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<120> Vaccine

<130> N409651W0

<150> EP 17159242.1

<151> 2017-03-03

<150> GB 1703809.2

<151> 2017-03-09

<150> EP 17159243.9

<151> 2017-03-03

<160> 449

<170> PatentIn version 3.5

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

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

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Arg Ala Leu Ala Glu Thr Ser Tyr Val
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Tyr Ile Phe Ala Thr Cys Leu Gly Leu
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Asp Gln Val Asn Ile Asp Tyr Leu Met Asn Arg Pro Gln Asn Leu
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Met	Met	Ala	Tyr	Ser	Asp	Thr	Thr	Met	Met	Ser	Asp	Asp	Ile	Asp
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Met	Phe	Thr	Ser	Ser	Arg	Met	Ser	Ser	Phe	Asn	Arg	His	Met	Lys
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Leu	Gln	Lys	Tyr	Ala	Leu	Gly	Phe	Gln	His	Ala	Leu	Ser	Pro	Ser
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Ala	Gln	Lys	Met	Ser	Ser	Leu	Leu	Pro	Thr	Met	Trp	Leu	Gly	Ala
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<400> 46

Gly	Asn	Ile	Leu	Asp	Ser	Phe	Thr	Val	Cys	Asn	Ser	His	Val	Leu
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Asn	Met	Ala	Phe	Val	Thr	Ser	Gly	Glu	Leu	Val	Arg	His	Arg	Arg
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<400> 48

Leu	Glu	Arg	Leu	Ala	Tyr	Leu	His	Ala	Arg	Leu	Arg	Glu	Leu	Leu
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Ser	Gly	Ala	Val	Met	Ser	Glu	Arg	Val	Ser	Gly	Leu	Ala	Gly	Ser
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His	Thr	Arg	Phe	Thr	Gln	Ser	Gly	Thr	Met	Lys	Ile	His	Ile	Leu
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Phe	Ser	Ser	Ser	Gly	Thr	Thr	Ser	Phe	Lys	Cys	Phe	Ala	Pro	Phe
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Gln	Leu	Glu	Phe	Met	Phe	Gln	Glu	Ala	Leu	Lys	Leu	Lys	Val	Ala
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Cys	Ser	Gly	Ser	Ser	Tyr	Phe	Val	Leu	Ala	Asn	Gly	His	Ile	Leu
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Arg	His	Ser	Gln	Thr	Leu	Lys	Ala	Met	Val	Gln	Ala	Trp	Pro	Phe
1			5					10					15	

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Tyr	Ser	Cys	Asp	Ser	Arg	Ser	Leu	Phe	Glu	Ser	Ser	Ala	Lys	Ile
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Thr Ala Lys Lys Val Arg Arg Ala Ile Glu Gln Leu Ala Ala Met
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Ser Pro Thr Ala Met Asp Ala Ile Phe Gly Ser Leu Ser Asp Glu
 1 5 10 15

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Met Ala Ser Phe Arg Lys Leu Thr Leu Ser Glu Lys Val Pro Pro
 1 5 10 15

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<400> 59

Ser Ser Ile Ser Val Tyr Tyr Thr Leu Trp Ser Gln Phe Asp Glu
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Pro	Gly	Lys	Pro	Ser	Ala	Phe	Glu	Pro	Ala	Thr	Glu	Met	Gln	Lys
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<223> 15mer T cell epitope 21

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Arg	Ser	Cys	Gly	Phe	Ser	Tyr	Glu	Gln	Asp	Pro	Thr	Leu	Arg	Asp
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Val	Arg	Thr	Tyr	Trp	Ile	Ile	Ile	Glu	Leu	Lys	His	Lys	Ala	Arg
1				5					10					15

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<223> 15mer T cell epitope 23

<400> 63

Pro Ser Thr Thr Met Glu Thr Gln Phe Pro Val Ser Glu Gly Lys

1 5 10 15

<210> 64
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<400> 64

Gly Thr Gly Lys Leu Gly Phe Ser Phe Val Arg Ile Thr Ala Leu
 1 5 10 15

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Ala Gln Lys Met Ser Ser Leu Leu Pro Thr Met Trp Leu Gly Ala
 1 5 10 15

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<400> 66

Leu Ala Ser Lys Met His Ser Leu Leu Ala Leu Met Val Gly Leu
 1 5 10 15

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<400> 67

Lys	Phe	Met	Asn	Pro	Tyr	Asn	Ala	Val	Leu	Thr	Lys	Lys	Phe	Gln
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Pro	Lys	Ser	Met	Thr	Met	Met	Pro	Ala	Leu	Phe	Lys	Glu	Asn	Arg
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Tyr	Val	Asp	Glu	Lys	Ala	Pro	Glu	Phe	Ser	Met	Gln	Gly	Leu	Lys
1				5					10					15

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Phe	Lys	Lys	Thr	Met	Ser	Thr	Phe	His	Asn	Leu	Val	Ser	Leu	Asn
1				5					10					15

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

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<400> 72

Ser	Gly	Ala	Val	Met	Ser	Glu	Arg	Val	Ser	Gly	Leu	Ala	Gly	Ser
1				5					10					15

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Ser	Arg	Tyr	Arg	Ala	Gln	Arg	Phe	Trp	Ser	Trp	Val	Gly	Gln	Ala
1				5					10					15

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<400> 74

Lys	Val	Asn	Phe	Phe	Phe	Glu	Arg	Ile	Met	Lys	Tyr	Glu	Arg	Leu
1				5					10					15

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Lys	Asp	His	Arg	Ile	Ser	Thr	Phe	Lys	Asn	Trp	Pro	Phe	Leu	Glu
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Ser	Arg	Ala	Pro	Glu	Glu	Ala	Ile	Trp	Glu	Ala	Leu	Ser	Val	Met
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Asp	Glu	Lys	Val	Ala	Glu	Leu	Val	Arg	Phe	Leu	Leu	Arg	Lys	Tyr
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Gln	Tyr	Phe	Val	Gln	Glu	Asn	Tyr	Leu	Glu	Tyr	Arg	Gln	Val	Pro
1				5				10						15

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<400> 79

Glu	Phe	Leu	Trp	Gly	Pro	Arg	Ala	Leu	Ala	Glu	Thr	Ser	Tyr	Val
1				5				10						15

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Ile	Gly	His	Val	Tyr	Ile	Phe	Ala	Thr	Cys	Leu	Gly	Leu	Ser	Tyr
1				5				10						15

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Leu Gln Lys Tyr Ala Leu Gly Phe Gln His Ala Leu Ser Pro Ser Met
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Met Ala Tyr Ser Asp Thr Thr Met Met Ser Asp Asp Ile Asp
 20 25 30

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<400> 82

Val Cys Met Phe Thr Ser Ser Arg Met Ser Ser Phe Asn Arg His Val
 1 5 10 15

Asn Ile Asp Tyr Leu Met Asn Arg Pro Gln Asn Leu Arg Leu
 20 25 30

<210> 83
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<400> 83

Asn Met Ala Phe Val Thr Ser Gly Glu Leu Val Arg His Arg Arg His
 1 5 10 15

Thr Arg Phe Thr Gln Ser Gly Thr Met Lys Ile His Ile Leu
 20 25 30

<210> 84
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<223> breast vaccine pep 4

<400> 84

Leu	Asp	Ser	Phe	Thr	Val	Cys	Asn	Ser	His	Val	Leu	Cys	Ile	Ala	Lys
1				5					10					15	

Leu	Gly	Phe	Ser	Phe	Val	Arg	Ile	Thr	Ala	Leu	Met	Val	Ser
			20					25					30

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<223> breast vaccine pep 5

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Ala	Gln	Lys	Met	Ser	Ser	Leu	Leu	Pro	Thr	Met	Trp	Leu	Gly	Ala	Met
1				5					10					15	

Met	Gln	Met	Phe	Gly	Leu	Gly	Ala	Ile	Ser	Leu	Ile	Leu	Val
			20					25					30

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Leu	Glu	Arg	Leu	Ala	Tyr	Leu	His	Ala	Arg	Leu	Arg	Glu	Leu	Leu	Gln
1				5					10					15	

Thr	Leu	Lys	Ala	Met	Val	Gln	Ala	Trp	Pro	Phe	Thr	Cys	Leu
			20					25					30

<210> 87

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<400> 87

Ser Ser Tyr Phe Val Leu Ala Asn Gly His Ile Leu Pro Asn Ser Leu
 1 5 10 15

Arg His Lys Cys Cys Phe Ser Ser Ser Gly Thr Thr Ser Phe
 20 25 30

<210> 88
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<400> 88

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

Leu Glu Phe Met Phe Gln Glu Ala Leu Lys Leu Lys Val Ala
 20 25 30

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<400> 89

Thr Ser His Ser Tyr Val Leu Val Thr Ser Leu Asn Leu Ser Tyr Tyr
 1 5 10 15

Ser Cys Asp Ser Arg Ser Leu Phe Glu Ser Ser Ala Lys Ile

20

25

30

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<400> 90

Leu Asp Ser Phe Thr Val Cys Asn Ser His Val Leu Cys Ile Ala Val
 1 5 10 15

Cys Met Phe Thr Ser Ser Arg Met Ser Ser Phe Asn Arg His
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<400> 91

Leu Arg His Lys Cys Cys Phe Ser Ser Ser Gly Thr Thr Ser Phe Gln
 1 5 10 15

Thr Leu Lys Ala Met Val Gln Ala Trp Pro Phe Thr Cys Leu
 20 25 30

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<400> 92

Tyr Ser Cys Asp Ser Arg Ser Leu Phe Glu Ser Ser Ala Lys Ile Thr

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<400> 93

Thr Arg Phe Thr Gln Ser Gly Thr Met Lys Ile His Ile Leu
20 25 30

$\langle 210 \rangle$	94
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<400> 94

Gln Lys Tyr Ala Leu Gly Phe Gln His Ala Leu Ser Pro Ser
20 25 30

$\langle 210 \rangle$	95
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<400> 95

Thr Ser His Ser Tyr Val Leu Val Thr Ser Leu Asn Leu Ser Tyr Asn
1 5 10 15

Met Ala Phe Val Thr Ser Gly Glu Leu Val Arg His Arg Arg
20 25 30

<210> 96

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> breast vaccine pep 16

<400> 96

Met Met Gln Met Phe Gly Leu Gly Ala Ile Ser Leu Ile Leu Val Val
1 5 10 15

Asn Ile Asp Tyr Leu Met Asn Arg Pro Gln Asn Leu Arg Leu
20 25 30

<210> 97

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> breast cancer pep 17

<400> 97

Ser Ser Tyr Phe Val Leu Ala Asn Gly His Ile Leu Pro Asn Ser Lys
1 5 10 15

Leu Gly Phe Ser Phe Val Arg Ile Thr Ala Leu Met Val Ser
20 25 30

<210> 98

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> breast vaccine pep 18

<400> 98

Leu Glu Arg Leu Ala Tyr Leu His Ala Arg Leu Arg Glu Leu Leu Gln
1 5 10 15

Leu Glu Phe Met Phe Gln Glu Ala Leu Lys Leu Lys Val Ala
20 25 30

<210> 99

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> breast vaccine pep 19

<400> 99

Gly Asn Ile Leu Asp Ser Phe Thr Val Cys Asn Ser His Val Leu Leu
1 5 10 15

Gln Lys Tyr Ala Leu Gly Phe Gln His Ala Leu Ser Pro Ser
20 25 30

<210> 100

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> breast vaccine pep 20

<400> 100

Asn Met Ala Phe Val Thr Ser Gly Glu Leu Val Arg His Arg Arg Phe
1 5 10 15

Ser Ser Ser Gly Thr Thr Ser Phe Lys Cys Phe Ala Pro Phe
20 25 30

<210> 101
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> breast vaccine pep 21

<400> 101

Ala	Gln	Lys	Met	Ser	Ser	Leu	Leu	Pro	Thr	Met	Trp	Leu	Gly	Ala	Met
1				5					10					15	

Phe	Thr	Ser	Ser	Arg	Met	Ser	Ser	Phe	Asn	Arg	His	Met	Lys
			20					25					30

<210> 102
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> breast vaccine pep 22

<400> 102

Thr	Ser	His	Ser	Tyr	Val	Leu	Val	Thr	Ser	Leu	Asn	Leu	Ser	Tyr	His
1				5					10					15	

Ser	Gln	Thr	Leu	Lys	Ala	Met	Val	Gln	Ala	Trp	Pro	Phe	Thr
			20					25					30

<210> 103
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> breast vaccine pep 23

<400> 103

Met	Ala	Ser	Phe	Arg	Lys	Leu	Thr	Leu	Ser	Glu	Lys	Val	Pro	Pro	Ser
1				5					10					15	

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

<210> 104
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> breast vaccine pep 24

<400> 104

Asp Gln Val Asn Ile Asp Tyr Leu Met Asn Arg Pro Gln Asn Leu Arg
 1 5 10 15

His Ser Gln Thr Leu Lys Ala Met Val Gln Ala Trp Pro Phe
 20 25 30

<210> 105
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> breast vaccine pep 25

<400> 105

Cys Ser Gly Ser Ser Tyr Phe Val Leu Ala Asn Gly His Ile Leu Ser
 1 5 10 15

Gly Ala Val Met Ser Glu Arg Val Ser Gly Leu Ala Gly Ser
 20 25 30

<210> 106
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> breast vaccine 26

<400> 106

Asp Leu Ser Phe Tyr Val Asn Arg Leu Ser Ser Leu Val Ile Gln Ser
 1 5 10 15

Ser Ile Ser Val Tyr Tyr Thr Leu Trp Ser Gln Phe Asp Glu
 20 25 30

<210> 107
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> breast vaccine pep 27

<400> 107

Ser Gly Ala Val Met Ser Glu Arg Val Ser Gly Leu Ala Gly Ser Ser
 1 5 10 15

Arg Leu Leu Glu Phe Tyr Leu Ala Met Pro Phe Ala Thr Pro
 20 25 30

<210> 108
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> breast vaccine pep 28

<400> 108

Met Ala Ser Phe Arg Lys Leu Thr Leu Ser Glu Lys Val Pro Pro Glu
 1 5 10 15

Ser Phe Ser Pro Thr Ala Met Asp Ala Ile Phe Gly Ser Leu
 20 25 30

<210> 109
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>

<223> breast vaccine pep 29

<400> 109

Phe	Tyr	Leu	Ala	Met	Pro	Phe	Ala	Thr	Pro	Met	Glu	Ala	Glu	Leu	Lys
1				5					10					15	

Pro	Ser	Ala	Phe	Glu	Pro	Ala	Thr	Glu	Met	Gln	Lys	Ser	Val
			20					25					30

<210> 110

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> breast vaccine pep 30

<400> 110

Ala	Met	Asp	Ala	Ile	Phe	Gly	Ser	Leu	Ser	Asp	Glu	Gly	Ser	Gly	His
1				5				10						15	

Ser	Gln	Thr	Leu	Lys	Ala	Met	Val	Gln	Ala	Trp	Pro	Phe	Thr
			20					25					30

<210> 111

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> breast vaccine pep 31

<400> 111

Phe	Val	Leu	Ala	Asn	Gly	His	Ile	Leu	Pro	Asn	Ser	Glu	Asn	Ala	Gly
1				5				10						15	

Thr	Gly	Lys	Leu	Gly	Phe	Ser	Phe	Val	Arg	Ile	Thr	Ala	Leu
			20					25					30

<210> 112

<211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 1

<400> 112

Val Cys Ser Met Glu Gly Thr Trp Tyr Leu Val Gly Leu Val Ser Tyr
 1 5 10 15

Arg Ser Cys Gly Phe Ser Tyr Glu Gln Asp Pro Thr Leu Arg
 20 25 30

<210> 113
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colocrectal vaccine pep 2

<400> 113

Val Arg Thr Tyr Trp Ile Ile Ile Glu Leu Lys His Lys Ala Arg Leu
 1 5 10 15

Pro Ser Thr Thr Met Glu Thr Gln Phe Pro Val Ser Glu Gly
 20 25 30

<210> 114
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 3

<400> 114

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

Gly Ala Pro Thr Leu Pro Pro Ala Trp Gln Pro Phe Leu Lys

20

25

30

<210> 115
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 4

<400> 115

Leu Ala Ser Lys Met His Ser Leu Leu Ala Leu Met Val Gly Leu Pro
 1 5 10 15

Lys Ser Met Thr Met Met Pro Ala Leu Phe Lys Glu Asn Arg
 20 25 30

<210> 116
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 5

<400> 116

Lys Leu Gly Phe Ser Phe Val Arg Ile Thr Ala Leu Met Val Ser Leu
 1 5 10 15

Asp Ser Phe Thr Val Cys Asn Ser His Val Leu Cys Ile Ala
 20 25 30

<210> 117
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 6

<400> 117

Lys Phe Met Asn Pro Tyr Asn Ala Val Leu Thr Lys Lys Phe Gln Phe

1 5 10 15

Lys Lys Thr Met Ser Thr Phe His Asn Leu Val Ser Leu Asn
 20 25 30

<210> 118
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 7

<400> 118

Ala Gln Lys Met Ser Ser Leu Leu Pro Thr Met Trp Leu Gly Ala Lys
 1 5 10 15

Val Asn Phe Phe Phe Glu Arg Ile Met Lys Tyr Glu Arg Leu
 20 25 30

<210> 119
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 8

<400> 119

Lys Asp His Arg Ile Ser Thr Phe Lys Asn Trp Pro Phe Leu Glu Pro
 1 5 10 15

Glu Glu Ala Ile Trp Glu Ala Leu Ser Val Met Gly Leu Tyr
 20 25 30

<210> 120
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 9

<400> 120

Tyr Arg Ser Cys Gly Phe Ser Tyr Glu Gln Asp Pro Thr Leu Arg Val
1 5 10 15

Cys Ser Met Glu Gly Thr Trp Tyr Leu Val Gly Leu Val Ser
20 25 30

<210> 121

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> colorectal vaccine pep 10

<400> 121

Val Arg Thr Tyr Trp Ile Ile Ile Glu Leu Lys His Lys Ala Arg Thr
1 5 10 15

Ala Lys Lys Val Arg Arg Ala Ile Glu Gln Leu Ala Ala Met
20 25 30

<210> 122

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> colorectal vaccine pep 11

<400> 122

Leu Pro Ser Thr Thr Met Glu Thr Gln Phe Pro Val Ser Glu Gly Lys
1 5 10 15

Leu Gly Phe Ser Phe Val Arg Ile Thr Ala Leu Met Val Ser
20 25 30

<210> 123

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> colorectal vaccine pep 12

<400> 123

Met Gly Ala Pro Thr Leu Pro Pro Ala Trp Gln Pro Phe Leu Lys Pro
1 5 10 15

Glu Glu Ala Ile Trp Glu Ala Leu Ser Val Met Gly Leu Tyr
20 25 30

<210> 124

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> colorectal vaccine pep 13

<400> 124

Leu Ala Ser Lys Met His Ser Leu Leu Ala Leu Met Val Gly Leu Lys
1 5 10 15

Asp His Arg Ile Ser Thr Phe Lys Asn Trp Pro Phe Leu Glu
20 25 30

<210> 125

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> colorectal vaccine pep 14

<400> 125

Pro Lys Ser Met Thr Met Met Pro Ala Leu Phe Lys Glu Asn Arg Leu
1 5 10 15

Asp Ser Phe Thr Val Cys Asn Ser His Val Leu Cys Ile Ala
20 25 30

<210> 126
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 15

<400> 126

Lys Phe Met Asn Pro Tyr Asn Ala Val Leu Thr Lys Lys Phe Gln Lys
 1 5 10 15

Val Asn Phe Phe Phe Glu Arg Ile Met Lys Tyr Glu Arg Leu
 20 25 30

<210> 127
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 16

<400> 127

Ala Gln Lys Met Ser Ser Leu Leu Pro Thr Met Trp Leu Gly Ala Phe
 1 5 10 15

Lys Lys Thr Met Ser Thr Phe His Asn Leu Val Ser Leu Asn
 20 25 30

<210> 128
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 17

<400> 128

Gly Phe Ser Tyr Glu Gln Asp Pro Thr Leu Arg Asp Pro Glu Ala Val
 1 5 10 15

Cys Ser Met Glu Gly Thr Trp Tyr Leu Val Gly Leu Val Ser
 20 25 30

<210> 129
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 18

<400> 129

Pro Lys Ser Met Thr Met Met Pro Ala Leu Phe Lys Glu Asn Arg Gly
 1 5 10 15

Asn Ile Leu Asp Ser Phe Thr Val Cys Asn Ser His Val Leu
 20 25 30

<210> 130
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 19

<400> 130

Pro Ser Thr Thr Met Glu Thr Gln Phe Pro Val Ser Glu Gly Lys Ser
 1 5 10 15

Arg Tyr Arg Ala Gln Arg Phe Trp Ser Trp Val Gly Gln Ala
 20 25 30

<210> 131
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 20

<400> 131

Tyr Val Asp Glu Lys Ala Pro Glu Phe Ser Met Gln Gly Leu Lys Asp
 1 5 10 15

Glu Lys Val Ala Glu Leu Val Arg Phe Leu Leu Arg Lys Tyr
 20 25 30

<210> 132
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 21

<400> 132

Arg Ser Cys Gly Phe Ser Tyr Glu Gln Asp Pro Thr Leu Arg Asp Gly
 1 5 10 15

Thr Gly Lys Leu Gly Phe Ser Phe Val Arg Ile Thr Ala Leu
 20 25 30

<210> 133
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 22

<400> 133

Ser Arg Ala Pro Glu Glu Ala Ile Trp Glu Ala Leu Ser Val Met Gln
 1 5 10 15

Tyr Phe Val Gln Glu Asn Tyr Leu Glu Tyr Arg Gln Val Pro
 20 25 30

<210> 134
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>

<223> colorectal vaccine pep 23

<400> 134

Pro	Lys	Ser	Met	Thr	Met	Met	Pro	Ala	Leu	Phe	Lys	Glu	Asn	Arg	Ser
1				5					10					15	

Gly	Ala	Val	Met	Ser	Glu	Arg	Val	Ser	Gly	Leu	Ala	Gly	Ser
			20					25					30

<210> 135

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> colorectal vaccine pep 24

<400> 135

Ser	Gly	Ala	Val	Met	Ser	Glu	Arg	Val	Ser	Gly	Leu	Ala	Gly	Ser	Arg
1				5					10					15	

Asn	Ser	Ile	Arg	Ser	Ser	Phe	Ile	Ser	Ser	Leu	Ser	Phe	Phe
			20					25					30

<210> 136

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> colorectal vaccine pep 25

<400> 136

Asn	Ile	Glu	Asn	Tyr	Ser	Thr	Asn	Ala	Leu	Ile	Gln	Pro	Val	Asp	Glu
1				5					10					15	

Lys	Val	Ala	Glu	Leu	Val	Arg	Phe	Leu	Leu	Arg	Lys	Tyr	Gln
			20					25					30

<210> 137

<211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 26

<400> 137

Arg Gln Phe Glu Thr Val Cys Lys Phe His Trp Val Glu Ala Phe Lys
 1 5 10 15

Leu Leu Thr Gln Tyr Phe Val Gln Glu Asn Tyr Leu Glu Tyr
 20 25 30

<210> 138
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 27

<400> 138

Glu Phe Leu Trp Gly Pro Arg Ala Leu Ala Glu Thr Ser Tyr Val Lys
 1 5 10 15

Leu Leu Thr Gln His Phe Val Gln Glu Asn Tyr Leu Glu Tyr
 20 25 30

<210> 139
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 28

<400> 139

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

Thr Leu Ile Tyr Tyr Val Asp Glu Lys Ala Pro Glu Phe Ser

20

25

30

<210> 140
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 29

<400> 140

Ser Arg Thr Leu Leu Leu Ala Leu Pro Leu Pro Leu Ser Leu Leu Ile
 1 5 10 15

Gly His Leu Tyr Ile Phe Ala Thr Cys Leu Gly Leu Ser Tyr
 20 25 30

<210> 141
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 30

<400> 141

Phe Ile Ile Val Val Phe Val Tyr Leu Thr Val Glu Asn Lys Ser Ile
 1 5 10 15

Gly His Val Tyr Ile Phe Ala Thr Cys Leu Gly Leu Ser Tyr
 20 25 30

<210> 142
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> colorectal vaccine pep 31

