

SEQUENCE LISTING

<110> Vhsquared Limited

<120> Polypeptides

<130> VHS-P1859PC

<160> 88

<170> BiSSAP 1.3

<210> 1

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> ID38F CDR1

<400> 1

Ser His Trp Met Tyr

1 5

<210> 2

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> ID38F CDR2

<400> 2

Glu Ile Asn Thr Asn Gly Leu Ile Thr His Tyr Gly Asp Ser Val Lys

1 5 10 15

Gly

<210> 3

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> ID38F CDR3

<400> 3

Asn Gln His Gly Leu Asn

eolf-seql

1

5

<210> 4

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> ID38F FR1

<400> 4

Asp	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1				5				10						15	
Ser	Leu	Lys	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Asp	Phe	Ser		
			20					25					30		

<210> 5

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> ID38F FR2

<400> 5

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

<210> 6

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> ID38F FR3

<400> 6

Arg	Phe	Thr	Val	Ser	Arg	Asn	Asn	Ala	Ala	Asn	Lys	Met	Tyr	Leu	Glu
1				5				10						15	
Leu	Thr	Arg	Leu	Glu	Pro	Glu	Asp	Thr	Ala	Leu	Tyr	Tyr	Cys	Ala	Arg
			20					25					30		

<210> 7

<211> 11

<212> PRT

<213> Artificial Sequence

eolf-seql

<220>

<223> ID38F FR4

<400> 7

Lys Gly Gln Gly Thr Gln Val Thr Val Ser Ser
1 5 10

<210> 8

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> ID38F

<400> 8

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

<210> 9

<211> 157

<212> PRT

<213> Homo sapiens

<220>

<223> Soluble human TNF-alpha

<400> 9

Val Arg Ser Ser Ser Arg Thr Pro Ser Asp Lys Pro Val Ala His Val
1 5 10 15
Val Ala Asn Pro Gln Ala Glu Gly Gln Leu Gln Trp Leu Asn Arg Arg
20 25 30
Ala Asn Ala Leu Leu Ala Asn Gly Val Glu Leu Arg Asp Asn Gln Leu

eolf-seql

```

      35              40              45
Val Val Pro Ser Glu Gly Leu Tyr Leu Ile Tyr Ser Gln Val Leu Phe
      50              55              60
Lys Gly Gln Gly Cys Pro Ser Thr His Val Leu Leu Thr His Thr Ile
      65              70              75              80
Ser Arg Ile Ala Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser Ala
      85              90              95
Ile Lys Ser Pro Cys Gln Arg Glu Thr Pro Glu Gly Ala Glu Ala Lys
      100             105             110
Pro Trp Tyr Glu Pro Ile Tyr Leu Gly Gly Val Phe Gln Leu Glu Lys
      115             120             125
Gly Asp Arg Leu Ser Ala Glu Ile Asn Arg Pro Asp Tyr Leu Asp Phe
      130             135             140
Ala Glu Ser Gly Gln Val Tyr Phe Gly Ile Ile Ala Leu
      145             150             155

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<210> 10

<211> 233

<212> PRT

<213> Homo sapiens

<220>

<223> Membrane-bound human TNF-alpha

<400> 10

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Met Ser Thr Glu Ser Met Ile Arg Asp Val Glu Leu Ala Glu Glu Ala
1      5      10      15
Leu Pro Lys Lys Thr Gly Gly Pro Gln Gly Ser Arg Arg Cys Leu Phe
      20      25      30
Leu Ser Leu Phe Ser Phe Leu Ile Val Ala Gly Ala Thr Thr Leu Phe
      35      40      45
Cys Leu Leu His Phe Gly Val Ile Gly Pro Gln Arg Glu Glu Phe Pro
      50      55      60
Arg Asp Leu Ser Leu Ile Ser Pro Leu Ala Gln Ala Val Arg Ser Ser
      65      70      75      80
Ser Arg Thr Pro Ser Asp Lys Pro Val Ala His Val Val Ala Asn Pro
      85      90      95
Gln Ala Glu Gly Gln Leu Gln Trp Leu Asn Arg Arg Ala Asn Ala Leu
      100     105     110
Leu Ala Asn Gly Val Glu Leu Arg Asp Asn Gln Leu Val Val Pro Ser
      115     120     125
Glu Gly Leu Tyr Leu Ile Tyr Ser Gln Val Leu Phe Lys Gly Gln Gly
      130     135     140
Cys Pro Ser Thr His Val Leu Leu Thr His Thr Ile Ser Arg Ile Ala
      145     150     155     160
Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser Ala Ile Lys Ser Pro
      165     170     175
Cys Gln Arg Glu Thr Pro Glu Gly Ala Glu Ala Lys Pro Trp Tyr Glu

