

SEQUENCE LISTING

<110> Akeso Biopharma, Inc
 <120> ANTIBODY AGAINST HUMAN IL-4RA AND USE THEREOF;
 <130> IP190580
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 <170> PatentIn version 3.3
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 cacggcaaga gcctggagtg gatcggcggc atcaatccta acaatggcgg caccgtgtac 180
 aaccagaact tcaagggcaa ggccaccctg acagtggaca agagctcctc taccgcctat 240
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 1 5 10 15
 Ser Val Lys Ile Ser Cys Lys Thr Ser Gly Tyr Thr Phe Thr Glu Tyr
 20 25 30
 Thr Ile His Trp Val Lys Gln Asn His Gly Lys Ser Leu Glu Trp Ile
 35 40 45
 Gly Gly Ile Asn Pro Asn Asn Gly Gly Thr Val Tyr Asn Gln Asn Phe
 50 55 60
 Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
 65 70 75 80
 Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Val Arg Arg Gly Met Asp Tyr Trp Gly Gln Gly Thr Ser Val
 100 105 110
 Thr Val Ser Ser
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 ggccagtctc ccaagctgct gatctatagc gcctcctacc ggtatacagg cgtgcccgcac 180
 agattcaccg gctctggcag cggcacagat ttcaccttta caatcagctc cgtgcaggca 240
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ggaacaaacc tggagatcaa g

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<220>

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<400> 4

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Asp	Arg	Val	Ser	Ile	Thr	Cys	Lys	Ala	Ser	Gln	Asp	Val	Thr	Thr	Ala
			20					25					30		
Val	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Gln	Ser	Pro	Lys	Leu	Leu	Ile
			35				40					45			
Tyr	Ser	Ala	Ser	Tyr	Arg	Tyr	Thr	Gly	Val	Pro	Asp	Arg	Phe	Thr	Gly
	50					55					60				
Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Phe	Thr	Ile	Ser	Ser	Val	Gln	Ala
65					70					75				80	
Glu	Asp	Leu	Ala	Val	Tyr	Tyr	Cys	Gln	Gln	His	Tyr	Ser	Ala	Pro	Trp
				85				90						95	
Thr	Phe	Gly	Gly	Gly	Thr	Asn	Leu	Glu	Ile	Lys					
			100					105							

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<400> 5

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cccgagagga	gactggagct	ggtggccgcc	atcaacagca	atggcggcaa	gacatactac	180
cctgataccg	tgaagggcag	attcaccatc	agcagggaca	acgccaagaa	caccctgtac	240
ctgcagatgt	ccggcctgaa	gacagaggac	acagccctgt	actactgcac	caggcagagg	300
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<210> 6

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<220>

<223> Artificial Sequence

<400> 6

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Ser	Leu	Lys	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Ser	Ser
			20					25					30		
Tyr	Met	Ser	Trp	Val	Arg	Gln	Thr	Pro	Glu	Arg	Arg	Leu	Glu	Leu	Val
			35				40					45			
Ala	Ala	Ile	Asn	Ser	Asn	Gly	Gly	Lys	Thr	Tyr	Tyr	Pro	Asp	Thr	Val
	50					55					60				
Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ala	Lys	Asn	Thr	Leu	Tyr
65					70				75					80	
Leu	Gln	Met	Ser	Gly	Leu	Lys	Thr	Glu	Asp	Thr	Ala	Leu	Tyr	Tyr	Cys
				85				90						95	

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 100 105 110
 Gly Thr Ser Val Thr Val Ser Ser
 115 120
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 ggccagagcc ccaccctgct gatctactcc gccagctaca ggtacacagg cgtgcctgac 180
 agattcacag gctccggcag cggcaccgat ttcaccttta ccatctcctc cgtgcaggcc 240
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 20 25 30
 Val Val Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Thr Leu Leu Ile
 35 40 45
 Tyr Ser Ala Ser Tyr Arg Tyr Thr Gly Val Pro Asp Arg Phe Thr Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Val Gln Ala
 65 70 75 80
 Glu Asp Leu Ala Val Tyr Tyr Cys His Gln Tyr Tyr Gly Ser Pro Pro
 85 90 95
 Thr Phe Gly Gly Thr Lys Leu Glu Ile Lys
 100 105
 <210> 9
 <211> 8
 <212> PRT
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 Gly Tyr Thr Phe Thr Glu Tyr Thr
 1 5
 <210> 10
 <211> 8
 <212> PRT
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 <400> 10

Ile Asn Pro Asn Asn Gly Gly Thr
 1 5
 <210> 11
 <211> 9
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 Ala Arg Val Arg Arg Gly Met Asp Tyr
 1 5
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 Gln Asp Val Thr Thr Ala
 1 5
 <210> 13
 <211> 3
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 Ser Ala Ser
 1
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 <211> 9
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 Gln Gln His Tyr Ser Ala Pro Trp Thr
 1 5
 <210> 15
 <211> 8
 <212> PRT
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 <220>
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 <400> 15
 Gly Phe Thr Phe Ser Ser Ser Tyr
 1 5
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 <211> 8
 <212> PRT
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 <400> 16