<400> 142

Leu Leu Ala Ala Ala Thr Ala Thr Phe Ala Ala Ala Gln Glu Glu Gln

<400> 143

Arg Gln Leu Glu Leu Lys Ala Lys Asn Tyr Ala Asp Gln Ile Ser Arg

130

135

140

Leu Glu Glu Arg Glu Ala Glu Leu Lys Lys Glu Tyr Asn Ala Leu His
 145 150 155 160

Gln Arg His Thr Glu Met Ile His Asn Tyr Met Glu His Leu Glu Arg
 165 170 175

Thr Lys Leu His Gln Leu Ser Gly Ser Asp Gln Leu Glu Ser Thr Ala
 180 185 190

His Ser Arg Ile Arg Lys Glu Arg Pro Ile Ser Leu Gly Ile Phe Pro
 195 200 205

Leu Pro Ala Gly Asp Gly Leu Leu Thr Pro Asp Ala Gln Lys Gly Gly
 210 215 220

Glu Thr Pro Gly Ser Glu Gln Trp Lys Phe Gln Glu Leu Ser Gln Pro
 225 230 235 240

Arg Ser His Thr Ser Leu Lys Val Ser Asn Ser Pro Glu Pro Gln Lys
 245 250 255

Ala Val Glu Gln Glu Asp Glu Leu Ser Asp Val Ser Gln Gly Gly Ser
 260 265 270

Lys Ala Thr Thr Pro Ala Ser Thr Ala Asn Ser Asp Val Ala Thr Ile
 275 280 285

Pro Thr Asp Thr Pro Leu Lys Glu Glu Asn Glu Gly Phe Val Lys Val
 290 295 300

Thr Asp Ala Pro Asn Lys Ser Glu Ile Ser Lys His Ile Glu Val Gln
 305 310 315 320

Val Ala Gln Glu Thr Arg Asn Val Ser Thr Gly Ser Ala Glu Asn Glu
 325 330 335

Glu Lys Ser Glu Val Gln Ala Ile Ile Glu Ser Thr Pro Glu Leu Asp
 340 345 350

Met Asp Lys Asp Leu Ser Gly Tyr Lys Gly Ser Ser Thr Pro Thr Lys
 355 360 365

Gly Ile Glu Asn Lys Ala Phe Asp Arg Asn Thr Glu Ser Leu Phe Glu
 370 375 380

Glu Leu Ser Ser Ala Gly Ser Gly Leu Ile Gly Asp Val Asp Glu Gly
 385 390 395 400

Ala Asp Leu Leu Gly Met Gly Arg Glu Val Glu Asn Leu Ile Leu Glu
 405 410 415

Asn Thr Gln Leu Leu Glu Thr Lys Asn Ala Leu Asn Ile Val Lys Asn
 420 425 430

Asp Leu Ile Ala Lys Val Asp Glu Leu Thr Cys Glu Lys Asp Val Leu
 435 440 445

Gln Gly Glu Leu Glu Ala Val Lys Gln Ala Lys Leu Lys Leu Glu Glu
 450 455 460

Lys Asn Arg Glu Leu Glu Glu Glu Leu Arg Lys Ala Arg Ala Glu Ala
 465 470 475 480

Glu Asp Ala Arg Gln Lys Ala Lys Asp Asp Asp Asp Ser Asp Ile Pro
 485 490 495

Thr Ala Gln Arg Lys Arg Phe Thr Arg Val Glu Met Ala Arg Val Leu
 500 505 510

Met Glu Arg Asn Gln Tyr Lys Glu Arg Leu Met Glu Leu Gln Glu Ala
 515 520 525

Val Arg Trp Thr Glu Met Ile Arg Ala Ser Arg Glu Asn Pro Ala Met

530

535

540

Gln Glu Lys Lys Arg Ser Ser Ile Trp Gln Phe Phe Ser Arg Leu Phe
 545 550 555 560

Ser Ser Ser Ser Asn Thr Thr Lys Lys Pro Glu Pro Pro Val Asn Leu
 565 570 575

Lys Tyr Asn Ala Pro Thr Ser His Val Thr Pro Ser Val Lys Lys Arg
 580 585 590

Ser Ser Thr Leu Ser Gln Leu Pro Gly Asp Lys Ser Lys Ala Phe Asp
 595 600 605

Phe Leu Ser Glu Glu Thr Glu Ala Ser Leu Ala Ser Arg Arg Glu Gln
 610 615 620

Lys Arg Glu Gln Tyr Arg Gln Val Lys Ala His Val Gln Lys Glu Asp
 625 630 635 640

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

Val Thr Asn Gly Gln Gly Glu Asn Lys Met Lys Asn Leu Pro Val Pro
 660 665 670

Val Tyr Leu Arg Pro Leu Asp Glu Lys Asp Thr Ser Met Lys Leu Trp
 675 680 685

Cys Ala Val Gly Val Asn Leu Ser Gly Gly Lys Thr Arg Asp Gly Gly
 690 695 700

Ser Val Val Gly Ala Ser Val Phe Tyr Lys Asp Val Ala Gly Leu Asp
 705 710 715 720

Thr Glu Gly Ser Lys Gln Arg Ser Ala Ser Gln Ser Ser Leu Asp Lys
 725 730 735

Leu Asp Gln Glu Leu Lys Glu Gln Gln Lys Glu Leu Lys Asn Gln Glu
 740 745 750

Glu Leu Ser Ser Leu Val Trp Ile Cys Thr Ser Thr His Ser Ala Thr
 755 760 765

Lys Val Leu Ile Ile Asp Ala Val Gln Pro Gly Asn Ile Leu Asp Ser
 770 775 780

Phe Thr Val Cys Asn Ser His Val Leu Cys Ile Ala Ser Val Pro Gly
 785 790 795 800

Ala Arg Glu Thr Asp Tyr Pro Ala Gly Glu Asp Leu Ser Glu Ser Gly
 805 810 815

Gln Val Asp Lys Ala Ser Leu Cys Gly Ser Met Thr Ser Asn Ser Ser
 820 825 830

Ala Glu Thr Asp Ser Leu Leu Gly Gly Ile Thr Val Val Gly Cys Ser
 835 840 845

Ala Glu Gly Val Thr Gly Ala Ala Thr Ser Pro Ser Thr Asn Gly Ala
 850 855 860

Ser Pro Val Met Asp Lys Pro Pro Glu Met Glu Ala Glu Asn Ser Glu
 865 870 875 880

Val Asp Glu Asn Val Pro Thr Ala Glu Glu Ala Thr Glu Ala Thr Glu
 885 890 895

Gly Asn Ala Gly Ser Ala Glu Asp Thr Val Asp Ile Ser Gln Thr Gly
 900 905 910

Val Tyr Thr Glu His Val Phe Thr Asp Pro Leu Gly Val Gln Ile Pro
 915 920 925

Glu Asp Leu Ser Pro Val Tyr Gln Ser Ser Asn Asp Ser Asp Ala Tyr

930

935

940

Lys Asp Gln Ile Ser Val Leu Pro Asn Glu Gln Asp Leu Val Arg Glu
 945 950 955 960

Glu Ala Gln Lys Met Ser Ser Leu Leu Pro Thr Met Trp Leu Gly Ala
 965 970 975

Gln Asn Gly Cys Leu Tyr Val His Ser Ser Val Ala Gln Trp Arg Lys
 980 985 990

Cys Leu His Ser Ile Lys Leu Lys Asp Ser Ile Leu Ser Ile Val His
 995 1000 1005

Val Lys Gly Ile Val Leu Val Ala Leu Ala Asp Gly Thr Leu Ala
 1010 1015 1020

Ile Phe His Arg Gly Val Asp Gly Gln Trp Asp Leu Ser Asn Tyr
 1025 1030 1035

His Leu Leu Asp Leu Gly Arg Pro His His Ser Ile Arg Cys Met
 1040 1045 1050

Thr Val Val His Asp Lys Val Trp Cys Gly Tyr Arg Asn Lys Ile
 1055 1060 1065

Tyr Val Val Gln Pro Lys Ala Met Lys Ile Glu Lys Ser Phe Asp
 1070 1075 1080

Ala His Pro Arg Lys Glu Ser Gln Val Arg Gln Leu Ala Trp Val
 1085 1090 1095

Gly Asp Gly Val Trp Val Ser Ile Arg Leu Asp Ser Thr Leu Arg
 1100 1105 1110

Leu Tyr His Ala His Thr Tyr Gln His Leu Gln Asp Val Asp Ile
 1115 1120 1125

Glu Pro Tyr Val Ser Lys Met Leu Gly Thr Gly Lys Leu Gly Phe
 1130 1135 1140

Ser Phe Val Arg Ile Thr Ala Leu Met Val Ser Cys Asn Arg Leu
 1145 1150 1155

Trp Val Gly Thr Gly Asn Gly Val Ile Ile Ser Ile Pro Leu Thr
 1160 1165 1170

Glu Thr Asn Lys Thr Ser Gly Val Pro Gly Asn Arg Pro Gly Ser
 1175 1180 1185

Val Ile Arg Val Tyr Gly Asp Glu Asn Ser Asp Lys Val Thr Pro
 1190 1195 1200

Gly Thr Phe Ile Pro Tyr Cys Ser Met Ala His Ala Gln Leu Cys
 1205 1210 1215

Phe His Gly His Arg Asp Ala Val Lys Phe Phe Val Ala Val Pro
 1220 1225 1230

Gly Gln Val Ile Ser Pro Gln Ser Ser Ser Ser Gly Thr Asp Leu
 1235 1240 1245

Thr Gly Asp Lys Ala Gly Pro Ser Ala Gln Glu Pro Gly Ser Gln
 1250 1255 1260

Thr Pro Leu Lys Ser Met Leu Val Ile Ser Gly Gly Glu Gly Tyr
 1265 1270 1275

Ile Asp Phe Arg Met Gly Asp Glu Gly Gly Glu Ser Glu Leu Leu
 1280 1285 1290

Gly Glu Asp Leu Pro Leu Glu Pro Ser Val Thr Lys Ala Glu Arg
 1295 1300 1305

Ser His Leu Ile Val Trp Gln Val Met Tyr Gly Asn Glu

1310

1315

1320

<210> 144

<211> 854

<212> PRT

<213> Artificial Sequence

<220>

<223> AKAP-4 antigen

<400> 144

Met Met Ala Tyr Ser Asp Thr Thr Met Met Ser Asp Asp Ile Asp Trp
 1 5 10 15

Leu Arg Ser His Arg Gly Val Cys Lys Val Asp Leu Tyr Asn Pro Glu
 20 25 30

Gly Gln Gln Asp Gln Asp Arg Lys Val Ile Cys Phe Val Asp Val Ser
 35 40 45

Thr Leu Asn Val Glu Asp Lys Asp Tyr Lys Asp Ala Ala Ser Ser Ser
 50 55 60

Ser Glu Gly Asn Leu Asn Leu Gly Ser Leu Glu Glu Lys Glu Ile Ile
 65 70 75 80

Val Ile Lys Asp Thr Glu Lys Lys Asp Gln Ser Lys Thr Glu Gly Ser
 85 90 95

Val Cys Leu Phe Lys Gln Ala Pro Ser Asp Pro Val Ser Val Leu Asn
 100 105 110

Trp Leu Leu Ser Asp Leu Gln Lys Tyr Ala Leu Gly Phe Gln His Ala
 115 120 125

Leu Ser Pro Ser Thr Ser Thr Cys Lys His Lys Val Gly Asp Thr Glu
 130 135 140

Gly Glu Tyr His Arg Ala Ser Ser Glu Asn Cys Tyr Ser Val Tyr Ala

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

Lys Val His Ser Ser Gly Lys Pro Ile Pro Ala Ser Val Val Leu Lys
 355 360 365

Arg Val Leu Leu Arg His Thr Lys Glu Ile Val Ser Asp Leu Ile Asp
 370 375 380

Ser Cys Met Lys Asn Leu His Asn Ile Thr Gly Val Leu Met Thr Asp
 385 390 395 400

Ser Asp Phe Val Ser Ala Val Lys Arg Asn Leu Phe Asn Gln Trp Lys
 405 410 415

Gln Asn Ala Thr Asp Ile Met Glu Ala Met Leu Lys Arg Leu Val Ser
 420 425 430

Ala Leu Ile Gly Glu Glu Lys Glu Thr Lys Ser Gln Ser Leu Ser Tyr
 435 440 445

Ala Ser Leu Lys Ala Gly Ser His Asp Pro Lys Cys Arg Asn Gln Ser
 450 455 460

Leu Glu Phe Ser Thr Met Lys Ala Glu Met Lys Glu Arg Asp Lys Gly
 465 470 475 480

Lys Met Lys Ser Asp Pro Cys Lys Ser Leu Thr Ser Ala Glu Lys Val
 485 490 495

Gly Glu His Ile Leu Lys Glu Gly Leu Thr Ile Trp Asn Gln Lys Gln
 500 505 510

Gly Asn Ser Cys Lys Val Ala Thr Lys Ala Cys Ser Asn Lys Asp Glu
 515 520 525

Lys Gly Glu Lys Ile Asn Ala Ser Thr Asp Ser Leu Ala Lys Asp Leu
 530 535 540

Ile Val Ser Ala Leu Lys Leu Ile Gln Tyr His Leu Thr Gln Gln Thr

545		550		555		560
Lys Gly Lys Asp Thr Cys Glu Glu Asp Cys Pro Gly Ser Thr Met Gly						
		565		570		575
Tyr Met Ala Gln Ser Thr Gln Tyr Glu Lys Cys Gly Gly Gly Gln Ser						
		580		585		590
Ala Lys Ala Leu Ser Val Lys Gln Leu Glu Ser His Arg Ala Pro Gly						
		595		600		605
Pro Ser Thr Cys Gln Lys Glu Asn Gln His Leu Asp Ser Gln Lys Met						
		610		615		620
Asp Met Ser Asn Ile Val Leu Met Leu Ile Gln Lys Leu Leu Asn Glu						
		625		630		640
Asn Pro Phe Lys Cys Glu Asp Pro Cys Glu Gly Glu Asn Lys Cys Ser						
		645		650		655
Glu Pro Arg Ala Ser Lys Ala Ala Ser Met Ser Asn Arg Ser Asp Lys						
		660		665		670
Ala Glu Glu Gln Cys Gln Glu His Gln Glu Leu Asp Cys Thr Ser Gly						
		675		680		685
Met Lys Gln Ala Asn Gly Gln Phe Ile Asp Lys Leu Val Glu Ser Val						
		690		695		700
Met Lys Leu Cys Leu Ile Met Ala Lys Tyr Ser Asn Asp Gly Ala Ala						
		705		710		720
Leu Ala Glu Leu Glu Glu Gln Ala Ala Ser Ala Asn Lys Pro Asn Phe						
		725		730		735
Arg Gly Thr Arg Cys Ile His Ser Gly Ala Met Pro Gln Asn Tyr Gln						
		740		745		750

Asp Ser Leu Gly His Glu Val Ile Val Asn Asn Gln Cys Ser Thr Asn
 755 760 765

Ser Leu Gln Lys Gln Leu Gln Ala Val Leu Gln Trp Ile Ala Ala Ser
 770 775 780

Gln Phe Asn Val Pro Met Leu Tyr Phe Met Gly Asp Lys Asp Gly Gln
 785 790 795 800

Leu Glu Lys Leu Pro Gln Val Ser Ala Lys Ala Ala Glu Lys Gly Tyr
 805 810 815

Ser Val Gly Gly Leu Leu Gln Glu Val Met Lys Phe Ala Lys Glu Arg
 820 825 830

Gln Pro Asp Glu Ala Val Gly Lys Val Ala Arg Lys Gln Leu Leu Asp
 835 840 845

Trp Leu Leu Ala Asn Leu
 850

<210> 145
 <211> 663
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> BORIS antigen

<400> 145

Met Ala Ala Thr Glu Ile Ser Val Leu Ser Glu Gln Phe Thr Lys Ile
 1 5 10 15

Lys Glu Leu Glu Leu Met Pro Glu Lys Gly Leu Lys Glu Glu Glu Lys
 20 25 30

Asp Gly Val Cys Arg Glu Lys Asp His Arg Ser Pro Ser Glu Leu Glu
 35 40 45

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

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

Thr Leu Gln Thr Val His Phe Thr Ser Glu Ala Val Glu Leu Gln Asp
 85 90 95

Met Ser Leu Leu Ser Ile Gln Gln Gln Glu Gly Val Gln Val Val Val
 100 105 110

Gln Gln Pro Gly Pro Gly Leu Leu Trp Leu Glu Glu Gly Pro Arg Gln
 115 120 125

Ser Leu Gln Gln Cys Val Ala Ile Ser Ile Gln Gln Glu Leu Tyr Ser
 130 135 140

Pro Gln Glu Met Glu Val Leu Gln Phe His Ala Leu Glu Glu Asn Val
 145 150 155 160

Met Val Ala Ser Glu Asp Ser Lys Leu Ala Val Ser Leu Ala Glu Thr
 165 170 175

Thr Gly Leu Ile Lys Leu Glu Glu Glu Gln Glu Lys Asn Gln Leu Leu
 180 185 190

Ala Glu Arg Thr Lys Glu Gln Leu Phe Phe Val Glu Thr Met Ser Gly
 195 200 205

Asp Glu Arg Ser Asp Glu Ile Val Leu Thr Val Ser Asn Ser Asn Val
 210 215 220

Glu Glu Gln Glu Asp Gln Pro Thr Ala Gly Gln Ala Asp Ala Glu Lys
 225 230 235 240

Ala Lys Ser Thr Lys Asn Gln Arg Lys Thr Lys Gly Ala Lys Gly Thr

245

250

255

Phe His Cys Asp Val Cys Met Phe Thr Ser Ser Arg Met Ser Ser Phe
 260 265 270

Asn Arg His Met Lys Thr His Thr Ser Glu Lys Pro His Leu Cys His
 275 280 285

Leu Cys Leu Lys Thr Phe Arg Thr Val Thr Leu Leu Arg Asn His Val
 290 295 300

Asn Thr His Thr Gly Thr Arg Pro Tyr Lys Cys Asn Asp Cys Asn Met
 305 310 315 320

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

Thr His Glu Lys Pro Phe Lys Cys Ser Met Cys Lys Tyr Ala Ser Val
 340 345 350

Glu Ala Ser Lys Leu Lys Arg His Val Arg Ser His Thr Gly Glu Arg
 355 360 365

Pro Phe Gln Cys Cys Gln Cys Ser Tyr Ala Ser Arg Asp Thr Tyr Lys
 370 375 380

Leu Lys Arg His Met Arg Thr His Ser Gly Glu Lys Pro Tyr Glu Cys
 385 390 395 400

His Ile Cys His Thr Arg Phe Thr Gln Ser Gly Thr Met Lys Ile His
 405 410 415

Ile Leu Gln Lys His Gly Glu Asn Val Pro Lys Tyr Gln Cys Pro His
 420 425 430

Cys Ala Thr Ile Ile Ala Arg Lys Ser Asp Leu Arg Val His Met Arg
 435 440 445

Asn Leu His Ala Tyr Ser Ala Ala Glu Leu Lys Cys Arg Tyr Cys Ser
 450 455 460

Ala Val Phe His Glu Arg Tyr Ala Leu Ile Gln His Gln Lys Thr His
 465 470 475 480

Lys Asn Glu Lys Arg Phe Lys Cys Lys His Cys Ser Tyr Ala Cys Lys
 485 490 495

Gln Glu Arg His Met Thr Ala His Ile Arg Thr His Thr Gly Glu Lys
 500 505 510

Pro Phe Thr Cys Leu Ser Cys Asn Lys Cys Phe Arg Gln Lys Gln Leu
 515 520 525

Leu Asn Ala His Phe Arg Lys Tyr His Asp Ala Asn Phe Ile Pro Thr
 530 535 540

Val Tyr Lys Cys Ser Lys Cys Gly Lys Gly Phe Ser Arg Trp Ile Asn
 545 550 555 560

Leu His Arg His Ser Glu Lys Cys Gly Ser Gly Glu Ala Lys Ser Ala
 565 570 575

Ala Ser Gly Lys Gly Arg Arg Thr Arg Lys Arg Lys Gln Thr Ile Leu
 580 585 590

Lys Glu Ala Thr Lys Gly Gln Lys Glu Ala Ala Lys Gly Trp Lys Glu
 595 600 605

Ala Ala Asn Gly Asp Glu Ala Ala Ala Glu Glu Ala Ser Thr Thr Lys
 610 615 620

Gly Glu Gln Phe Pro Gly Glu Met Phe Pro Val Ala Cys Arg Glu Thr
 625 630 635 640

Thr Ala Arg Val Lys Glu Glu Val Asp Glu Gly Val Thr Cys Glu Met

645

650

655

Leu Leu Asn Thr Met Asp Lys
660

<210> 146

<211> 255

<212> PRT

<213> Artificial Sequence

<220>

<223> NY-SAR-35

<400> 146

Met Ser Ser His Arg Arg Lys Ala Lys Gly Arg Asn Arg Arg Ser His
1 5 10 15

Arg Ala Met Arg Val Ala His Leu Glu Leu Ala Thr Tyr Glu Leu Ala
20 25 30

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

Met Ala Asp Arg Pro Gln Pro Gly Trp Arg Glu Ser Leu Lys Met Arg
50 55 60

Val Ser Lys Pro Phe Gly Met Leu Met Leu Ser Ile Trp Ile Leu Leu
65 70 75 80

Phe Val Cys Tyr Tyr Leu Ser Tyr Tyr Leu Cys Ser Gly Ser Ser Tyr
85 90 95

Phe Val Leu Ala Asn Gly His Ile Leu Pro Asn Ser Glu Asn Ala His
100 105 110

Gly Gln Ser Leu Glu Glu Asp Ser Ala Leu Glu Ala Leu Leu Asn Phe
115 120 125

Phe Phe Pro Thr Thr Cys Asn Leu Arg Glu Asn Gln Val Ala Lys Pro

130

135

140

Cys Asn Glu Leu Gln Asp Leu Ser Glu Ser Glu Cys Leu Arg His Lys
 145 150 155 160

Cys Cys Phe Ser Ser Ser Gly Thr Thr Ser Phe Lys Cys Phe Ala Pro
 165 170 175

Phe Arg Asp Val Pro Lys Gln Met Met Gln Met Phe Gly Leu Gly Ala
 180 185 190

Ile Ser Leu Ile Leu Val Cys Leu Pro Ile Tyr Cys Arg Ser Leu Phe
 195 200 205

Trp Arg Ser Glu Pro Ala Asp Asp Leu Gln Arg Gln Asp Asn Arg Val
 210 215 220

Val Thr Gly Leu Lys Lys Gln Arg Arg Lys Arg Lys Arg Lys Ser Glu
 225 230 235 240

Met Leu Gln Lys Ala Ala Arg Gly Arg Glu Glu His Gly Asp Glu
 245 250 255

<210> 147

<211> 1341

<212> PRT

<213> Artificial Sequence

<220>

<223> NY-BR-1

<400> 147

Met Thr Lys Arg Lys Lys Thr Ile Asn Leu Asn Ile Gln Asp Ala Gln
 1 5 10 15

Lys Arg Thr Ala Leu His Trp Ala Cys Val Asn Gly His Glu Glu Val
 20 25 30

Val Thr Phe Leu Val Asp Arg Lys Cys Gln Leu Asp Val Leu Asp Gly

35

40

45

Glu His Arg Thr Pro Leu Met Lys Ala Leu Gln Cys His Gln Glu Ala
 50 55 60

Cys Ala Asn Ile Leu Ile Asp Ser Gly Ala Asp Ile Asn Leu Val Asp
 65 70 75 80

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

Ser Val Val Ala Lys Leu Leu Ser His Gly Ala Val Ile Glu Val His
 100 105 110

Asn Lys Ala Ser Leu Thr Pro Leu Leu Leu Ser Ile Thr Lys Arg Ser
 115 120 125

Glu Gln Ile Val Glu Phe Leu Leu Ile Lys Asn Ala Asn Ala Asn Ala
 130 135 140

Val Asn Lys Tyr Lys Cys Thr Ala Leu Met Leu Ala Val Cys His Gly
 145 150 155 160

Ser Ser Glu Ile Val Gly Met Leu Leu Gln Gln Asn Val Asp Val Phe
 165 170 175

Ala Ala Asp Ile Cys Gly Val Thr Ala Glu His Tyr Ala Val Thr Cys
 180 185 190

Gly Phe His His Ile His Glu Gln Ile Met Glu Tyr Ile Arg Lys Leu
 195 200 205

Ser Lys Asn His Gln Asn Thr Asn Pro Glu Gly Thr Ser Ala Gly Thr
 210 215 220

Pro Asp Glu Ala Ala Pro Leu Ala Glu Arg Thr Pro Asp Thr Ala Glu
 225 230 235 240

Ser Leu Val Glu Lys Thr Pro Asp Glu Ala Ala Pro Leu Val Glu Arg
245 250 255

Thr	Pro	Asp	Thr	Ala	Glu	Ser	Leu	Val	Glu	Lys	Thr	Pro	Asp	Glu	Ala
			260					265					270		