```

eolf-seql

			180					185					190				
Pro	Ile	Tyr	Leu	Gly	Gly	Val	Phe	Gln	Leu	Glu	Lys	Gly	Asp	Arg	Leu		
		195					200					205					
Ser	Ala	Glu	Ile	Asn	Arg	Pro	Asp	Tyr	Leu	Asp	Phe	Ala	Glu	Ser	Gly		
	210					215					220						
Gln	Val	Tyr	Phe	Gly	Ile	Ile	Ala	Leu									
225					230												

<210> 11

<211> 157

<212> PRT

<213> Macaca fascicularis

<220>

<223> Soluble cynomolgus monkey TNF-alpha

<400> 11

Val	Arg	Ser	Ser	Ser	Arg	Thr	Pro	Ser	Asp	Lys	Pro	Val	Ala	His	Val		
1				5					10					15			
Val	Ala	Asn	Pro	Gln	Ala	Glu	Gly	Gln	Leu	Gln	Trp	Leu	Asn	Arg	Arg		
		20					25					30					
Ala	Asn	Ala	Leu	Val	Ala	Asn	Gly	Val	Glu	Leu	Thr	Asp	Asn	Gln	Leu		
	35					40					45						
Val	Val	Pro	Ser	Glu	Gly	Leu	Tyr	Leu	Ile	Tyr	Ser	Gln	Val	Leu	Phe		
	50					55					60						
Lys	Gly	Gln	Gly	Cys	Pro	Ser	Asn	His	Val	Leu	Leu	Thr	His	Thr	Ile		
65				70					75					80			
Ser	Arg	Ile	Ala	Val	Ser	Tyr	Gln	Thr	Lys	Val	Asn	Leu	Leu	Ser	Ala		
		85							90					95			
Ile	Lys	Ser	Pro	Cys	Gln	Arg	Glu	Thr	Pro	Glu	Gly	Ala	Glu	Ala	Lys		
		100						105					110				
Pro	Trp	Tyr	Glu	Pro	Ile	Tyr	Leu	Gly	Gly	Val	Phe	Gln	Leu	Glu	Lys		
	115						120					125					
Gly	Asp	Arg	Leu	Ser	Ala	Glu	Ile	Asn	Leu	Pro	Asp	Tyr	Leu	Asp	Phe		
	130					135					140						
Ala	Glu	Ser	Gly	Gln	Val	Tyr	Phe	Gly	Ile	Ile	Ala	Leu					
145					150						155						

<210> 12

<211> 233

<212> PRT

<213> Macaca fascicularis

<220>

<223> Membrane-bound cynomolgus monkey TNF-alpha

<400> 12

Met Ser Thr Glu Ser Met Ile Gln Asp Val Glu Leu Ala Glu Glu Ala

eolf-seql

```

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

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<210> 13

<211> 156

<212> PRT

<213> Mus musculus

<220>

<223> Soluble mouse TNF-alpha

<400> 13

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

```

eolf-seql

65					70					75					80
Arg	Phe	Ala	Ile	Ser	Tyr	Gln	Glu	Lys	Val	Asn	Leu	Leu	Ser	Ala	Val
				85					90					95	
Lys	Ser	Pro	Cys	Pro	Lys	Asp	Thr	Pro	Glu	Gly	Ala	Glu	Leu	Lys	Pro
			100					105					110		
Trp	Tyr	Glu	Pro	Ile	Tyr	Leu	Gly	Gly	Val	Phe	Gln	Leu	Glu	Lys	Gly
		115					120					125			
Asp	Gln	Leu	Ser	Ala	Glu	Val	Asn	Leu	Pro	Lys	Tyr	Leu	Asp	Phe	Ala
	130					135					140				
Glu	Ser	Gly	Gln	Val	Tyr	Phe	Gly	Val	Ile	Ala	Leu				
145					150				155						