Ile Asn Ser Asn Gly Gly Lys Thr
1 5

<210> 17

<211> 13

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 17

Thr Arg Gln Arg Gly Asn Tyr Val Gly Ala Met Asp Tyr
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<210> 18

<211> 6

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 18

Gln Asp Val Ser Thr Ala
1 5

<210> 19

<211> 3

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 19

Ser Ala Ser

1

<210> 20

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 20

His Gln Tyr Tyr Gly Ser Pro Pro Thr
1 5

<210> 21

<211> 348

<212> DNA

<213> Artificial

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<223> Artificial Sequence

<400> 21

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cacggacaga	gcctggagtg	gatcggcggc	atcaacccta	acaatggcgg	caccgtgtac	180
aatcagaagt	ttcagggcaa	ggccaccctg	acagtggaca	agtctaccag	cacagcctat	240
atggagctga	ggcccctgac	ctctgaggac	acagccgtgt	actattgcgc	ccgggtgcgg	300
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<212> PRT

<213> Artificial
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 <400> 22
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 1 5 10 15
 Ser Val Lys Ile Ser Cys Lys Thr Ser Gly Tyr Thr Phe Thr Glu Tyr
 20 25 30
 Thr Ile His Trp Val Lys Gln Ala His Gly Gln Ser Leu Glu Trp Ile
 35 40 45
 Gly Gly Ile Asn Pro Asn Asn Gly Gly Thr Val Tyr Asn Gln Lys Phe
 50 55 60
 Gln Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80
 Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Val Arg Arg Gly Met Asp Tyr Trp Gly Gln Gly Thr Ser Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 23
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ggcaagtccc	ctaagctgct	gatctattct	gccagctaca	ggtataccgg	agtgccatct	180
cggttctccg	gctctggcag	cggcacagac	ttcaccttta	caatcagctc	cgtgcagcca	240
gaggatctgg	ccacctacta	ttgccagcag	cactacagcg	cccatggac	ctttggcgga	300
ggaacaaacc	tggagatcaa	g				321

<210> 24
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 <400> 24

Asp Ile Gln Met Thr Gln Ser Pro Lys Ser Leu Ser Thr Ser Val Gly
 1 5 10 15
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Val Thr Thr Ala
 20 25 30
 Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45
 Tyr Ser Ala Ser Tyr Arg Tyr Thr Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Val Gln Pro
 65 70 75 80
 Glu Asp Leu Ala Thr Tyr Tyr Cys Gln Gln His Tyr Ser Ala Pro Trp
 85 90 95
 Thr Phe Gly Gly Gly Thr Asn Leu Glu Ile Lys
 100 105

<210> 25
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 <213> Artificial
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 ccaggacagt ctctggagtg gatcggcggc atcaacccta acaatggcgg caccaactac 180
 aatcagaagt ttcagggcaa ggtgaccctg acagtggaca agtccacctc tacagcctat 240
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 agaggcatgg attactgggg ccagggcacc agcgtgacag tgtctagc 348
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 <211> 116
 <212> PRT
 <213> Artificial
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 <223> Artificial Sequence
 <400> 26
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Val Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Thr Ser Gly Tyr Thr Phe Thr Glu Tyr
 20 25 30
 Thr Ile His Trp Val Arg Gln Ala Pro Gly Gln Ser Leu Glu Trp Ile
 35 40 45
 Gly Gly Ile Asn Pro Asn Asn Gly Gly Thr Asn Tyr Asn Gln Lys Phe
 50 55 60
 Gln Gly Lys Val Thr Leu Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Val Arg Arg Gly Met Asp Tyr Trp Gly Gln Gly Thr Ser Val
 100 105 110
 Thr Val Ser Ser
 115
 <210> 27
 <211> 321
 <212> DNA
 <213> Artificial
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 <223> Artificial Sequence
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 ggcaaggccc ctaagctgct gatctactcc gcctctagca ggtataccgg agtgccatct 180
 cggttctctg gcagcggctc cggcacagac tttaccctga caatctcctc tgtgcagcca 240
 gaggatctgg ccacatacta ttgccagcag cactattctg ccccctggac ctttggcggc 300
 ggcacaaacc tggagatcaa g 321
 <210> 28
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 <212> PRT
 <213> Artificial
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<223> Artificial Sequence

<400> 28

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1           5           10          15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Val Thr Thr Ala
          20          25          30
Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
          35          40          45
Tyr Ser Ala Ser Ser Arg Tyr Thr Gly Val Pro Ser Arg Phe Ser Gly
          50          55          60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Val Gln Pro
65          70          75          80
Glu Asp Leu Ala Thr Tyr Tyr Cys Gln Gln His Tyr Ser Ala Pro Trp
          85          90          95
Thr Phe Gly Gly Gly Thr Asn Leu Glu Ile Lys
          100         105
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<210> 29

