<110> GENENTECH, INC. et al.

<120> Anti-Ly6E Antibodies and Immunoconjugates and Methods of Use

<130> P4922R1-WO

<141>

<150> US 61/649,775
<151> 2012-05-21

<160> 56

<210> 1
<211> 131
<212> PRT
<213> Homo sapiens

<400> 1
Met Lys Ile Phe Leu Pro Val Leu Leu Ala Ala Leu Leu Gly Val
1 5 10 15

Glu Arg Ala Ser Ser Leu Met Cys Phe Ser Cys Leu Asn Gln Lys
20 25 30

Ser Asn Leu Tyr Cys Leu Lys Pro Thr Ile Cys Ser Asp Gln Asp
35 40 45

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

Val Thr Phe Gly His Ser Leu Ser Lys Thr Cys Ser Pro Ala Cys
65 70 75

Pro Ile Pro Glu Gly Val Asn Val Gly Val Ala Ser Met Gly Ile
80 85 90

Ser Cys Cys Gln Ser Phe Leu Cys Asn Phe Ser Ala Ala Asp Gly
95 100 105

Gly Leu Arg Ala Ser Val Thr Leu Leu Gly Ala Gly Leu Leu Leu
110 115 120

Ser Leu Leu Pro Ala Leu Leu Arg Phe Gly Pro
125 130

<210> 2
<211> 131
<212> PRT
<213> Macaca fascicularis

<400> 2
Met Lys Ile Phe Leu Pro Val Leu Leu Ala Ala Leu Leu Gly Val
1 5 10 15

Glu Arg Ala Ser Ser Leu Met Cys Phe Ser Cys Leu Asn Gln Lys
20 25 30

Ser Asn Leu Tyr Cys Leu Lys Pro Thr Ile Cys Ser Asp Gln Asp
35 40 45

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

 Val Thr Phe Gly His Ser Leu Ser Lys Thr Cys Ser Pro Ala Cys
                  65                  70                  75

 Pro Leu Pro Glu Gly Ile Asn Val Gly Val Ala Ser Met Gly Ile
                  80                  85                  90

 Ser Cys Cys Gln Ser Phe Leu Cys Asn Phe Ser Ala Ala Asp Gly
                  95                 100                 105

 Gly Leu Arg Ala Ser Ala Thr Leu Leu Gly Ala Gly Leu Leu Leu
                 110                 115                 120

 Ser Leu Leu Pro Ala Leu Leu Arg Phe Gly Pro
                 125                 130

<210> 3
<211> 107
<212> PRT
<213> Artificial sequence

<220>
<223> Humanized

<400> 3
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val
   1               5                  10                  15

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

 Asn Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Thr Val Lys
                  35                  40                  45

 Leu Leu Ile Tyr Tyr Thr Ser Asn Leu His Ser Gly Val Pro Ser
                  50                  55                  60

 Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile
                  65                  70                  75

 Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
                  80                  85                  90

 Tyr Ser Glu Leu Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu
                  95                 100                 105

 Ile Lys


<210> 4
<211> 107
<212> PRT
<213> Artificial sequence

<220>
<223> Chimeric

<400> 4
 Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser Ala Ser Leu
   1               5                  10                  15
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 Gly Asp Arg Val Thr Ile Ser Cys Ser Ala Ser Gln Gly Ile Ser
                  20                  25                  30

 Asn Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys
                  35                  40                  45

 Leu Leu Ile Tyr Tyr Thr Ser Asn Leu His Ser Gly Val Pro Ser
                  50                  55                  60

 Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile
                  65                  70                  75

 Ser Asn Leu Glu Pro Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln
                  80                  85                  90

 Tyr Ser Glu Leu Pro Trp Thr Phe Gly Gly Gly Thr Lys Val Glu
                  95                 100                 105

 Ile Lys


<210> 5
<211> 120
<212> PRT
<213> Artificial sequence

<220>
<223> Humanized

<400> 5
 Glu Val Gln Leu Val Glu Ser Gly Pro Ala Leu Val Lys Pro Thr
   1               5                  10                  15