Ala Ser Leu Val Glu Gly Thr Ser Asp Lys Ile Gln Cys Leu Glu Lys
275 280 285

Ala Thr Ser Gly Lys Phe Glu Gln Ser Ala Glu Glu Thr Pro Arg Glu
290 295 300

Ile Thr Ser Pro Ala Lys Glu Thr Ser Glu Lys Phe Thr Trp Pro Ala
305 310 315 320

Lys Gly Arg Pro Arg Lys Ile Ala Trp Glu Lys Lys Glu Asp Thr Pro
325 330 335

Arg Glu Ile Met Ser Pro Ala Lys Glu Thr Ser Glu Lys Phe Thr Trp
340 345 350

Ala Ala Lys Gly Arg Pro Arg Lys Ile Ala Trp Glu Lys Lys Glu Thr
355 360 365

Pro Val Lys Thr Gly Cys Val Ala Arg Val Thr Ser Asn Lys Thr Lys
370 375 380

Val Leu Glu Lys Gly Arg Ser Lys Met Ile Ala Cys Pro Thr Lys Glu
385 390 395 400

Ser Ser Thr Lys Ala Ser Ala Asn Asp Gln Arg Phe Pro Ser Glu Ser
405 410 415

Lys Gln Glu Glu Asp Glu Glu Tyr Ser Cys Asp Ser Arg Ser Leu Phe
420 425 430

Glu Ser Ser Ala Lys Ile Gln Val Cys Ile Pro Glu Ser Ile Tyr Gln

435

440

445

Lys Val Met Glu Ile Asn Arg Glu Val Glu Glu Pro Pro Lys Lys Pro
 450 455 460

Ser Ala Phe Lys Pro Ala Ile Glu Met Gln Asn Ser Val Pro Asn Lys
 465 470 475 480

Ala Phe Glu Leu Lys Asn Glu Gln Thr Leu Arg Ala Asp Pro Met Phe
 485 490 495

Pro Pro Glu Ser Lys Gln Lys Asp Tyr Glu Glu Asn Ser Trp Asp Ser
 500 505 510

Glu Ser Leu Cys Glu Thr Val Ser Gln Lys Asp Val Cys Leu Pro Lys
 515 520 525

Ala Thr His Gln Lys Glu Ile Asp Lys Ile Asn Gly Lys Leu Glu Glu
 530 535 540

Ser Pro Asn Lys Asp Gly Leu Leu Lys Ala Thr Cys Gly Met Lys Val
 545 550 555 560

Ser Ile Pro Thr Lys Ala Leu Glu Leu Lys Asp Met Gln Thr Phe Lys
 565 570 575

Ala Glu Pro Pro Gly Lys Pro Ser Ala Phe Glu Pro Ala Thr Glu Met
 580 585 590

Gln Lys Ser Val Pro Asn Lys Ala Leu Glu Leu Lys Asn Glu Gln Thr
 595 600 605

Leu Arg Ala Asp Glu Ile Leu Pro Ser Glu Ser Lys Gln Lys Asp Tyr
 610 615 620

Glu Glu Asn Ser Trp Asp Thr Glu Ser Leu Cys Glu Thr Val Ser Gln
 625 630 635 640

Lys Asp Val Cys Leu Pro Lys Ala Ala His Gln Lys Glu Ile Asp Lys
 645 650 655

Ile Asn Gly Lys Leu Glu Gly Ser Pro Val Lys Asp Gly Leu Leu Lys
 660 665 670

Ala Asn Cys Gly Met Lys Val Ser Ile Pro Thr Lys Ala Leu Glu Leu
 675 680 685

Met Asp Met Gln Thr Phe Lys Ala Glu Pro Pro Glu Lys Pro Ser Ala
 690 695 700

Phe Glu Pro Ala Ile Glu Met Gln Lys Ser Val Pro Asn Lys Ala Leu
 705 710 715 720

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

Glu Ser Lys Gln Lys Asp Tyr Glu Glu Ser Ser Trp Asp Ser Glu Ser
 740 745 750

Leu Cys Glu Thr Val Ser Gln Lys Asp Val Cys Leu Pro Lys Ala Thr
 755 760 765

His Gln Lys Glu Ile Asp Lys Ile Asn Gly Lys Leu Glu Glu Ser Pro
 770 775 780

Asp Asn Asp Gly Phe Leu Lys Ala Pro Cys Arg Met Lys Val Ser Ile
 785 790 795 800

Pro Thr Lys Ala Leu Glu Leu Met Asp Met Gln Thr Phe Lys Ala Glu
 805 810 815

Pro Pro Glu Lys Pro Ser Ala Phe Glu Pro Ala Ile Glu Met Gln Lys
 820 825 830

Ser Val Pro Asn Lys Ala Leu Glu Leu Lys Asn Glu Gln Thr Leu Arg

835

840

845

Ala Asp Gln Met Phe Pro Ser Glu Ser Lys Gln Lys Lys Val Glu Glu
 850 855 860

Asn Ser Trp Asp Ser Glu Ser Leu Arg Glu Thr Val Ser Gln Lys Asp
 865 870 875 880

Val Cys Val Pro Lys Ala Thr His Gln Lys Glu Met Asp Lys Ile Ser
 885 890 895

Gly Lys Leu Glu Asp Ser Thr Ser Leu Ser Lys Ile Leu Asp Thr Val
 900 905 910

His Ser Cys Glu Arg Ala Arg Glu Leu Gln Lys Asp His Cys Glu Gln
 915 920 925

Arg Thr Gly Lys Met Glu Gln Met Lys Lys Lys Phe Cys Val Leu Lys
 930 935 940

Lys Lys Leu Ser Glu Ala Lys Glu Ile Lys Ser Gln Leu Glu Asn Gln
 945 950 955 960

Lys Val Lys Trp Glu Gln Glu Leu Cys Ser Val Arg Leu Thr Leu Asn
 965 970 975

Gln Glu Glu Glu Lys Arg Arg Asn Ala Asp Ile Leu Asn Glu Lys Ile
 980 985 990

Arg Glu Glu Leu Gly Arg Ile Glu Glu Gln His Arg Lys Glu Leu Glu
 995 1000 1005

Val Lys Gln Gln Leu Glu Gln Ala Leu Arg Ile Gln Asp Ile Glu
 1010 1015 1020

Leu Lys Ser Val Glu Ser Asn Leu Asn Gln Val Ser His Thr His
 1025 1030 1035

Glu Asn Glu Asn Tyr Leu Leu His Glu Asn Cys Met Leu Lys Lys
 1040 1045 1050

Glu Ile Ala Met Leu Lys Leu Glu Ile Ala Thr Leu Lys His Gln
 1055 1060 1065

Tyr Gln Glu Lys Glu Asn Lys Tyr Phe Glu Asp Ile Lys Ile Leu
 1070 1075 1080

Lys Glu Lys Asn Ala Glu Leu Gln Met Thr Leu Lys Leu Lys Glu
 1085 1090 1095

Glu Ser Leu Thr Lys Arg Ala Ser Gln Tyr Ser Gly Gln Leu Lys
 1100 1105 1110

Val Leu Ile Ala Glu Asn Thr Met Leu Thr Ser Lys Leu Lys Glu
 1115 1120 1125

Lys Gln Asp Lys Glu Ile Leu Glu Ala Glu Ile Glu Ser His His
 1130 1135 1140

Pro Arg Leu Ala Ser Ala Val Gln Asp His Asp Gln Ile Val Thr
 1145 1150 1155

Ser Arg Lys Ser Gln Glu Pro Ala Phe His Ile Ala Gly Asp Ala
 1160 1165 1170

Cys Leu Gln Arg Lys Met Asn Val Asp Val Ser Ser Thr Ile Tyr
 1175 1180 1185

Asn Asn Glu Val Leu His Gln Pro Leu Ser Glu Ala Gln Arg Lys
 1190 1195 1200

Ser Lys Ser Leu Lys Ile Asn Leu Asn Tyr Ala Gly Asp Ala Leu
 1205 1210 1215

Arg Glu Asn Thr Leu Val Ser Glu His Ala Gln Arg Asp Gln Arg

1220

1225

1230

Glu Thr Gln Cys Gln Met Lys Glu Ala Glu His Met Tyr Gln Asn
 1235 1240 1245

Glu Gln Asp Asn Val Asn Lys His Thr Glu Gln Gln Glu Ser Leu
 1250 1255 1260

Asp Gln Lys Leu Phe Gln Leu Gln Ser Lys Asn Met Trp Leu Gln
 1265 1270 1275

Gln Gln Leu Val His Ala His Lys Lys Ala Asp Asn Lys Ser Lys
 1280 1285 1290

Ile Thr Ile Asp Ile His Phe Leu Glu Arg Lys Met Gln His His
 1295 1300 1305

Leu Leu Lys Glu Lys Asn Glu Glu Ile Phe Asn Tyr Asn Asn His
 1310 1315 1320

Leu Lys Asn Arg Ile Tyr Gln Tyr Glu Lys Glu Lys Ala Glu Thr
 1325 1330 1335

Glu Asn Ser
 1340

<210> 148

<211> 142

<212> PRT

<213> Artificial Sequence

<220>

<223> SURVIVIN antigen

<400> 148

Met Gly Ala Pro Thr Leu Pro Pro Ala Trp Gln Pro Phe Leu Lys Asp
 1 5 10 15

His Arg Ile Ser Thr Phe Lys Asn Trp Pro Phe Leu Glu Gly Cys Ala

20

25

30

Cys Thr Pro Glu Arg Met Ala Glu Ala Gly Phe Ile His Cys Pro Thr
 35 40 45

Glu Asn Glu Pro Asp Leu Ala Gln Cys Phe Phe Cys Phe Lys Glu Leu
 50 55 60

Glu Gly Trp Glu Pro Asp Asp Asp Pro Ile Glu Glu His Lys Lys His
 65 70 75 80

Ser Ser Gly Cys Ala Phe Leu Ser Val Lys Lys Gln Phe Glu Glu Leu
 85 90 95

Thr Leu Gly Glu Phe Leu Lys Leu Asp Arg Glu Arg Ala Lys Asn Lys
 100 105 110

Ile Ala Lys Glu Thr Asn Asn Lys Lys Lys Glu Phe Glu Glu Thr Ala
 115 120 125

Lys Lys Val Arg Arg Ala Ile Glu Gln Leu Ala Ala Met Asp
 130 135 140

<210> 149

<211> 429

<212> PRT

<213> Artificial Sequence

<220>

<223> MAGE-A11

<400> 149

Met Glu Thr Gln Phe Arg Arg Gly Gly Leu Gly Cys Ser Pro Ala Ser
 1 5 10 15

Ile Lys Arg Lys Lys Lys Arg Glu Asp Ser Gly Asp Phe Gly Leu Gln
 20 25 30

Val Ser Thr Met Phe Ser Glu Asp Asp Phe Gln Ser Thr Glu Arg Ala

35

40

45

Pro Tyr Gly Pro Gln Leu Gln Trp Ser Gln Asp Leu Pro Arg Val Gln
 50 55 60

Val Phe Arg Glu Gln Ala Asn Leu Glu Asp Arg Ser Pro Arg Arg Thr
 65 70 75 80

Gln Arg Ile Thr Gly Gly Glu Gln Val Leu Trp Gly Pro Ile Thr Gln
 85 90 95

Ile Phe Pro Thr Val Arg Pro Ala Asp Leu Thr Arg Val Ile Met Pro
 100 105 110

Leu Glu Gln Arg Ser Gln His Cys Lys Pro Glu Glu Gly Leu Gln Ala
 115 120 125

Gln Glu Glu Asp Leu Gly Leu Val Gly Ala Gln Ala Leu Gln Ala Glu
 130 135 140

Glu Gln Glu Ala Ala Phe Phe Ser Ser Thr Leu Asn Val Gly Thr Leu
 145 150 155 160

Glu Glu Leu Pro Ala Ala Glu Ser Pro Ser Pro Pro Gln Ser Pro Gln
 165 170 175

Glu Glu Ser Phe Ser Pro Thr Ala Met Asp Ala Ile Phe Gly Ser Leu
 180 185 190

Ser Asp Glu Gly Ser Gly Ser Gln Glu Lys Glu Gly Pro Ser Thr Ser
 195 200 205

Pro Asp Leu Ile Asp Pro Glu Ser Phe Ser Gln Asp Ile Leu His Asp
 210 215 220

Lys Ile Ile Asp Leu Val His Leu Leu Leu Arg Lys Tyr Arg Val Lys
 225 230 235 240

Gly Leu Ile Thr Lys Ala Glu Met Leu Gly Ser Val Ile Lys Asn Tyr
 245 250 255

Glu Asp Tyr Phe Pro Glu Ile Phe Arg Glu Ala Ser Val Cys Met Gln
 260 265 270

Leu Leu Phe Gly Ile Asp Val Lys Glu Val Asp Pro Thr Ser His Ser
 275 280 285

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

Asn Glu Gln Ser Met Pro Lys Ser Gly Leu Leu Ile Ile Val Leu Gly
 305 310 315 320

Val Ile Phe Met Glu Gly Asn Cys Ile Pro Glu Glu Val Met Trp Glu
 325 330 335

Val Leu Ser Ile Met Gly Val Tyr Ala Gly Arg Glu His Phe Leu Phe
 340 345 350

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

Leu Val Tyr Arg Gln Val Pro Gly Thr Asp Pro Ala Cys Tyr Glu Phe
 370 375 380

Leu Trp Gly Pro Arg Ala His Ala Glu Thr Ser Lys Met Lys Val Leu
 385 390 395 400

Glu Tyr Ile Ala Asn Ala Asn Gly Arg Asp Pro Thr Ser Tyr Pro Ser
 405 410 415

Leu Tyr Glu Asp Ala Leu Arg Glu Glu Gly Glu Gly Val
 420 425

<210> 150

<211> 509
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> PRAME antigen

<400> 150

Met Glu Arg Arg Arg Leu Trp Gly Ser Ile Gln Ser Arg Tyr Ile Ser
 1 5 10 15

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

Ser Leu Leu Lys Asp Glu Ala Leu Ala Ile Ala Ala Leu Glu Leu Leu
 35 40 45

Pro Arg Glu Leu Phe Pro Pro Leu Phe Met Ala Ala Phe Asp Gly Arg
 50 55 60

His Ser Gln Thr Leu Lys Ala Met Val Gln Ala Trp Pro Phe Thr Cys
 65 70 75 80

Leu Pro Leu Gly Val Leu Met Lys Gly Gln His Leu His Leu Glu Thr
 85 90 95

Phe Lys Ala Val Leu Asp Gly Leu Asp Val Leu Leu Ala Gln Glu Val
 100 105 110

Arg Pro Arg Arg Trp Lys Leu Gln Val Leu Asp Leu Arg Lys Asn Ser
 115 120 125

His Gln Asp Phe Trp Thr Val Trp Ser Gly Asn Arg Ala Ser Leu Tyr
 130 135 140

Ser Phe Pro Glu Pro Glu Ala Ala Gln Pro Met Thr Lys Lys Arg Lys
 145 150 155 160

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

165

170

175

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

Ser Tyr Leu Ile Glu Lys Val Lys Arg Lys Lys Asn Val Leu Arg Leu
 195 200 205

Cys Cys Lys Lys Leu Lys Ile Phe Ala Met Pro Met Gln Asp Ile Lys
 210 215 220

Met Ile Leu Lys Met Val Gln Leu Asp Ser Ile Glu Asp Leu Glu Val
 225 230 235 240

Thr Cys Thr Trp Lys Leu Pro Thr Leu Ala Lys Phe Ser Pro Tyr Leu
 245 250 255

Gly Gln Met Ile Asn Leu Arg Arg Leu Leu Leu Ser His Ile His Ala
 260 265 270

Ser Ser Tyr Ile Ser Pro Glu Lys Glu Glu Gln Tyr Ile Ala Gln Phe
 275 280 285

Thr Ser Gln Phe Leu Ser Leu Gln Cys Leu Gln Ala Leu Tyr Val Asp
 290 295 300

Ser Leu Phe Phe Leu Arg Gly Arg Leu Asp Gln Leu Leu Arg His Val
 305 310 315 320

Met Asn Pro Leu Glu Thr Leu Ser Ile Thr Asn Cys Arg Leu Ser Glu
 325 330 335

Gly Asp Val Met His Leu Ser Gln Ser Pro Ser Val Ser Gln Leu Ser
 340 345 350

Val Leu Ser Leu Ser Gly Val Met Leu Thr Asp Val Ser Pro Glu Pro
 355 360 365

Leu Gln Ala Leu Leu Glu Arg Ala Ser Ala Thr Leu Gln Asp Leu Val
 370 375 380

Phe Asp Glu Cys Gly Ile Thr Asp Asp Gln Leu Leu Ala Leu Leu Pro
 385 390 395 400

Ser Leu Ser His Cys Ser Gln Leu Thr Thr Leu Ser Phe Tyr Gly Asn
 405 410 415

Ser Ile Ser Ile Ser Ala Leu Gln Ser Leu Leu Gln His Leu Ile Gly
 420 425 430

Leu Ser Asn Leu Thr His Val Leu Tyr Pro Val Pro Leu Glu Ser Tyr
 435 440 445

Glu Asp Ile His Gly Thr Leu His Leu Glu Arg Leu Ala Tyr Leu His
 450 455 460

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

Trp Leu Ser Ala Asn Pro Cys Pro His Cys Gly Asp Arg Thr Phe Tyr
 485 490 495

Asp Pro Glu Pro Ile Leu Cys Pro Cys Phe Met Pro Asn
 500 505

<210> 151

<211> 315

<212> PRT

<213> Artificial Sequence

<220>

<223> MAGE-A9 antigen

<400> 151

Met Ser Leu Glu Gln Arg Ser Pro His Cys Lys Pro Asp Glu Asp Leu
 1 5 10 15

Glu Ala Gln Gly Glu Asp Leu Gly Leu Met Gly Ala Gln Glu Pro Thr
 20 25 30

Gly Glu Glu Glu Glu Thr Thr Ser Ser Ser Asp Ser Lys Glu Glu Glu
 35 40 45

Val Ser Ala Ala Gly Ser Ser Ser Pro Pro Gln Ser Pro Gln Gly Gly
 50 55 60

Ala Ser Ser Ser Ile Ser Val Tyr Tyr Thr Leu Trp Ser Gln Phe Asp
 65 70 75 80

Glu Gly Ser Ser Ser Gln Glu Glu Glu Glu Pro Ser Ser Ser Val Asp
 85 90 95

Pro Ala Gln Leu Glu Phe Met Phe Gln Glu Ala Leu Lys Leu Lys Val
 100 105 110

Ala Glu Leu Val His Phe Leu Leu His Lys Tyr Arg Val Lys Glu Pro
 115 120 125

Val Thr Lys Ala Glu Met Leu Glu Ser Val Ile Lys Asn Tyr Lys Arg
 130 135 140

Tyr Phe Pro Val Ile Phe Gly Lys Ala Ser Glu Phe Met Gln Val Ile
 145 150 155 160

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

Leu Val Thr Ala Leu Gly Leu Ser Cys Asp Ser Met Leu Gly Asp Gly
 180 185 190

His Ser Met Pro Lys Ala Ala Leu Leu Ile Ile Val Leu Gly Val Ile
 195 200 205

Leu Thr Lys Asp Asn Cys Ala Pro Glu Glu Val Ile Trp Glu Ala Leu

210

215

220

Ser Val Met Gly Val Tyr Val Gly Lys Glu His Met Phe Tyr Gly Glu
 225 230 235 240

Pro Arg Lys Leu Leu Thr Gln Asp Trp Val Gln Glu Asn Tyr Leu Glu
 245 250 255

Tyr Arg Gln Val Pro Gly Ser Asp Pro Ala His Tyr Glu Phe Leu Trp
 260 265 270

Gly Ser Lys Ala His Ala Glu Thr Ser Tyr Glu Lys Val Ile Asn Tyr
 275 280 285

Leu Val Met Leu Asn Ala Arg Glu Pro Ile Cys Tyr Pro Ser Leu Tyr
 290 295 300

Glu Glu Val Leu Gly Glu Glu Gln Glu Gly Val
 305 310 315

<210> 152
 <211> 313
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HOME-TES-85

<400> 152

Met Ala Ser Phe Arg Lys Leu Thr Leu Ser Glu Lys Val Pro Pro Asn
 1 5 10 15

His Pro Ser Arg Lys Lys Val Asn Phe Leu Asp Met Ser Leu Asp Asp
 20 25 30

Ile Ile Ile Tyr Lys Glu Leu Glu Gly Thr Asn Ala Glu Glu Glu Lys
 35 40 45

Asn Lys Arg Gln Asn His Ser Lys Lys Glu Ser Pro Ser Arg Gln Gln

50

55

60

Ser Lys Ala His Arg His Arg His Arg Arg Gly Tyr Ser Arg Cys Arg
 65 70 75 80

Ser Asn Ser Glu Glu Gly Asn His Asp Lys Lys Pro Ser Gln Lys Pro
 85 90 95

Ser Gly Phe Lys Ser Gly Gln His Pro Leu Asn Gly Gln Pro Leu Ile
 100 105 110

Glu Gln Glu Lys Cys Ser Asp Asn Tyr Glu Ala Gln Ala Glu Lys Asn
 115 120 125

Gln Gly Gln Ser Glu Gly Asn Gln His Gln Ser Glu Gly Asn Pro Asp
 130 135 140

Lys Ser Glu Glu Ser Gln Gly Gln Pro Glu Glu Asn His His Ser Glu
 145 150 155 160

Arg Ser Arg Asn His Leu Glu Arg Ser Leu Ser Gln Ser Asp Arg Ser
 165 170 175

Gln Gly Gln Leu Lys Arg His His Pro Gln Tyr Glu Arg Ser His Gly
 180 185 190

Gln Tyr Lys Arg Ser His Gly Gln Ser Glu Arg Ser His Gly His Ser
 195 200 205

Glu Arg Ser His Gly His Ser Glu Arg Ser His Gly His Ser Glu Arg
 210 215 220

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

Thr Gln Ser Asp Leu Ile Ala Thr Gln Arg Asp Leu Ile Ala Thr Gln
 245 250 255

Lys Asp Leu Ile Ala Thr Gln Arg Asp Leu Ile Ala Thr Gln Arg Asp
 260 265 270

Leu Ile Val Thr Gln Arg Asp Leu Val Ala Thr Glu Arg Asp Leu Ile
 275 280 285

Asn Gln Ser Gly Arg Ser His Gly Gln Ser Glu Arg His Gln Arg Tyr
 290 295 300

Ser Thr Gly Lys Asn Thr Ile Thr Thr
 305 310

<210> 153

<211> 385

<212> PRT

<213> Artificial Sequence

<220>

<223> TSP50 antigen

<400> 153

Met Gly Arg Trp Cys Gln Thr Val Ala Arg Gly Gln Arg Pro Arg Thr
 1 5 10 15

Ser Ala Pro Ser Arg Ala Gly Ala Leu Leu Leu Leu Leu Leu Leu
 20 25 30

Arg Ser Ala Gly Cys Trp Gly Ala Gly Glu Ala Pro Gly Ala Leu Ser
 35 40 45

Thr Ala Asp Pro Ala Asp Gln Ser Val Gln Cys Val Pro Lys Ala Thr
 50 55 60

Cys Pro Ser Ser Arg Pro Arg Leu Leu Trp Gln Thr Pro Thr Thr Gln
 65 70 75 80

Thr Leu Pro Ser Thr Thr Met Glu Thr Gln Phe Pro Val Ser Glu Gly
 85 90 95

Lys Val Asp Pro Tyr Arg Ser Cys Gly Phe Ser Tyr Glu Gln Asp Pro
 100 105 110

Thr Leu Arg Asp Pro Glu Ala Val Ala Arg Arg Trp Pro Trp Met Val
 115 120 125

Ser Val Arg Ala Asn Gly Thr His Ile Cys Ala Gly Thr Ile Ile Ala
 130 135 140

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

Ile Tyr Ser Val Arg Val Gly Ser Pro Trp Ile Asp Gln Met Thr Gln
 165 170 175

Thr Ala Ser Asp Val Pro Val Leu Gln Val Ile Met His Ser Arg Tyr
 180 185 190

Arg Ala Gln Arg Phe Trp Ser Trp Val Gly Gln Ala Asn Asp Ile Gly
 195 200 205

Leu Leu Lys Leu Lys Gln Glu Leu Lys Tyr Ser Asn Tyr Val Arg Pro
 210 215 220

Ile Cys Leu Pro Gly Thr Asp Tyr Val Leu Lys Asp His Ser Arg Cys
 225 230 235 240

Thr Val Thr Gly Trp Gly Leu Ser Lys Ala Asp Gly Met Trp Pro Gln
 245 250 255

Phe Arg Thr Ile Gln Glu Lys Glu Val Ile Ile Leu Asn Asn Lys Glu
 260 265 270

Cys Asp Asn Phe Tyr His Asn Phe Thr Lys Ile Pro Thr Leu Val Gln
 275 280 285

Ile Ile Lys Ser Gln Met Met Cys Ala Glu Asp Thr His Arg Glu Lys

290

295

300

Phe Cys Tyr Glu Leu Thr Gly Glu Pro Leu Val Cys Ser Met Glu Gly
 305 310 315 320

Thr Trp Tyr Leu Val Gly Leu Val Ser Trp Gly Ala Gly Cys Gln Lys
 325 330 335

Ser Glu Ala Pro Pro Ile Tyr Leu Gln Val Ser Ser Tyr Gln His Trp
 340 345 350

Ile Trp Asp Cys Leu Asn Gly Gln Ala Leu Ala Leu Pro Ala Pro Ser
 355 360 365

Arg Thr Leu Leu Leu Ala Leu Pro Leu Pro Leu Ser Leu Leu Ala Ala
 370 375 380

Leu
 385

<210> 154

<211> 314

<212> PRT

<213> Artificial Sequence

<220>

<223> EpCAM antigen

<400> 154

Met Ala Pro Pro Gln Val Leu Ala Phe Gly Leu Leu Leu Ala Ala Ala
 1 5 10 15

Thr Ala Thr Phe Ala Ala Ala Gln Glu Glu Cys Val Cys Glu Asn Tyr
 20 25 30

Lys Leu Ala Val Asn Cys Phe Val Asn Asn Asn Arg Gln Cys Gln Cys
 35 40 45

Thr Ser Val Gly Ala Gln Asn Thr Val Ile Cys Ser Lys Leu Ala Ala

50

55

60

Lys Cys Leu Val Met Lys Ala Glu Met Asn Gly Ser Lys Leu Gly Arg
 65 70 75 80

Arg Ala Lys Pro Glu Gly Ala Leu Gln Asn Asn Asp Gly Leu Tyr Asp
 85 90 95

Pro Asp Cys Asp Glu Ser Gly Leu Phe Lys Ala Lys Gln Cys Asn Gly
 100 105 110

Thr Ser Met Cys Trp Cys Val Asn Thr Ala Gly Val Arg Arg Thr Asp
 115 120 125

Lys Asp Thr Glu Ile Thr Cys Ser Glu Arg Val Arg Thr Tyr Trp Ile
 130 135 140

Ile Ile Glu Leu Lys His Lys Ala Arg Glu Lys Pro Tyr Asp Ser Lys
 145 150 155 160

Ser Leu Arg Thr Ala Leu Gln Lys Glu Ile Thr Thr Arg Tyr Gln Leu
 165 170 175

Asp Pro Lys Phe Ile Thr Ser Ile Leu Tyr Glu Asn Asn Val Ile Thr
 180 185 190

Ile Asp Leu Val Gln Asn Ser Ser Gln Lys Thr Gln Asn Asp Val Asp
 195 200 205

Ile Ala Asp Val Ala Tyr Tyr Phe Glu Lys Asp Val Lys Gly Glu Ser
 210 215 220

Leu Phe His Ser Lys Lys Met Asp Leu Thr Val Asn Gly Glu Gln Leu
 225 230 235 240

Asp Leu Asp Pro Gly Gln Thr Leu Ile Tyr Tyr Val Asp Glu Lys Ala
 245 250 255

Pro Glu Phe Ser Met Gln Gly Leu Lys Ala Gly Val Ile Ala Val Ile
 260 265 270

Val Val Val Val Ile Ala Val Val Ala Gly Ile Val Val Leu Val Ile
 275 280 285

Ser Arg Lys Lys Arg Met Ala Lys Tyr Glu Lys Ala Glu Ile Lys Glu
 290 295 300

Met Gly Glu Met His Arg Glu Leu Asn Ala
 305 310

<210> 155

<211> 777

<212> PRT

<213> Artificial Sequence

<220>

<223> CAGE1 antigen

<400> 155

Met Asn Lys Asp Tyr Gln Lys Phe Trp Ser Ser Pro Ser Asp Pro Val
 1 5 10 15

His Phe Glu Val Asp Thr Ser His Glu Lys Val Glu Ser Met Ser Glu
 20 25 30

Ser Asp Thr Met Asn Val Ser Asn Leu Ser Gln Gly Val Met Leu Ser
 35 40 45

His Ser Pro Ile Cys Met Glu Thr Thr Gly Thr Thr Cys Asp Leu Pro
 50 55 60

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

Leu Cys Glu Asp Ala Tyr Gly Thr Leu Asp Asn Leu Leu Asn Asp Asn
 85 90 95

Asn Ile Glu Asn Tyr Ser Thr Asn Ala Leu Ile Gln Pro Val Asp Thr
 100 105 110

Ile Ser Ile Ser Ser Leu Arg Gln Phe Glu Thr Val Cys Lys Phe His
 115 120 125

Trp Val Glu Ala Phe Asp Asp Glu Met Thr Glu Lys Pro Glu Phe Gln
 130 135 140

Ser Gln Val Tyr Asn Tyr Ala Lys Asp Asn Asn Ile Lys Gln Asp Ser
 145 150 155 160

Phe Lys Glu Glu Asn Pro Met Glu Thr Ser Val Ser Ala Asn Thr Asp
 165 170 175

Gln Leu Gly Asn Glu Tyr Phe Arg Gln Pro Pro Pro Arg Ser Pro Pro
 180 185 190

Leu Ile His Cys Ser Gly Glu Met Leu Lys Phe Thr Glu Lys Ser Leu
 195 200 205

Ala Lys Ser Ile Ala Lys Glu Ser Ala Leu Asn Pro Ser Gln Pro Pro
 210 215 220

Ser Phe Leu Cys Lys Thr Ala Val Pro Ser Lys Glu Ile Gln Asn Tyr
 225 230 235 240

Gly Glu Ile Pro Glu Met Ser Val Ser Tyr Glu Lys Glu Val Thr Ala
 245 250 255

Glu Gly Val Glu Arg Pro Glu Ile Val Ser Thr Trp Ser Ser Ala Gly
 260 265 270

Ile Ser Trp Arg Ser Glu Ala Cys Arg Glu Asn Cys Glu Met Pro Asp
 275 280 285

Trp Glu Gln Ser Ala Glu Ser Leu Gln Pro Val Gln Glu Asp Met Ala

290

295

300

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

Val Arg Ile Gln Glu Leu Gln Cys Ser Asn Leu Tyr Leu Glu Lys Arg
 325 330 335

Val Lys Glu Leu Gln Met Lys Ile Thr Lys Gln Gln Val Phe Ile Asp
 340 345 350

Val Ile Asn Lys Leu Lys Glu Asn Val Glu Glu Leu Ile Glu Asp Lys
 355 360 365

Tyr Lys Ile Ile Leu Glu Lys Asn Asp Thr Lys Lys Thr Leu Gln Asn
 370 375 380

Leu Glu Glu Val Leu Ala Asn Thr Gln Lys His Leu Gln Glu Ser Arg
 385 390 395 400

Asn Asp Lys Glu Met Leu Gln Leu Gln Phe Lys Lys Ile Lys Ala Asn
 405 410 415

Tyr Val Cys Leu Gln Glu Arg Tyr Met Thr Glu Met Gln Gln Lys Asn
 420 425 430

Lys Ser Val Ser Gln Tyr Leu Glu Met Asp Lys Thr Leu Ser Lys Lys
 435 440 445

Glu Glu Glu Val Glu Arg Leu Gln Gln Leu Lys Lys Glu Leu Glu Lys
 450 455 460

Ala Thr Ala Ser Ala Leu Asp Leu Leu Lys Arg Glu Lys Glu Ala Gln
 465 470 475 480

Glu Gln Glu Phe Leu Ser Leu Gln Glu Glu Phe Gln Lys Leu Glu Lys
 485 490 495

Glu Asn Leu Glu Glu Arg Gln Lys Leu Lys Ser Arg Leu Glu Lys Leu
 500 505 510

Leu Thr Gln Val Arg Asn Leu Gln Phe Met Ser Glu Asn Glu Arg Thr
 515 520 525

Lys Asn Ile Lys Leu Gln Gln Gln Ile Asn Glu Val Lys Asn Glu Asn
 530 535 540

Ala Lys Leu Lys Gln Gln Val Ala Arg Ser Glu Glu Gln Asn Tyr Val
 545 550 555 560

Pro Lys Phe Glu Thr Ala Gln Leu Lys Asp Gln Leu Glu Glu Val Leu
 565 570 575

Lys Ser Asp Ile Thr Lys Asp Thr Lys Thr Thr His Ser Asn Leu Leu
 580 585 590

Pro Asp Cys Ser Pro Cys Glu Glu Arg Leu Asn Pro Ala Asp Ile Lys
 595 600 605

Arg Ala Ser Gln Leu Ala Ser Lys Met His Ser Leu Leu Ala Leu Met
 610 615 620

Val Gly Leu Leu Thr Cys Gln Asp Ile Ile Asn Ser Asp Ala Glu His
 625 630 635 640

Phe Lys Glu Ser Glu Lys Val Ser Asp Ile Met Leu Gln Lys Leu Lys
 645 650 655

Ser Leu His Leu Lys Lys Lys Thr Leu Asp Lys Glu Val Ile Asp Cys
 660 665 670

Asp Ser Asp Glu Ala Lys Ser Ile Arg Asp Val Pro Thr Leu Leu Gly
 675 680 685

Ala Lys Leu Asp Lys Tyr His Ser Leu Asn Glu Glu Leu Asp Phe Leu

690

695

700

Val Thr Ser Tyr Glu Glu Ile Ile Glu Cys Ala Asp Gln Arg Leu Ala
 705 710 715 720

Ile Ser His Ser Gln Ile Ala His Leu Glu Glu Arg Asn Lys His Leu
 725 730 735

Glu Asp Leu Ile Arg Lys Pro Arg Glu Lys Ala Arg Lys Pro Arg Ser
 740 745 750

Lys Ser Leu Glu Asn His Pro Lys Ser Met Thr Met Met Pro Ala Leu
 755 760 765

Phe Lys Glu Asn Arg Asn Asp Leu Asp
 770 775

<210> 156
 <211> 442
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> FBX039 antigen