<211> 348

<212> DNA

<213> Artificial

<220>

<223> Artificial Sequence

<400> 29

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tcctgtaagg cctctggcta caccttcaca gagtatacca tccactgggt gcggcaggca      120
ccaggacagg gactggagtg gatcggcggc atcaacccta acaatggcgg cacaaattac      180
gcccagaagt ttcagggcag ggtgaccatc acagtggaca agtccacctc tacagcctat      240
atggagctga gctccctgag gtctgaggac accgccgtgt actattgcgc ccgcgtgcgg      300
agaggcatgg attactgggg ccagggcacc agcgtgacag tgtctagc      348
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<210> 30

<211> 116

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 30

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Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Val Lys Pro Gly Ala
1           5           10          15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Tyr
          20          25          30
Thr Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
          35          40          45
Gly Gly Ile Asn Pro Asn Asn Gly Gly Thr Asn Tyr Ala Gln Lys Phe
          50          55          60
Gln Gly Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65          70          75          80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
          85          90          95
Ala Arg Val Arg Arg Gly Met Asp Tyr Trp Gly Gln Gly Thr Ser Val
          100         105         110
Thr Val Ser Ser
          115
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<210> 31

<211> 321

<212> DNA
 <213> Artificial
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 ggcaaggccc ctaagctgct gatctactcc gcctctagcc tgtataccgg agtgccatct 180
 cggttctctg gcagcggctc cggcacagac tttaccctga caatctcctc tctgcagcca 240
 gaggatttcg ccacatacta ttgccagcag cactattctg cccctggac ctttggcggc 300
 ggcacaaacc tggagatcaa g 321
 <210> 32
 <211> 107
 <212> PRT
 <213> Artificial
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 <223> Artificial Sequence
 <400> 32
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
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 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Val Thr Thr Ala
 20 25 30
 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45
 Tyr Ser Ala Ser Ser Leu Tyr Thr 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 His Tyr Ser Ala Pro Trp
 85 90 95
 Thr Phe Gly Gly Gly Thr Asn Leu Glu Ile Lys
 100 105
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 tcctgtaaga cctctggcta caccttcaca gagtatacaa tccactgggt gcggcaggca 120
 ccaggacagt ctctggagtg gatcggcggc atcaacccta acaatggcgg caccgtctac 180
 aatcagaagt ttcagggcaa ggtgaccctg acagtggaca agtccacctc tacagcctat 240
 atggagctga gctccctgag gtctgaggac acagccgtgt actattgcgc ccgcgtgcgg 300
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 <212> PRT
 <213> Artificial
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 <400> 34
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Val Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Thr Ser Gly Tyr Thr Phe Thr Glu Tyr
20 25 30
Thr Ile His Trp Val Arg Gln Ala Pro Gly Gln Ser Leu Glu Trp Ile
35 40 45
Gly Gly Ile Asn Pro Asn Asn Gly Gly Thr Val Tyr Asn Gln Lys Phe
50 55 60
Gln Gly Lys Val Thr Leu Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Arg Val Arg Arg Gly Met Asp Tyr Trp Gly Gln Gly Thr Ser Val
100 105 110
Thr Val Ser Ser
115

<210> 35

<211> 321

<212> DNA

<213> Artificial

<220>

<223> Artificial Sequence

<400> 35

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ggcaaggccc	ctaagctgct	gatctactcc	gcctcttaca	ggtataccgg	agtgccatct	180
cggttctctg	gcagcggctc	cggcacagac	tttaccctga	caatctcctc	tgtgcagcca	240
gaggatctgg	ccacatacta	ttgccagcag	cactattctg	ccccctggac	ctttggcggc	300
ggcacaaacc	tggagatcaa	g				321

<210> 36

<211> 107

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 36

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 Arg Ala Ser Gln Asp Val Thr Thr Ala
20 25 30
Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45
Tyr Ser Ala Ser Tyr Arg Tyr Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Val Gln Pro
65 70 75 80
Glu Asp Leu Ala Thr Tyr Tyr Cys Gln Gln His Tyr Ser Ala Pro Trp
85 90 95
Thr Phe Gly Gly Gly Thr Asn Leu Glu Ile Lys
100 105

<210> 37

<211> 360

<212> DNA

<213> Artificial

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<223> Artificial Sequence

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cccgagaaga gactggagct ggtggccgcc atcaactcta atggcggcaa gacctactat 180
gccgacagcg tgaagggcag gtttaccatc tcccgcgata actctaagaa tacactgtat 240
ctgcagatga gctccctgag agccgaggac accgccgtgt actattgcac acggcagaga 300
ggcaactacg tgggcgccat ggattattgg ggccagggca ccagcgtgac agtgtctagc 360

<210> 38

<211> 120

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 38

Asp Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Leu Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Ser
20 25 30
Tyr Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Leu Val
35 40 45
Ala Ala Ile Asn Ser Asn Gly Gly Lys Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Thr Arg Gln Arg Gly Asn Tyr Val Gly Ala Met Asp Tyr Trp Gly Gln
100 105 110
Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 39

<211> 321

<212> DNA

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<400> 39

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ggcaagagcc ccaagctgct gatctatagc gcctcctacc ggtataccgg cgtgccttcc 180
agattctctg gcagcggctc cggcacagac ttcaccttta caatctctag cgtgcagcca 240
gaggatatcg ccacatacta ttgccaccag tactatggca gccctcccac cttcggcggc 300
ggcacaaagc tggagatcaa g 321