 Gln Thr Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Thr
                  20                  25                  30

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

 Glu Trp Leu Gly Met Ile Trp Gly Asp Gly Ser Thr Asp Tyr Asn
                  50                  55                  60

 Ser Ala Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys
                  65                  70                  75

 Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr
                  80                  85                  90

 Ala Thr Tyr Tyr Cys Ala Arg Asp Tyr Tyr Phe Asn Tyr Ala Ser
                  95                 100                 105

 Trp Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
                 110                 115                 120

<210> 6
<211> 120
<212> PRT
<213> Artificial sequence

<220>
<223> Chimeric
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<400> 6
Gln Val Gln Leu Lys Glu Ser Gly Pro Gly Leu Val Ala Pro Ser
1 5 10 15

Gln Ser Leu Ser Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Thr
20 25 30

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

Glu Trp Leu Gly Met Ile Trp Gly Asp Gly Ser Thr Asp Tyr Asn
50 55 60

Ser Ala Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Asn Ser Lys
65 70 75

Ser Gln Val Phe Leu Lys Met Asn Ser Leu Gln Thr Asp Asp Thr
80 85 90

Ala Arg Tyr Tyr Cys Ala Arg Asp Tyr Tyr Phe Asn Tyr Ala Ser
95 100 105

Trp Phe Ala Tyr Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ala
110 115 120

<210> 7
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> Humanized

<400> 7
Ser Ala Ser Gln Gly Ile Ser Asn Tyr Leu Asn
5 10

<210> 8
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> Humanized

<400> 8
Tyr Thr Ser Asn Leu His Ser
5

<210> 9
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> Humanized

<400> 9
Gln Gln Tyr Ser Glu Leu Pro Trp Thr
5

<210> 10
<211> 10

<212> PRT
<213> Artificial sequence

<220>
<223> Humanized

<400> 10
Gly Phe Ser Leu Thr Gly Tyr Ser Val Asn
5 10

<210> 11
<211> 16
<212> PRT
<213> Artificial sequence

<220>
<223> Humanized

<400> 11
Met Ile Trp Gly Asp Gly Ser Thr Asp Tyr Asn Ser Ala Leu Lys
1 5 10 15

Ser

<210> 12
<211> 12
<212> PRT
<213> Artificial sequence

<220>
<223> Humanized

<400> 12
Asp Tyr Tyr Val Asn Tyr Ala Ser Trp Phe Ala Tyr
5 10

<210> 13
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> Chimeric

<400> 13
Ser Ala Ser Gln Gly Ile Ser Asn Tyr Leu Asn
5 10

<210> 14
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> Chimeric

<400> 14
Tyr Thr Ser Asn Leu His Ser
5

<210> 15
<211> 9

<212> PRT
<213> Artificial sequence

<220>
<223> Chimeric

<400> 15
Gln Gln Tyr Ser Glu Leu Pro Trp Thr
5

<210> 16
<211> 10
<212> PRT
<213> Artificial sequence

<220>
<223> Chimeric

<400> 16
Gly Phe Ser Leu Thr Gly Tyr Ser Val Asn
5 10

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

<220>
<223> Chimeric

<400> 17
Met Ile Trp Gly Asp Gly Ser Thr Asp Tyr Asn Ser Ala Leu Lys
1 5 10 15

Ser

<210> 18
<211> 12
<212> PRT
<213> Artificial sequence

<220>
<223> Chimeric

<400> 18
Asp Tyr Tyr Phe Asn Tyr Ala Ser Trp Phe Ala Tyr
5 10

<210> 19
<211> 23
<212> PRT
<213> Artificial sequence

<220>
<223> Humanized

<400> 19
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val
1 5 10 15

Gly Asp Arg Val Thr Ile Thr Cys
20

<210> 20
<211> 15
<212> PRT
<213> Artificial sequence

<220>
<223> Humanized

<400> 20
Trp Tyr Gln Gln Lys Pro Gly Lys Thr Val Lys Leu Leu Ile Tyr
1 5 10 15

<210> 21
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Humanized.