<400> 156

Met Asp Glu Glu Ser Glu Leu Ile Gln Pro Gln Asp Gln Ser Cys Trp
 1 5 10 15

Ala Phe Leu Pro Asp Leu Cys Leu Cys Arg Val Phe Trp Trp Leu Gly
 20 25 30

Asp Arg Asp Arg Ser Arg Ala Ala Leu Val Cys Arg Lys Trp Asn Gln
 35 40 45

Met Met Tyr Ser Ala Glu Leu Trp Arg Tyr Arg Thr Ile Thr Phe Ser
 50 55 60

Gly Arg Pro Ser Arg Val His Ala Ser Glu Val Glu Ser Ala Val Trp

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

Trp Ala Lys Leu Ala Arg Gln Ala Thr Asn Leu Lys Val Asn Phe Phe
 275 280 285

Phe Glu Arg Ile Met Lys Tyr Glu Arg Leu Ala Arg Ile Leu Leu Gln
 290 295 300

Glu Ile Pro Ile Arg Ser Ile Ser Leu Arg Ser Cys Tyr Phe Ser Asp
 305 310 315 320

Pro Asp Cys Ser Met Arg Pro Thr Leu Ile Asp Leu Leu Pro Thr Phe
 325 330 335

Arg His Thr Leu Gln Lys Leu Thr Cys Glu Phe Asn Asn Asn His Glu
 340 345 350

Ser Leu Asp Glu Glu Leu His Leu Leu Ile Ile Ser Cys Arg Lys Leu
 355 360 365

Phe Tyr Phe Lys Ile Trp Ala Phe Leu Asp Val Ser Phe Val Glu Arg
 370 375 380

Ile Leu Lys Ser Gln Lys Glu Arg Gln Cys Ala Leu Arg Val Phe Lys
 385 390 395 400

Ala Arg Ile Tyr Thr Asn Arg Tyr Glu Thr Asn Glu Glu Asp Lys Thr
 405 410 415

Leu Gln Glu Ile Tyr Arg Lys Tyr Arg Lys Leu Ile Glu Ser Glu Leu
 420 425 430

Ser Tyr Phe Val Ile Val Tyr Ser Val Met
 435 440

<210> 157

<211> 318

<212> PRT

<213> Artificial Sequence

<220>

<223> MAGE-A8

<400> 157

Met Leu Leu Gly Gln Lys Ser Gln Arg Tyr Lys Ala Glu Glu Gly Leu
 1 5 10 15

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

Ala Glu Glu Gln Lys Ala Ala Ser Ser Ser Ser Thr Leu Ile Met Gly
 35 40 45

Thr Leu Glu Glu Val Thr Asp Ser Gly Ser Pro Ser Pro Pro Gln Ser
 50 55 60

Pro Glu Gly Ala Ser Ser Ser Leu Thr Val Thr Asp Ser Thr Leu Trp
 65 70 75 80

Ser Gln Ser Asp Glu Gly Ser Ser Ser Asn Glu Glu Glu Gly Pro Ser
 85 90 95

Thr Ser Pro Asp Pro Ala His Leu Glu Ser Leu Phe Arg Glu Ala Leu
 100 105 110

Asp Glu Lys Val Ala Glu Leu Val Arg Phe Leu Leu Arg Lys Tyr Gln
 115 120 125

Ile Lys Glu Pro Val Thr Lys Ala Glu Met Leu Glu Ser Val Ile Lys
 130 135 140

Asn Tyr Lys Asn His Phe Pro Asp Ile Phe Ser Lys Ala Ser Glu Cys
 145 150 155 160

Met Gln Val Ile Phe Gly Ile Asp Val Lys Glu Val Asp Pro Ala Gly
 165 170 175

His Ser Tyr Ile Leu Val Thr Cys Leu Gly Leu Ser Tyr Asp Gly Leu

180

185

190

Leu Gly Asp Asp Gln Ser Thr Pro Lys Thr Gly Leu Leu Ile Ile Val
 195 200 205

Leu Gly Met Ile Leu Met Glu Gly Ser Arg Ala Pro Glu Glu Ala Ile
 210 215 220

Trp Glu Ala Leu Ser Val Met Gly Leu Tyr Asp Gly Arg Glu His Ser
 225 230 235 240

Val Tyr Trp Lys Leu Arg Lys Leu Leu Thr Gln Glu Trp Val Gln Glu
 245 250 255

Asn Tyr Leu Glu Tyr Arg Gln Ala Pro Gly Ser Asp Pro Val Arg Tyr
 260 265 270

Glu Phe Leu Trp Gly Pro Arg Ala Leu Ala Glu Thr Ser Tyr Val Lys
 275 280 285

Val Leu Glu His Val Val Arg Val Asn Ala Arg Val Arg Ile Ser Tyr
 290 295 300

Pro Ser Leu His Glu Glu Ala Leu Gly Glu Glu Lys Gly Val
 305 310 315

<210> 158
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> MAGE-A6 antigen

<400> 158

Met Pro Leu Glu Gln Arg Ser Gln His Cys Lys Pro Glu Glu Gly Leu
 1 5 10 15

Glu Ala Arg Gly Glu Ala Leu Gly Leu Val Gly Ala Gln Ala Pro Ala

20

25

30

Thr Glu Glu Gln Glu Ala Ala Ser Ser Ser Ser Thr Leu Val Glu Val
 35 40 45

Thr Leu Gly Glu Val Pro Ala Ala Glu Ser Pro Asp Pro Pro Gln Ser
 50 55 60

Pro Gln Gly Ala Ser Ser Leu Pro Thr Thr Met Asn Tyr Pro Leu Trp
 65 70 75 80

Ser Gln Ser Tyr Glu Asp Ser Ser Asn Gln Glu Glu Glu Gly Pro Ser
 85 90 95

Thr Phe Pro Asp Leu Glu Ser Glu Phe Gln Ala Ala Leu Ser Arg Lys
 100 105 110

Val Ala Lys Leu Val His Phe Leu Leu Leu Lys Tyr Arg Ala Arg Glu
 115 120 125

Pro Val Thr Lys Ala Glu Met Leu Gly Ser Val Val Gly Asn Trp Gln
 130 135 140

Tyr Phe Phe Pro Val Ile Phe Ser Lys Ala Ser Asp Ser Leu Gln Leu
 145 150 155 160

Val Phe Gly Ile Glu Leu Met Glu Val Asp Pro Ile Gly His Val Tyr
 165 170 175

Ile Phe Ala Thr Cys Leu Gly Leu Ser Tyr Asp Gly Leu Leu Gly Asp
 180 185 190

Asn Gln Ile Met Pro Lys Thr Gly Phe Leu Ile Ile Ile Leu Ala Ile
 195 200 205

Ile Ala Lys Glu Gly Asp Cys Ala Pro Glu Glu Lys Ile Trp Glu Glu
 210 215 220

Leu Ser Val Leu Glu Val Phe Glu Gly Arg Glu Asp Ser Ile Phe Gly
 225 230 235 240

Asp Pro Lys Lys Leu Leu Thr Gln Tyr Phe Val Gln Glu Asn Tyr Leu
 245 250 255

Glu Tyr Arg Gln Val Pro Gly Ser Asp Pro Ala Cys Tyr Glu Phe Leu
 260 265 270

Trp Gly Pro Arg Ala Leu Ile Glu Thr Ser Tyr Val Lys Val Leu His
 275 280 285

His Met Val Lys Ile Ser Gly Gly Pro Arg Ile Ser Tyr Pro Leu Leu
 290 295 300

His Glu Trp Ala Leu Arg Glu Gly Glu Glu
 305 310

<210> 159
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> additional peptide 1

<400> 159

Met Met Asn Leu Met Gln Pro Lys Thr Gln Gln Thr Tyr Thr Tyr Asp
 1 5 10 15

<210> 160
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> additional peptide 2

<400> 160

Gly Arg Gly Ser Thr Thr Thr Asn Tyr Leu Leu Asp Arg Asp Asp Tyr

1 5 10 15

Arg Asn Thr Ser Asp
20

<210> 161
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> additional peptide 3

<400> 161

Leu Lys Lys Gly Ala Ala Asp Gly Gly Lys Leu Asp Gly Asn Ala Lys
1 5 10 15

Leu Asn Arg Ser Leu Lys
20

<210> 162
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> additional peptide 4

<400> 162

Phe Pro Pro Lys Asp Asp His Thr Leu Lys Phe Leu Tyr Asp Asp Asn
1 5 10 15

Gln Arg Pro Tyr Pro Pro
20

<210> 163
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> additional peptide 5

<400> 163

Arg Tyr Arg Lys Pro Asp Tyr Thr Leu Asp Asp Gly His Gly Leu Leu
1 5 10 15

Arg Phe Lys Ser Thr
20

<210> 164

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> additional peptide 6

<400> 164

Gln Arg Pro Pro Phe Ser Gln Leu His Arg Phe Leu Ala Asp Ala Leu
1 5 10 15

Asn Thr

<210> 165

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> additional peptide 7

<400> 165

Ala Leu Asp Gln Cys Lys Thr Ser Cys Ala Leu Met Gln Gln His Tyr
1 5 10 15

Asp Gln Thr Ser Cys Phe Ser Ser Pro
20 25

<210> 166

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> additional peptide 8

<400> 166

Ser Thr Ala Pro Pro Ala His Gly Val Thr Ser Ala Pro Asp Thr Arg
1 5 10 15

Pro Ala Pro Gly Ser Thr Ala Pro Pro
20 25

<210> 167

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> additional peptide 9

<400> 167

Tyr Leu Glu Pro Gly Pro Val Thr Ala
1 5

<210> 168

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> additional peptide 10

<400> 168

Met Thr Pro Gly Thr Gln Ser Pro Phe Phe Leu Leu Leu Leu Thr
1 5 10 15

Val Leu Thr Val Val
20

<210> 169

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> additional peptide 11

<400> 169

Ser Ser Lys Ala Leu Gln Arg Pro Val
1 5

<210> 170

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> additional peptide 12

<400> 170

Arg Met Phe Pro Asn Ala Pro Tyr Leu
1 5

<210> 171

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> additional peptide 13

<400> 171

Arg Met Phe Pro Asn Ala Pro Tyr Leu
1 5

<210> 172

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 41

<400> 172

Phe Val Ala Ser Ile Asn Leu Thr Leu

1 5

<210> 173
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 42

<400> 173

Phe Tyr Asp Pro Thr Ser Ala Met Val
 1 5

<210> 174
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 43

<400> 174

Arg Thr Tyr Trp Ile Ile Ile Glu Leu
 1 5

<210> 175
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 45

<400> 175

His Ala Phe Asp Gly Thr Ile Leu Phe
 1 5

<210> 176
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>

<223> 9mer T cell epitope 46

<400> 176

Phe Gln Met Pro His Gln Glu Ile Val

1 5

<210> 177

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 47

<400> 177

Leu Gln Tyr Glu Asn Ser Ile Met Leu

1 5

<210> 178

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 48

<400> 178

Tyr Thr Leu Asp Asp Leu Tyr Pro Met

1 5

<210> 179

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 49

<400> 179

Asn Ala Tyr His Met Ser Ser Thr Met

1 5

<210> 180
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 50

<400> 180

Val Gln Phe Glu Lys Val Ser Ala Leu
 1 5

<210> 181
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 51

<400> 181

Arg Thr Ser Tyr Leu His Ser Pro Phe
 1 5

<210> 182
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 52

<400> 182

Phe Gln Trp Arg Ile Thr His Ser Phe
 1 5

<210> 183
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 53

<400> 183

Phe Ala Ala Ala Tyr Phe Glu Ser Leu
1 5

<210> 184

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 54

<400> 184

Tyr Val Asn Arg Leu Ser Ser Leu Val
1 5

<210> 185

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 55

<400> 185

Arg Leu Leu Ser Ser Thr Leu Ser Leu
1 5

<210> 186

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 56

<400> 186

Tyr Thr Phe Glu Gly Ala Arg Tyr Tyr
1 5

<210> 187

<211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 57

<400> 187

Lys Ala Met Ala Arg Leu Gln Glu Leu
 1 5

<210> 188
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 58

<400> 188

Phe Val Ala Ser Ile Asn Glu Gly Met Thr
 1 5 10

<210> 189
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 59

<400> 189

Tyr Ala Val His Pro Met Ser Pro Val
 1 5

<210> 190
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 60

<400> 190

Met Gln Met Phe Gly Leu Gly Ala Ile
1 5

<210> 191
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 9mer T cell epitope 61

<400> 191

Tyr Val Asp Glu Lys Ala Pro Glu Phe
1 5

<210> 192
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 9mer T cell epitope 62

<400> 192

His Ser Tyr Val Leu Val Thr Ser Leu
1 5

<210> 193
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 9mer T cell epitope 63

<400> 193

Arg Leu Leu Glu Phe Tyr Leu Ala Met
1 5

<210> 194
<211> 9
<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 64

<400> 194

Leu Ala Met Pro Phe Ala Thr Pro Met
1 5

<210> 195

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 41

<400> 195

Phe Val Ala Ser Ile Asn Leu Thr Leu Thr Lys Trp Tyr Ser Arg
1 5 10 15

<210> 196

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 42

<400> 196

Arg Asn Phe Tyr Asp Pro Thr Ser Ala Met Val Leu Gln Gln His
1 5 10 15

<210> 197

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 43

<400> 197

Val Asn Ile Asp Tyr Leu Met Asn Arg Pro Gln Asn Leu Arg Leu

1 5 10 15

<210> 198
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 44

<400> 198

Arg Thr Tyr Trp Ile Ile Ile Glu Leu Lys His Lys Ala Arg Glu
 1 5 10 15

<210> 199
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 46

<400> 199

Val Cys Met Phe Thr Ser Ser Arg Met Ser Ser Phe Asn Arg His
 1 5 10 15

<210> 200
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 47

<400> 200

His Ala Phe Asp Gly Thr Ile Leu Phe Leu Pro Lys Arg Leu Gln
 1 5 10 15

<210> 201
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>

<223> 15mer T cell epitope 48

<400> 201

Ser	Asp	Leu	Gln	Lys	Tyr	Ala	Leu	Gly	Phe	Gln	His	Ala	Leu	Ser
1				5					10					15

<210> 202

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 49

<400> 202

Lys	Leu	Gly	Phe	Ser	Phe	Val	Arg	Ile	Thr	Ala	Leu	Met	Val	Ser
1				5					10					15

<210> 203

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 50

<400> 203

Tyr	Ser	Arg	Val	Val	Phe	Gln	Met	Pro	His	Gln	Glu	Ile	Val	Asp
1				5					10					15

<210> 204

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 51

<400> 204

Gly	Phe	Thr	Thr	Ser	Ile	Leu	Gln	Tyr	Glu	Asn	Ser	Ile	Met	Leu
1				5					10					15

<210> 205
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 52

<400> 205

Leu	Arg	Tyr	Arg	Tyr	Thr	Leu	Asp	Asp	Leu	Tyr	Pro	Met	Met	Asn
1				5					10					15

<210> 206
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 53

<400> 206

Tyr	Ser	Ser	Asn	Ala	Tyr	His	Met	Ser	Ser	Thr	Met	Lys	Pro	Asn
1				5					10					15

<210> 207
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 54

<400> 207

Leu	Gln	Lys	Val	Gln	Phe	Glu	Lys	Val	Ser	Ala	Leu	Ala	Asp	Leu
1				5					10					15

<210> 208
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 55

<400> 208

Asn	Arg	Thr	Ser	Tyr	Leu	His	Ser	Pro	Phe	Ser	Thr	Gly	Arg	Ser
1				5					10					15

<210> 209

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 56

<400> 209

Leu	Asp	Ser	Phe	Thr	Val	Cys	Asn	Ser	His	Val	Leu	Cys	Ile	Ala
1				5					10					15

<210> 210

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 57

<400> 210

Asn	Ser	Pro	Leu	Pro	Phe	Gln	Trp	Arg	Ile	Thr	His	Ser	Phe	Arg
1			5						10					15

<210> 211

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 58

<400> 211

Ala	Phe	Ala	Ala	Ala	Tyr	Phe	Glu	Ser	Leu	Leu	Glu	Lys	Arg	Glu
1				5					10					15

<210> 212

<211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 59

<400> 212

Asp	Leu	Ser	Phe	Tyr	Val	Asn	Arg	Leu	Ser	Ser	Leu	Val	Ile	Gln
1				5				10						15

<210> 213
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 60

<400> 213

Gln	Asp	Gly	Arg	Leu	Leu	Ser	Ser	Thr	Leu	Ser	Leu	Ser	Ser	Asn
1				5				10						15

<210> 214
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 61

<400> 214

Trp	Glu	Glu	Ala	Tyr	Thr	Phe	Glu	Gly	Ala	Arg	Tyr	Tyr	Ile	Asn
1				5				10						15

<210> 215
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 62

<400> 215

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

<210> 216
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 63

<400> 216

Arg Ser Ile Ala Gly Phe Val Ala Ser Ile Asn Glu Gly Met Thr
 1 5 10 15

<210> 217
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 64

<400> 217

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

<210> 218
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 65

<400> 218

Met Met Gln Met Phe Gly Leu Gly Ala Ile Ser Leu Ile Leu Val
 1 5 10 15

<210> 219
 <211> 15
 <212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 66

<400> 219

Leu	Arg	His	Lys	Cys	Cys	Phe	Ser	Ser	Ser	Gly	Thr	Thr	Ser	Phe
1				5					10					15

<210> 220

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 67

<400> 220

Arg	Phe	Thr	Gln	Ser	Gly	Thr	Met	Lys	Ile	His	Ile	Leu	Gln	Lys
1				5					10					15

<210> 221

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 68

<400> 221

Gln	Thr	Leu	Ile	Tyr	Tyr	Val	Asp	Glu	Lys	Ala	Pro	Glu	Phe	Ser
1				5					10					15

<210> 222

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 69

<400> 222

Phe Val Leu Ala Asn Gly His Ile Leu Pro Asn Ser Glu Asn Ala

1 5 10 15

<210> 223
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 70

<400> 223

Ser Ser Tyr Phe Val Leu Ala Asn Gly His Ile Leu Pro Asn Ser
 1 5 10 15

<210> 224
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 71

<400> 224

Phe Met Phe Gln Glu Ala Leu Lys Leu Lys Val Ala Glu Leu Val
 1 5 10 15

<210> 225
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 72

<400> 225

His Ser Gln Thr Leu Lys Ala Met Val Gln Ala Trp Pro Phe Thr
 1 5 10 15

<210> 226
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>

<223> 15mer T cell epitope 73

<400> 226

Gln	Thr	Leu	Lys	Ala	Met	Val	Gln	Ala	Trp	Pro	Phe	Thr	Cys	Leu
1				5					10					15

<210> 227

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 74

<400> 227

Ser	His	Ser	Tyr	Val	Leu	Val	Thr	Ser	Leu	Asn	Leu	Ser	Tyr	Asp
1				5					10					15

<210> 228

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 75

<400> 228

Thr	Ser	His	Ser	Tyr	Val	Leu	Val	Thr	Ser	Leu	Asn	Leu	Ser	Tyr
1				5					10					15

<210> 229

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 76

<400> 229

Ala	Met	Asp	Ala	Ile	Phe	Gly	Ser	Leu	Ser	Asp	Glu	Gly	Ser	Gly
1				5					10					15

<210> 230
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 77

<400> 230

Glu	Ser	Phe	Ser	Pro	Thr	Ala	Met	Asp	Ala	Ile	Phe	Gly	Ser	Leu
1				5					10					15

<210> 231
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 78

<400> 231

Lys	Pro	Ser	Ala	Phe	Glu	Pro	Ala	Thr	Glu	Met	Gln	Lys	Ser	Val
1				5					10					15

<210> 232
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 79

<400> 232

Ser	Arg	Leu	Leu	Glu	Phe	Tyr	Leu	Ala	Met	Pro	Phe	Ala	Thr	Pro
1				5					10					15

<210> 233
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 80

<400> 233

Phe Tyr Leu Ala Met Pro Phe Ala Thr Pro Met Glu Ala Glu Leu
1 5 10 15

<210> 234

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 65

<400> 234

Cys Ser Met Glu Gly Thr Trp Tyr Leu
1 5

<210> 235

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 66

<400> 235

Leu Leu Ala Ala Ala Thr Ala Thr Phe
1 5

<210> 236

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 67

<400> 236

Phe Thr Val Cys Asn Ser His Val Leu
1 5

<210> 237

<211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 68

<400> 237

Leu Ala Leu Pro Leu Pro Leu Ser Leu
 1 5

<210> 238
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 69

<400> 238

Arg Thr Leu Leu Leu Ala Leu Pro Leu
 1 5

<210> 239
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 70

<400> 239

Phe Ile Ile Val Val Phe Val Tyr Leu
 1 5

<210> 240
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 71

<400> 240

Leu Ala Ser Lys Met His Ser Leu Leu
1 5

<210> 241
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 9mer T cell epitope 72

<400> 241

Ser Ser Phe Ile Ser Ser Leu Ser Phe
1 5

<210> 242
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 9mer T cell epitope 73

<400> 242

Ser Thr Asn Ala Leu Ile Gln Pro Val
1 5

<210> 243
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 9mer T cell epitope 74

<400> 243

Thr Leu Pro Pro Ala Trp Gln Pro Phe
1 5

<210> 244
<211> 9
<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell episode 75

<400> 244

Arg Gln Phe Glu Thr Val Cys Lys Phe
1 5

<210> 245

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 76

<400> 245

Phe Ala Thr Cys Leu Gly Leu Ser Tyr
1 5

<210> 246

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 77

<400> 246

Phe Val Gln Glu Asn Tyr Leu Glu Tyr
1 5

<210> 247

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 78

<400> 247

Ala Ser Ser Ser Ser Thr Leu Ile Met

1 5

<210> 248
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 79

<400> 248

Tyr Ile Phe Ala Thr Cys Leu Gly Leu
 1 5

<210> 249
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 80

<400> 249

Leu Pro Pro Ala Trp Gln Pro Phe Leu
 1 5

<210> 250
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 81

<400> 250

Ile Ser Thr Phe Lys Asn Trp Pro Phe
 1 5

<210> 251
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>

<223> 15mer T cell epitope 81

<400> 251

Val	Cys	Ser	Met	Glu	Gly	Thr	Trp	Tyr	Leu	Val	Gly	Leu	Val	Ser
1				5					10					15

<210> 252

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 82

<400> 252

Gly	Phe	Ser	Tyr	Glu	Gln	Asp	Pro	Thr	Leu	Arg	Asp	Pro	Glu	Ala
1				5					10					15

<210> 253

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 83

<400> 253

Tyr	Arg	Ser	Cys	Gly	Phe	Ser	Tyr	Glu	Gln	Asp	Pro	Thr	Leu	Arg
1				5					10					15

<210> 254

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 84

<400> 254

Leu	Leu	Ala	Ala	Ala	Thr	Ala	Thr	Phe	Ala	Ala	Ala	Gln	Glu	Glu
1				5					10					15

<210> 255
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 85

<400> 255

Lys	Leu	Gly	Phe	Ser	Phe	Val	Arg	Ile	Thr	Ala	Leu	Met	Val	Ser
1				5					10					15

<210> 256
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 86

<400> 256

Leu	Pro	Ser	Thr	Thr	Met	Glu	Thr	Gln	Phe	Pro	Val	Ser	Glu	Gly
1				5					10					15

<210> 257
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 87

<400> 257

Leu	Asp	Ser	Phe	Thr	Val	Cys	Asn	Ser	His	Val	Leu	Cys	Ile	Ala
1				5					10					15

<210> 258
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 88

<400> 258

Gly	Asn	Ile	Leu	Asp	Ser	Phe	Thr	Val	Cys	Asn	Ser	His	Val	Leu
1				5					10					15

<210> 259

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 89

<400> 259

Gln	Thr	Leu	Ile	Tyr	Tyr	Val	Asp	Glu	Lys	Ala	Pro	Glu	Phe	Ser
1				5					10					15

<210> 260

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 90

<400> 260

Ser	Arg	Thr	Leu	Leu	Leu	Ala	Leu	Pro	Leu	Pro	Leu	Ser	Leu	Leu
1				5					10					15

<210> 261

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 91

<400> 261

Phe	Ile	Ile	Val	Val	Phe	Val	Tyr	Leu	Thr	Val	Glu	Asn	Lys	Ser
1				5					10					15

<210> 262

<211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 92

<400> 262

Arg	Asn	Ser	Ile	Arg	Ser	Ser	Phe	Ile	Ser	Ser	Leu	Ser	Phe	Phe
1				5				10					15	

<210> 263
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 93

<400> 263

Asn	Ile	Glu	Asn	Tyr	Ser	Thr	Asn	Ala	Leu	Ile	Gln	Pro	Val	Asp
1				5				10					15	

<210> 264
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 94

<400> 264

Met	Gly	Ala	Pro	Thr	Leu	Pro	Pro	Ala	Trp	Gln	Pro	Phe	Leu	Lys
1				5				10					15	

<210> 265
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 95

<400> 265

Arg Gln Phe Glu Thr Val Cys Lys Phe His Trp Val Glu Ala Phe
 1 5 10 15

<210> 266
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 96

<400> 266

Pro Glu Glu Ala Ile Trp Glu Ala Leu Ser Val Met Gly Leu Tyr
 1 5 10 15

<210> 267
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 97

<400> 267

Glu Lys Val Ala Glu Leu Val Arg Phe Leu Leu Arg Lys Tyr Gln
 1 5 10 15

<210> 268
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitioe 98

<400> 268

Lys Leu Leu Thr Gln Tyr Phe Val Gln Glu Asn Tyr Leu Glu Tyr
 1 5 10 15

<210> 269
 <211> 15
 <212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 99

