485 490 495

Lys Gly Leu Val Ala Leu Gly Gly Ile Tyr Leu Leu Phe Ile Ile Glu
500 505 510

His Cys Ile Arg Met Phe Lys His Tyr Lys Gln Gln Arg Gly Lys Gln
515 520 525

Lys Trp Phe Met Lys Gln Asn Thr Glu Glu Ser Thr Ile Gly Arg Lys
530 535 540

Leu Ser Asp His Lys Leu Asn Asn Thr Pro Asp Ser Asp Trp Leu Gln
545 550 555 560

Leu Lys Pro Leu Ala Gly Thr Asp Asp Ser Val Val Ser Glu Asp Arg
565 570 575

Leu Asn Glu Thr Glu Leu Thr Asp Leu Glu Gly Gln Gln Glu Ser Pro
580 585 590

Pro Lys Asn Tyr Leu Cys Ile Glu Glu Glu Lys Ile Ile Asp His Ser
595 600 605

His Ser Asp Gly Leu His Thr Ile His Glu His Asp Leu His Ala Ala
610 615 620

Ala His Asn His His Gly Glu Asn Lys Thr Val Leu Arg Lys His Asn
625 630 635 640

His Gln Trp His His Lys His Ser His His Ser His Gly Pro Cys His
645 650 655

Ser Gly Ser Asp Leu Lys Glu Thr Gly Ile Ala Asn Ile Ala Trp Met
660 665 670

Val Ile Met Gly Asp Gly Ile His Asn Phe Ser Asp Gly Leu Ala Ile
675 680 685

Gly Ala Ala Phe Ser Ala Gly Leu Thr Gly Gly Ile Ser Thr Ser Ile
690 695 700

Ala Val Phe Cys His Glu Leu Pro His Glu Leu Gly Asp Phe Ala Val
705 710 715 720

Leu Leu Lys Ala Gly Met Thr Val Lys Gln Ala Ile Val Tyr Asn Leu
 725 730 735

Leu Ser Ala Met Met Ala Tyr Ile Gly Met Leu Ile Gly Thr Ala Val
 740 745 750

Gly Gln Tyr Ala Asn Asn Ile Thr Leu Trp Ile Phe Ala Val Thr Ala
 755 760 765

Gly Met Phe Leu Tyr Val Ala Leu Val Asp Met Leu Pro Glu Met Leu
 770 775 780

His Gly Asp Gly Asp Asn Glu Glu His Gly Phe Cys Pro Val Gly Gln
 785 790 795 800

Phe Ile Leu Gln Asn Leu Gly Leu Leu Phe Gly Phe Ala Ile Met Leu
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Val Ile Ala Leu Tyr Glu Asp Lys Ile Val Phe Asp Ile Gln Phe
 820 825 830

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