<210> 40

<211> 107

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 40

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Thr Ser Val Gly
1 5 10 15
Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Val Ser Thr Ala
20 25 30

Val	Val	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Lys	Ser	Pro	Lys	Leu	Leu	Ile
	35						40					45			
Tyr	Ser	Ala	Ser	Tyr	Arg	Tyr	Thr	Gly	Val	Pro	Ser	Arg	Phe	Ser	Gly
	50					55					60				
Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Phe	Thr	Ile	Ser	Ser	Val	Gln	Pro
65					70					75				80	
Glu	Asp	Ile	Ala	Thr	Tyr	Tyr	Cys	His	Gln	Tyr	Tyr	Gly	Ser	Pro	Pro
				85					90					95	
Thr	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Glu	Ile	Lys					
			100					105							

<210> 41

<211> 360

<212> DNA

<213> Artificial

<220>

<223> Artificial Sequence

<400> 41

gaggtgcagc	tggtggagag	cggcggcggc	ctggtgcagc	ccggcggctc	cctgaggctg	60
tcttgtgccg	ccagcggctt	caccttttagc	tcctcttaca	tgtcttgggt	gcggcaggca	120
cctggcaaga	gactggagct	ggtggccgcc	atcaactcta	atggcggcaa	gacatactat	180
gccgacagcg	tgaagggcag	gtttaccatc	tcccgcgata	actctaagaa	tacactgtat	240
ctgcagatga	gctccctgag	agccgaggac	accgccgtgt	actattgcac	acggcagaga	300
ggcaactacg	tgggcgccat	ggattattgg	ggccagggca	ccagcgtgac	agtgtctagc	360

<210> 42

<211> 120

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 42

Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1			5					10						15	
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Ser	Ser
			20					25					30		
Tyr	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Arg	Leu	Glu	Leu	Val
			35				40					45			
Ala	Ala	Ile	Asn	Ser	Asn	Gly	Gly	Lys	Thr	Tyr	Tyr	Ala	Asp	Ser	Val
	50					55					60				
Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	Thr	Leu	Tyr
65					70				75					80	
Leu	Gln	Met	Ser	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
				85					90					95	
Thr	Arg	Gln	Arg	Gly	Asn	Tyr	Val	Gly	Ala	Met	Asp	Tyr	Trp	Gly	Gln
			100					105						110	
Gly	Thr	Ser	Val	Thr	Val	Ser	Ser								
			115				120								

<210> 43

<211> 321

<212> DNA

<213> Artificial

<220>

<223> Artificial Sequence

<400> 43

gacatccaga	tgaccagtc	tccaagctcc	ctgtccgcct	ctgtgggcga	cagggtgacc	60
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atcacatgtc	aggcctctca	ggatgtgagc	acagccgtgg	tgtggtacca	gcagaagcca	120
ggcaagagcc	ccaagctgct	gatctatagc	gcctcctacc	tgtataccgg	cgtgccttcc	180
agattctctg	gcagcggctc	cggcacagac	ttcaccttta	caatctctag	cctgcagcca	240
gaggatatcg	ccacctacta	ttgccaccag	tactatggca	gccctcccac	cttcggcggc	300
ggcacaagc	tggagatcaa	g				321

<210> 44

<211> 107

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 44

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	Gln	Ala	Ser	Gln	Asp	Val	Ser	Thr	Ala
		20						25				30			
Val	Val	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Lys	Ser	Pro	Lys	Leu	Leu	Ile
		35				40					45				
Tyr	Ser	Ala	Ser	Tyr	Leu	Tyr	Thr	Gly	Val	Pro	Ser	Arg	Phe	Ser	Gly
	50				55					60					
Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Phe	Thr	Ile	Ser	Ser	Leu	Gln	Pro
65				70				75						80	
Glu	Asp	Ile	Ala	Thr	Tyr	Tyr	Cys	His	Gln	Tyr	Tyr	Gly	Ser	Pro	Pro
			85					90					95		
Thr	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Glu	Ile	Lys					
		100					105								

<210> 45

<211> 360

<212> DNA

<213> Artificial

<220>

<223> Artificial Sequence

<400> 45

gaggtgcagc	tggtggagag	cggcggcgcc	ctggtgcagc	ccggcggctc	cctgcggctg	60
tcttgtgccg	ccagcggcct	cacctttagc	tcctcttaca	tgtcctgggt	gaggcaggca	120
cctggcaagg	gactggagta	cgtgagcgcc	atcaactcta	atggcggcaa	gacatactat	180
gccgactctg	tgaagggcag	gtttaccatc	agccgcgata	actccaagaa	tacactgtac	240
ctgcagatga	gctccctgag	ggcagaggac	accgccgtgt	actattgcac	acggcagaga	300
ggcaactacg	tgggcgccat	ggattattgg	ggccagggca	cctccgtgac	agtgctctagc	360

<210> 46

<211> 120

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 46

Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1				5				10					15		
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Ser	Ser
		20						25				30			
Tyr	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Tyr	Val
	35					40					45				
Ser	Ala	Ile	Asn	Ser	Asn	Gly	Gly	Lys	Thr	Tyr	Tyr	Ala	Asp	Ser	Val
	50					55				60					