<400> 269

Ile	Gly	His	Leu	Tyr	Ile	Phe	Ala	Thr	Cys	Leu	Gly	Leu	Ser	Tyr
1				5					10					15

<210> 270

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 100

<400> 270

Lys	Leu	Leu	Thr	Gln	His	Phe	Val	Gln	Glu	Asn	Tyr	Leu	Glu	Tyr
1				5					10					15

<210> 271

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 101

<400> 271

Ala	Ser	Ser	Ser	Ser	Thr	Leu	Ile	Met	Gly	Thr	Leu	Glu	Glu	Val
1				5					10					15

<210> 272

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 82

<400> 272

Met Met Met Ser Ile Ala Thr Lys Ile

1 5

<210> 273
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 83

<400> 273

Lys Ala Phe Asp Gly Ala Ile Leu Phe
 1 5

<210> 274
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 84

<400> 274

Arg Met Phe Pro Asn Ala Pro Tyr Leu
 1 5

<210> 275
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 85

<400> 275

Arg Thr Tyr Trp Ile Ile Ile Glu Leu
 1 5

<210> 276
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>

<223> 9mer T cell epitope 86

<400> 276

Phe Thr Ser Ser Arg Met Ser Ser Phe
1 5

<210> 277

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 87

<400> 277

Tyr Leu Met Asn Arg Pro Gln Asn Leu
1 5

<210> 278

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 88

<400> 278

Met Ile Met Glu Asn Ile Gln Glu Leu
1 5

<210> 279

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 89

<400> 279

Met Met Ala Tyr Ser Asp Thr Thr Met
1 5

<210> 280
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 9mer T cell epitope 90

<400> 280

Phe Ala Ala Ala Tyr Phe Glu Ser Leu
1 5

<210> 281
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 9mer T cell epitope 91

<400> 281

Tyr Val Asp Pro Asp Val Gln Leu Val
1 5

<210> 282
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 9mer T cell epitope 92

<400> 282

Phe Val Ala Ser Ile Asn Leu Thr Leu
1 5

<210> 283
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 9mer T cell epitope 93

<400> 283

Tyr Ala Leu Gly Phe Gln His Ala Leu
1 5

<210> 284

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 94

<400> 284

Leu Gln Tyr Glu Asn Ser Ile Thr Leu
1 5

<210> 285

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 95

<400> 285

Lys Met Ser Ser Leu Leu Pro Thr Met
1 5

<210> 286

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 96

<400> 286

His Leu Gln Ser Val Thr Ala Pro Met
1 5

<210> 287

<211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 97

<400> 287

Phe Val Ala Ser Thr Asn Ala Glu Leu
 1 5

<210> 288
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 98

<400> 288

Phe Tyr Asp Pro Thr Ser Ala Met Val
 1 5

<210> 289
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 99

<400> 289

Met Ala Phe Val Thr Ser Gly Glu Leu
 1 5

<210> 290
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 9mer T cell epitope 100

<400> 290

Tyr Val Asn Arg Leu Ser Ser Leu Val
1 5

<210> 291
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 9mer T cell epitope 101

<400> 291

Tyr Leu His Ala Arg Leu Arg Glu Leu
1 5

<210> 292
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 9mer T cell epitope 102

<400> 292

Phe Thr Gln Ser Gly Thr Met Lys Ile
1 5

<210> 293
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 9mer T cell epitope 103

<400> 293

His Ala Phe Asp Gly Thr Ile Leu Phe
1 5

<210> 294
<211> 9
<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 104

<400> 294

Tyr Val Asp Glu Lys Ala Pro Glu Phe
1 5

<210> 295

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 105

<400> 295

Val Met Ser Glu Arg Val Ser Gly Leu
1 5

<210> 296

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 106

<400> 296

Leu Gln Tyr Glu Asn Ser Ile Met Leu
1 5

<210> 297

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 107

<400> 297

Phe Gln Met Pro His Gln Glu Ile Val

1 5

<210> 298
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 9mer T cell epitope 108

<400> 298

Lys Ala Met Val Gln Ala Trp Pro Phe
1 5

<210> 299
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 9mer T cell epitope 109

<400> 299

Arg Ala Ile Glu Gln Leu Ala Ala Met
1 5

<210> 300
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 9mer T cell epitope 110

<400> 300

Arg Ser Asp Glu Ile Val Leu Thr Val
1 5

<210> 301
<211> 9
<212> PRT
<213> Artificial Sequence

<220>

<223> 9mer T cell epitope 111

<400> 301

Tyr Ser Ser Asp Asn Leu Tyr Gln Met

1 5

<210> 302

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 102

<400> 302

Gln Gly Met Met Met Ser Ile Ala Thr Lys Ile Ala Met Gln Met

1 5 10 15

<210> 303

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 103

<400> 303

Lys Ala Lys Ala Phe Asp Gly Ala Ile Leu Phe Leu Ser Gln Lys

1 5 10 15

<210> 304

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 104

<400> 304

Ser Ser Gly Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr Leu Pro

1 5 10 15

<210> 305
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 105

<400> 305

Arg	Thr	Tyr	Trp	Ile	Ile	Ile	Glu	Leu	Lys	His	Lys	Ala	Arg	Glu
1				5					10					15

<210> 306
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 106

<400> 306

Met	Phe	Thr	Ser	Ser	Arg	Met	Ser	Ser	Phe	Asn	Arg	His	Met	Lys
1				5					10					15

<210> 307
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 107

<400> 307

Gln	Val	Asn	Ile	Asp	Tyr	Leu	Met	Asn	Arg	Pro	Gln	Asn	Leu	Arg
1				5					10					15

<210> 308
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 108

<400> 308

Ser	Thr	Pro	Met	Ile	Met	Glu	Asn	Ile	Gln	Glu	Leu	Ile	Arg	Ser
1				5					10					15

<210> 309

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 109

<400> 309

Met	Met	Ala	Tyr	Ser	Asp	Thr	Thr	Met	Met	Ser	Asp	Asp	Ile	Asp
1				5					10					15

<210> 310

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 110

<400> 310

Ala	Phe	Ala	Ala	Ala	Tyr	Phe	Glu	Ser	Leu	Leu	Glu	Lys	Arg	Glu
1				5					10					15

<210> 311

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 111

<400> 311

Arg	Ala	Ile	Gln	Gln	Tyr	Val	Asp	Pro	Asp	Val	Gln	Leu	Val	Met
1				5					10					15

<210> 312

<211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 112

<400> 312

Gly	Phe	Val	Ala	Ser	Ile	Asn	Leu	Thr	Leu	Thr	Lys	Trp	Tyr	Ser
1				5					10					15

<210> 313
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 113

<400> 313

Asp	Leu	Gln	Lys	Tyr	Ala	Leu	Gly	Phe	Gln	His	Ala	Leu	Ser	Pro
1				5					10					15

<210> 314
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 114

<400> 314

Gly	Tyr	Val	Thr	Ser	Val	Leu	Gln	Tyr	Glu	Asn	Ser	Ile	Thr	Leu
1				5					10					15

<210> 315
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 115

<400> 315

Val Arg Glu Glu Ala Gln Lys Met Ser Ser Leu Leu Pro Thr Met
 1 5 10 15

<210> 316
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 116

<400> 316

Met Ser Leu Lys Gly His Leu Gln Ser Val Thr Ala Pro Met Gly
 1 5 10 15

<210> 317
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 117

<400> 317

Gln Lys Ser Ile Ala Gly Phe Val Ala Ser Thr Asn Ala Glu Leu
 1 5 10 15

<210> 318
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 118

<400> 318

Arg Asn Phe Tyr Asp Pro Thr Ser Ala Met Val Leu Gln Gln His
 1 5 10 15

<210> 319
 <211> 15
 <212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 119

<400> 319

Asn	Met	Ala	Phe	Val	Thr	Ser	Gly	Glu	Leu	Val	Arg	His	Arg	Arg
1				5					10				15	

<210> 320

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 120

<400> 320

Leu	Ser	Phe	Tyr	Val	Asn	Arg	Leu	Ser	Ser	Leu	Val	Ile	Gln	Met
1				5				10					15	

<210> 321

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 121

<400> 321

Leu	Glu	Arg	Leu	Ala	Tyr	Leu	His	Ala	Arg	Leu	Arg	Glu	Leu	Leu
1				5				10					15	

<210> 322

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 122

<400> 322

Arg Phe Thr Gln Ser Gly Thr Met Lys Ile His Ile Leu Gln Lys

1 5 10 15

<210> 323
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 123

<400> 323

His Ala Phe Asp Gly Thr Ile Leu Phe Leu Pro Lys Arg Leu Gln
 1 5 10 15

<210> 324
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 124

<400> 324

Tyr Val Asp Glu Lys Ala Pro Glu Phe Ser Met Gln Gly Leu Lys
 1 5 10 15

<210> 325
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 125

<400> 325

Ser Gly Ala Val Met Ser Glu Arg Val Ser Gly Leu Ala Gly Ser
 1 5 10 15

<210> 326
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>

<223> 15mer T cell epitope 126

<400> 326

Gly	Phe	Thr	Thr	Ser	Ile	Leu	Gln	Tyr	Glu	Asn	Ser	Ile	Met	Leu
1				5					10				15	

<210> 327

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 127

<400> 327

Tyr	Ser	Arg	Val	Val	Phe	Gln	Met	Pro	His	Gln	Glu	Ile	Val	Asp
1				5					10				15	

<210> 328

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 128

<400> 328

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

<210> 329

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 15mer T cell epitope 129

<400> 329

Ala	Lys	Lys	Val	Arg	Arg	Ala	Ile	Glu	Gln	Leu	Ala	Ala	Met	Asp
1				5					10				15	

<210> 330
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 130

<400> 330

Glu	Arg	Ser	Asp	Glu	Ile	Val	Leu	Thr	Val	Ser	Asn	Ser	Asn	Val
1				5					10					15

<210> 331
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 15mer T cell epitope 131

<400> 331

Arg	Thr	Pro	Tyr	Ser	Ser	Asp	Asn	Leu	Tyr	Gln	Met	Thr	Ser	Gln
1				5					10					15

<210> 332
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ovarian pep 1

<400> 332

Ser	Thr	Pro	Met	Ile	Met	Glu	Asn	Ile	Gln	Glu	Leu	Ile	Arg	Ser	Gln
1				5					10					15	

Gly	Met	Met	Met	Ser	Ile	Ala	Thr	Lys	Ile	Ala	Met	Gln	Met
				20				25					30

<210> 333
 <211> 30
 <212> PRT

<213> Artificial Sequence

<220>

<223> ovarian pep 2

<400> 333

Arg	Asn	Phe	Tyr	Asp	Pro	Thr	Ser	Ala	Met	Val	Leu	Gln	Gln	His	Lys
1				5					10					15	

Ala	Lys	Ala	Phe	Asp	Gly	Ala	Ile	Leu	Phe	Leu	Ser	Gln	Lys
			20					25					30

<210> 334

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> ovarian pep 3

<400> 334

Asn	Met	Ala	Phe	Val	Thr	Ser	Gly	Glu	Leu	Val	Arg	His	Arg	Arg	Met
1				5					10					15	

Met	Ala	Tyr	Ser	Asp	Thr	Thr	Met	Met	Ser	Asp	Asp	Ile	Asp
			20					25					30

<210> 335

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> ovarian pep 4

<400> 335

Ser	Ser	Gly	Gln	Ala	Arg	Met	Phe	Pro	Asn	Ala	Pro	Tyr	Leu	Pro	Arg
1				5					10					15	

Thr	Pro	Tyr	Ser	Ser	Asp	Asn	Leu	Tyr	Gln	Met	Thr	Ser	Gln
			20					25					30

<210> 336
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ovarian pep 5

<400> 336

Met	Phe	Thr	Ser	Ser	Arg	Met	Ser	Ser	Phe	Asn	Arg	His	Met	Lys	His
1				5					10					15	

Ala	Phe	Asp	Gly	Thr	Ile	Leu	Phe	Leu	Pro	Lys	Arg	Leu	Gln
			20					25					30

<210> 337
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ovarian pep 6

<400> 337

Tyr	Ser	Arg	Val	Val	Phe	Gln	Met	Pro	His	Gln	Glu	Ile	Val	Asp	Arg
1				5					10					15	

Thr	Tyr	Trp	Ile	Ile	Ile	Glu	Leu	Lys	His	Lys	Ala	Arg	Glu
			20					25					30

<210> 338
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ovarian pep 7

<400> 338

Leu	Ser	Phe	Tyr	Val	Asn	Arg	Leu	Ser	Ser	Leu	Val	Ile	Gln	Met	Arg
1				5					10					15	

Ala Ile Gln Gln Tyr Val Asp Pro Asp Val Gln Leu Val Met
 20 25 30

<210> 339
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ovarian pep 8

<400> 339

Gln Val Asn Ile Asp Tyr Leu Met Asn Arg Pro Gln Asn Leu Arg Ala
 1 5 10 15

Phe Ala Ala Ala Tyr Phe Glu Ser Leu Leu Glu Lys Arg Glu
 20 25 30

<210> 340
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ovarian pep 9

<400> 340

Gly Tyr Val Thr Ser Val Leu Gln Tyr Glu Asn Ser Ile Thr Leu Gln
 1 5 10 15

Lys Ser Ile Ala Gly Phe Val Ala Ser Thr Asn Ala Glu Leu
 20 25 30

<210> 341
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ovarian pep 10

<400> 341

Val Arg Glu Glu Ala Gln Lys Met Ser Ser Leu Leu Pro Thr Met Arg
 1 5 10 15

Phe Thr Gln Ser Gly Thr Met Lys Ile His Ile Leu Gln Lys
 20 25 30

<210> 342
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ovarian pep 11

<400> 342

Gly Phe Val Ala Ser Ile Asn Leu Thr Leu Thr Lys Trp Tyr Ser Tyr
 1 5 10 15

Val Asp Glu Lys Ala Pro Glu Phe Ser Met Gln Gly Leu Lys
 20 25 30

<210> 343
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ovarian pep 12

<400> 343

Met Ser Leu Lys Gly His Leu Gln Ser Val Thr Ala Pro Met Gly Ser
 1 5 10 15

Gly Ala Val Met Ser Glu Arg Val Ser Gly Leu Ala Gly Ser
 20 25 30

<210> 344
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>

<223> ovarian pep 13

<400> 344

Asp	Leu	Gln	Lys	Tyr	Ala	Leu	Gly	Phe	Gln	His	Ala	Leu	Ser	Pro	Leu
1				5				10						15	

Glu	Arg	Leu	Ala	Tyr	Leu	His	Ala	Arg	Leu	Arg	Glu	Leu	Leu
		20						25					30

<210> 345

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> ovarian pep 14

<400> 345

Gly	Phe	Thr	Thr	Ser	Ile	Leu	Gln	Tyr	Glu	Asn	Ser	Ile	Met	Leu	Glu
1				5				10					15		

