SEQUENCE LISTING

<110> Medarex Inc.
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Cardarelli, Josephine M

<120> Human monoclonal antibodies to fucosyl-GM1 and methods for using anti-fucosyl-GM1 antibodies

<130> 077375.0936

<140> PCT/US06/61817
<141> 2006-12-08

<150> 60/748,915
<151> 2005-12-08

<160> 77

<170> PatentIn version 3.4

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Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Arg Tyr
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Lys Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Tyr Ile Ser Arg Ser Gly Arg Asp Ile Tyr 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 Gln Met Asn Ser Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Gly Thr Val Thr Thr Tyr Tyr Tyr Tyr Phe Gly Met Asp Val Trp
100 105 110

Gly His Gly Thr Thr Val Thr Val Ser Ser
115 120

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

Lys Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Tyr Ile Ser Arg Ser Gly Arg Asp Ile Tyr 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 Gln Met Asn Ser Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

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

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

Ser Tyr Ile Ser Arg Ser Gly Arg Asp Ile Tyr 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 Gln Met Ser Ser Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Gly Thr Val Thr Thr Tyr Tyr Tyr Tyr Phe Gly Met Asp Val Trp
100 105 110

Gly Leu Gly Thr Thr Val Thr Val Ser Ser
115 120

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

Lys Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Tyr Ile Ser Arg Ser Gly Arg Asp Ile Tyr 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 Gln Met Asn Ser Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Gly Thr Val Thr Thr Tyr Tyr Tyr Asp Phe Gly Met Asp Val Trp
100 105 110

Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

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

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

Ser Tyr Ile Ser Arg Ser Gly Arg Asp Ile Tyr 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 Gln Met Asn Ser Leu Arg Asp Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95

Ala Gly Thr Val Thr Thr Tyr Tyr Tyr Tyr Phe Gly Met Asp Val Trp
100 105 110

Gly Gln Gly Thr Thr Val Thr Val Ser Ser
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Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Arg Tyr
20 25 30

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

Ser Tyr Ile Ser Arg Ser Gly Arg Asp Ile Tyr 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 Gln Met Ser Ser Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Gly Thr Val Thr Thr Tyr Tyr Tyr Tyr Phe Gly Met Asp Val Trp
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Gly Leu Gly Thr Thr Val Thr Val Ser Ser
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Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Ser Trp
20 25 30

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

Tyr Ala Ala Ser Ser 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 Ser Ser Leu Gln Pro
65 70 75 80

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

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

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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 Gly Ile Ser Ser Trp
20 25 30

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

Tyr Ala Ala Ser Ser 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 Ser Ser Leu Gln Pro
65 70 75 80

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

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

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1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Ser Trp

20 25 30

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

Tyr Ala Ala Ser Ser 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 Ser Cys Leu Gln Pro
65 70 75 80

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

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

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

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

Tyr Ala Ala Ser Ser 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 Ser Ser Leu Gln Pro
65 70 75 80

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

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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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 Gly Ile Ser Ser Trp
20 25 30

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

Tyr Ala Ala Ser Ser 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 Ser Ser Leu Gln Pro
65 70 75 80

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

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

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

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

Tyr Ala Ala Ser Ser 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 Ser Cys Leu Gln Pro
65 70 75 80

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

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

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Arg Tyr Lys Met Asn

1 5

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Arg Tyr Lys Met Asn
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Arg Tyr Lys Met Asn
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Arg Tyr Lys Met Asn
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Arg Tyr Lys Met Asn
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1 5 10 15

Gly

<210> 20
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<212> PRT
<213> Homo sapiens

<400> 20

Tyr Ile Ser Arg Ser Gly Arg Asp Ile Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

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<212> PRT
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<400> 21

Tyr Ile Ser Arg Ser Gly Arg Asp Ile Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 22
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<400> 22

Tyr Ile Ser Arg Ser Gly Arg Asp Ile Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 23
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Gly

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<400> 24

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1 5 10 15

Gly

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Thr Val Thr Thr Tyr Tyr Tyr Tyr Phe Gly Met Asp Val
1 5 10

<210> 26
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Thr Val Thr Thr Tyr Tyr Tyr Phe Gly Met Asp Val
1 5 10

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Thr Val Thr Thr Tyr Tyr Tyr Tyr Phe Gly Met Asp Val
1 5 10