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Thr Arg Gln Arg Gly Asn Tyr Val Gly Ala Met Asp Tyr Trp Gly Gln
100 105 110
Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 47

<211> 321

<212> DNA

<213> Artificial

<220>

<223> Artificial Sequence

<400> 47

gacatccaga tgaccagtc tccaagctcc ctgtccgcct ctgtgggcga cagggtgacc 60
atcacatgtc aggcctctca ggatgtgagc acagccctgg cctggtacca gcagaagcca 120
ggcaaggccc ccaagctgct gatctatagc gcctccaacc tggagaccgg cgtgcctagc 180
agattctctg gcagcggctc cggcacagac ttcaccttta caatctctag cctgcagcca 240
gaggatatcg ccacctacta ttgccaccag tactatggca gccctccac cttcggcggc 300
ggcacaagc tggagatcaa g 321

<210> 48

<211> 107

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 48

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 Gln Ala Ser Gln Asp Val Ser Thr Ala
20 25 30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45
Tyr Ser Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
65 70 75 80
Glu Asp Ile Ala Thr Tyr Tyr Cys His Gln Tyr Tyr Gly Ser Pro Pro
85 90 95
Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 49

<211> 25

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 49

Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Ile Ser Cys Lys Thr Ser
20 25

<210> 50

<211> 17
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 50
 Ile His Trp Val Lys Gln Asn His Gly Lys Ser Leu Glu Trp Ile Gly
 1 5 10 15
 Gly
 <210> 51
 <211> 38
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 51
 Val Tyr Asn Gln Asn Phe Lys Gly Lys Ala Thr Leu Thr Val Asp Lys
 1 5 10 15
 Ser Ser Ser Thr Ala Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp
 20 25 30
 Ser Ala Val Tyr Tyr Cys
 35
 <210> 52
 <211> 11
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 52
 Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
 1 5 10
 <210> 53
 <211> 26
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 53
 Asp Ile Val Met Thr Gln Ser His Lys Phe Met Ser Thr Ser Val Gly
 1 5 10 15
 Asp Arg Val Ser Ile Thr Cys Lys Ala Ser
 20 25
 <210> 54
 <211> 17
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 54
 Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile
 1 5 10 15
 Tyr
 <210> 55
 <211> 36

<212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 55
 Tyr Arg Tyr Thr Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly
 1 5 10 15
 Thr Asp Phe Thr Phe Thr Ile Ser Ser Val Gln Ala Glu Asp Leu Ala
 20 25 30
 Val Tyr Tyr Cys
 35
 <210> 56
 <211> 10
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 56
 Phe Gly Gly Gly Thr Asn Leu Glu Ile Lys
 1 5 10
 <210> 57
 <211> 25
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 57
 Asp Val Lys Leu Val Glu Ser Gly Gly Asp Leu Val Asn Leu Gly Gly
 1 5 10 15
 Ser Leu Lys Leu Ser Cys Ala Ala Ser
 20 25
 <210> 58
 <211> 17
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 58
 Met Ser Trp Val Arg Gln Thr Pro Glu Arg Arg Leu Glu Leu Val Ala
 1 5 10 15
 Ala
 <210> 59
 <211> 38
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 59
 Tyr Tyr Pro Asp Thr Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
 1 5 10 15
 Ala Lys Asn Thr Leu Tyr Leu Gln Met Ser Gly Leu Lys Thr Glu Asp
 20 25 30
 Thr Ala Leu Tyr Cys
 35

<210> 60
 <211> 11
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 60
 Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
 1 5 10
 <210> 61
 <211> 26
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 61
 Asp Ile Val Met Thr Gln Ser His Lys Phe Met Ser Thr Ser Val Gly
 1 5 10 15
 Asp Arg Val Ser Ile Thr Cys Lys Ala Ser
 20 25
 <210> 62
 <211> 17
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 62
 Val Val Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Thr Leu Leu Ile
 1 5 10 15
 Tyr
 <210> 63
 <211> 36
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 63
 Tyr Arg Tyr Thr Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly
 1 5 10 15
 Thr Asp Phe Thr Phe Thr Ile Ser Ser Val Gln Ala Glu Asp Leu Ala
 20 25 30
 Val Tyr Tyr Cys
 35
 <210> 64
 <211> 10
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 64
 Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 1 5 10
 <210> 65
 <211> 25

<212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 65
 Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Val Val Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Ile Ser Cys Lys Thr Ser
 20 25
 <210> 66
 <211> 17
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 66
 Ile His Trp Val Lys Gln Ala His Gly Gln Ser Leu Glu Trp Ile Gly
 1 5 10 15
 Gly
 <210> 67
 <211> 38
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 67
 Val Tyr Asn Gln Lys Phe Gln Gly Lys Ala Thr Leu Thr Val Asp Lys
 1 5 10 15
 Ser Thr Ser Thr Ala Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp
 20 25 30
 Thr Ala Val Tyr Tyr Cys
 35
 <210> 68
 <211> 11
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 68
 Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
 1 5 10
 <210> 69
 <211> 26
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 69
 Asp Ile Gln Met Thr Gln Ser Pro Lys Ser Leu Ser Thr Ser Val Gly
 1 5 10 15
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser
 20 25
 <210> 70
 <211> 17