<400> 21
Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr
1 5 10 15

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

Tyr Cys

<210> 22
<211> 10
<212> PRT
<213> Artificial sequence

<220>
<223> Humanized

<400> 22
Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
5 10

<210> 23
<211> 25
<212> PRT
<213> Artificial sequence

<220>
<223> Humanized.

<400> 23
Glu Val Gln Leu Val Glu Ser Gly Pro Ala Leu Val Lys Pro Thr
1 5 10 15

Gln Thr Leu Thr Leu Thr Cys Thr Val Ser
20 25

<210> 24
<211> 14
<212> PRT
<213> Artificial sequence

<220>
<223> Humanized.

<400> 24
Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Gly
5 10

<210> 25
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Humanized

<400> 25
Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val Val Leu
1 5 10 15

Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys
20 25 30

Ala Arg

<210> 26
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> Humanized

<400> 26
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
5 10

<210> 27
<211> 23
<212> PRT
<213> Artificial sequence

<220>
<223> Chimeric

<400> 27
Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser Ala Ser Leu
1 5 10 15

Gly Asp Arg Val Thr Ile Ser Cys
20

<210> 28
<211> 15
<212> PRT
<213> Artificial sequence

<220>
<223> Chimeric

<400> 28
Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys Leu Leu Ile Tyr
1 5 10 15