Arg	Ser	Asp	Glu	Ile	Val	Leu	Thr	Val	Ser	Asn	Ser	Asn	Val
		20						25					30

<210> 346

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> ovarian pep 15

<400> 346

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

Lys	Lys	Val	Arg	Arg	Ala	Ile	Glu	Gln	Leu	Ala	Ala	Met	Asp
		20					25						30

<210> 347

<211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> MAGE-A3

<400> 347

Met Pro Leu Glu Gln Arg Ser Gln His Cys Lys Pro Glu Glu Gly Leu
 1 5 10 15

Glu Ala Arg Gly Glu Ala Leu Gly Leu Val Gly Ala Gln Ala Pro Ala
 20 25 30

Thr Glu Glu Gln Glu Ala Ala Ser Ser Ser Ser Thr Leu Val Glu Val
 35 40 45

Thr Leu Gly Glu Val Pro Ala Ala Glu Ser Pro Asp Pro Pro Gln Ser
 50 55 60

Pro Gln Gly Ala Ser Ser Leu Pro Thr Thr Met Asn Tyr Pro Leu Trp
 65 70 75 80

Ser Gln Ser Tyr Glu Asp Ser Ser Asn Gln Glu Glu Glu Gly Pro Ser
 85 90 95

Thr Phe Pro Asp Leu Glu Ser Glu Phe Gln Ala Ala Leu Ser Arg Lys
 100 105 110

Val Ala Glu Leu Val His Phe Leu Leu Leu Lys Tyr Arg Ala Arg Glu
 115 120 125

Pro Val Thr Lys Ala Glu Met Leu Gly Ser Val Val Gly Asn Trp Gln
 130 135 140

Tyr Phe Phe Pro Val Ile Phe Ser Lys Ala Ser Ser Ser Leu Gln Leu
 145 150 155 160

Val Phe Gly Ile Glu Leu Met Glu Val Asp Pro Ile Gly His Leu Tyr

165

170

175

Ile Phe Ala Thr Cys Leu Gly Leu Ser Tyr Asp Gly Leu Leu Gly Asp
 180 185 190

Asn Gln Ile Met Pro Lys Ala Gly Leu Leu Ile Ile Val Leu Ala Ile
 195 200 205

Ile Ala Arg Glu Gly Asp Cys Ala Pro Glu Glu Lys Ile Trp Glu Glu
 210 215 220

Leu Ser Val Leu Glu Val Phe Glu Gly Arg Glu Asp Ser Ile Leu Gly
 225 230 235 240

Asp Pro Lys Lys Leu Leu Thr Gln His Phe Val Gln Glu Asn Tyr Leu
 245 250 255

Glu Tyr Arg Gln Val Pro Gly Ser Asp Pro Ala Cys Tyr Glu Phe Leu
 260 265 270

Trp Gly Pro Arg Ala Leu Val Glu Thr Ser Tyr Val Lys Val Leu His
 275 280 285

His Met Val Lys Ile Ser Gly Gly Pro His Ile Ser Tyr Pro Pro Leu
 290 295 300

His Glu Trp Val Leu Arg Glu Gly Glu Glu
 305 310

<210> 348

<211> 181

<212> PRT

<213> Artificial Sequence

<220>

<223> LEMD1

<400> 348

Met Val Asp Val Lys Cys Leu Ser Asp Cys Lys Leu Gln Asn Gln Leu

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

<210> 349

<211> 973

<212> PRT

<213> Artificial Sequence

<220>

<223> PIWIL-2

<400> 349

Met Asp Pro Phe Arg Pro Ser Phe Arg Gly Gln Ser Pro Ile His Pro
1 5 10 15

Ser Gln Cys Gln Ala Val Arg Met Pro Gly Cys Trp Pro Gln Ala Ser
20 25 30

Lys Pro Leu Asp Pro Ala Leu Gly Arg Gly Ala Pro Ala Gly Arg Gly
35 40 45

His Val Phe Gly Lys Pro Glu Glu Pro Ser Thr Gln Arg Gly Pro Ala
50 55 60

Gln Arg Glu Ser Val Gly Leu Val Ser Met Phe Arg Gly Leu Gly Ile
65 70 75 80

Glu Thr Val Ser Lys Thr Pro Leu Lys Arg Glu Met Leu Pro Ser Gly
85 90 95

Arg Gly Ile Leu Gly Arg Gly Leu Ser Ala Asn Leu Val Arg Lys Asp
100 105 110

Arg Glu Glu Leu Ser Pro Thr Phe Trp Asp Pro Lys Val Leu Ala Ala
115 120 125

Gly Asp Ser Lys Met Ala Glu Thr Ser Val Gly Trp Ser Arg Thr Leu
130 135 140

Gly Arg Gly Ser Ser Asp Ala Ser Leu Leu Pro Leu Gly Arg Ala Ala
145 150 155 160

Gly Gly Ile Ser Arg Glu Val Asp Lys Pro Pro Cys Thr Phe Ser Thr
165 170 175

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

Ser Pro Leu His Ser Pro Asp Arg Pro Leu Val Leu Thr Val Glu His
 195 200 205

Lys Glu Lys Glu Leu Ile Val Lys Gln Gly Ser Lys Gly Thr Pro Gln
 210 215 220

Ser Leu Gly Leu Asn Leu Val Lys Ile Gln Cys His Asn Glu Ala Val
 225 230 235 240

Tyr Gln Tyr His Val Thr Phe Ser Pro Asn Val Glu Cys Lys Ser Met
 245 250 255

Arg Phe Gly Met Leu Lys Asp His Gln Ala Val Thr Gly Asn Val Thr
 260 265 270

Ala Phe Asp Gly Ser Ile Leu Tyr Leu Pro Val Lys Leu Gln Gln Val
 275 280 285

Leu Glu Leu Lys Ser Gln Arg Lys Thr Asp Ser Ala Glu Ile Ser Ile
 290 295 300

Lys Ile Gln Met Thr Lys Ile Leu Glu Pro Cys Ser Asp Leu Cys Ile
 305 310 315 320

Pro Phe Tyr Asn Val Val Phe Arg Arg Val Met Lys Leu Leu Asp Met
 325 330 335

Lys Leu Val Gly Arg Asn Phe Tyr Asp Pro Thr Ser Ala Met Val Leu
 340 345 350

Gln Gln His Arg Leu Gln Ile Trp Pro Gly Tyr Ala Ala Ser Ile Arg
 355 360 365

Arg Thr Asp Gly Gly Leu Phe Leu Leu Ala Asp Val Ser His Lys Val

370

375

380

Ile Arg Asn Asp Cys Val Leu Asp Val Met His Ala Ile Tyr Gln Gln
 385 390 395 400

Asn Lys Glu His Phe Gln Asp Glu Cys Thr Lys Leu Leu Val Gly Asn
 405 410 415

Ile Val Ile Thr Arg Tyr Asn Asn Arg Thr Tyr Arg Ile Asp Asp Val
 420 425 430

Asp Trp Asn Lys Thr Pro Lys Asp Ser Phe Thr Met Ser Asp Gly Lys
 435 440 445

Glu Ile Thr Phe Leu Glu Tyr Tyr Ser Lys Asn Tyr Gly Ile Thr Val
 450 455 460

Lys Glu Glu Asp Gln Pro Leu Leu Ile His Arg Pro Ser Glu Arg Gln
 465 470 475 480

Asp Asn His Gly Met Leu Leu Lys Gly Glu Ile Leu Leu Leu Pro Glu
 485 490 495

Leu Ser Phe Met Thr Gly Ile Pro Glu Lys Met Lys Lys Asp Phe Arg
 500 505 510

Ala Met Lys Asp Leu Ala Gln Gln Ile Asn Leu Ser Pro Lys Gln His
 515 520 525

His Ser Ala Leu Glu Cys Leu Leu Gln Arg Ile Ala Lys Asn Glu Ala
 530 535 540

Ala Thr Asn Glu Leu Met Arg Trp Gly Leu Arg Leu Gln Lys Asp Val
 545 550 555 560

His Lys Ile Glu Gly Arg Val Leu Pro Met Glu Arg Ile Asn Leu Lys
 565 570 575

Asn Thr Ser Phe Ile Thr Ser Gln Glu Leu Asn Trp Val Lys Glu Val
 580 585 590

Thr Arg Asp Pro Ser Ile Leu Thr Ile Pro Met His Phe Trp Ala Leu
 595 600 605

Phe Tyr Pro Lys Arg Ala Met Asp Gln Ala Arg Glu Leu Val Asn Met
 610 615 620

Leu Glu Lys Ile Ala Gly Pro Ile Gly Met Arg Met Ser Pro Pro Ala
 625 630 635 640

Trp Val Glu Leu Lys Asp Asp Arg Ile Glu Thr Tyr Val Arg Thr Ile
 645 650 655

Gln Ser Thr Leu Gly Ala Glu Gly Lys Ile Gln Met Val Val Cys Ile
 660 665 670

Ile Met Gly Pro Arg Asp Asp Leu Tyr Gly Ala Ile Lys Lys Leu Cys
 675 680 685

Cys Val Gln Ser Pro Val Pro Ser Gln Val Val Asn Val Arg Thr Ile
 690 695 700

Gly Gln Pro Thr Arg Leu Arg Ser Val Ala Gln Lys Ile Leu Leu Gln
 705 710 715 720

Ile Asn Cys Lys Leu Gly Gly Glu Leu Trp Gly Val Asp Ile Pro Leu
 725 730 735

Lys Gln Leu Met Val Ile Gly Met Asp Val Tyr His Asp Pro Ser Arg
 740 745 750

Gly Met Arg Ser Val Val Gly Phe Val Ala Ser Ile Asn Leu Thr Leu
 755 760 765

Thr Lys Trp Tyr Ser Arg Val Val Phe Gln Met Pro His Gln Glu Ile

770

775

780

Val Asp Ser Leu Lys Leu Cys Leu Val Gly Ser Leu Lys Lys Phe Tyr
 785 790 795 800

Glu Val Asn His Cys Leu Pro Glu Lys Ile Val Val Tyr Arg Asp Gly
 805 810 815

Val Ser Asp Gly Gln Leu Lys Thr Val Ala Asn Tyr Glu Ile Pro Gln
 820 825 830

Leu Gln Lys Cys Phe Glu Ala Phe Glu Asn Tyr Gln Pro Lys Met Val
 835 840 845

Val Phe Val Val Gln Lys Lys Ile Ser Thr Asn Leu Tyr Leu Ala Ala
 850 855 860

Pro Gln Asn Phe Val Thr Pro Thr Pro Gly Thr Val Val Asp His Thr
 865 870 875 880

Ile Thr Ser Cys Glu Trp Val Asp Phe Tyr Leu Leu Ala His His Val
 885 890 895

Arg Gln Gly Cys Gly Ile Pro Thr His Tyr Val Cys Val Leu Asn Thr
 900 905 910

Ala Asn Leu Ser Pro Asp His Met Gln Arg Leu Thr Phe Lys Leu Cys
 915 920 925

His Met Tyr Trp Asn Trp Pro Gly Thr Ile Arg Val Pro Ala Pro Cys
 930 935 940

Lys Tyr Ala His Lys Leu Ala Phe Leu Ser Gly His Ile Leu His His
 945 950 955 960

Glu Pro Ala Ile Gln Leu Cys Glu Asn Leu Phe Phe Leu
 965 970

<210> 350
 <211> 861
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> HIWI

<400> 350

Met Thr Gly Arg Ala Arg Ala Arg Ala Arg Gly Arg Ala Arg Gly Gln
 1 5 10 15

Glu Thr Ala Gln Leu Val Gly Ser Thr Ala Ser Gln Gln Pro Gly Tyr
 20 25 30

Ile Gln Pro Arg Pro Gln Pro Pro Pro Ala Glu Gly Glu Leu Phe Gly
 35 40 45

Arg Gly Arg Gln Arg Gly Thr Ala Gly Gly Thr Ala Lys Ser Gln Gly
 50 55 60

Leu Gln Ile Ser Ala Gly Phe Gln Glu Leu Ser Leu Ala Glu Arg Gly
 65 70 75 80

Gly Arg Arg Arg Asp Phe His Asp Leu Gly Val Asn Thr Arg Gln Asn
 85 90 95

Leu Asp His Val Lys Glu Ser Lys Thr Gly Ser Ser Gly Ile Ile Val
 100 105 110

Arg Leu Ser Thr Asn His Phe Arg Leu Thr Ser Arg Pro Gln Trp Ala
 115 120 125

Leu Tyr Gln Tyr His Ile Asp Tyr Asn Pro Leu Met Glu Ala Arg Arg
 130 135 140

Leu Arg Ser Ala Leu Leu Phe Gln His Glu Asp Leu Ile Gly Lys Cys
 145 150 155 160

His Ala Phe Asp Gly Thr Ile Leu Phe Leu Pro Lys Arg Leu Gln Gln
 165 170 175

Lys Val Thr Glu Val Phe Ser Lys Thr Arg Asn Gly Glu Asp Val Arg
 180 185 190

Ile Thr Ile Thr Leu Thr Asn Glu Leu Pro Pro Thr Ser Pro Thr Cys
 195 200 205

Leu Gln Phe Tyr Asn Ile Ile Phe Arg Arg Leu Leu Lys Ile Met Asn
 210 215 220

Leu Gln Gln Ile Gly Arg Asn Tyr Tyr Asn Pro Asn Asp Pro Ile Asp
 225 230 235 240

Ile Pro Ser His Arg Leu Val Ile Trp Pro Gly Phe Thr Thr Ser Ile
 245 250 255

Leu Gln Tyr Glu Asn Ser Ile Met Leu Cys Thr Asp Val Ser His Lys
 260 265 270

Val Leu Arg Ser Glu Thr Val Leu Asp Phe Met Phe Asn Phe Tyr His
 275 280 285

Gln Thr Glu Glu His Lys Phe Gln Glu Gln Val Ser Lys Glu Leu Ile
 290 295 300

Gly Leu Val Val Leu Thr Lys Tyr Asn Asn Lys Thr Tyr Arg Val Asp
 305 310 315 320

Asp Ile Asp Trp Asp Gln Asn Pro Lys Ser Thr Phe Lys Lys Ala Asp
 325 330 335

Gly Ser Glu Val Ser Phe Leu Glu Tyr Tyr Arg Lys Gln Tyr Asn Gln
 340 345 350

Glu Ile Thr Asp Leu Lys Gln Pro Val Leu Val Ser Gln Pro Lys Arg

355

360

365

Arg Arg Gly Pro Gly Gly Thr Leu Pro Gly Pro Ala Met Leu Ile Pro
 370 375 380

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

Asn Val Met Lys Asp Leu Ala Val His Thr Arg Leu Thr Pro Glu Gln
 405 410 415

Arg Gln Arg Glu Val Gly Arg Leu Ile Asp Tyr Ile His Lys Asn Asp
 420 425 430

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

Leu Leu Ser Phe Ser Gly Arg Ile Leu Gln Thr Glu Lys Ile His Gln
 450 455 460

Gly Gly Lys Thr Phe Asp Tyr Asn Pro Gln Phe Ala Asp Trp Ser Lys
 465 470 475 480

Glu Thr Arg Gly Ala Pro Leu Ile Ser Val Lys Pro Leu Asp Asn Trp
 485 490 495

Leu Leu Ile Tyr Thr Arg Arg Asn Tyr Glu Ala Ala Asn Ser Leu Ile
 500 505 510

Gln Asn Leu Phe Lys Val Thr Pro Ala Met Gly Met Gln Met Arg Lys
 515 520 525

Ala Ile Met Ile Glu Val Asp Asp Arg Thr Glu Ala Tyr Leu Arg Val
 530 535 540

Leu Gln Gln Lys Val Thr Ala Asp Thr Gln Ile Val Val Cys Leu Leu
 545 550 555 560

Ser Ser Asn Arg Lys Asp Lys Tyr Asp Ala Ile Lys Lys Tyr Leu Cys
 565 570 575

Thr Asp Cys Pro Thr Pro Ser Gln Cys Val Val Ala Arg Thr Leu Gly
 580 585 590

Lys Gln Gln Thr Val Met Ala Ile Ala Thr Lys Ile Ala Leu Gln Met
 595 600 605

Asn Cys Lys Met Gly Gly Glu Leu Trp Arg Val Asp Ile Pro Leu Lys
 610 615 620

Leu Val Met Ile Val Gly Ile Asp Cys Tyr His Asp Met Thr Ala Gly
 625 630 635 640

Arg Arg Ser Ile Ala Gly Phe Val Ala Ser Ile Asn Glu Gly Met Thr
 645 650 655

Arg Trp Phe Ser Arg Cys Ile Phe Gln Asp Arg Gly Gln Glu Leu Val
 660 665 670

Asp Gly Leu Lys Val Cys Leu Gln Ala Ala Leu Arg Ala Trp Asn Ser
 675 680 685

Cys Asn Glu Tyr Met Pro Ser Arg Ile Ile Val Tyr Arg Asp Gly Val
 690 695 700

Gly Asp Gly Gln Leu Lys Thr Leu Val Asn Tyr Glu Val Pro Gln Phe
 705 710 715 720

Leu Asp Cys Leu Lys Ser Ile Gly Arg Gly Tyr Asn Pro Arg Leu Thr
 725 730 735

Val Ile Val Val Lys Lys Arg Val Asn Thr Arg Phe Phe Ala Gln Ser
 740 745 750

Gly Gly Arg Leu Gln Asn Pro Leu Pro Gly Thr Val Ile Asp Val Glu

755

760

765

Val Thr Arg Pro Glu Trp Tyr Asp Phe Phe Ile Val Ser Gln Ala Val
 770 775 780

Arg Ser Gly Ser Val Ser Pro Thr His Tyr Asn Val Ile Tyr Asp Asn
 785 790 795 800

Ser Gly Leu Lys Pro Asp His Ile Gln Arg Leu Thr Tyr Lys Leu Cys
 805 810 815

His Ile Tyr Tyr Asn Trp Pro Gly Val Ile Arg Val Pro Ala Pro Cys
 820 825 830

Gln Tyr Ala His Lys Leu Ala Phe Leu Val Gly Gln Ser Ile His Arg
 835 840 845

Glu Pro Asn Leu Ser Leu Ser Asn Arg Leu Tyr Tyr Leu
 850 855 860

<210> 351

<211> 1544

<212> PRT

<213> Artificial Sequence

<220>

<223> PLU-1

<400> 351

Met Glu Ala Ala Thr Thr Leu His Pro Gly Pro Arg Pro Ala Leu Pro
 1 5 10 15

Leu Gly Gly Pro Gly Pro Leu Gly Glu Phe Leu Pro Pro Pro Glu Cys
 20 25 30

Pro Val Phe Glu Pro Ser Trp Glu Glu Phe Ala Asp Pro Phe Ala Phe
 35 40 45

Ile His Lys Ile Arg Pro Ile Ala Glu Gln Thr Gly Ile Cys Lys Val

50

55

60

Arg Pro Pro Pro Asp Trp Gln Pro Pro Phe Ala Cys Asp Val Asp Lys
 65 70 75 80

Leu His Phe Thr Pro Arg Ile Gln Arg Leu Asn Glu Leu Glu Ala Gln
 85 90 95

Thr Arg Val Lys Leu Asn Phe Leu Asp Gln Ile Ala Lys Tyr Trp Glu
 100 105 110

Leu Gln Gly Ser Thr Leu Lys Ile Pro His Val Glu Arg Lys Ile Leu
 115 120 125

Asp Leu Phe Gln Leu Asn Lys Leu Val Ala Glu Glu Gly Gly Phe Ala
 130 135 140

Val Val Cys Lys Asp Arg Lys Trp Thr Lys Ile Ala Thr Lys Met Gly
 145 150 155 160

Phe Ala Pro Gly Lys Ala Val Gly Ser His Ile Arg Gly His Tyr Glu
 165 170 175

Arg Ile Leu Asn Pro Tyr Asn Leu Phe Leu Ser Gly Asp Ser Leu Arg
 180 185 190

Cys Leu Gln Lys Pro Asn Leu Thr Thr Asp Thr Lys Asp Lys Glu Tyr
 195 200 205

Lys Pro His Asp Ile Pro Gln Arg Gln Ser Val Gln Pro Ser Glu Thr
 210 215 220

Cys Pro Pro Ala Arg Arg Ala Lys Arg Met Arg Ala Glu Ala Met Asn
 225 230 235 240

Ile Lys Ile Glu Pro Glu Glu Thr Thr Glu Ala Arg Thr His Asn Leu
 245 250 255

Arg Arg Arg Met Gly Cys Pro Thr Pro Lys Cys Glu Asn Glu Lys Glu
 260 265 270

Met Lys Ser Ser Ile Lys Gln Glu Pro Ile Glu Arg Lys Asp Tyr Ile
 275 280 285

Val Glu Asn Glu Lys Glu Lys Pro Lys Ser Arg Ser Lys Lys Ala Thr
 290 295 300

Asn Ala Val Asp Leu Tyr Val Cys Leu Leu Cys Gly Ser Gly Asn Asp
 305 310 315 320

Glu Asp Arg Leu Leu Leu Cys Asp Gly Cys Asp Asp Ser Tyr His Thr
 325 330 335

Phe Cys Leu Ile Pro Pro Leu His Asp Val Pro Lys Gly Asp Trp Arg
 340 345 350

Cys Pro Lys Cys Leu Ala Gln Glu Cys Ser Lys Pro Gln Glu Ala Phe
 355 360 365

Gly Phe Glu Gln Ala Ala Arg Asp Tyr Thr Leu Arg Thr Phe Gly Glu
 370 375 380

Met Ala Asp Ala Phe Lys Ser Asp Tyr Phe Asn Met Pro Val His Met
 385 390 395 400

Val Pro Thr Glu Leu Val Glu Lys Glu Phe Trp Arg Leu Val Ser Thr
 405 410 415

Ile Glu Glu Asp Val Thr Val Glu Tyr Gly Ala Asp Ile Ala Ser Lys
 420 425 430

Glu Phe Gly Ser Gly Phe Pro Val Arg Asp Gly Lys Ile Lys Leu Ser
 435 440 445

Pro Glu Glu Glu Glu Tyr Leu Asp Ser Gly Trp Asn Leu Asn Asn Met

450

455

460

Pro Val Met Glu Gln Ser Val Leu Ala His Ile Thr Ala Asp Ile Cys
 465 470 475 480

Gly Met Lys Leu Pro Trp Leu Tyr Val Gly Met Cys Phe Ser Ser Phe
 485 490 495

Cys Trp His Ile Glu Asp His Trp Ser Tyr Ser Ile Asn Tyr Leu His
 500 505 510

Trp Gly Glu Pro Lys Thr Trp Tyr Gly Val Pro Gly Tyr Ala Ala Glu
 515 520 525

Gln Leu Glu Asn Val Met Lys Lys Leu Ala Pro Glu Leu Phe Val Ser
 530 535 540

Gln Pro Asp Leu Leu His Gln Leu Val Thr Ile Met Asn Pro Asn Thr
 545 550 555 560

Leu Met Thr His Glu Val Pro Val Tyr Arg Thr Asn Gln Cys Ala Gly
 565 570 575

Glu Phe Val Ile Thr Phe Pro Arg Ala Tyr His Ser Gly Phe Asn Gln
 580 585 590

Gly Phe Asn Phe Ala Glu Ala Val Asn Phe Cys Thr Val Asp Trp Leu
 595 600 605

Pro Leu Gly Arg Gln Cys Val Glu His Tyr Arg Leu Leu His Arg Tyr
 610 615 620

Cys Val Phe Ser His Asp Glu Met Ile Cys Lys Met Ala Ser Lys Ala
 625 630 635 640

Asp Val Leu Asp Val Val Val Ala Ser Thr Val Gln Lys Asp Met Ala
 645 650 655

Ile Met Ile Glu Asp Glu Lys Ala Leu Arg Glu Thr Val Arg Lys Leu
 660 665 670

Gly Val Ile Asp Ser Glu Arg Met Asp Phe Glu Leu Leu Pro Asp Asp
 675 680 685

Glu Arg Gln Cys Val Lys Cys Lys Thr Thr Cys Phe Met Ser Ala Ile
 690 695 700

Ser Cys Ser Cys Lys Pro Gly Leu Leu Val Cys Leu His His Val Lys
 705 710 715 720

Glu Leu Cys Ser Cys Pro Pro Tyr Lys Tyr Lys Leu Arg Tyr Arg Tyr
 725 730 735

Thr Leu Asp Asp Leu Tyr Pro Met Met Asn Ala Leu Lys Leu Arg Ala
 740 745 750

Glu Ser Tyr Asn Glu Trp Ala Leu Asn Val Asn Glu Ala Leu Glu Ala
 755 760 765

Lys Ile Asn Lys Lys Lys Ser Leu Val Ser Phe Lys Ala Leu Ile Glu
 770 775 780

Glu Ser Glu Met Lys Lys Phe Pro Asp Asn Asp Leu Leu Arg His Leu
 785 790 795 800

Arg Leu Val Thr Gln Asp Ala Glu Lys Cys Ala Ser Val Ala Gln Gln
 805 810 815

Leu Leu Asn Gly Lys Arg Gln Thr Arg Tyr Arg Ser Gly Gly Gly Lys
 820 825 830

Ser Gln Asn Gln Leu Thr Val Asn Glu Leu Arg Gln Phe Val Thr Gln
 835 840 845

Leu Tyr Ala Leu Pro Cys Val Leu Ser Gln Thr Pro Leu Leu Lys Asp

850

855

860

Leu Leu Asn Arg Val Glu Asp Phe Gln Gln His Ser Gln Lys Leu Leu
 865 870 875 880

Ser Glu Glu Thr Pro Ser Ala Ala Glu Leu Gln Asp Leu Leu Asp Val
 885 890 895

Ser Phe Glu Phe Asp Val Glu Leu Pro Gln Leu Ala Glu Met Arg Ile
 900 905 910

Arg Leu Glu Gln Ala Arg Trp Leu Glu Glu Val Gln Gln Ala Cys Leu
 915 920 925

Asp Pro Ser Ser Leu Thr Leu Asp Asp Met Arg Arg Leu Ile Asp Leu
 930 935 940

Gly Val Gly Leu Ala Pro Tyr Ser Ala Val Glu Lys Ala Met Ala Arg
 945 950 955 960

Leu Gln Glu Leu Leu Thr Val Ser Glu His Trp Asp Asp Lys Ala Lys
 965 970 975

Ser Leu Leu Lys Ala Arg Pro Arg His Ser Leu Asn Ser Leu Ala Thr
 980 985 990

Ala Val Lys Glu Ile Glu Glu Ile Pro Ala Tyr Leu Pro Asn Gly Ala
 995 1000 1005

Ala Leu Lys Asp Ser Val Gln Arg Ala Arg Asp Trp Leu Gln Asp
 1010 1015 1020

Val Glu Gly Leu Gln Ala Gly Gly Arg Val Pro Val Leu Asp Thr
 1025 1030 1035

Leu Ile Glu Leu Val Thr Arg Gly Arg Ser Ile Pro Val His Leu
 1040 1045 1050

Asn	Ser	Leu	Pro	Arg	Leu	Glu	Thr	Leu	Val	Ala	Glu	Val	Gln	Ala
1055						1060					1065			
Trp	Lys	Glu	Cys	Ala	Val	Asn	Thr	Phe	Leu	Thr	Glu	Asn	Ser	Pro
1070						1075					1080			
Tyr	Ser	Leu	Leu	Glu	Val	Leu	Cys	Pro	Arg	Cys	Asp	Ile	Gly	Leu
1085						1090					1095			
Leu	Gly	Leu	Lys	Arg	Lys	Gln	Arg	Lys	Leu	Lys	Glu	Pro	Leu	Pro
1100						1105					1110			
Asn	Gly	Lys	Lys	Lys	Ser	Thr	Lys	Leu	Glu	Ser	Leu	Ser	Asp	Leu
1115						1120					1125			
Glu	Arg	Ala	Leu	Thr	Glu	Ser	Lys	Glu	Thr	Ala	Ser	Ala	Met	Ala
1130						1135					1140			
Thr	Leu	Gly	Glu	Ala	Arg	Leu	Arg	Glu	Met	Glu	Ala	Leu	Gln	Ser
1145						1150					1155			
Leu	Arg	Leu	Ala	Asn	Glu	Gly	Lys	Leu	Leu	Ser	Pro	Leu	Gln	Asp
1160						1165					1170			
Val	Asp	Ile	Lys	Ile	Cys	Leu	Cys	Gln	Lys	Ala	Pro	Ala	Ala	Pro
1175						1180					1185			
Met	Ile	Gln	Cys	Glu	Leu	Cys	Arg	Asp	Ala	Phe	His	Thr	Ser	Cys
1190						1195					1200			
Val	Ala	Val	Pro	Ser	Ile	Ser	Gln	Gly	Leu	Arg	Ile	Trp	Leu	Cys
1205						1210					1215			
Pro	His	Cys	Arg	Arg	Ser	Glu	Lys	Pro	Pro	Leu	Glu	Lys	Ile	Leu
1220						1225					1230			
Pro	Leu	Leu	Ala	Ser	Leu	Gln	Arg	Ile	Arg	Val	Arg	Leu	Pro	Glu

1235		1240		1245
Gly Asp Ala Leu Arg Tyr Met Ile Glu Arg Thr Val Asn Trp Gln				
1250		1255		1260
His Arg Ala Gln Gln Leu Leu Ser Ser Gly Asn Leu Lys Phe Val				
1265		1270		1275
Gln Asp Arg Val Gly Ser Gly Leu Leu Tyr Ser Arg Trp Gln Ala				
1280		1285		1290
Ser Ala Gly Gln Val Ser Asp Thr Asn Lys Val Ser Gln Pro Pro				
1295		1300		1305
Gly Thr Thr Ser Phe Ser Leu Pro Asp Asp Trp Asp Asn Arg Thr				
1310		1315		1320
Ser Tyr Leu His Ser Pro Phe Ser Thr Gly Arg Ser Cys Ile Pro				
1325		1330		1335
Leu His Gly Val Ser Pro Glu Val Asn Glu Leu Leu Met Glu Ala				
1340		1345		1350
Gln Leu Leu Gln Val Ser Leu Pro Glu Ile Gln Glu Leu Tyr Gln				
1355		1360		1365
Thr Leu Leu Ala Lys Pro Ser Pro Ala Gln Gln Thr Asp Arg Ser				
1370		1375		1380
Ser Pro Val Arg Pro Ser Ser Glu Lys Asn Asp Cys Cys Arg Gly				
1385		1390		1395
Lys Arg Asp Gly Ile Asn Ser Leu Glu Arg Lys Leu Lys Arg Arg				
1400		1405		1410
Leu Glu Arg Glu Gly Leu Ser Ser Glu Arg Trp Glu Arg Val Lys				
1415		1420		1425