<212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 70
 Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 1 5 10 15
 Tyr
 <210> 71
 <211> 36
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 71
 Tyr Arg Tyr Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly
 1 5 10 15
 Thr Asp Phe Thr Phe Thr Ile Ser Ser Val Gln Pro Glu Asp Leu Ala
 20 25 30
 Thr Tyr Tyr Cys
 35
 <210> 72
 <211> 10
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 72
 Phe Gly Gly Gly Thr Asn Leu Glu Ile Lys
 1 5 10
 <210> 73
 <211> 25
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 73
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Val Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Thr Ser
 20 25
 <210> 74
 <211> 17
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 74
 Ile His Trp Val Arg Gln Ala Pro Gly Gln Ser Leu Glu Trp Ile Gly
 1 5 10 15
 Gly
 <210> 75
 <211> 38
 <212> PRT

<213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 75
 Asn Tyr Asn Gln Lys Phe Gln Gly Lys Val Thr Leu Thr Val Asp Lys
 1 5 10 15
 Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp
 20 25 30
 Thr Ala Val Tyr Tyr Cys
 35
 <210> 76
 <211> 11
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 76
 Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
 1 5 10
 <210> 77
 <211> 26
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 77
 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 Arg Ala Ser
 20 25
 <210> 78
 <211> 17
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 78
 Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 1 5 10 15
 Tyr
 <210> 79
 <211> 36
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 79
 Ser Arg Tyr Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly
 1 5 10 15
 Thr Asp Phe Thr Leu Thr Ile Ser Ser Val Gln Pro Glu Asp Leu Ala
 20 25 30
 Thr Tyr Tyr Cys
 35
 <210> 80

<211> 10
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 80
 Phe Gly Gly Gly Thr Asn Leu Glu Ile Lys
 1 5 10
 <210> 81
 <211> 25
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 81
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Val Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser
 20 25
 <210> 82
 <211> 17
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 82
 Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile Gly
 1 5 10 15
 Gly
 <210> 83
 <211> 38
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 83
 Asn Tyr Ala Gln Lys Phe Gln Gly Arg Val Thr Ile Thr Val Asp Lys
 1 5 10 15
 Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp
 20 25 30
 Thr Ala Val Tyr Tyr Cys
 35
 <210> 84
 <211> 11
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 84
 Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
 1 5 10
 <210> 85
 <211> 26
 <212> PRT

<213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 85
 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 Arg Ala Ser
 20 25
 <210> 86
 <211> 17
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 86
 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 1 5 10 15
 Tyr
 <210> 87
 <211> 36
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 87
 Ser Leu Tyr Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly
 1 5 10 15
 Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala
 20 25 30
 Thr Tyr Tyr Cys
 35
 <210> 88
 <211> 10
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 88
 Phe Gly Gly Gly Thr Asn Leu Glu Ile Lys
 1 5 10
 <210> 89
 <211> 25
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 89
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Val Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Thr Ser
 20 25
 <210> 90
 <211> 17
 <212> PRT

<213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 90
 Ile His Trp Val Arg Gln Ala Pro Gly Gln Ser Leu Glu Trp Ile Gly
 1 5 10 15
 Gly
 <210> 91
 <211> 38
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 91
 Val Tyr Asn Gln Lys Phe Gln Gly Lys Val Thr Leu Thr Val Asp Lys
 1 5 10 15
 Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp
 20 25 30
 Thr Ala Val Tyr Tyr Cys
 35
 <210> 92
 <211> 11
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 92
 Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
 1 5 10
 <210> 93
 <211> 26
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 93
 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 Arg Ala Ser
 20 25
 <210> 94
 <211> 17
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 94
 Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 1 5 10 15
 Tyr
 <210> 95
 <211> 36
 <212> PRT
 <213> Artificial

<220>
 <223> Artificial Sequence
 <400> 95
 Tyr Arg Tyr Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly
 1 5 10 15
 Thr Asp Phe Thr Leu Thr Ile Ser Ser Val Gln Pro Glu Asp Leu Ala
 20 25 30
 Thr Tyr Tyr Cys
 35
 <210> 96
 <211> 10
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 96
 Phe Gly Gly Gly Thr Asn Leu Glu Ile Lys
 1 5 10
 <210> 97
 <211> 25
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 97
 Asp Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Leu Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser
 20 25
 <210> 98
 <211> 17
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 98
 Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Leu Val Ala
 1 5 10 15
 Ala
 <210> 99
 <211> 38
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 99
 Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
 1 5 10 15
 Ser Lys Asn Thr Leu Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp
 20 25 30
 Thr Ala Val Tyr Tyr Cys
 35
 <210> 100
 <211> 11

