

SEQUENCE LISTING

<110> Akeso Biopharma, Inc

<120> Anti-human P40 protein domain antibody and use thereof

<130> FP210376

<160> 54

<170> PatentIn version 3.3

<210> 1

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

<223> Artificially Synthesized Sequence

<400> 1

Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	Pro	Gly	Glu
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Ser	Leu	Lys	Ile	Ser	Cys	Gln	Ser	Ser	Gly	Tyr	Ser	Phe	Thr	Thr	Tyr
			20					25					30		

Trp	Ile	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Gln	Gly	Leu	Glu	Trp	Ile
		35					40					45			

Gly	Ile	Met	Ser	Pro	Val	Asp	Ser	Asp	Ile	Arg	Tyr	Asn	Pro	Met	Phe
	50					55					60				

Arg	Gly	Gln	Val	Thr	Met	Ser	Val	Asp	Lys	Ser	Ser	Ser	Thr	Ala	Tyr
65					70					75				80	

Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	Met	Tyr	Tyr	Cys
				85					90					95	

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

Thr Met Val Thr Val Ser Ser
115

<210> 2
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<220>
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<400> 2
gaggtgcagc tgggtgcagtc tggggccgaa gtgaagaaac ccggggagag tctgaagatc 60
tcatgccaga gctccggcta ctccctcacc acatattgga tcgggtgggt gagacagatg 120
cctggccagg ggctggaatg gatcggaatt atgagcccag tggactccga tattcgctac 180
aaccatcatgt ttcgaggcca ggtgacaatg agcgtggaca agtctagttc aactgcttat 240
ctgcagtgga gctccctgaa agccagcgat accgctatgt actattgtgc ccggagaagg 300
cctggacagg gctacttcga cttttggggg cagggaacta tggtgaccgt ctctagt 357

<210> 3
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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<400> 3

Gly Tyr Ser Phe Thr Thr Tyr Trp
1 5

<210> 4
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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<400> 4

Met Ser Pro Val Asp Ser Asp Ile
1 5

<210> 5
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificially Synthesized Sequence

<400> 5

Ala Arg Arg Arg Pro Gly Gln Gly Tyr Phe Asp Phe
1 5 10

<210> 6
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificially Synthesized Sequence

<400> 6

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

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Ser Trp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile
35 40 45

Tyr Ser Ala Ser Ser Arg Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asp Ile Tyr Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 7
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
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gatattcaga tgaccagag cccttcaagc ctgtccgcaa gcgtcgggga tagagtgacc 60
attacctgta aagcaagcca gaacgtggga agctggctgg cctggtacca gcagaagcca 120
ggcaaagcac ccaagtctct gatctatagt gcaagctccc ggcagtcagg agtgccaagc 180
agattcagtg gctcaggag cggaacagac tttaccctga caatctctag tctgcagcct 240
gaggacttcg caacttacta ttgccagcag tacgatatct acccattcac atttggccag 300
gggactaaac tggagatcaa g 321

<210> 8
<211> 6
<212> PRT
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<400> 8

Gln Asn Val Gly Ser Trp
1 5

<210> 9
<211> 3
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<220>
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<400> 9

Ala Ser Ser
1

<210> 10

<211> 9

<212> PRT

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<400> 10

Gln Gln Tyr Asp Ile Tyr Pro Phe Thr
1 5

<210> 11

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

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<400> 11

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

Glu Arg Ala Thr Ile Ser Cys Arg Ala Ser Gln Ser Val Gly Ser Trp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Ser Leu Ile
35 40 45

Tyr Ala Ala Ser Asn Leu Gln Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ile Tyr Pro Tyr
85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
100 105

<210> 12
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gagatcgtcc tgacacagag tcctgctacc ctgagcgctt ccccaggaga gagggcaacc 60
atctcctgcc ggcctctca gagcgttggc tcctggctgg cttggtacca gcagaagcca 120
ggccaggcac cccgaagcct gatctatgcc gcttctaatac tgcagagcgg gattccccgct 180
agattctctg gcagtgggtc aggaacagac tttaccctga caatctcaag cctggagcct 240
gaagatttcg cctgtacta ttgccagcag tacaacatct acccatatac atttggccag 300
gggactcggc tggagatcaa g 321