<210> 29
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Chimeric

<400> 29
Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr
1 5 10 15

Ser Leu Thr Ile Ser Asn Leu Glu Pro Glu Asp Ile Ala Thr Tyr
20 25 30

Tyr Cys

<210> 30
<211> 10
<212> PRT
<213> Artificial sequence

<220>
<223> Chimeric

<400> 30
Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
5 10

<210> 31
<211> 25
<212> PRT
<213> Artificial sequence

<220>
<223> Chimeric

<400> 31
Gln Val Gln Leu Lys Glu Ser Gly Pro Gly Leu Val Ala Pro Ser
1 5 10 15

Gln Ser Leu Ser Leu Thr Cys Thr Val Ser
20 25

<210> 32
<211> 14
<212> PRT
<213> Artificial sequence

<220>
<223> Chimeric

<400> 32
Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Leu Gly
5 10

<210> 33
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Chimeric

<400> 33
Arg Leu Thr Ile Ser Lys Asp Asn Ser Lys Ser Gln Val Phe Leu
1 5 10 15

Lys Met Asn Ser Leu Gln Thr Asp Asp Thr Ala Arg Tyr Tyr Cys
20 25 30

Ala Arg

<210> 34
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> Chimeric

<400> 34
Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ala
5 10

<210> 35
<211> 131
<212> PRT
<213> Macaca mulatta

<400> 35
Met Lys Ile Phe Leu Pro Val Leu Leu Ala Ala Leu Leu Gly Val
1 5 10 15

Glu Arg Ala Ser Ser Leu Met Cys Phe Ser Cys Leu Asn Gln Lys
20 25 30

Ser Asn Leu Tyr Cys Leu Lys Pro Thr Ile Cys Ser Asp Gln Asp
35 40 45

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

Val Thr Phe Gly His Ser Leu Ser Lys Thr Cys Ser Pro Ala Cys
65 70 75

Pro Leu Pro Glu Gly Ile Asn Val Gly Val Ala Ser Met Gly Ile
80 85 90

Ser Cys Cys Gln Ser Phe Leu Cys Asn Phe Ser Ala Ala Asp Gly
95 100 105

Gly Leu Arg Ala Ser Ala Thr Leu Leu Gly Ala Gly Leu Leu Leu
110 115 120

Ser Leu Leu Pro Ala Leu Leu Arg Phe Gly Pro
125 130

<210> 36
<211> 136
<212> PRT
<213> Mus musculus

<400> 36
Met Ser Ala Thr Ser Asn Met Arg Val Phe Leu Pro Val Leu Leu
1 5 10 15

Ala Ala Leu Leu Gly Met Glu Gln Val His Ser Leu Met Cys Phe
20 25 30

Ser Cys Thr Asp Gln Lys Asn Asn Ile Asn Cys Leu Trp Pro Val
35 40 45

Ser Cys Gln Glu Lys Asp His Tyr Cys Ile Thr Leu Ser Ala Ala
50 55 60

Ala Gly Phe Gly Asn Val Asn Leu Gly Tyr Thr Leu Asn Lys Gly
65 70 75

Cys Ser Pro Ile Cys Pro Ser Glu Asn Val Asn Leu Asn Leu Gly
80 85 90

Val Ala Ser Val Asn Ser Tyr Cys Cys Gln Ser Ser Phe Cys Asn
95 100 105

Phe Ser Ala Ala Gly Leu Gly Leu Arg Ala Ser Ile Pro Leu Leu
110 115 120

Gly Leu Gly Leu Leu Leu Ser Leu Leu Ala Leu Leu Gln Leu Ser
125 130 135

Pro

<210> 37
<211> 136
<212> PRT
<213> Rattus norvegicus

<400> 37
Met Ser Ala Ala Ser Ser Met Arg Val Phe Leu Pro Val Leu Leu
1 5 10 15

Ala Ala Leu Leu Gly Val Glu Gln Val His Ser Leu Met Cys Phe
20 25 30

Ser Cys Thr Asp Gln Lys Asn Asn Ile Asn Cys Leu Trp Pro Val
35 40 45

Ser Cys Ser Ser Thr Asp Asn Tyr Cys Ile Thr Leu Ser Ala Ala
50 55 60

Ala Gly Phe Gly Asn Val Asn Leu Gly Tyr Thr Leu Asn Lys Gly
65 70 75

Cys Ser Pro Thr Cys Pro Arg Glu Asn Ile Asn Ile Asn Leu Gly
80 85 90

Val Ala Ser Val Asn Ser Tyr Cys Cys Gln Ser Ser Phe Cys Asn
95 100 105

Phe Ser Thr Ala Gly Leu Gly Leu Arg Ala Ser Ile Pro Leu Leu
110 115 120

Gly Leu Gly Leu Leu Leu Ser Leu Leu Ala Val Leu Arg Leu Ser
125 130 135

Pro

<210> 38
<211> 111
<212> PRT
<213> Homo sapiens

<400> 38