<210> 14

<211> 235

<212> PRT

<213> Mus musculus

<220>

<223> Membrane-bound mouse TNF-alpha

<400> 14

Met	Ser	Thr	Glu	Ser	Met	Ile	Arg	Asp	Val	Glu	Leu	Ala	Glu	Glu	Ala
1				5					10					15	
Leu	Pro	Gln	Lys	Met	Gly	Gly	Phe	Gln	Asn	Ser	Arg	Arg	Cys	Leu	Cys
			20					25					30		
Leu	Ser	Leu	Phe	Ser	Phe	Leu	Leu	Val	Ala	Gly	Ala	Thr	Thr	Leu	Phe
		35				40					45				
Cys	Leu	Leu	Asn	Phe	Gly	Val	Ile	Gly	Pro	Gln	Arg	Asp	Glu	Lys	Phe
	50				55				60						
Pro	Asn	Gly	Leu	Pro	Leu	Ile	Ser	Ser	Met	Ala	Gln	Thr	Leu	Thr	Leu
65				70					75					80	
Arg	Ser	Ser	Ser	Gln	Asn	Ser	Ser	Asp	Lys	Pro	Val	Ala	His	Val	Val
			85					90					95		
Ala	Asn	His	Gln	Val	Glu	Glu	Gln	Leu	Glu	Trp	Leu	Ser	Gln	Arg	Ala
		100					105					110			
Asn	Ala	Leu	Leu	Ala	Asn	Gly	Met	Asp	Leu	Lys	Asp	Asn	Gln	Leu	Val
	115				120				125						
Val	Pro	Ala	Asp	Gly	Leu	Tyr	Leu	Val	Tyr	Ser	Gln	Val	Leu	Phe	Lys
	130				135				140						
Gly	Gln	Gly	Cys	Pro	Asp	Tyr	Val	Leu	Leu	Thr	His	Thr	Val	Ser	Arg
145				150				155					160		
Phe	Ala	Ile	Ser	Tyr	Gln	Glu	Lys	Val	Asn	Leu	Leu	Ser	Ala	Val	Lys
			165				170					175			
Ser	Pro	Cys	Pro	Lys	Asp	Thr	Pro	Glu	Gly	Ala	Glu	Leu	Lys	Pro	Trp
		180					185					190			
Tyr	Glu	Pro	Ile	Tyr	Leu	Gly	Gly	Val	Phe	Gln	Leu	Glu	Lys	Gly	Asp
	195				200						205				
Gln	Leu	Ser	Ala	Glu	Val	Asn	Leu	Pro	Lys	Tyr	Leu	Asp	Phe	Ala	Glu

eolf-seql

210	215	220
Ser Gly Gln Val Tyr Phe Gly Val Ile Ala Leu		
225	230	235

<210> 15
 <211> 5
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q62E10 CDR1

<400> 15
 Ile His Trp Met Tyr
 1 5

<210> 16
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q62E10 CDR2

<400> 16
 Glu Ile Asn Thr Asn Ala Leu Ile Thr Lys Tyr Ala Asp Ser Val Lys
 1 5 10 15
 Gly

<210> 17
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q62E10 CDR3

<400> 17
 Thr Gln Asn Gly Ala Ala
 1 5

<210> 18
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>

eolf-seql

<223> Q62E10 FR1

<400> 18

Gln	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	Thr	Thr	Ser	Gly	Leu	Asp	Phe	Gly		
			20					25					30		

<210> 19

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Q62E10 FR2

<400> 19

Trp	Phe	Arg	Gln	Ala	Pro	Gly	Lys	Glu	Leu	Glu	Trp	Val	Ala
1				5				10					

<210> 20

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Q62E10 FR3

<400> 20

Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ala	Lys	Asn	Thr	Leu	Phe	Leu	Gln
1				5				10						15	
Met	Asn	Asp	Leu	Lys	Ser	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys	Ser	Asn
			20					25					30		

<210> 21

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Q62E10 FR4

<400> 21

Lys	Gly	Gln	Gly	Val	Gln	Val	Thr	Val	Ser	Ser
1				5				10		

eolf-seql

<210> 22
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q62E10

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

<210> 23
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q65F2

<400> 23
 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 Asp Phe Ser Ser His
 20 25 30
 Trp Met Tyr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Glu Ile Asn Thr Asn Gly Leu Ile Thr Ser Tyr Val Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Ala Asn Thr Leu Tyr
 65 70 75 80
 Leu Glu Met Thr Ser Leu Glu Pro Glu Asp Thr Ala Leu Tyr Tyr Cys
 85 90 95
 Ala Arg Asn Gln Lys Gly Leu Asn Lys Gly Gln Gly Thr Gln Val Thr

eolf-seql

Val Ser Ser 100 105 110
115

<210> 24
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Q65F3

<400> 24
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 Asp Phe Ser Ser His
20 25 30
Trp Met Tyr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Glu Ile Asn Thr Asn Gly Leu Ile Thr Lys Tyr Ile Asp Ser Val
50 55 60
Arg Gly Arg Phe Thr Ala Ser Arg Asp Asn Ala Ala Asn Thr Leu Tyr
65 70 75 80
Leu Glu Met Thr Asn Leu Glu Pro Glu Asp Thr Ala Leu Tyr Tyr Cys
85 90 95
Ala Arg Asn Gln Lys Gly Leu Asn Lys Gly Gln Gly Thr Gln Val Thr
100 105 110
Val Ser Ser
115