Lys Met Arg Thr Pro Lys Lys Lys Lys Ile Lys Leu Ser His Pro
 1430 1435 1440

Lys Asp Met Asn Asn Phe Lys Leu Glu Arg Glu Arg Ser Tyr Glu
 1445 1450 1455

Leu Val Arg Ser Ala Glu Thr His Ser Leu Pro Ser Asp Thr Ser
 1460 1465 1470

Tyr Ser Glu Gln Glu Asp Ser Glu Asp Glu Asp Ala Ile Cys Pro
 1475 1480 1485

Ala Val Ser Cys Leu Gln Pro Glu Gly Asp Glu Val Asp Trp Val
 1490 1495 1500

Gln Cys Asp Gly Ser Cys Asn Gln Trp Phe His Gln Val Cys Val
 1505 1510 1515

Gly Val Ser Pro Glu Met Ala Glu Lys Glu Asp Tyr Ile Cys Val
 1520 1525 1530

Arg Cys Thr Val Lys Asp Ala Pro Ser Arg Lys
 1535 1540

<210> 352

<211> 698

<212> PRT

<213> Artificial Sequence

<220>

<223> TSGA10

<400> 352

Met Met Arg Ser Arg Ser Lys Ser Pro Arg Arg Pro Ser Pro Thr Ala
 1 5 10 15

Arg Gly Ala Asn Cys Asp Val Glu Leu Leu Lys Thr Thr Thr Arg Asp
 20 25 30

Arg Glu Glu Leu Lys Cys Met Leu Glu Lys Tyr Glu Arg His Leu Ala
 35 40 45

Glu Ile Gln Gly Asn Val Lys Val Leu Lys Ser Glu Arg Asp Lys Ile
 50 55 60

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

Glu Met Met Lys Ser Cys Lys Ser Pro Lys Ser Thr Thr Ala His Ala
 85 90 95

Ile Leu Arg Arg Val Glu Thr Glu Arg Asp Val Ala Phe Thr Asp Leu
 100 105 110

Arg Arg Met Thr Thr Glu Arg Asp Ser Leu Arg Glu Arg Leu Lys Ile
 115 120 125

Ala Gln Glu Thr Ala Phe Asn Glu Lys Ala His Leu Glu Gln Arg Ile
 130 135 140

Glu Glu Leu Glu Cys Thr Val His Asn Leu Asp Asp Glu Arg Met Glu
 145 150 155 160

Gln Met Ser Asn Met Thr Leu Met Lys Glu Thr Ile Ser Thr Val Glu
 165 170 175

Lys Glu Met Lys Ser Leu Ala Arg Lys Ala Met Asp Thr Glu Ser Glu
 180 185 190

Leu Gly Arg Gln Lys Ala Glu Asn Asn Ser Leu Arg Leu Leu Tyr Glu
 195 200 205

Asn Thr Glu Lys Asp Leu Ser Asp Thr Gln Arg His Leu Ala Lys Lys
 210 215 220

Lys Tyr Glu Leu Gln Leu Thr Gln Glu Lys Ile Met Cys Leu Asp Glu

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

Gln Ser Glu Ala Asp Asn Asn Thr Leu Lys Leu Glu Leu Ile Thr Ala
 435 440 445

Glu Ala Glu Gly Asn Arg Leu Lys Glu Lys Val Asp Ser Leu Asn Arg
 450 455 460

Glu Val Glu Gln His Leu Asn Ala Glu Arg Ser Tyr Lys Ser Gln Ile
 465 470 475 480

Ser Thr Leu His Lys Ser Val Val Lys Met Glu Glu Glu Leu Gln Lys
 485 490 495

Val Gln Phe Glu Lys Val Ser Ala Leu Ala Asp Leu Ser Ser Thr Arg
 500 505 510

Glu Leu Cys Ile Lys Leu Asp Ser Ser Lys Glu Leu Leu Asn Arg Gln
 515 520 525

Leu Val Ala Lys Asp Gln Glu Ile Glu Met Arg Glu Asn Glu Leu Asp
 530 535 540

Ser Ala His Ser Glu Ile Glu Leu Leu Arg Ser Gln Met Ala Asn Glu
 545 550 555 560

Arg Ile Ser Met Gln Asn Leu Glu Ala Leu Leu Val Ala Asn Arg Asp
 565 570 575

Lys Glu Tyr Gln Ser Gln Ile Ala Leu Gln Glu Lys Glu Ser Glu Ile
 580 585 590

Gln Leu Leu Lys Glu His Leu Cys Leu Ala Glu Asn Lys Met Ala Ile
 595 600 605

Gln Ser Arg Asp Val Ala Gln Phe Arg Asn Val Val Thr Gln Leu Glu
 610 615 620

Ala Asp Leu Asp Ile Thr Lys Arg Gln Leu Gly Thr Glu Arg Phe Glu

625 630 635 640

Arg Glu Arg Ala Val Gln Glu Leu Arg Arg Gln Asn Tyr Ser Ser Asn
645 650 655

Ala Tyr His Met Ser Ser Thr Met Lys Pro Asn Thr Lys Cys His Ser
660 665 670

Pro Glu Arg Ala His His Arg Ser Pro Asp Arg Gly Leu Asp Arg Ser
675 680 685

Leu Glu Glu Asn Leu Cys Tyr Arg Asp Phe
690 695

<210> 353
<211> 257
<212> PRT
<213> Artificial Sequence

<220>
<223> ODF-4

<400> 353

Met Asp Ala Glu Tyr Ser Gly Asn Glu Phe Pro Arg Ser Glu Gly Glu
1 5 10 15

Arg Asp Gln His Gln Arg Pro Gly Lys Glu Arg Lys Ser Gly Glu Ala
20 25 30

Gly Trp Gly Thr Gly Glu Leu Gly Gln Asp Gly Arg Leu Leu Ser Ser
35 40 45

Thr Leu Ser Leu Ser Ser Asn Arg Ser Leu Gly Gln Arg Gln Asn Ser
50 55 60

Pro Leu Pro Phe Gln Trp Arg Ile Thr His Ser Phe Arg Trp Met Ala
65 70 75 80

Gln Val Leu Ala Ser Glu Leu Ser Leu Val Ala Phe Ile Leu Leu Leu

85

90

95

Val Val Ala Phe Ser Lys Lys Trp Leu Asp Leu Ser Arg Ser Leu Phe
 100 105 110

Tyr Gln Arg Trp Pro Val Asp Val Ser Asn Arg Ile His Thr Ser Ala
 115 120 125

His Val Met Ser Met Gly Leu Leu His Phe Tyr Lys Ser Arg Ser Cys
 130 135 140

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

Leu Phe Pro Ile Asn Ile Trp Ile Phe Glu Leu Glu Arg Asn Val Ser
 165 170 175

Ile Pro Ile Gly Trp Ser Tyr Phe Ile Gly Trp Leu Val Leu Ile Leu
 180 185 190

Tyr Phe Thr Cys Ala Ile Leu Cys Tyr Phe Asn His Lys Ser Phe Trp
 195 200 205

Ser Leu Ile Leu Ser His Pro Ser Gly Ala Val Ser Cys Ser Ser Ser
 210 215 220

Phe Gly Ser Val Glu Glu Ser Pro Arg Ala Gln Thr Ile Thr Asp Thr
 225 230 235 240

Pro Ile Thr Gln Glu Gly Val Leu Asp Pro Glu Gln Lys Asp Thr His
 245 250 255

Val

<210> 354

<211> 151

<212> PRT

<213> Artificial Sequence

<220>

<223> SP17

<400> 354

Met Ser Ile Pro Phe Ser Asn Thr His Tyr Arg Ile Pro Gln Gly Phe
1 5 10 15

Gly Asn Leu Leu Glu Gly Leu Thr Arg Glu Ile Leu Arg Glu Gln Pro
20 25 30

Asp Asn Ile Pro Ala Phe Ala Ala Ala Tyr Phe Glu Ser Leu Leu Glu
35 40 45

Lys Arg Glu Lys Thr Asn Phe Asp Pro Ala Glu Trp Gly Ser Lys Val
50 55 60

Glu Asp Arg Phe Tyr Asn Asn His Ala Phe Glu Glu Gln Glu Pro Pro
65 70 75 80

Glu Lys Ser Asp Pro Lys Gln Glu Glu Ser Gln Ile Ser Gly Lys Glu
85 90 95

Glu Glu Thr Ser Val Thr Ile Leu Asp Ser Ser Glu Glu Asp Lys Glu
100 105 110

Lys Glu Glu Val Ala Ala Val Lys Ile Gln Ala Ala Phe Arg Gly His
115 120 125

Ile Ala Arg Glu Glu Ala Lys Lys Met Lys Thr Asn Ser Leu Gln Asn
130 135 140

Glu Glu Lys Glu Glu Asn Lys
145 150

<210> 355

<211> 1116

<212> PRT

<213> Artificial Sequence

<220>

<223> RHOXF-2

<400> 355

Met Ala Ala Asp Leu Asn Leu Glu Trp Ile Ser Leu Pro Arg Ser Trp
1 5 10 15

Thr Tyr Gly Ile Thr Arg Gly Gly Arg Val Phe Phe Ile Asn Glu Glu
20 25 30

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

Thr Gly His Arg Arg Gln Ser Thr Asp Leu Pro Thr Gly Trp Glu Glu
50 55 60

Ala Tyr Thr Phe Glu Gly Ala Arg Tyr Tyr Ile Asn His Asn Glu Arg
65 70 75 80

Lys Val Thr Cys Lys His Pro Val Thr Gly Gln Pro Ser Gln Asp Asn
85 90 95

Cys Ile Phe Val Val Asn Glu Gln Thr Val Ala Thr Met Thr Ser Glu
100 105 110

Glu Lys Lys Glu Arg Pro Ile Ser Met Ile Asn Glu Ala Ser Asn Tyr
115 120 125

Asn Val Thr Ser Asp Tyr Ala Val His Pro Met Ser Pro Val Gly Arg
130 135 140

Thr Ser Arg Ala Ser Lys Lys Val His Asn Phe Gly Lys Arg Ser Asn
145 150 155 160

Ser Ile Lys Arg Asn Pro Asn Ala Pro Val Val Arg Arg Gly Trp Leu
165 170 175

Tyr Lys Gln Asp Ser Thr Gly Met Lys Leu Trp Lys Lys Arg Trp Phe
 180 185 190

Val Leu Ser Asp Leu Cys Leu Phe Tyr Tyr Arg Asp Glu Lys Glu Glu
 195 200 205

Gly Ile Leu Gly Ser Ile Leu Leu Pro Ser Phe Gln Ile Ala Leu Leu
 210 215 220

Thr Ser Glu Asp His Ile Asn Arg Lys Tyr Ala Phe Lys Ala Ala His
 225 230 235 240

Pro Asn Met Arg Thr Tyr Tyr Phe Cys Thr Asp Thr Gly Lys Glu Met
 245 250 255

Glu Leu Trp Met Lys Ala Met Leu Asp Ala Ala Leu Val Gln Thr Glu
 260 265 270

Pro Val Lys Arg Val Asp Lys Ile Thr Ser Glu Asn Ala Pro Thr Lys
 275 280 285

Glu Thr Asn Asn Ile Pro Asn His Arg Val Leu Ile Lys Pro Glu Ile
 290 295 300

Gln Asn Asn Gln Lys Asn Lys Glu Met Ser Lys Ile Glu Glu Lys Lys
 305 310 315 320

Ala Leu Glu Ala Glu Lys Tyr Gly Phe Gln Lys Asp Gly Gln Asp Arg
 325 330 335

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

Tyr Glu Ser Gly Ser Ala Cys Pro Ala Gln Thr Val His Tyr Arg Pro
 355 360 365

Ile Asn Leu Ser Ser Ser Glu Asn Lys Ile Val Asn Val Ser Leu Ala

370

375

380

Asp Leu Arg Gly Gly Asn Arg Pro Asn Thr Gly Pro Leu Tyr Thr Glu
 385 390 395 400

Ala Asp Arg Val Ile Gln Arg Thr Asn Ser Met Gln Gln Leu Glu Gln
 405 410 415

Trp Ile Lys Ile Gln Lys Gly Arg Gly His Glu Glu Glu Thr Arg Gly
 420 425 430

Val Ile Ser Tyr Gln Thr Leu Pro Arg Asn Met Pro Ser His Arg Ala
 435 440 445

Gln Ile Met Ala Arg Tyr Pro Glu Gly Tyr Arg Thr Leu Pro Arg Asn
 450 455 460

Ser Lys Thr Arg Pro Glu Ser Ile Cys Ser Val Thr Pro Ser Thr His
 465 470 475 480

Asp Lys Thr Leu Gly Pro Gly Ala Glu Glu Lys Arg Arg Ser Met Arg
 485 490 495

Asp Asp Thr Met Trp Gln Leu Tyr Glu Trp Gln Gln Arg Gln Phe Tyr
 500 505 510

Asn Lys Gln Ser Thr Leu Pro Arg His Ser Thr Leu Ser Ser Pro Lys
 515 520 525

Thr Met Val Asn Ile Ser Asp Gln Thr Met His Ser Ile Pro Thr Ser
 530 535 540

Pro Ser His Gly Ser Ile Ala Ala Tyr Gln Gly Tyr Ser Pro Gln Arg
 545 550 555 560

Thr Tyr Arg Ser Glu Val Ser Ser Pro Ile Gln Arg Gly Asp Val Thr
 565 570 575

Ile Asp Arg Arg His Arg Ala His His Pro Lys His Val Tyr Val Pro
 580 585 590

Asp Arg Arg Ser Val Pro Ala Gly Leu Thr Leu Gln Ser Val Ser Pro
 595 600 605

Gln Ser Leu Gln Gly Lys Thr Leu Ser Gln Asp Glu Gly Arg Gly Thr
 610 615 620

Leu Tyr Lys Tyr Arg Pro Glu Glu Val Asp Ile Asp Ala Lys Leu Ser
 625 630 635 640

Arg Leu Cys Glu Gln Asp Lys Val Val His Ala Leu Glu Glu Lys Leu
 645 650 655

Gln Gln Leu His Lys Glu Lys Tyr Thr Leu Glu Gln Ala Leu Leu Ser
 660 665 670

Ala Ser Gln Glu Ile Glu Met His Ala Asp Asn Pro Ala Ala Ile Gln
 675 680 685

Thr Val Val Leu Gln Arg Asp Asp Leu Gln Asn Gly Leu Leu Ser Thr
 690 695 700

Cys Arg Glu Leu Ser Arg Ala Thr Ala Glu Leu Glu Arg Ala Trp Arg
 705 710 715 720

Glu Tyr Asp Lys Leu Glu Tyr Asp Val Thr Val Thr Arg Asn Gln Met
 725 730 735

Gln Glu Gln Leu Asp His Leu Gly Glu Val Gln Thr Glu Ser Ala Gly
 740 745 750

Ile Gln Arg Ala Gln Ile Gln Lys Glu Leu Trp Arg Ile Gln Asp Val
 755 760 765

Met Glu Gly Leu Ser Lys His Lys Gln Gln Arg Gly Thr Thr Glu Ile

770

775

780

Gly Met Ile Gly Ser Lys Pro Phe Ser Thr Val Lys Tyr Lys Asn Glu
 785 790 795 800

Gly Pro Asp Tyr Arg Leu Tyr Lys Ser Glu Pro Glu Leu Thr Thr Val
 805 810 815

Ala Glu Val Asp Glu Ser Asn Gly Glu Glu Lys Ser Glu Pro Val Ser
 820 825 830

Glu Ile Glu Thr Ser Val Val Lys Gly Ser His Phe Pro Val Gly Val
 835 840 845

Val Pro Pro Arg Ala Lys Ser Pro Thr Pro Glu Ser Ser Thr Ile Ala
 850 855 860

Ser Tyr Val Thr Leu Arg Lys Thr Lys Lys Met Met Asp Leu Arg Thr
 865 870 875 880

Glu Arg Pro Arg Ser Ala Val Glu Gln Leu Cys Leu Ala Glu Ser Thr
 885 890 895

Arg Pro Arg Met Thr Val Glu Glu Gln Met Glu Arg Ile Arg Arg His
 900 905 910

Gln Gln Ala Cys Leu Arg Glu Lys Lys Lys Gly Leu Asn Val Ile Gly
 915 920 925

Ala Ser Asp Gln Ser Pro Leu Gln Ser Pro Ser Asn Leu Arg Asp Asn
 930 935 940

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

Thr Ala Ile Arg Glu Asn Asp Val Lys Pro Asp His Glu Thr Pro Ala
 965 970 975

Thr Glu Ile Val Gln Leu Lys Glu Thr Glu Pro Gln Asn Val Asp Phe
 980 985 990

Ser Lys Glu Leu Lys Lys Thr Glu Asn Ile Ser Tyr Glu Met Leu Phe
 995 1000 1005

Glu Pro Glu Pro Asn Gly Val Asn Ser Val Glu Met Met Asp Lys
 1010 1015 1020

Glu Arg Asn Lys Asp Lys Met Pro Glu Asp Val Thr Phe Ser Pro
 1025 1030 1035

Gln Asp Glu Thr Gln Thr Ala Asn His Lys Pro Glu Glu His Pro
 1040 1045 1050

Glu Glu Asn Thr Lys Asn Ser Val Asp Glu Gln Glu Glu Thr Val
 1055 1060 1065

Ile Ser Tyr Glu Ser Thr Pro Glu Val Ser Arg Gly Asn Gln Thr
 1070 1075 1080

Met Ala Val Lys Ser Leu Ser Pro Ser Pro Glu Ser Ser Ala Ser
 1085 1090 1095

Pro Val Pro Ser Thr Gln Pro Gln Leu Thr Glu Gly Ser His Phe
 1100 1105 1110

Met Cys Val
 1115

<210> 356
 <211> 180
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> NY-ESO-1

<400> 356

Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp
 1 5 10 15

Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly
 20 25 30

Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala
 35 40 45

Gly Ala Ala Arg Ala Ser Gly Pro Gly Gly Gly Ala Pro Arg Gly Pro
 50 55 60

His Gly Gly Ala Ala Ser Gly Leu Asn Gly Cys Cys Arg Cys Gly Ala
 65 70 75 80

Arg Gly Pro Glu Ser Arg Leu Leu Glu Phe Tyr Leu Ala Met Pro Phe
 85 90 95

Ala Thr Pro Met Glu Ala Glu Leu Ala Arg Arg Ser Leu Ala Gln Asp
 100 105 110

Ala Pro Pro Leu Pro Val Pro Gly Val Leu Leu Lys Glu Phe Thr Val
 115 120 125

Ser Gly Asn Ile Leu Thr Ile Arg Leu Thr Ala Ala Asp His Arg Gln
 130 135 140

Leu Gln Leu Ser Ile Ser Ser Cys Leu Gln Gln Leu Ser Leu Leu Met
 145 150 155 160

Trp Ile Thr Gln Cys Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser
 165 170 175

Gly Gln Arg Arg
 180

<210> 357

<211> 852
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> PIWIL-4

<400> 357

Met Ser Gly Arg Ala Arg Val Lys Ala Arg Gly Ile Ala Arg Ser Pro
 1 5 10 15

Ser Ala Thr Glu Val Gly Arg Ile Gln Ala Ser Pro Leu Pro Arg Ser
 20 25 30

Val Asp Leu Ser Asn Asn Glu Ala Ser Ser Ser Asn Gly Phe Leu Gly
 35 40 45

Thr Ser Arg Ile Ser Thr Asn Asp Lys Tyr Gly Ile Ser Ser Gly Asp
 50 55 60

Ala Gly Ser Thr Phe Met Glu Arg Gly Val Lys Asn Lys Gln Asp Phe
 65 70 75 80

Met Asp Leu Ser Ile Cys Thr Arg Glu Lys Leu Ala His Val Arg Asn
 85 90 95

Cys Lys Thr Gly Ser Ser Gly Ile Pro Val Lys Leu Val Thr Asn Leu
 100 105 110

Phe Asn Leu Asp Phe Pro Gln Asp Trp Gln Leu Tyr Gln Tyr His Val
 115 120 125

Thr Tyr Ile Pro Asp Leu Ala Ser Arg Arg Leu Arg Ile Ala Leu Leu
 130 135 140

Tyr Ser His Ser Glu Leu Ser Asn Lys Ala Lys Ala Phe Asp Gly Ala
 145 150 155 160

Ile Leu Phe Leu Ser Gln Lys Leu Glu Glu Lys Val Thr Glu Leu Ser

165

170

175

Ser Glu Thr Gln Arg Gly Glu Thr Ile Lys Met Thr Ile Thr Leu Lys
 180 185 190

Arg Glu Leu Pro Ser Ser Ser Pro Val Cys Ile Gln Val Phe Asn Ile
 195 200 205

Ile Phe Arg Lys Ile Leu Lys Lys Leu Ser Met Tyr Gln Ile Gly Arg
 210 215 220

Asn Phe Tyr Asn Pro Ser Glu Pro Met Glu Ile Pro Gln His Lys Leu
 225 230 235 240

Ser Leu Trp Pro Gly Phe Ala Ile Ser Val Ser Tyr Phe Glu Arg Lys
 245 250 255

Leu Leu Phe Ser Ala Asp Val Ser Tyr Lys Val Leu Arg Asn Glu Thr
 260 265 270

Val Leu Glu Phe Met Thr Ala Leu Cys Gln Arg Thr Gly Leu Ser Cys
 275 280 285

Phe Thr Gln Thr Cys Glu Lys Gln Leu Ile Gly Leu Ile Val Leu Thr
 290 295 300

Arg Tyr Asn Asn Arg Thr Tyr Ser Ile Asp Asp Ile Asp Trp Ser Val
 305 310 315 320

Lys Pro Thr His Thr Phe Gln Lys Arg Asp Gly Thr Glu Ile Thr Tyr
 325 330 335

Val Asp Tyr Tyr Lys Gln Gln Tyr Asp Ile Thr Val Ser Asp Leu Asn
 340 345 350

Gln Pro Met Leu Val Ser Leu Leu Lys Lys Lys Arg Asn Asp Asn Ser
 355 360 365

Glu Ala Gln Leu Ala His Leu Ile Pro Glu Leu Cys Phe Leu Thr Gly
 370 375 380

Leu Thr Asp Gln Ala Thr Ser Asp Phe Gln Leu Met Lys Ala Val Ala
 385 390 395 400

Glu Lys Thr Arg Leu Ser Pro Ser Gly Arg Gln Gln Arg Leu Ala Arg
 405 410 415

Leu Val Asp Asn Ile Gln Arg Asn Thr Asn Ala Arg Phe Glu Leu Glu
 420 425 430

Thr Trp Gly Leu His Phe Gly Ser Gln Ile Ser Leu Thr Gly Arg Ile
 435 440 445

Val Pro Ser Glu Lys Ile Leu Met Gln Asp His Ile Cys Gln Pro Val
 450 455 460

Ser Ala Ala Asp Trp Ser Lys Asp Ile Arg Thr Cys Lys Ile Leu Asn
 465 470 475 480

Ala Gln Ser Leu Asn Thr Trp Leu Ile Leu Cys Ser Asp Arg Thr Glu
 485 490 495

Tyr Val Ala Glu Ser Phe Leu Asn Cys Leu Arg Arg Val Ala Gly Ser
 500 505 510

Met Gly Phe Asn Val Asp Tyr Pro Lys Ile Ile Lys Val Gln Glu Asn
 515 520 525

Pro Ala Ala Phe Val Arg Ala Ile Gln Gln Tyr Val Asp Pro Asp Val
 530 535 540

Gln Leu Val Met Cys Ile Leu Pro Ser Asn Gln Lys Thr Tyr Tyr Asp
 545 550 555 560

Ser Ile Lys Lys Tyr Leu Ser Ser Asp Cys Pro Val Pro Ser Gln Cys

565

570

575

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

Thr Lys Ile Ala Met Gln Met Thr Cys Lys Leu Gly Gly Glu Leu Trp
 595 600 605

Ala Val Glu Ile Pro Leu Lys Ser Leu Met Val Val Gly Ile Asp Val
 610 615 620

Cys Lys Asp Ala Leu Ser Lys Asp Val Met Val Val Gly Cys Val Ala
 625 630 635 640

Ser Val Asn Pro Arg Ile Thr Arg Trp Phe Ser Arg Cys Ile Leu Gln
 645 650 655

Arg Thr Met Thr Asp Val Ala Asp Cys Leu Lys Val Phe Met Thr Gly
 660 665 670

Ala Leu Asn Lys Trp Tyr Lys Tyr Asn His Asp Leu Pro Ala Arg Ile
 675 680 685

Ile Val Tyr Arg Ala Gly Val Gly Asp Gly Gln Leu Lys Thr Leu Ile
 690 695 700

Glu Tyr Glu Val Pro Gln Leu Leu Ser Ser Val Ala Glu Ser Ser Ser
 705 710 715 720

Asn Thr Ser Ser Arg Leu Ser Val Ile Val Val Arg Lys Lys Cys Met
 725 730 735

Pro Arg Phe Phe Thr Glu Met Asn Arg Thr Val Gln Asn Pro Pro Leu
 740 745 750

Gly Thr Val Val Asp Ser Glu Ala Thr Arg Asn Glu Trp Tyr Asp Phe
 755 760 765

Tyr Leu Ile Ser Gln Val Ala Cys Arg Gly Thr Val Ser Pro Thr Tyr
 770 775 780

Tyr Asn Val Ile Tyr Asp Asp Asn Gly Leu Lys Pro Asp His Met Gln
 785 790 795 800

Arg Leu Thr Phe Lys Leu Cys His Leu Tyr Tyr Asn Trp Pro Gly Ile
 805 810 815

Val Ser Val Pro Ala Pro Cys Gln Tyr Ala His Lys Leu Thr Phe Leu
 820 825 830

Val Ala Gln Ser Ile His Lys Glu Pro Ser Leu Glu Leu Ala Asn His
 835 840 845

Leu Phe Tyr Leu
 850

<210> 358

<211> 449

<212> PRT

<213> Artificial Sequence

<220>

<223> WT1

<400> 358

Met Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro
 1 5 10 15

Ser Leu Gly Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala
 20 25 30

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

Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro Pro
 50 55 60

Pro Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly
65 70 75 80

Ala Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe
85 90 95

Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe
100 105 110

Gly Pro Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe
115 120 125

Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile
130 135 140

Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr
145 150 155 160

Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Phe
165 170 175

Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln
180 185 190

Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser
195 200 205

Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp
210 215 220

Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln
225 230 235 240

Met Asn Leu Gly Ala Thr Leu Lys Gly Val Ala Ala Gly Ser Ser Ser
245 250 255

Ser Val Lys Trp Thr Glu Gly Gln Ser Asn His Ser Thr Gly Tyr Glu

260

265

270

Ser Asp Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile
 275 280 285

His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg Val Pro
 290 295 300

Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu Lys
 305 310 315 320

Arg Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys
 325 330 335

Leu Ser His Leu Gln Met His Ser Arg Lys His Thr Gly Glu Lys Pro
 340 345 350

Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Ser Arg Ser Asp
 355 360 365

Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro Phe Gln
 370 375 380

Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr
 385 390 395 400

His Thr Arg Thr His Thr Gly Lys Thr Ser Glu Lys Pro Phe Ser Cys
 405 410 415

Arg Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val
 420 425 430

Arg His His Asn Met His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala
 435 440 445

Leu

<210> 359
 <211> 543
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> OY-TES-1

<400> 359

Met Arg Lys Pro Ala Ala Gly Phe Leu Pro Ser Leu Leu Lys Val Leu
 1 5 10 15

Leu Leu Pro Leu Ala Pro Ala Ala Ala Gln Asp Ser Thr Gln Ala Ser
 20 25 30

Thr Pro Gly Ser Pro Leu Ser Pro Thr Glu Tyr Glu Arg Phe Phe Ala
 35 40 45

Leu Leu Thr Pro Thr Trp Lys Ala Glu Thr Thr Cys Arg Leu Arg Ala
 50 55 60

Thr His Gly Cys Arg Asn Pro Thr Leu Val Gln Leu Asp Gln Tyr Glu
 65 70 75 80

Asn His Gly Leu Val Pro Asp Gly Ala Val Cys Ser Asn Leu Pro Tyr
 85 90 95

Ala Ser Trp Phe Glu Ser Phe Cys Gln Phe Thr His Tyr Arg Cys Ser
 100 105 110

Asn His Val Tyr Tyr Ala Lys Arg Val Leu Cys Ser Gln Pro Val Ser
 115 120 125

Ile Leu Ser Pro Asn Thr Leu Lys Glu Ile Glu Ala Ser Ala Glu Val
 130 135 140

Ser Pro Thr Thr Met Thr Ser Pro Ile Ser Pro His Phe Thr Val Thr
 145 150 155 160

Glu Arg Gln Thr Phe Gln Pro Trp Pro Glu Arg Leu Ser Asn Asn Val
 165 170 175

Glu Glu Leu Leu Gln Ser Ser Leu Ser Leu Gly Gly Gln Glu Gln Ala
 180 185 190

Pro Glu His Lys Gln Glu Gln Gly Val Glu His Arg Gln Glu Pro Thr
 195 200 205

Gln Glu His Lys Gln Glu Glu Gly Gln Lys Gln Glu Glu Gln Glu Glu
 210 215 220

Glu Gln Glu Glu Glu Gly Lys Gln Glu Glu Gly Gln Gly Thr Lys Glu
 225 230 235 240

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

His Ser Glu Ser Leu Ser Ser Asn Pro Ser Ser Phe Ala Pro Arg Val
 260 265 270

Arg Glu Val Glu Ser Thr Pro Met Ile Met Glu Asn Ile Gln Glu Leu
 275 280 285

Ile Arg Ser Ala Gln Glu Ile Asp Glu Met Asn Glu Ile Tyr Asp Glu
 290 295 300

Asn Ser Tyr Trp Arg Asn Gln Asn Pro Gly Ser Leu Leu Gln Leu Pro
 305 310 315 320

His Thr Glu Ala Leu Leu Val Leu Cys Tyr Ser Ile Val Glu Asn Thr
 325 330 335

Cys Ile Ile Thr Pro Thr Ala Lys Ala Trp Lys Tyr Met Glu Glu Glu
 340 345 350

Ile Leu Gly Phe Gly Lys Ser Val Cys Asp Ser Leu Gly Arg Arg His

355

360

365

Met Ser Thr Cys Ala Leu Cys Asp Phe Cys Ser Leu Lys Leu Glu Gln
 370 375 380

Cys His Ser Glu Ala Ser Leu Gln Arg Gln Gln Cys Asp Thr Ser His
 385 390 395 400

Lys Thr Pro Phe Val Ser Pro Leu Leu Ala Ser Gln Ser Leu Ser Ile
 405 410 415

Gly Asn Gln Val Gly Ser Pro Glu Ser Gly Arg Phe Tyr Gly Leu Asp
 420 425 430

Leu Tyr Gly Gly Leu His Met Asp Phe Trp Cys Ala Arg Leu Ala Thr
 435 440 445

Lys Gly Cys Glu Asp Val Arg Val Ser Gly Trp Leu Gln Thr Glu Phe
 450 455 460

Leu Ser Phe Gln Asp Gly Asp Phe Pro Thr Lys Ile Cys Asp Thr Asp
 465 470 475 480

Tyr Ile Gln Tyr Pro Asn Tyr Cys Ser Phe Lys Ser Gln Gln Cys Leu
 485 490 495

Met Arg Asn Arg Asn Arg Lys Val Ser Arg Met Arg Cys Leu Gln Asn
 500 505 510

Glu Thr Tyr Ser Ala Leu Ser Pro Gly Lys Ser Glu Asp Val Val Leu
 515 520 525

Arg Trp Ser Gln Glu Phe Ser Thr Leu Thr Leu Gly Gln Phe Gly
 530 535 540

<210> 360

<211> 882

<212> PRT

<213> Artificial Sequence

<220>

<223> PIWIL-3

<400> 360

Met Pro Gly Arg Ala Arg Thr Arg Ala Arg Gly Arg Ala Arg Arg Arg
1 5 10 15

Glu Ser Tyr Gln Gln Glu Ala Pro Gly Gly Pro Arg Ala Pro Gly Ser
20 25 30

Ala Thr Thr Gln Glu Pro Pro Gln Leu Gln Ser Thr Pro Arg Pro Leu
35 40 45

Gln Glu Glu Val Pro Val Val Arg Pro Leu Gln Pro Arg Ala Ala Arg
50 55 60

Gly Gly Ala Gly Gly Gly Ala Gln Ser Gln Gly Val Lys Glu Pro Gly
65 70 75 80

Pro Glu Ala Gly Leu His Thr Ala Pro Leu Gln Glu Arg Arg Ile Gly
85 90 95

Gly Val Phe Gln Asp Leu Val Val Asn Thr Arg Gln Asp Met Lys His
100 105 110

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

Ala Asn His Phe Arg Val Ile Ser Arg Pro Gln Trp Val Ala Tyr Lys
130 135 140

Tyr Asn Val Asp Tyr Lys Pro Asp Ile Glu Asp Gly Asn Leu Arg Thr
145 150 155 160

Ile Leu Leu Asp Gln His Arg Arg Lys Phe Gly Glu Arg His Ile Phe
165 170 175

Asp Gly Asn Ser Leu Leu Leu Ser Arg Pro Leu Lys Glu Arg Arg Val
 180 185 190

Glu Trp Leu Ser Thr Thr Lys Asp Lys Asn Ile Val Lys Ile Thr Val
 195 200 205

Glu Phe Ser Lys Glu Leu Thr Pro Thr Ser Pro Asp Cys Leu Arg Tyr
 210 215 220

Tyr Asn Ile Leu Phe Arg Arg Thr Phe Lys Leu Leu Asp Phe Glu Gln
 225 230 235 240

Val Gly Arg Asn Tyr Tyr Thr Lys Lys Lys Ala Ile Gln Leu Tyr Arg
 245 250 255

His Gly Thr Ser Leu Glu Ile Trp Leu Gly Tyr Val Thr Ser Val Leu
 260 265 270

Gln Tyr Glu Asn Ser Ile Thr Leu Cys Ala Asp Val Ser His Lys Leu
 275 280 285

Leu Arg Ile Glu Thr Ala Tyr Asp Phe Ile Lys Arg Thr Ser Ala Gln
 290 295 300

Ala Gln Thr Gly Asn Ile Arg Glu Glu Val Thr Asn Lys Leu Ile Gly
 305 310 315 320

Ser Ile Val Leu Thr Lys Tyr Asn Asn Lys Thr Tyr Arg Val Asp Asp
 325 330 335

Ile Asp Trp Lys Gln Asn Pro Glu Asp Thr Phe Asn Lys Ser Asp Gly
 340 345 350

Ser Lys Ile Thr Tyr Ile Asp Tyr Tyr Arg Gln Gln His Lys Glu Ile
 355 360 365

Val Thr Val Lys Lys Gln Pro Leu Leu Val Ser Gln Gly Arg Trp Lys

370

375

380

Lys Gly Leu Thr Gly Thr Gln Arg Glu Pro Ile Leu Leu Ile Pro Gln
 385 390 395 400

Leu Cys His Met Thr Gly Leu Thr Asp Glu Ile Cys Lys Asp Tyr Ser
 405 410 415

Ile Val Lys Glu Leu Ala Lys His Thr Arg Leu Ser Pro Arg Arg Arg
 420 425 430

His His Thr Leu Lys Glu Phe Ile Asn Thr Leu Gln Asp Asn Lys Lys
 435 440 445

Val Arg Glu Leu Leu Gln Leu Trp Asp Leu Lys Phe Asp Thr Asn Phe
 450 455 460

Leu Ser Val Pro Gly Arg Val Leu Lys Asn Ala Asn Ile Val Gln Gly
 465 470 475 480

Arg Arg Met Val Lys Ala Asn Ser Gln Gly Asp Trp Ser Arg Glu Ile
 485 490 495

Arg Glu Leu Pro Leu Leu Asn Ala Met Pro Leu His Ser Trp Leu Ile
 500 505 510

Leu Tyr Ser Arg Ser Ser His Arg Glu Ala Met Ser Leu Lys Gly His
 515 520 525

Leu Gln Ser Val Thr Ala Pro Met Gly Ile Thr Met Lys Pro Ala Glu
 530 535 540

Met Ile Glu Val Asp Gly Asp Ala Asn Ser Tyr Ile Asp Thr Leu Arg
 545 550 555 560

Lys Tyr Thr Arg Pro Thr Leu Gln Met Gly Met Ser Cys Leu Leu Val
 565 570 575

Phe Lys Val Ile Cys Ile Leu Pro Asn Asp Asp Lys Arg Arg Tyr Asp
 580 585 590

Ser Ile Lys Arg Tyr Leu Cys Thr Lys Cys Pro Ile Pro Ser Gln Cys
 595 600 605

Val Val Lys Lys Thr Leu Glu Lys Val Gln Ala Arg Thr Ile Val Thr
 610 615 620

Lys Ile Ala Gln Gln Met Asn Cys Lys Met Gly Gly Ala Leu Trp Lys
 625 630 635 640

Val Glu Thr Asp Val Gln Arg Thr Met Phe Val Gly Ile Asp Cys Phe
 645 650 655

His Asp Ile Val Asn Arg Gln Lys Ser Ile Ala Gly Phe Val Ala Ser
 660 665 670

Thr Asn Ala Glu Leu Thr Lys Trp Tyr Ser Gln Cys Val Ile Gln Lys
 675 680 685

Thr Gly Glu Glu Leu Val Lys Glu Leu Glu Ile Cys Leu Lys Ala Ala
 690 695 700

Leu Asp Val Trp Cys Lys Asn Glu Ser Ser Met Pro His Ser Val Ile
 705 710 715 720

Val Tyr Arg Asp Gly Val Gly Asp Gly Gln Leu Gln Ala Leu Leu Asp
 725 730 735

His Glu Ala Lys Lys Met Ser Thr Tyr Leu Lys Thr Ile Ser Pro Asn
 740 745 750

Asn Phe Thr Leu Ala Phe Ile Val Val Lys Lys Arg Ile Asn Thr Arg
 755 760 765

Phe Phe Leu Lys His Gly Ser Asn Phe Gln Asn Pro Pro Pro Gly Thr

770

775

780

Val Ile Asp Val Glu Leu Thr Arg Asn Glu Trp Tyr Asp Phe Phe Ile
 785 790 795 800

Val Ser Gln Ser Val Gln Asp Gly Thr Val Thr Pro Thr His Tyr Asn
 805 810 815

Val Ile Tyr Asp Thr Ile Gly Leu Ser Pro Asp Thr Val Gln Arg Leu
 820 825 830

Thr Tyr Cys Leu Cys His Met Tyr Tyr Asn Leu Pro Gly Ile Ile Arg
 835 840 845

Val Pro Ala Pro Cys His Tyr Ala His Lys Leu Ala Tyr Leu Val Gly
 850 855 860

Gln Ser Ile His Gln Glu Pro Asn Arg Ser Leu Ser Thr Arg Leu Phe
 865 870 875 880

Tyr Leu

<210> 361
 <211> 853
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> AKAP3