<212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 100
 Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
 1 5 10
 <210> 101
 <211> 26
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 101
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Thr Ser Val Gly
 1 5 10 15
 Asp Arg Val Thr Ile Thr Cys Lys Ala Ser
 20 25
 <210> 102
 <211> 17
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 102
 Val Val Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 1 5 10 15
 Tyr
 <210> 103
 <211> 36
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 103
 Tyr Arg Tyr Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly
 1 5 10 15
 Thr Asp Phe Thr Phe Thr Ile Ser Ser Val Gln Pro Glu Asp Ile Ala
 20 25 30
 Thr Tyr Tyr Cys
 35
 <210> 104
 <211> 10
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 104
 Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 1 5 10
 <210> 105
 <211> 25
 <212> PRT
 <213> Artificial

<220>
 <223> Artificial Sequence
 <400> 105
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser
 20 25
 <210> 106
 <211> 17
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 106
 Met Ser Trp Val Arg Gln Ala Pro Gly Lys Arg Leu Glu Leu Val Ala
 1 5 10 15
 Ala
 <210> 107
 <211> 38
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 107
 Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
 1 5 10 15
 Ser Lys Asn Thr Leu Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp
 20 25 30
 Thr Ala Val Tyr Tyr Cys
 35
 <210> 108
 <211> 11
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 108
 Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
 1 5 10
 <210> 109
 <211> 26
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 109
 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 Gln Ala Ser
 20 25
 <210> 110
 <211> 17
 <212> PRT
 <213> Artificial

<220>
 <223> Artificial Sequence
 <400> 110
 Val Val Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 1 5 10 15
 Tyr
 <210> 111
 <211> 36
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 111
 Tyr Leu Tyr Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly
 1 5 10 15
 Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Ile Ala
 20 25 30
 Thr Tyr Tyr Cys
 35
 <210> 112
 <211> 10
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 112
 Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 1 5 10
 <210> 113
 <211> 25
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 113
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser
 20 25
 <210> 114
 <211> 17
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 114
 Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Val Ser
 1 5 10 15
 Ala
 <210> 115
 <211> 38
 <212> PRT
 <213> Artificial
 <220>

<223> Artificial Sequence
 <400> 115
 Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
 1 5 10 15
 Ser Lys Asn Thr Leu Tyr Leu Gln Met Ser Ser Leu Arg Ala Glu Asp
 20 25 30
 Thr Ala Val Tyr Tyr Cys
 35
 <210> 116
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 <400> 116
 Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
 1 5 10
 <210> 117
 <211> 26
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 <400> 117
 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 Gln Ala Ser
 20 25
 <210> 118
 <211> 17
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 118
 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 1 5 10 15
 Tyr
 <210> 119
 <211> 36
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 119
 Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly
 1 5 10 15
 Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Ile Ala
 20 25 30
 Thr Tyr Tyr Cys
 35
 <210> 120
 <211> 10
 <212> PRT

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 <223> Artificial Sequence
 <400> 120
 Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 1 5 10
 <210> 121
 <211> 232
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 121
 Pro Arg Gly Pro Thr Ile Lys Pro Cys Pro Pro Cys Lys Cys Pro Ala
 1 5 10 15
 Pro Asn Leu Leu Gly Gly Pro Ser Val Phe Ile Phe Pro Pro Lys Ile
 20 25 30
 Lys Asp Val Leu Met Ile Ser Leu Ser Pro Ile Val Thr Cys Val Val
 35 40 45
 Val Asp Val Ser Glu Asp Asp Pro Asp Val Gln Ile Ser Trp Phe Val
 50 55 60
 Asn Asn Val Glu Val His Thr Ala Gln Thr Gln Thr His Arg Glu Asp
 65 70 75 80
 Tyr Asn Ser Thr Leu Arg Val Val Ser Ala Leu Pro Ile Gln His Gln
 85 90 95
 Asp Trp Met Ser Gly Lys Glu Phe Lys Cys Lys Val Asn Asn Lys Asp
 100 105 110
 Leu Pro Ala Pro Ile Glu Arg Thr Ile Ser Lys Pro Lys Gly Ser Val
 115 120 125
 Arg Ala Pro Gln Val Tyr Val Leu Pro Pro Pro Glu Glu Glu Met Thr
 130 135 140
 Lys Lys Gln Val Thr Leu Thr Cys Met Val Thr Asp Phe Met Pro Glu
 145 150 155 160
 Asp Ile Tyr Val Glu Trp Thr Asn Asn Gly Lys Thr Glu Leu Asn Tyr
 165 170 175
 Lys Asn Thr Glu Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Met Tyr
 180 185 190
 Ser Lys Leu Arg Val Glu Lys Lys Asn Trp Val Glu Arg Asn Ser Tyr
 195 200 205
 Ser Cys Ser Val Val His Glu Gly Leu His Asn His His Thr Thr Lys
 210 215 220
 Ser Phe Ser Arg Thr Pro Gly Lys
 225 230
 <210> 122
 <211> 443
 <212> PRT
 <213> Artificial
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 <400> 122
 Glu Val Gln Leu Glu Gln Ser Gly Ala Glu Leu Met Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Ile Ser Cys Lys Ala Thr Gly Tyr Thr Phe Thr Thr Tyr
 20 25 30