<210> 25
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Q62F2

<400> 25
Gln 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 Asp Phe Asn Ser His
20 25 30
Trp Met Tyr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Glu Ile Asn Thr Asn Gly Leu Ile Thr Asn Tyr Val Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Ala Asn Thr Leu Tyr

eolf-seql

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

<210> 26
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q65G1

<400> 26

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

<210> 27
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q65H6

<400> 27

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	Val	Ala	Ser	Gly	Phe	Asp	Phe	Tyr	Ser	His
			20					25					30		
Trp	Met	Tyr	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val

eolf-seql

```

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

```

<210> 28

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> Q65F1

<400> 28

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

```

<210> 29

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> Q65D1

<400> 29

```

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

```

eolf-seql

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

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

<220>
 <223> Q65C7

<400> 30

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

<210> 31
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>

eolf-seql

<223> Q65D3

<400> 31

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

```

<210> 32

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> Q65B1

<400> 32

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

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<210> 33

<211> 115

eolf-seql

<212> PRT

<213> Artificial Sequence

<220>

<223> Q65F6

<400> 33

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

<210> 34

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> Q65F11

<400> 34

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

eolf-seql

115

<210> 35
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q65E12

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

<210> 36
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q65C12

<400> 36
 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 Thr Ala Ser Gly Phe Pro Phe Asp Ile His
 20 25 30
 Trp Met Tyr Trp Val Arg Gln Ala Pro Gly Lys Glu Leu Glu Trp Val
 35 40 45
 Ala Glu Ile Asn Thr Asn Ala Leu Ile Thr Thr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Phe
 65 70 75 80
 Leu Gln Met Asn Asp Leu Lys Phe Glu Asp Thr Ala Val Tyr Tyr Cys

eolf-seql

				85					90					95			
Thr	His	Ser	Arg	Asn	Gly	Ala	Ala	Lys	Gly	Gln	Gly	Thr	Gln	Val	Thr		
			100					105						110			
Val	Ser	Ser															
			115														

<210> 37
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q65A6

<400> 37

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

<210> 38
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q65A3

<400> 38

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

eolf-seql

```

      50              55              60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Phe
65              70              75              80
Leu Gln Met Asn Asp Leu Lys Ser Glu Asp Thr Ala Val Tyr Tyr Cys
      85              90              95
Ser Asn Thr Gln Asn Gly Ala Ala Lys Gly Gln Gly Val Gln Val Thr
      100              105              110
Val Ser Ser
      115

```

<210> 39
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q62F10

```

<400> 39
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 Val Ala Ser Gly Phe Asp Phe Asn Ile His
      20              25              30
Trp Met Tyr Trp Val Arg Gln Ala Pro Gly Lys Glu Leu Glu Trp Val
      35              40              45
Ala Glu Ile Asn Thr Asn Gly Leu Ile Thr Val Tyr Pro Asp Ser Val
      50              55              60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Phe
65              70              75              80
Leu Gln Met Asn Asn Leu Lys Phe Glu Asp Thr Ala Val Tyr Tyr Cys
      85              90              95
Thr Asn Thr Gln Asn Gly Lys Thr Lys Gly Gln Gly Thr Gln Val Thr
      100              105              110
Val Ser Ser
      115

```

<210> 40
 <211> 124
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q62F11

```

<400> 40
Gln 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 Ser Phe Ser Asp Tyr

```

eolf-seql

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

<210> 41

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> ID7F-EV

<400> 41

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

<210> 42

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> ID8F-EV

eolf-seql

<400> 42

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

<210> 43

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> ID9F-EV

<400> 43

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

<210> 44

<211> 115

<212> PRT

<213> Artificial Sequence

eolf-seql

<220>

<223> ID13F-EV

<400> 44

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

<210> 45

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> ID14F-EV

<400> 45

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

eolf-seql

<210> 46
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ID15F-EV

<400> 46
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Asp Phe Ser Ser His
 20 25 30
 Trp Met Tyr Trp Val Arg Gln Ala Pro Gly Lys Glu Leu Glu Trp Leu
 35 40 45
 Ser Glu Ile Asn Thr Asn Gly Leu Ile Thr Lys Tyr Gly Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Val Ser Arg Asn Asn Ala Ala Asn Lys Met Tyr
 65 70 75 80
 Leu Glu Leu Thr Arg Leu Glu Pro Glu Asp Thr Ala Leu Tyr Tyr Cys
 85 90 95
 Ala Arg Asn Gln His Gly Leu Asn His Gly Gln Gly Thr Gln Val Thr
 100 105 110
 Val Ser Ser
 115