<210> 13
<211> 107
<212> PRT
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<220>
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<400> 13

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

Glu Arg Ala Thr Ile Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Trp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Ser Leu Ile
35 40 45

Tyr Ser Ala Ser Asn Leu Gln Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ile Tyr Pro Tyr
85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
100 105

<210> 14
<211> 321
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gagatcgctcc tgacacagag tcctgctacc ctgagcgctt ccccaggaga gagggcaacc 60
atctcctgcc gcgcctctca ggcgcttagc tcctggctgg cttggtacca gcagaagcca 120
ggccaggcac cccgaagcct gatctattcc gcttctaatac tgcagagcgg gattcccgcct 180
agattctctg gcagtggggtc aggaacagac tttaccctga caatctcaag cctggagcct 240
gaagatttcg ccgtgtacta ttgccagcag tacaacatct acccatatac atttggccag 300
gggactcggc tggagatcaa g 321

<210> 15
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificially Synthesized Sequence

<400> 15

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

Glu Arg Ala Thr Ile Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Trp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Ser Leu Ile
 35 40 45

Tyr Ala Ala Ser Asn Arg Gln Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ile Tyr Pro Tyr
 85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
 100 105

<210> 16
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 ggccaggcac cccgaagcct gatctatgcc gcttctaadc ggcagagcgg gattccccgct 180
 agattctctg gcagtgggtc aggaacagac tttaccctga caatctcaag cctggagcct 240
 gaagatttcg ccgtgtacta ttgccagcag tacaacatct acccatatac atttggccag 300
 gggactcggc tggagatcaa g 321

<210> 17
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 <212> PRT
 <213> Artificial Sequence

<220>
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<400> 17

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

Glu Arg Ala Thr Ile Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Trp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Ser Leu Ile
 35 40 45

Tyr Ala Ala Ser Asn Leu Gln Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ile Tyr Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
 100 105

<210> 18
 <211> 321
 <212> DNA
 <213> Artificial Sequence

<220>
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<400> 18

gagatcgtcc tgacacagag tcctgctacc ctgagcgctt ccccaggaga gagggcaacc 60

atctcctgcc ggcctctca gacgcttagc tcctggctgg cttggtacca gcagaagcca 120

ggccaggcac cccgaagcct gatctatgcc gcttctaadc tgcagagcgg gattcccgcct 180
agattctctg gcagtgggtc aggaacagac ttaccctga caatctcaag cctggagcct 240
gaagatttcg ccgtgtacta ttgccagcag tacaacatct acccatttac atttggccag 300
gggactcggc tggagatcaa g 321

<210> 19
<211> 6
<212> PRT
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<220>
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<400> 19

Gln Ser Val Gly Ser Trp
1 5

<210> 20
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificially Synthesized Sequence

<400> 20

Gln Ser Val Ser Ser Trp
1 5

<210> 21
<211> 3
<212> PRT
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<220>
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<400> 21

Ala Ser Asn
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<210> 22
<211> 9
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<220>
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<400> 22

Gln Gln Tyr Asn Ile Tyr Pro Tyr Thr
1 5

<210> 23
<211> 9
<212> PRT
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<400> 23

Gln Gln Tyr Asn Ile Tyr Pro Phe Thr
1 5

<210> 24
<211> 119
<212> PRT
<213> Artificial Sequence

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<223> Artificially Synthesized Sequence

<400> 24

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

Ser Leu Lys Ile Ser Cys Gln Ser Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Trp Ile Gly Trp Val Arg Gln Met Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Ile Met Ser Pro Val Asp Ser Asp Ile Arg Tyr Asn Pro Met Phe
50 55 60

Arg Gly Gln Val Thr Met Ser Val Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Tyr Cys
85 90 95

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

Thr Met Val Thr Val Ser Ser
115

<210> 25

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

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<400> 25

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

Glu Arg Ala Thr Ile Ser Cys Arg Ala Ser Gln Ser Val Gly Thr Trp
20 25 30

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

Tyr Ala Ala Ser Asn Leu Gln Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ile Tyr Pro Tyr
85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
100 105