Leu Met Cys Phe Ser Cys Leu Asn Gln Lys Ser Asn Leu Tyr Cys
1 5 10 15

Leu Lys Pro Thr Ile Cys Ser Asp Gln Asp Asn Tyr Cys Val Thr
20 25 30

Val Ser Ala Ser Ala Gly Ile Gly Asn Leu Val Thr Phe Gly His
35 40 45

Ser Leu Ser Lys Thr Cys Ser Pro Ala Cys Pro Ile Pro Glu Gly
50 55 60

Val Asn Val Gly Val Ala Ser Met Gly Ile Ser Cys Cys Gln Ser
65 70 75

Phe Leu Cys Asn Phe Ser Ala Ala Asp Gly Gly Leu Arg Ala Ser
80 85 90

Val Thr Leu Leu Gly Ala Gly Leu Leu Leu Ser Leu Leu Pro Ala
95 100 105

Leu Leu Arg Phe Gly Pro
110

<210> 39
<211> 111
<212> PRT
<213> Macaca fascicularis

<400> 39
Leu Met Cys Phe Ser Cys Leu Asn Gln Lys Ser Asn Leu Tyr Cys
1 5 10 15

Leu Lys Pro Thr Ile Cys Ser Asp Gln Asp Asn Tyr Cys Val Thr
20 25 30

Val Ser Thr Ser Ala Gly Ile Gly Asn Leu Val Thr Phe Gly His
35 40 45

Ser Leu Ser Lys Thr Cys Ser Pro Ala Cys Pro Leu Pro Glu Gly
50 55 60

Ile Asn Val Gly Val Ala Ser Met Gly Ile Ser Cys Cys Gln Ser
65 70 75

Phe Leu Cys Asn Phe Ser Ala Ala Asp Gly Gly Leu Arg Ala Ser
80 85 90

Ala Thr Leu Leu Gly Ala Gly Leu Leu Leu Ser Leu Leu Pro Ala
95 100 105

Leu Leu Arg Phe Gly Pro
110

<210> 40
<211> 111
<212> PRT
<213> Macaca mulatta

<400> 40
Leu Met Cys Phe Ser Cys Leu Asn Gln Lys Ser Asn Leu Tyr Cys
1 5 10 15

Leu Lys Pro Thr Ile Cys Ser Asp Gln Asp Asn Tyr Cys Val Thr
20 25 30

Val Ser Thr Ser Ala Gly Ile Gly Asn Leu Val Thr Phe Gly His
35 40 45

Ser Leu Ser Lys Thr Cys Ser Pro Ala Cys Pro Leu Pro Glu Gly
50 55 60

Ile Asn Val Gly Val Ala Ser Met Gly Ile Ser Cys Cys Gln Ser
65 70 75

Phe Leu Cys Asn Phe Ser Ala Ala Asp Gly Gly Leu Arg Ala Ser
80 85 90

Ala Thr Leu Leu Gly Ala Gly Leu Leu Leu Ser Leu Leu Pro Ala
95 100 105

Leu Leu Arg Phe Gly Pro
110

<210> 41
<211> 110
<212> PRT
<213> Mus musculus

<400> 41
Leu Met Cys Phe Ser Cys Thr Asp Gln Lys Asn Asn Ile Asn Cys
1 5 10 15

Leu Trp Pro Val Ser Cys Gln Glu Lys Asp His Tyr Cys Ile Thr
20 25 30

Leu Ser Ala Ala Ala Gly Phe Gly Asn Val Asn Leu Gly Tyr Thr
35 40 45

Leu Asn Lys Gly Cys Ser Pro Ile Cys Pro Ser Glu Asn Val Asn
50 55 60

Leu Asn Leu Gly Val Ala Ser Val Asn Ser Tyr Cys Cys Gln Ser
65 70 75

Ser Phe Cys Asn Phe Ser Ala Ala Gly Leu Gly Leu Arg Ala Ser
80 85 90

Ile Pro Leu Leu Gly Leu Gly Leu Leu Leu Ser Leu Leu Ala Leu
95 100 105

Leu Gln Leu Ser Pro
110

<210> 42
<211> 110

<212> PRT
<213> Rattus norvegicus

<400> 42
Leu Met Cys Phe Ser Cys Thr Asp Gln Lys Asn Asn Ile Asn Cys
1 5 10 15

Leu Trp Pro Val Ser Cys Ser Ser Thr Asp Asn Tyr Cys Ile Thr
20 25 30

Leu Ser Ala Ala Ala Gly Phe Gly Asn Val Asn Leu Gly Tyr Thr
35 40 45

Leu Asn Lys Gly Cys Ser Pro Thr Cys Pro Arg Glu Asn Ile Asn
50 55 60

Ile Asn Leu Gly Val Ala Ser Val Asn Ser Tyr Cys Cys Gln Ser
65 70 75

Ser Phe Cys Asn Phe Ser Thr Ala Gly Leu Gly Leu Arg Ala Ser
80 85 90

Ile Pro Leu Leu Gly Leu Gly Leu Leu Leu Ser Leu Leu Ala Val
95 100 105

Leu Arg Leu Ser Pro
110

<210> 43
<211> 120
<212> PRT
<213> Artificial sequence

<220>
<223> Humanized

<400> 43
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
1 5 10 15

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Leu Thr
20 25 30

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

Glu Trp Val Gly Met Ile Trp Gly Asp Gly Ser Thr Asp Tyr Asn
50 55 60

Ser Ala Leu Lys Ser Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys
65 70 75

Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
80 85 90

Ala Val Tyr Tyr Cys Ala Arg Asp Tyr Tyr Phe Asn Tyr Ala Ser
95 100 105

Trp Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
110 115 120

<210> 44
<211> 120

<212> PRT
<213> Artificial sequence

<220>
<223> Chimeric

<400> 44
Gln Val Gln Leu Lys Glu Ser Gly Pro Gly Leu Val Ala Pro Ser
1 5 10 15

Gln Ser Leu Ser Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Thr
20 25 30

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

Glu Trp Leu Gly Met Ile Trp Gly Asp Gly Ser Thr Asp Tyr Asn
50 55 60

Ser Ala Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Asn Ser Lys
65 70 75

Ser Gln Val Phe Leu Lys Met Asn Ser Leu Gln Thr Asp Asp Thr
80 85 90

Ala Arg Tyr Tyr Cys Ala Arg Asp Tyr Tyr Phe Asn Tyr Ala Ser
95 100 105

Trp Phe Ala Tyr Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ala
110 115 120

<210> 45
<211> 107
<212> PRT
<213> Homo sapiens

<400> 45
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val
1 5 10 15

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

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

Leu Leu Ile Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser
50 55 60

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
65 70 75

Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
80 85 90

Tyr Tyr Ser Tyr Pro Phe Thr Phe Gly Gln Gly Thr Lys Val Glu
95 100 105

Ile Lys

<210> 46
<211> 118

<212> PRT
<213> Homo sapiens

<400> 46
Glu Val Gln Leu Val Glu Ser Gly Pro Ala Leu Val Lys Pro Thr
1 5 10 15

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

Thr Ser Gly Val Gly Val Ser Trp Ile Arg Gln Pro Pro Gly Lys
35 40 45

Ala Leu Glu Trp Leu Ala Leu Ile Asp Trp Asn Asp Asp Lys Arg
50 55 60

Tyr Ser Thr Ser Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Thr
65 70 75

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val
80 85 90

Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Asp Thr Ala Ala Tyr Phe
95 100 105

Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
110 115

<210> 47
<211> 112
<212> PRT
<213> Homo sapiens

<400> 47
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
1 5 10 15

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
20 25 30

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

Glu Trp Val Gly Ala Ile Ser Ser Ser Gly Ser Ser Thr Tyr Tyr
50 55 60

Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser
65 70 75

Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp
80 85 90

Thr Ala Val Tyr Tyr Cys Ala Arg Phe Asp Tyr Trp Gly Gln Gly
95 100 105

Thr Leu Val Thr Val Ser Ser
110

<210> 48
<211> 21
<212> DNA
<213> Homo sapiens

<400> 48
gtgcctgatc tgtgcccttg g 21

<210> 49
<211> 20
<212> DNA
<213> Homo sapiens

<400> 49
cccggaagtg gcagaaaccc 20

<210> 50
<211> 423
<212> DNA
<213> Homo sapiens

<400> 50
gtgcctgatc tgtgcccttg gtcccaggtc aggcccaccc cctgcacctc 50

cacctgcccc agcccctgcc tctgcccaag tgggccagct gccctcactt 100

ctggggtgga tgatgtgacc ttccttgggg gactgcggaa gggacgaggg 150

ttccctggag tcttacggtc caacatcaga ccaagtccca tggacatgct 200

gacagggtcc ccagggagac cgtgtcagta gggatgtgtg cctggctgtg 250

tacgtgggtg tgcagtgcac gtgagagcac gtggcggctt ctgggggcca 300

tgtttgggga gggaggtgtg ccagcagcct ggagagcctc agtccctgta 350

gccccctgcc ctggcacagc tgcatgcact tcaagggcag cctttggggg 400

ttggggtttc tgccacttcc ggg 423

<210> 51
<211> 19
<212> DNA
<213> Homo sapiens

<400> 51
agcggattct catggaaca 19

<210> 52
<211> 18
<212> DNA
<213> Homo sapiens

<400> 52
ctggtcagcc aggagctt 18

<210> 53
<211> 24
<212> DNA
<213> Homo sapiens

<400> 53
tccacaagct gaaggcagac aagg 24

<210> 54
<211> 19
<212> DNA
<213> Homo sapiens

<400> 54
agaaggcgtc aatgttggt 19

<210> 55
<211> 21
<212> DNA
<213> Homo sapiens

<400> 55
cactgaaatt gcacagaaag c 21

<210> 56
<211> 21
<212> DNA
<213> Homo sapiens

<400> 56
ttccatgggc atcagctgct g 21