<210> 47
 <211> 260
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ID22F

<400> 47
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Asp Phe Ser Ser His
 20 25 30
 Trp Met Tyr Trp Val Arg Gln Ala Pro Gly Lys Glu Leu Glu Trp Leu
 35 40 45
 Ser Glu Ile Asn Thr Asn Gly Leu Ile Thr Lys Tyr Gly Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Val Ser Arg Asn Asn Ala Ala Asn Lys Met Tyr
 65 70 75 80
 Leu Glu Leu Thr Arg Leu Glu Pro Glu Asp Thr Ala Leu Tyr Tyr Cys
 85 90 95
 Ala Arg Asn Gln Lys Gly Leu Asn Lys Gly Gln Gly Thr Gln Val Thr

eolf-seql

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

<210> 48

<211> 260

<212> PRT

<213> Artificial Sequence

<220>

<223> ID23F

<400> 48

Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly		
1				5					10					15			
Ser	Leu	Lys	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Asp	Phe	Ser	Ser	His		
			20					25					30				
Trp	Met	Tyr	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Glu	Leu	Glu	Trp	Leu		
		35				40						45					
Ser	Glu	Ile	Asn	Thr	Asn	Gly	Leu	Ile	Thr	His	Tyr	Gly	Asp	Ser	Val		
		50			55				60								
Lys	Gly	Arg	Phe	Thr	Val	Ser	Arg	Asn	Asn	Ala	Ala	Asn	Lys	Met	Tyr		
65				70					75					80			
Leu	Glu	Leu	Thr	Arg	Leu	Glu	Pro	Glu	Asp	Thr	Ala	Leu	Tyr	Tyr	Cys		
				85				90					95				
Ala	Arg	Asn	Gln	Lys	Gly	Leu	Asn	Lys	Gly	Gln	Gly	Thr	Gln	Val	Thr		
			100				105					110					
Val	Ser	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly		
			115				120					125					
Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly		

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130		135		140	
Ser	Glu	Val	Gln	Leu	Val
145		150		155	
Gly	Ser	Leu	Lys	Leu	Ser
		165		170	
His	Trp	Met	Tyr	Trp	Val
		180		185	
Leu	Ser	Glu	Ile	Asn	Thr
		195		200	
Val	Lys	Gly	Arg	Phe	Thr
		210		215	
Tyr	Leu	Glu	Leu	Thr	Arg
225				230	
Cys	Ala	Arg	Asn	Gln	Lys
		245		250	
Thr	Val	Ser	Ser		
		260			

<210> 49

<211> 260

<212> PRT

<213> Artificial Sequence

<220>

<223> ID24F

<400> 49

Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1			5					10						15	
Ser	Leu	Lys	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Asp	Phe	Ser	Ser	His
		20						25					30		
Trp	Met	Tyr	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Glu	Leu	Glu	Trp	Leu
		35					40					45			
Ser	Glu	Ile	Asn	Thr	Asn	Gly	Leu	Ile	Thr	His	Tyr	Gly	Asp	Ser	Val
		50				55				60					
Lys	Gly	Arg	Phe	Thr	Val	Ser	Arg	Asn	Asn	Ala	Ala	Asn	Ser	Met	Tyr
65					70				75					80	
Leu	Glu	Leu	Thr	Arg	Leu	Glu	Pro	Glu	Asp	Thr	Ala	Leu	Tyr	Tyr	Cys
				85				90						95	
Ala	Arg	Asn	Gln	Lys	Gly	Leu	Asn	Lys	Gly	Gln	Gly	Thr	Gln	Val	Thr
			100					105					110		
Val	Ser	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly
		115					120						125		
Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly
		130				135					140				
Ser	Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly
145				150						155					160
Gly	Ser	Leu	Lys	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Asp	Phe	Ser	Ser

eolf-seql

				165					170					175			
His	Trp	Met	Tyr	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Glu	Leu	Glu	Trp		
			180					185						190			
Leu	Ser	Glu	Ile	Asn	Thr	Asn	Gly	Leu	Ile	Thr	His	Tyr	Gly	Asp	Ser		
		195					200					205					
Val	Lys	Gly	Arg	Phe	Thr	Val	Ser	Arg	Asn	Asn	Ala	Ala	Asn	Ser	Met		
	210					215					220						
Tyr	Leu	Glu	Leu	Thr	Arg	Leu	Glu	Pro	Glu	Asp	Thr	Ala	Leu	Tyr	Tyr		
225					230					235					240		
Cys	Ala	Arg	Asn	Gln	Lys	Gly	Leu	Asn	Lys	Gly	Gln	Gly	Thr	Gln	Val		
			245					250						255			
Thr	Val	Ser	Ser														
			260														