<210> 26
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<212> PRT
<213> Artificial Sequence

<220>
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<400> 26

Gly Tyr Thr Phe Thr Ser Tyr Trp
1 5

<210> 27
<211> 6
<212> PRT
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<220>
<223> Artificially Synthesized Sequence

<400> 27

Gln Ser Val Gly Thr Trp
1 5

<210> 28
<211> 3
<212> PRT
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<220>
<223> Artificially Synthesized Sequence

<400> 28

Ala Ala Ser
1

<210> 29
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificially Synthesized Sequence

<400> 29

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

Ser Leu Lys Ile Ser Cys Gln Ser Ser
20 25

<210> 30
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificially Synthesized Sequence

<400> 30

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

Ile

<210> 31
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificially Synthesized Sequence

<400> 31

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

Ser Ser Ser Thr Ala Tyr Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp
20 25 30

Thr Ala Met Tyr Tyr Cys
35

<210> 32
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificially Synthesized Sequence

<400> 32

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
1 5 10

<210> 33
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificially Synthesized Sequence

<400> 33

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

Glu Arg Ala Thr Ile Ser Cys Arg Ala Ser
20 25

<210> 34
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificially Synthesized Sequence

<400> 34

Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Ser Leu Ile
1 5 10 15

Tyr

<210> 35

<211> 36

<212> PRT

<213> Artificial Sequence

<220>

<223> Artificially Synthesized Sequence

<400> 35

Asn Leu Gln Ser Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly
1 5 10 15

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

Val Tyr Tyr Cys
35

<210> 36

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Artificially Synthesized Sequence

<400> 36

Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
1 5 10

<210> 37

<211> 357

<212> DNA

<213> Artificial Sequence

<220>

<223> Artificially Synthesized Sequence

<400> 37

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tcatgccaga	gctccggcta	caccttcacc	tcatattgga	tcgggtgggt	gagacagatg	120
cctggccagg	ggctggaatg	gatcggaatt	atgagcccag	tggaactccga	tattcgctac	180
aaccccatgt	ttcgaggcca	ggtgacaatg	agcgtggaca	agtctagttc	aactgcttat	240
ctgcagtgga	gctccctgaa	agccagcgat	accgctatgt	actattgtgc	ccggagaagg	300
cctggacagg	gctacttcga	cttttggggg	cagggaacta	tggtgaccgt	ctctagt	357

<210> 38

<211> 321

<212> DNA

<213> Artificial Sequence

<220>

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<400> 38

gagatcgccc	tgacacagag	tcctgctacc	ctgagcgctt	ccccaggaga	gagggcaacc	60
atctcctgcc	gcgctctca	gagcgttggc	acctgggtgg	cttggtacca	gcagaagcca	120
ggccaggcac	cccgaagcct	gatctatgcc	gcttctaata	tgagagcgg	gattcccgt	180
agattctctg	gcagtgggtc	aggaacagac	tttaccctga	caatctcaag	cctggagcct	240
gaagatttcg	ccgtgtacta	ttgccagcag	tacaacatct	acccatatac	atttggccag	300
gggactcggc	tgagatcaa	g				321

<210> 39

<211> 449

<212> PRT

<213> Artificial Sequence

<220>

<223> Artificially Synthesized Sequence

<400> 39

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

Ser Leu Lys Ile Ser Cys Gln Ser Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Trp Ile Gly Trp Val Arg Gln Met Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Ile Met Ser Pro Val Asp Ser Asp Ile Arg Tyr Asn Pro Met Phe
50 55 60

Arg Gly Gln Val Thr Met Ser Val Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Tyr Cys
85 90 95

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

Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
115 120 125

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

Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp
145 150 155 160

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

Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser
180 185 190

Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro
195 200 205

Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys
210 215 220

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro
225 230 235 240

Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
245 250 255

Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
260 265 270

Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
275 280 285

Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val
290 295 300

Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu
305 310 315 320

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

Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
340 345 350

Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr
355 360 365

Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu
370 375 380

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

Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys
405 410 415

Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu
420 425 430

Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
435 440 445

Lys

<210> 40
<211> 214
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificially Synthesized Sequence