<212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 123
 Asp Ile Glu Leu Thr Gln Ser Pro Ala Thr Leu Ser Val Thr Pro Gly
 1 5 10 15
 Asp Ser Val Ser Leu Ser Cys Arg Ala Ser Gln Ser Ile Ser Asn Asn
 20 25 30
 Leu His Trp Tyr Gln Gln Lys Ser His Glu Ser Pro Arg Leu Leu Ile
 35 40 45
 Lys Tyr Thr Ser Gln Ser Met Ser Gly Ile Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Ser Ile Asn Ser Val Glu Thr
 65 70 75 80
 Glu Asp Phe Gly Val Tyr Phe Cys Gln Gln Ser Gly Ser Trp Pro Arg
 85 90 95
 Thr Phe Gly Gly Gly Thr Lys Leu Asp 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> 124
 <211> 118
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 124
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Arg
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Glu Ala Ser Gly Phe Thr Phe Asp Asp Tyr
 20 25 30
 Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Gly Leu Ser Arg Thr Ser Val Ser Ile Gly Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
 65 70 75 80
 Leu Glu Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Leu Tyr Tyr Cys
 85 90 95
 Ala Lys Trp Gly Thr Arg Gly Tyr Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
115

<210> 125

<211> 107

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 125

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
1 5 10 15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Ile Trp
20 25 30
Leu Ala Trp Tyr Gln Gln Ser Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45
Asn Val Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Gln Pro
65 70 75 80
Glu Asp Phe Val Thr Tyr Tyr Cys Gln Gln Ala Asn Ser Phe Pro Ile
85 90 95
Thr Phe Gly Gln Gly Thr Arg Leu Ala Thr Lys
100 105

<210> 126

<211> 360

<212> DNA

<213> Artificial

<220>

<223> Artificial Sequence

<400> 126

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acatgtacct tcagcggctt ttctctgagc acatccggca tgggagtggg atggatcaga 120
cagccccctg gcaaggccct ggagtggctg gccctgatct ggtgggccga cgataagagg 180
tactctacca gcctgaagtc cgcctgaca atctccaagg acacctctaa gaaccaggtg 240
gtgctgacaa tcaccaatgt ggaccccgat gatacagcca cctactattg cgcccggatc 300
acaagaggca actctgcat ggatttttgg ggccagggca catctgtgac cgtgagctcc 360

<210> 127

<211> 120

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 127

Gln Val Thr Leu Lys Glu Ser Gly Pro Thr Leu Val Lys Pro Thr Gln
1 5 10 15
Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
20 25 30
Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45
Trp Leu Ala Leu Ile Trp Trp Ala Asp Asp Lys Arg Tyr Ser Thr Ser
50 55 60
Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80
Val Leu Thr Ile Thr Asn Val Asp Pro Val Asp Thr Ala Thr Tyr Tyr

<400> 131
 Ile Trp Trp Ala Asp Asp Lys
 1 5
 <210> 132
 <211> 12
 <212> PRT
 <213> Artificial
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 <223> Artificial Sequence
 <400> 132
 Ala Arg Ile Thr Arg Gly Asn Ser Ala Met Asp Phe
 1 5 10
 <210> 133
 <211> 6
 <212> PRT
 <213> Artificial
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 <223> Artificial Sequence
 <400> 133
 Glu Asn Val Tyr Ser Tyr
 1 5
 <210> 134
 <211> 3
 <212> PRT
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 <220>
 <223> Artificial Sequence
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 Asn Ala Lys
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 <211> 9
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 <223> Artificial Sequence
 <400> 135
 Gln His His Tyr Gly Ile Pro Trp Thr
 1 5
 <210> 136
 <211> 25
 <212> PRT
 <213> Artificial
 <220>
 <223> Artificial Sequence
 <400> 136
 Gln Val Thr Leu Lys Glu Ser Gly Pro Thr Leu Val Lys Pro Thr Gln
 1 5 10 15
 Thr Leu Thr Leu Thr Cys Thr Phe Ser
 20 25
 <210> 137
 <211> 17
 <212> PRT
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<220>
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 <400> 137
 Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Ala
 1 5 10 15
 Leu
 <210> 138
 <211> 38
 <212> PRT
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 <220>
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 <400> 138
 Arg Tyr Ser Thr Ser Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Thr
 1 5 10 15
 Ser Lys Asn Gln Val Val Leu Thr Ile Thr Asn Val Asp Pro Val Asp
 20 25 30
 Thr Ala Thr Tyr Tyr Cys
 35
 <210> 139
 <211> 11
 <212> PRT
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 <223> Artificial Sequence
 <400> 139
 Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
 1 5 10
 <210> 140
 <211> 26
 <212> PRT
 <213> Artificial
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 <223> Artificial Sequence
 <400> 140
 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 Arg Ala Ser
 20 25
 <210> 141
 <211> 17
 <212> PRT
 <213> Artificial
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 <223> Artificial Sequence
 <400> 141
 Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 1 5 10 15
 Tyr
 <210> 142
 <211> 36
 <212> PRT
 <213> Artificial
 <220>

<223> Artificial Sequence

<400> 142

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

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

Thr Tyr Tyr Cys
35

<210> 143

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 143

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