<210> 50
 <211> 260
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ID25F

<400> 50

Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly		
1				5					10					15			
Ser	Leu	Lys	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Asp	Phe	Ser	Ser	His		
		20						25				30					
Trp	Met	Tyr	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Glu	Leu	Glu	Trp	Leu		
	35					40					45						
Ser	Glu	Ile	Asn	Thr	Asn	Gly	Leu	Ile	Thr	His	Tyr	Gly	Asp	Ser	Val		
	50				55					60							
Lys	Gly	Arg	Phe	Thr	Val	Ser	Arg	Asn	Asn	Ala	Ala	Asn	Lys	Met	Tyr		
65					70				75						80		
Leu	Glu	Leu	Thr	Arg	Leu	Glu	Pro	Glu	Asp	Thr	Ala	Leu	Tyr	Tyr	Cys		
			85					90					95				
Ala	Arg	Asn	Gln	His	Gly	Leu	Asn	Lys	Gly	Gln	Gly	Thr	Gln	Val	Thr		
		100					105					110					
Val	Ser	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly		
	115					120						125					
Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly		
	130					135					140						
Ser	Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly		
145				150					155						160		
Gly	Ser	Leu	Lys	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Asp	Phe	Ser	Ser		
		165						170					175				
His	Trp	Met	Tyr	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Glu	Leu	Glu	Trp		
	180						185						190				
Leu	Ser	Glu	Ile	Asn	Thr	Asn	Gly	Leu	Ile	Thr	His	Tyr	Gly	Asp	Ser		

eolf-seql

	195					200					205				
Val	Lys	Gly	Arg	Phe	Thr	Val	Ser	Arg	Asn	Asn	Ala	Ala	Asn	Lys	Met
	210					215					220				
Tyr	Leu	Glu	Leu	Thr	Arg	Leu	Glu	Pro	Glu	Asp	Thr	Ala	Leu	Tyr	Tyr
225					230					235					240
Cys	Ala	Arg	Asn	Gln	His	Gly	Leu	Asn	Lys	Gly	Gln	Gly	Thr	Gln	Val
				245					250					255	
Thr	Val	Ser	Ser												
			260												

<210> 51

<211> 260

<212> PRT

<213> Artificial Sequence

<220>

<223> ID26F

<400> 51

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

225 230 235 240
Cys Ala Arg Asn Gln His Gly Leu Asn Lys Gly Gln Gly Thr Gln Val
245 250 255
Thr Val Ser Ser
260

eolf-seql

260

<210> 53
 <211> 260
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ID28F

<400> 53
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Asp Phe Ser Ser His
 20 25 30
 Trp Met Tyr Trp Val Arg Gln Ala Pro Gly Lys Glu Leu Glu Trp Leu
 35 40 45
 Ser Glu Ile Asn Thr Asn Gly Leu Ile Thr Lys Tyr Gly Asp Ser Val
 50 55 60
 His Gly Arg Phe Thr Val Ser Arg Asn Asn Ala Ala Asn Lys Met Tyr
 65 70 75 80
 Leu Glu Leu Thr Arg Leu Glu Pro Glu Asp Thr Ala Leu Tyr Tyr Cys
 85 90 95
 Ala Arg Asn Gln Lys Gly Leu Asn Lys Gly Gln Gly Thr Gln Val Thr
 100 105 110
 Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
 115 120 125
 Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
 130 135 140
 Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
 145 150 155 160
 Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Asp Phe Ser Ser
 165 170 175
 His Trp Met Tyr Trp Val Arg Gln Ala Pro Gly Lys Glu Leu Glu Trp
 180 185 190
 Leu Ser Glu Ile Asn Thr Asn Gly Leu Ile Thr Lys Tyr Gly Asp Ser
 195 200 205
 Val His Gly Arg Phe Thr Val Ser Arg Asn Asn Ala Ala Asn Lys Met
 210 215 220
 Tyr Leu Glu Leu Thr Arg Leu Glu Pro Glu Asp Thr Ala Leu Tyr Tyr
 225 230 235 240
 Cys Ala Arg Asn Gln Lys Gly Leu Asn Lys Gly Gln Gly Thr Gln Val
 245 250 255
 Thr Val Ser Ser
 260

<210> 54
 <211> 260

eolf-seql

<212> PRT

<213> Artificial Sequence

 $\langle 220 \rangle$

<223> ID29F

<400> 54

[illegible]

<210> 55

<211> 115

<212> PRT

<213> Artificial Sequence

 $\langle 220 \rangle$

eolf-seql

<223> Q62E10-DVQLV

<400> 55

```

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

```

<210> 56

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> ID34F

<400> 56

```

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

```

<210> 57

<211> 115

eolf-seql

<212> PRT

<213> Artificial Sequence

<220>

<223> ID37F

<400> 57

```

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

```

<210> 58

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> 3' Primer with Spe site

<400> 58

tcttaactag tgaggagacg gtagacctg

28

<210> 59

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Q65F1 CDR1

<400> 59

```

Val His Trp Met Tyr
1      5

```

eolf-seql

<210> 60
 <211> 5
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q65D1 CDR1

<400> 60
 Asn His Trp Met Cys
 1 5

<210> 61
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ID27F CDR2

<400> 61
 Glu Ile Asn Thr Asn Gly Leu Ile Thr His Tyr Gly Asp Ser Val His
 1 5 10 15
 Gly