<400> 40

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

Glu Arg Ala Thr Ile Ser Cys Arg Ala Ser Gln Ser Val Gly Thr Trp
20 25 30

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

Tyr Ala Ala Ser Asn Leu Gln Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ile Tyr Pro Tyr
85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
180 185 190

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

Phe Asn Arg Gly Glu Cys
210

<210> 41

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Artificially Synthesized Sequence

<400> 41

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

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser
20 25

<210> 42
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificially Synthesized Sequence

<400> 42

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile
1 5 10 15

Tyr Ser

<210> 43
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificially Synthesized Sequence

<400> 43

Arg Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
1 5 10 15

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

Tyr Tyr Cys
35

<210> 44
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificially Synthesized Sequence

<400> 44

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
1 5 10

<210> 45
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
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<400> 45

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Ser Leu Ile
1 5 10 15

Tyr Ala

<210> 46
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificially Synthesized Sequence

<400> 46

Leu Gln Ser Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr
1 5 10 15

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

Tyr Tyr Cys
35

<210> 47
<211> 18
<212> PRT
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<400> 47

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Ser Leu Ile
1 5 10 15

Tyr Ser

<210> 48

<211> 35

<212> PRT

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<220>

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<400> 48

Arg Gln Ser Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr
1 5 10 15

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

Tyr Tyr Cys
35

<210> 49

<211> 449

<212> PRT

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<400> 49

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

Ser Leu Lys Ile Ser Cys Gln Ser Ser Gly Tyr Ser Phe Thr Thr Tyr
20 25 30

Trp Ile Gly Trp Val Arg Gln Met Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Ile Met Ser Pro Val Asp Ser Asp Ile Arg Tyr Asn Pro Met Phe
50 55 60

Arg Gly Gln Val Thr Met Ser Val Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Tyr Cys
85 90 95

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

Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
115 120 125

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

Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp
145 150 155 160

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

Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser
180 185 190

Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro
195 200 205

Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys
210 215 220

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro
 225 230 235 240

Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
 245 250 255

Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
 260 265 270

Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
 275 280 285

Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val
 290 295 300

Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu
 305 310 315 320

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

Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
 340 345 350

Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr
 355 360 365

Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu
 370 375 380

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

Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys
 405 410 415

Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu
 420 425 430

Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
435 440 445

Lys

<210> 50
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<212> PRT
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<220>
<223> Artificially Synthesized Sequence

<400> 50

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

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Ser Trp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile
35 40 45

Tyr Ser Ala Ser Ser Arg Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asp Ile Tyr Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
180 185 190

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

Phe Asn Arg Gly Glu Cys
210

<210> 51
<211> 214
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificially Synthesized Sequence

<400> 51

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

Glu Arg Ala Thr Ile Ser Cys Arg Ala Ser Gln Ser Val Gly Ser Trp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Ser Leu Ile
35 40 45

Tyr Ala Ala Ser Asn Leu Gln Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ile Tyr Pro Tyr
85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
180 185 190

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

Phe Asn Arg Gly Glu Cys
210

<210> 52

<211> 214

<212> PRT

<213> Artificial Sequence

<220>

<223> Artificially Synthesized Sequence

<400> 52

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

Glu Arg Ala Thr Ile Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Trp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Ser Leu Ile
35 40 45

Tyr Ser Ala Ser Asn Leu Gln Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ile Tyr Pro Tyr
85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
180 185 190

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

Phe Asn Arg Gly Glu Cys
 210

<210> 53
 <211> 214
 <212> PRT
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<220>
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<400> 53

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

Glu Arg Ala Thr Ile Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Trp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Ser Leu Ile
 35 40 45

Tyr Ala Ala Ser Asn Arg Gln Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ile Tyr Pro Tyr
 85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
 115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
 130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
 145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
 165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
 180 185 190

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

Phe Asn Arg Gly Glu Cys
 210

<210> 54
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<400> 54

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

Glu Arg Ala Thr Ile Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Trp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Ser Leu Ile
 35 40 45

Tyr Ala Ala Ser Asn Leu Gln Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ile Tyr Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
180 185 190

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

Phe Asn Arg Gly Glu Cys
210