<400> 361

Met Ser Glu Lys Val Asp Trp Leu Gln Ser Gln Asn Gly Val Cys Lys
 1 5 10 15

Val Asp Val Tyr Ser Pro Gly Asp Asn Gln Ala Gln Asp Trp Lys Met
 20 25 30

Asp Thr Ser Thr Asp Pro Val Arg Val Leu Ser Trp Leu Arg Arg Asp

35

40

45

Leu Glu Lys Ser Thr Ala Glu Phe Gln Asp Val Arg Phe Lys Pro Gly
 50 55 60

Glu Ser Phe Gly Gly Glu Thr Ser Asn Ser Gly Asp Pro His Lys Gly
 65 70 75 80

Phe Ser Val Asp Tyr Tyr Asn Thr Thr Thr Lys Gly Thr Pro Glu Arg
 85 90 95

Leu His Phe Glu Met Thr His Lys Glu Ile Pro Cys Gln Gly Pro Arg
 100 105 110

Ala Gln Leu Gly Asn Gly Ser Ser Val Asp Glu Val Ser Phe Tyr Ala
 115 120 125

Asn Arg Leu Thr Asn Leu Val Ile Ala Met Ala Arg Lys Glu Ile Asn
 130 135 140

Glu Lys Ile Asp Gly Ser Glu Asn Lys Cys Val Tyr Gln Ser Leu Tyr
 145 150 155 160

Met Gly Asn Glu Pro Thr Pro Thr Lys Ser Leu Ser Lys Ile Ala Ser
 165 170 175

Glu Leu Val Asn Glu Thr Val Ser Ala Cys Ser Arg Asn Ala Ala Pro
 180 185 190

Asp Lys Ala Pro Gly Ser Gly Asp Arg Val Ser Gly Ser Ser Gln Ser
 195 200 205

Pro Pro Asn Leu Lys Tyr Lys Ser Thr Leu Lys Ile Lys Glu Ser Thr
 210 215 220

Lys Glu Arg Gln Gly Pro Asp Asp Lys Pro Pro Ser Lys Lys Ser Phe
 225 230 235 240

Phe Tyr Lys Glu Val Phe Glu Ser Arg Asn Gly Asp Tyr Ala Arg Glu
245 250 255

Gly Gly Arg Phe Phe Pro Arg Glu Arg Lys Arg Phe Arg Gly Gln Glu
260 265 270

Arg Pro Asp Asp Phe Thr Ala Ser Val Ser Glu Gly Ile Met Thr Tyr
275 280 285

Ala Asn Ser Val Val Ser Asp Met Met Val Ser Ile Met Lys Thr Leu
290 295 300

Lys Ile Gln Val Lys Asp Thr Thr Ile Ala Thr Ile Leu Leu Lys Lys
305 310 315 320

Val Leu Leu Lys His Ala Lys Glu Val Val Ser Asp Leu Ile Asp Ser
325 330 335

Phe Leu Arg Asn Leu His Ser Val Thr Gly Thr Leu Met Thr Asp Thr
340 345 350

Gln Phe Val Ser Ala Val Lys Arg Thr Val Phe Ser His Gly Ser Gln
355 360 365

Lys Ala Thr Asp Ile Met Asp Ala Met Leu Arg Lys Leu Tyr Asn Val
370 375 380

Met Phe Ala Lys Lys Val Pro Glu His Val Arg Lys Ala Gln Asp Lys
385 390 395 400

Ala Glu Ser Tyr Ser Leu Ile Ser Met Lys Gly Met Gly Asp Pro Lys
405 410 415

Asn Arg Asn Val Asn Phe Ala Met Lys Ser Glu Thr Lys Leu Arg Glu
420 425 430

Lys Met Tyr Ser Glu Pro Lys Ser Glu Glu Glu Thr Cys Ala Lys Thr

435

440

445

Leu Gly Glu His Ile Ile Lys Glu Gly Leu Thr Leu Trp His Lys Thr
 450 455 460

Gln Gln Lys Glu Cys Lys Ser Leu Gly Phe Gln His Ala Ala Phe Glu
 465 470 475 480

Ala Pro Asn Thr Gln Arg Lys Pro Ala Ser Asp Ile Ser Phe Glu Tyr
 485 490 495

Pro Glu Asp Ile Gly Asn Leu Ser Leu Pro Pro Tyr Pro Pro Glu Lys
 500 505 510

Pro Glu Asn Phe Met Tyr Asp Ser Asp Ser Trp Ala Glu Asp Leu Ile
 515 520 525

Val Ser Ala Leu Leu Leu Ile Gln Tyr His Leu Ala Gln Gly Gly Arg
 530 535 540

Arg Asp Ala Arg Ser Phe Val Glu Ala Ala Gly Thr Thr Asn Phe Pro
 545 550 555 560

Ala Asn Glu Pro Pro Val Ala Pro Asp Glu Ser Cys Leu Lys Ser Ala
 565 570 575

Pro Ile Val Gly Asp Gln Glu Gln Ala Glu Lys Lys Asp Leu Arg Ser
 580 585 590

Val Phe Phe Asn Phe Ile Arg Asn Leu Leu Ser Glu Thr Ile Phe Lys
 595 600 605

Arg Asp Gln Ser Pro Glu Pro Lys Val Pro Glu Gln Pro Val Lys Glu
 610 615 620

Asp Arg Lys Leu Cys Glu Arg Pro Leu Ala Ser Ser Pro Pro Arg Leu
 625 630 635 640

Tyr Glu Asp Asp Glu Thr Pro Gly Ala Leu Ser Gly Leu Thr Lys Met
645 650 655

Ala Val Ser Gln Ile Asp Gly His Met Ser Gly Gln Met Val Glu His
660 665 670

Leu Met Asn Ser Val Met Lys Leu Cys Val Ile Ile Ala Lys Ser Cys
675 680 685

Asp Ala Ser Leu Ala Glu Leu Gly Asp Asp Lys Ser Gly Asp Ala Ser
690 695 700

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

Lys Gly Thr Gly Ser Ala Glu Ala Val Leu Gln Asn Ala Tyr Gln Ala
725 730 735

Ile His Asn Glu Met Arg Gly Thr Ser Gly Gln Pro Pro Glu Gly Cys
740 745 750

Ala Ala Pro Thr Val Ile Val Ser Asn His Asn Leu Thr Asp Thr Val
755 760 765

Gln Asn Lys Gln Leu Gln Ala Val Leu Gln Trp Val Ala Ala Ser Glu
770 775 780

Leu Asn Val Pro Ile Leu Tyr Phe Ala Gly Asp Asp Glu Gly Ile Gln
785 790 795 800

Glu Lys Leu Leu Gln Leu Ser Ala Ala Ala Val Asp Lys Gly Cys Ser
805 810 815

Val Gly Glu Val Leu Gln Ser Val Leu Arg Tyr Glu Lys Glu Arg Gln
820 825 830

Leu Asn Glu Ala Val Gly Asn Val Thr Pro Leu Gln Leu Leu Asp Trp

835

840

845

Leu Met Val Asn Leu
850

<210> 362
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> XYZ 1

<400> 362

Asn Ser Leu Gln Lys Gln Leu Gln Ala Val Leu Gln Trp Ile Ala Ala
1 5 10 15

Ser Gln Phe Asn
20

<210> 363
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> XYZ 2

<400> 363

Ser Gly Asp Glu Arg Ser Asp Glu Ile Val Leu Thr Val Ser Asn Ser
1 5 10 15

Asn Val Glu Glu
20

<210> 364
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> XYZ 3

<400> 364

Val Gln Lys Glu Asp Gly Arg Val Gln Ala Phe Gly Trp Ser Leu Pro
1 5 10 15

Gln Lys Tyr Lys
20

<210> 365

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> XYZ 4

<400> 365

Glu Val Glu Ser Thr Pro Met Ile Met Glu Asn Ile Gln Glu Leu Ile
1 5 10 15

Arg Ser Ala Gln
20

<210> 366

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> XYZ 5

<400> 366

Ala Tyr Phe Glu Ser Leu Leu Glu Lys Arg Glu Lys Thr Asn Phe Asp
1 5 10 15

Pro Ala Glu Trp
20

<210> 367

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> XYZ 6

<400> 367

Pro	Ser	Gln	Ala	Ser	Ser	Gly	Gln	Ala	Arg	Met	Phe	Pro	Asn	Ala	Pro
1				5					10					15	

Tyr	Leu	Pro	Ser
			20

<210> 368

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> XYZ 7

<400> 368

Arg	Arg	Ser	Ile	Ala	Gly	Phe	Val	Ala	Ser	Ile	Asn	Glu	Gly	Met	Thr
1				5					10					15	

Arg	Trp	Phe	Ser
			20

<210> 369

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> XYZ 8

<400> 369

Met	Gln	Asp	Ile	Lys	Met	Ile	Leu	Lys	Met	Val	Gln	Leu	Asp	Ser	Ile
1				5					10					15	

Glu	Asp	Leu	Glu
			20

<210> 370
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> XYZ 9

<400> 370

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

Lys Ile Gln Val
 20

<210> 371
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> XYZ 10

<400> 371

Arg Glu Ala Leu Ser Asn Lys Val Asp Glu Leu Ala His Phe Leu Leu
 1 5 10 15

Arg Lys Tyr Arg
 20

<210> 372
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> XYZ 11

<400> 372

Glu Thr Ser Tyr Glu Lys Val Ile Asn Tyr Leu Val Met Leu Asn Ala
 1 5 10 15

Arg Glu Pro Ile
20

<210> 373
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> XYZ 12

<400> 373

Asp Val Lys Glu Val Asp Pro Thr Gly His Ser Phe Val Leu Val Thr
1 5 10 15

Ser Leu Gly Leu
20

<210> 374
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> XYZ 13

<400> 374

Ser Ala Gln Leu Leu Gln Ala Arg Leu Met Lys Glu Glu Ser Pro Val
1 5 10 15

Val Ser Trp Arg
20

<210> 375
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> ABC 1

<400> 375

Ile Ser Asp Thr Lys Asp Tyr Phe Met Ser Lys Thr Leu Gly Ile Gly
 1 5 10 15

Arg Leu Lys Arg
 20

<210> 376
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ABC 2

<400> 376

Phe Asp Arg Asn Thr Glu Ser Leu Phe Glu Glu Leu Ser Ser Ala Gly
 1 5 10 15

Ser Gly Leu Ile
 20

<210> 377
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ABC 3

<400> 377

Ser Gln Lys Met Asp Met Ser Asn Ile Val Leu Met Leu Ile Gln Lys
 1 5 10 15

Leu Leu Asn Glu
 20

<210> 378
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>

<223> ABC 4

<400> 378

Ser	Ala	Val	Phe	His	Glu	Arg	Tyr	Ala	Leu	Ile	Gln	His	Gln	Lys	Thr
1				5					10					15	

His	Lys	Asn	Glu
			20

<210> 379

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> ABC 5

<400> 379

Asp	Val	Lys	Glu	Val	Asp	Pro	Thr	Ser	His	Ser	Tyr	Val	Leu	Val	Thr
1				5					10					15	

Ser	Leu	Asn	Leu
			20

<210> 380

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> ABC 6

<400> 380

Glu	Asn	Ala	His	Gly	Gln	Ser	Leu	Glu	Glu	Asp	Ser	Ala	Leu	Glu	Ala
1				5					10					15	

Leu	Leu	Asn	Phe
			20

<210> 381

<211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ABC 7

<400> 381

Met	Ala	Ser	Phe	Arg	Lys	Leu	Thr	Leu	Ser	Glu	Lys	Val	Pro	Pro	Asn
1				5				10					15		

His	Pro	Ser	Arg
			20

<210> 382
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ABC 8

<400> 382

Lys	Arg	Ala	Ser	Gln	Tyr	Ser	Gly	Gln	Leu	Lys	Val	Leu	Ile	Ala	Glu
1				5				10					15		

Asn	Thr	Met	Leu
			20

<210> 383
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ABC 9

<400> 383

Val	Asp	Pro	Ala	Gln	Leu	Glu	Phe	Met	Phe	Gln	Glu	Ala	Leu	Lys	Leu
1				5				10					15		

Lys	Val	Ala	Glu
-----	-----	-----	-----

20

<210> 384
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ABC 10

<400> 384

Glu Tyr Glu Arg Glu Glu Thr Arg Gln Val Tyr Met Asp Leu Asn Asn
 1 5 10 15

Asn Ile Glu Lys
 20

<210> 385
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ABC 11

<400> 385

Pro Glu Ile Phe Gly Lys Ala Ser Glu Ser Leu Gln Leu Val Phe Gly
 1 5 10 15

Ile Asp Val Lys
 20

<210> 386
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ABC 12

<400> 386

Asp Ser Glu Ser Ser Phe Thr Tyr Thr Leu Asp Glu Lys Val Ala Glu

<210> 390

<211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CRC-P1 4

<400> 390

Val Ser Glu Gly Lys Ser Arg Tyr Arg
 1 5

<210> 391
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CRC-P1 5

<400> 391

Ser Glu Gly Lys Ser Arg Tyr Arg Ala
 1 5

<210> 392
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CRC-P1 6

<400> 392

Glu Gly Lys Ser Arg Tyr Arg Ala Gln
 1 5

<210> 393
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CRC-P1 7

<400> 393

Gly Lys Ser Arg Tyr Arg Ala Gln Arg
1 5

<210> 394
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> CRC-P1 8

<400> 394

Lys Ser Arg Tyr Arg Ala Gln Arg Phe
1 5

<210> 395
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> CRC-P2 1

<400> 395

Ile Glu Leu Lys His Lys Ala Arg Thr
1 5

<210> 396
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> CRC-P2 2

<400> 396

Glu Leu Lys His Lys Ala Arg Thr Ala
1 5

<210> 397
<211> 9
<212> PRT

<213> Artificial Sequence

<220>

<223> CRC-P2 3

<400> 397

Leu Lys His Lys Ala Arg Thr Ala Lys
1 5

<210> 398

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> CRC-P2 4

<400> 398

Lys His Lys Ala Arg Thr Ala Lys Lys
1 5

<210> 399

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> CRC-P2 5

<400> 399

His Lys Ala Arg Thr Ala Lys Lys Val
1 5

<210> 400

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> CRC-P2 6

<400> 400

Lys Ala Arg Thr Ala Lys Lys Val Arg

1 5

<210> 401
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> CRC-P2 7

<400> 401

Ala Arg Thr Ala Lys Lys Val Arg Arg
1 5

<210> 402
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> CRC-P2 8

<400> 402

Arg Thr Ala Lys Lys Val Arg Arg Ala
1 5

<210> 403
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> CRC-P3 1

<400> 403

Glu Phe Ser Met Gln Gly Leu Lys Asp
1 5

<210> 404
<211> 9
<212> PRT
<213> Artificial Sequence

<220>

<223> CRC-P3 2

<400> 404

Phe Ser Met Gln Gly Leu Lys Asp Glu
 1 5

<210> 405

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> SMQGLKDEK

<400> 405

Ser Met Gln Gly Leu Lys Asp Glu Lys
 1 5

<210> 406

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> CRC-P3 4

<400> 406

Met Gln Gly Leu Lys Asp Glu Lys Val
 1 5

<210> 407

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> CRC-P3 5

<400> 407

Gln Gly Leu Lys Asp Glu Lys Val Ala
 1 5

<210> 408
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CRC-P3 6

<400> 408

Gly Leu Lys Asp Glu Lys Val Ala Glu
 1 5

<210> 409
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CRC-P3 7

<400> 409

Leu Lys Asp Glu Lys Val Ala Glu Leu
 1 5

<210> 410
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CRC-P3 8

<400> 410

Lys Asp Glu Lys Val Ala Glu Leu Val
 1 5

<210> 411
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CRC-P6 1

<400> 411

Leu Leu Ala Leu Met Val Gly Leu Lys
1 5

<210> 412

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> CRC-P6 2

<400> 412

Leu Ala Leu Met Val Gly Leu Lys Asp
1 5

<210> 413

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> CRC-P6 3

<400> 413

Ala Leu Met Val Gly Leu Lys Asp His
1 5

<210> 414

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> CRC-P6 4

<400> 414

Leu Met Val Gly Leu Lys Asp His Arg
1 5

<210> 415

<211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CRC-P6 5

<400> 415

Met Val Gly Leu Lys Asp His Arg Ile
 1 5

<210> 416
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CRC-P6 6

<400> 416

Val Gly Leu Lys Asp His Arg Ile Ser
 1 5

<210> 417
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CRC-P6 7

<400> 417

Gly Leu Lys Asp His Arg Ile Ser Thr
 1 5

<210> 418
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CRC-P6 8

<400> 418

Leu Lys Asp His Arg Ile Ser Thr Phe
1 5

<210> 419
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> CRC-P7 1

<400> 419

Pro Ala Leu Phe Lys Glu Asn Arg Ser
1 5

<210> 420
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> CRC-P7 2

<400> 420

Ala Leu Phe Lys Glu Asn Arg Ser Gly
1 5

<210> 421
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> CRC-P7 3

<400> 421

Leu Phe Lys Glu Asn Arg Ser Gly Ala
1 5

<210> 422
<211> 9
<212> PRT

<213> Artificial Sequence

<220>

<223> CRC-P7 4

<400> 422

Phe Lys Glu Asn Arg Ser Gly Ala Val
1 5

<210> 423

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> CRC-P7 5

<400> 423

Lys Glu Asn Arg Ser Gly Ala Val Met
1 5

<210> 424

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> CRC-P7 6

<400> 424

Glu Asn Arg Ser Gly Ala Val Met Ser
1 5

<210> 425

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> CRC-P7 7

<400> 425

Asn Arg Ser Gly Ala Val Met Ser Glu

1 5

<210> 426
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CRC-P7 8

<400> 426

Arg Ser Gly Ala Val Met Ser Glu Arg
 1 5

<210> 427
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CRC-P8 1

<400> 427

Ala Val Leu Thr Lys Lys Phe Gln Lys
 1 5

<210> 428
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CRC-P8 2

<400> 428

Val Leu Thr Lys Lys Phe Gln Lys Val
 1 5

<210> 429
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>

<223> CRC-P8 3

<400> 429

Leu Thr Lys Lys Phe Gln Lys Val Asn

1 5

<210> 430

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> CRC-P8 4

<400> 430

Thr Lys Lys Phe Gln Lys Val Asn Phe

1 5

<210> 431

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> CRC-P8 5

<400> 431

Lys Lys Phe Gln Lys Val Asn Phe Phe

1 5

<210> 432

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> CRC-P8 6

<400> 432

Lys Phe Gln Lys Val Asn Phe Phe Phe

1 5

<210> 433
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CRC-P8 7

<400> 433

Phe Gln Lys Val Asn Phe Phe Phe Glu
 1 5

<210> 434
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CRC-P8 8

<400> 434

Gln Lys Val Asn Phe Phe Phe Glu Arg
 1 5

<210> 435
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> BCV900-6-1

<400> 435

Tyr Ser Ser Asn Ala Tyr His Met Ser Ser Thr Met Lys Pro Asn Phe
 1 5 10 15

Val Ala Ser Ile Asn Leu Thr Leu Thr Lys Trp Tyr Ser Arg
 20 25 30

<210> 436
 <211> 30
 <212> PRT

<213> Artificial Sequence

<220>

<223> BCV900-6-2

<400> 436

Arg Asn Phe Tyr Asp Pro Thr Ser Ala Met Val Leu Gln Gln His Met
1 5 10 15

Met Ala Tyr Ser Asp Thr Thr Met Met Ser Asp Asp Ile Asp
20 25 30

<210> 437

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> BCV900-6-3

<400> 437

Leu Arg Tyr Arg Tyr Thr Leu Asp Asp Leu Tyr Pro Met Met Asn Ser
1 5 10 15

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

<210> 438

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> BCV900-6-4

<400> 438

Ser Gly Ala Val Met Ser Glu Arg Val Ser Gly Leu Ala Gly Ser Arg
1 5 10 15

Thr Tyr Trp Ile Ile Ile Glu Leu Lys His Lys Ala Arg Glu
20 25 30

<210> 439
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> BCV900-6-5

<400> 439

Asp Leu Ser Phe Tyr Val Asn Arg Leu Ser Ser Leu Val Ile Gln Asn
 1 5 10 15

Arg Thr Ser Tyr Leu His Ser Pro Phe Ser Thr Gly Arg Ser
 20 25 30

<210> 440
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> BCV900-6-6

<400> 440

Val Asn Ile Asp Tyr Leu Met Asn Arg Pro Gln Asn Leu Arg Leu His
 1 5 10 15

Ala Phe Asp Gly Thr Ile Leu Phe Leu Pro Lys Arg Leu Gln
 20 25 30

<210> 441
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> BCV900-6-7

<400> 441

Ser Asp Leu Gln Lys Tyr Ala Leu Gly Phe Gln His Ala Leu Ser Glu
 1 5 10 15

Lys Ala Met Ala Arg Leu Gln Glu Leu Leu Thr Val Ser Glu
 20 25 30

<210> 442
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> BCV900-6-8

<400> 442

Gly Phe Thr Thr Ser Ile Leu Gln Tyr Glu Asn Ser Ile Met Leu Gln
 1 5 10 15

Asp Gly Arg Leu Leu Ser Ser Thr Leu Ser Leu Ser Ser Asn
 20 25 30

<210> 443
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> BCV900-6-9

<400> 443

Tyr Ser Arg Val Val Phe Gln Met Pro His Gln Glu Ile Val Asp Asn
 1 5 10 15

Met Ala Phe Val Thr Ser Gly Glu Leu Val Arg His Arg Arg
 20 25 30

<210> 444
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> BCV900-6-10

<400> 444

Ala Phe Ala Ala Ala Tyr Phe Glu Ser Leu Leu Glu Lys Arg Glu Met
 1 5 10 15

Phe Thr Ser Ser Arg Met Ser Ser Phe Asn Arg His Met Lys
 20 25 30

<210> 445
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> BCV900-6-11

<400> 445

Asn Ser Pro Leu Pro Phe Gln Trp Arg Ile Thr His Ser Phe Arg Arg
 1 5 10 15

Ser Ile Ala Gly Phe Val Ala Ser Ile Asn Glu Gly Met Thr
 20 25 30

<210> 446
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> BCV900-6-12

<400> 446

Ser Ser Tyr Phe Val Leu Ala Asn Gly His Ile Leu Pro Asn Ser Trp
 1 5 10 15

Glu Glu Ala Tyr Thr Phe Glu Gly Ala Arg Tyr Tyr Ile Asn
 20 25 30

<210> 447
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>

<223> BCV900-6-13

<400> 447

Leu Gln Lys Val Gln Phe Glu Lys Val Ser Ala Leu Ala Asp Leu Leu
 1 5 10 15

Glu Arg Leu Ala Tyr Leu His Ala Arg Leu Arg Glu Leu Leu
 20 25 30

<210> 448

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> BCV900-6-14

<400> 448

Ser His Ser Tyr Val Leu Val Thr Ser Leu Asn Leu Ser Tyr Asp Phe
 1 5 10 15

Met Phe Gln Glu Ala Leu Lys Leu Lys Val Ala Glu Leu Val
 20 25 30

<210> 449

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> BCV900-6-15

<400> 449

Arg Phe Thr Gln Ser Gly Thr Met Lys Ile His Ile Leu Gln Lys Gln
 1 5 10 15

Thr Leu Ile Tyr Tyr Val Asp Glu Lys Ala Pro Glu Phe Ser
 20 25 30