<210> 62
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> ID28F CDR2

<400> 62
 Glu Ile Asn Thr Asn Gly Leu Ile Thr Lys Tyr Gly Asp Ser Val His
 1 5 10 15
 Gly

<210> 63
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q65F2 CDR2

eolf-seql

<400> 63

Glu Ile Asn Thr Asn Gly Leu Ile Thr Ser Tyr Val Asp Ser Val Lys

1

5

10

15

Gly

<210> 64

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Q65F3 CDR2

<400> 64

Glu Ile Asn Thr Asn Gly Leu Ile Thr Lys Tyr Ile Asp Ser Val Arg

1

5

10

15

Gly

<210> 65

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Q62F2 CDR2

<400> 65

Glu Ile Asn Thr Asn Gly Leu Ile Thr Asn Tyr Val Asp Ser Val Lys

1

5

10

15

Gly

<210> 66

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Q65F1 CDR2

<400> 66

Glu Ile Asn Thr Asn Gly Leu Ile Thr Lys Tyr Ile Asp Ser Val Gly

1

5

10

15

Gly

eolf-seql

<210> 67
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q65D1 CDR2

<400> 67
 Glu Ile Asn Thr Asn Gly Leu Ile Thr Lys Tyr Ala Asp Phe Val Lys
 1 5 10 15
 Gly

<210> 68
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q65D3 CDR2

<400> 68
 Glu Ile Asn Thr Asn Gly Leu Ile Thr Lys Tyr Ala Asp Ser Thr Lys
 1 5 10 15
 Gly

<210> 69
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q65B1 CDR2

<400> 69
 Glu Ile Asn Thr Asn Gly Leu Ile Thr Lys Tyr Gly Asp Ser Val Lys
 1 5 10 15
 Gly

<210> 70
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>

eolf-seql

<223> Q65F2 CDR3

<400> 70

Asn Gln Lys Gly Leu Asn
1 5

<210> 71

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Q65F1 CDR3

<400> 71

Asn Gln Met Gly Leu Asn
1 5

<210> 72

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Q65D3 CDR3

<400> 72

Asn Glu Arg Gly Leu Asn
1 5

<210> 73

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Q65F6 CDR2

<400> 73

Glu Ile Asn Thr Asn Gly Leu Ile Thr Leu Tyr Ser Asp Ser Val Arg
1 5 10 15
Gly

<210> 74

<211> 17

<212> PRT

<213> Artificial Sequence

eolf-seql

<220>

<223> Q65F11 CDR2

<400> 74

Glu Ile Asn Thr Asn Gly Leu Ile Thr Leu Tyr Ala Asp Ser Val Lys
1 5 10 15
Gly

<210> 75

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Q65C12 CDR2

<400> 75

Glu Ile Asn Thr Asn Ala Leu Ile Thr Thr Tyr Ala Asp Ser Val Lys
1 5 10 15
Gly

<210> 76

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Q65A6 CDR2

<400> 76

Glu Ile Asn Thr Asn Gly Leu Ile Thr His Tyr Thr Asp Ser Val Ser
1 5 10 15
Gly

<210> 77

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Q65A3 CDR2

<400> 77

Glu Ile Asn Thr Asn Ala Leu Ile Thr Lys Tyr Ala Asp Ser Val Lys

		eolf-seql	
1	5	10	15
Gly			

<210> 78
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q65F6 CDR3

<400> 78
 Ser Arg Asn Gly Ala Ala
 1 5

<210> 79
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q65F11 CDR3

<400> 79
 Ala Arg Asn Gly Ala Ala
 1 5

<210> 80
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Q62F10 CDR3

<400> 80
 Thr Gln Asn Gly Lys Thr
 1 5

<210> 81
 <211> 17
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> M13.rev

eolf-seql

<400> 81
caggaaacag ctatgac 17

<210> 82
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> M13.fw

<400> 82
gtaaaacgac ggccag 16

<210> 83
<211> 345
<212> DNA
<213> Artificial Sequence

<220>
<223> Polynucleotide coding sequence of ID38F, codon optimised for yeast expression

<400> 83
gatgttcaat tggttgaatc tgggtggtggt ttggttcaac caggtgggttc tttgaaattg 60
tcttgtgctg cttctgggtt cgatttctct tctcattgga tgtactgggt tagacaagct 120
ccaggtaaag aattggaatg gttgtctgaa atcaacacca acggtttgat taccattat 180
ggtgattctg tcaagggtag attcactgtc tctagaaaca atgctgctaa caagatgtac 240
ttggaattga ccagattgga accagaagat actgccttgt attactgcgc tagaaatcaa 300
catggtttga acaaagggtca aggtactcaa gttaccgttt cctca 345

<210> 84
<211> 345
<212> DNA
<213> Artificial Sequence

<220>
<223> Polynucleotide coding sequence of Q62E10, codon optimised for yeast expression

eolf-seql

```

<400> 84
caagtccaat tgcaagaatc tgggtggtggt ttggttcaac caggtgggtc tttgagattg      60
tcttgtacta cttctgggttt ggatttcggt atccattgga tgtactgggt tagacaagct      120
ccaggtaaag aattggaatg ggttgctgaa atcaacacca atgctttgat taccaagtac      180
gccgattctg ttaagggtag attcaccatt tctagagata acgctaagaa caccttggtc      240
ttgcaaatga acgacttgaa gtctgaagat accgctgttt actactgttc taacactcaa      300
aatggtgctg ctaaagggtca aggtgtacaa gttactgttt cctcc                        345

```

```

<210> 85
<211> 345
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Polynucleotide coding sequence of ID38F, codon optimised for E.
      coli expression

```

```

<400> 85
gatgttcagc tggttgaaag cgggtggtggt ctggttcagc ctggtggtag cctgaaactg      60
agctgtgcag caagcgggttt tgatttttagc agccattgga tgtattgggt tcgtcaggca      120
ccgggtaaaag aactggaatg gctgagcgaa attaacacca atggtctgat taccattat      180
ggcgatagcg ttaaagggtcg ttttaccgtt agccgtaata atgcagccaa caaaatgtat      240
ctggaactga cccgtctgga accggaagat accgcactgt attattgtgc acgtaatcag      300
catggtctga ataaagggtca gggcacccag gttaccgtga gcagc                        345

```

```

<210> 86
<211> 345
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Polynucleotide coding sequence of Q62E10, codon optimised for E.
      coli expression

```

```

<400> 86
caggttcagc tgcaagaaag cgggtggtggt ctggttcagc ctggtggtag cctgcgtctg      60

```

eolf-seql

```

agctgtacca ccagtggctt ggatttttgg attcattgga tgtattgggt tcgtcaggca      120
ccgggtaaaag aactggaatg ggttgcagaa attaacacca atgcactgat taccaaatat      180
gccgatagcg tgaaaggctc ttttaccatt agccgtgata atgccaaaaa taccctgttt      240
ctgcagatga acgatctgaa aagcgaagat accgcagtgt attattgtag caatacccag      300
aatggtgcag caaaagggtca ggggtgttcag gttaccgtta gcagc                      345

```

<210> 87

<211> 501

<212> DNA

<213> Artificial Sequence

<220>

<223> Polynucleotide consisting of ID38F open reading frame for E. coli expression (PelB leader to c-myc-6His tag 2x stop codon)

<400> 87

```

atgaaatatt tgctgccgac cgcagcagcg ggtctgctgc tgctggcagc acagcctgca      60
atggcagatg ttcagctggt tgaaagcggg ggtgggtctgg ttcagcctgg tggtagcctg     120
aaactgagct gtgcagcaag cggttttgat tttagcagcc attggatgta ttgggttcgt     180
caggcaccgg gtaaagaact ggaatggctg agcgaaatta acaccaatgg tctgattacc     240
cattatggcg atagcgtaa aggtcgTTTT accgttagcc gtaataatgc agccaacaaa     300
atgtatctgg aactgacccg tctggaaccg gaagataccg cactgtatta ttgtgcacgt     360
aatcagcatg gtctgaataa aggtcagggc acccagggtta ccgtgagcag cgcagcagcc     420
agcggtagcc tggaacagaa actgattagc gaagaggatc tgaatgggtgc agcacatcat     480
catcaccatc atggtgccgc a                                                  501

```

<210> 88

<211> 486

<212> DNA

<213> Artificial Sequence

<220>

<223> Polynucleotide consisting of ID38F open reading frame for E. coli

eolf-seq1
expression (PelB leader to Flag-6His tag 2xstop codon)

```

<400> 88
atgaaatacc tattgcctac ggcagccgct ggattgttat tactcgcggc ccagccggcc      60
atggccgatg ttcagctggt tgaaagcggg ggtgggtctgg ttcagcctgg tggtagcctg    120
aaactgagct gtgcagcaag cggttttgat tttagcagcc attggatgta ttgggttcgt     180
caggcaccgg gtaaagaact ggaatggctg agcgaaatta acaccaatgg tctgattacc      240
cattatggcg atagcgttaa aggtcgtttt accgttagcc gtaataatgc agccaacaaa     300
atgtatctgg aactgacccg tctggaaccg gaagataccg cactgtatta ttgtgcacgt      360
aatcagcatg gtctgaataa aggtcagggc acccaggtca ccgtctcctc agcggccgca     420
gactacaaag acgacgacga caaaggggct gcacatcacc atcatcacca cggggctgca     480
taataa                                           486

```