<210> 28
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Thr Val Thr Thr Tyr Tyr Tyr Asp Phe Gly Met Asp Val
1 5 10

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Thr Val Thr Thr Tyr Tyr Tyr Tyr Phe Gly Met Asp Val
1 5 10

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Thr Val Thr Thr Tyr Tyr Tyr Tyr Phe Gly Met Asp Val
1 5 10

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Arg Ala Ser Gln Gly Ile Ser Ser Trp Leu Ala
1 5 10

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Arg Ala Ser Gln Gly Ile Ser Ser Trp Leu Ala
1 5 10

<210> 33
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<400> 33

Arg Ala Ser Gln Gly Ile Ser Ser Trp Leu Ala
1 5 10

<210> 34
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<400> 34

Arg Ala Ser Gln Gly Ile Ser Ser Trp Leu Ala
1 5 10

<210> 35
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<400> 35

Arg Ala Ser Gln Gly Ile Ser Ser Trp Leu Ala
1 5 10

<210> 36
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Arg Ala Ser Gln Gly Ile Ser Ser Trp Leu Ala
1 5 10

<210> 37
<211> 7
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<400> 37

Ala Ala Ser Ser Leu Gln Ser
1 5

<210> 38
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<400> 38

Ala Ala Ser Ser Leu Gln Ser
1 5

<210> 39
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<400> 39

Ala Ala Ser Ser Leu Gln Ser
1 5

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Ala Ala Ser Ser Leu Gln Ser
1 5

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Ala Ala Ser Ser Leu Gln Ser
1 5

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Ala Ala Ser Ser Leu Gln Ser
1 5

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Gln Gln Tyr Asn Ser Tyr Pro Pro Thr
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<210> 44
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<400> 44

Gln Gln Tyr Asn Ser Tyr Pro Pro Thr
1 5

<210> 45
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<400> 45

Gln Gln Tyr Asn Ser Tyr Pro Pro Thr
1 5

<210> 46
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<400> 46

Gln Gln Tyr Asn Ser Tyr Pro Pro Thr
1 5

<210> 47
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<400> 47

Gln Gln Tyr Asn Ser Tyr Pro Pro Thr
1 5

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<400> 48

Gln Gln Tyr Asn Ser Tyr Pro Pro Thr
1 5

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tcctgtgtag cctctggatt caccttcagt aggtataaga tgaactgggt ccgccaggct 120

ccagggaagg gactggaatg gatttcatac attagtcgta gtggtcgtga catatactac 180

gcagactctg tgaagggccg attcaccatc tccagagaca atgccaagaa ctcactgtat 240

ctgcaaatga gcagcctgag agacgaggac acggctgtgt attactgtgc gggaactgtc 300

acgacatatt attattactt cggtatggac gtctggggcc tagggaccac ggtcaccgtc 360

tcctca 366

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<212> DNA
<213> Homo sapiens

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tcctgtgtag cctctggatt caccttcagt aggtacaaga tgaactgggt ccgccaggct 120

ccagggaagg gactggaatg ggtttcatac attagtcgta gtggtcgtga catatactac 180

gcagactctg tgaagggccg attcaccatc tccagagaca atgccaagaa ctcactgtat 240

ctgcaaatga acagcctgag agacgaggac acggctgtgt attactgtgc gggaactgta 300

acgacatact actacgactt cggtatggac gtctggggcc aagggaccac ggtcaccgtc 360

tcctca 366

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tcgtgtgtag cctctggatt caccctcagt aggtataaga tgaactgggt ccgccaggct 120

ccagggaagg gactggaatg gatttcatac atcagtcgta gtggtcgtga catatactac 180

gcagactctg tgaagggccg attcaccatc tccagagaca atgccaagaa ctcactgtat 240

ctgcaaatga acagcctgcg agacgaggac tcggctgtgt attactgtgc gggaactgta 300

acgacatact actactactt cggtatggac gtctggggcc aagggaccac ggtcaccgtc 360

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tcgtgtgtag cctctggatt caccctcagt aggtataaga tgaactgggt ccgccaggct 120

ccagggaagg gactggaatg gatttcatac atcagtcgta gtggtcgtga catatactac 180

gcagactctg tgaagggccg attcaccatc tccagagaca atgccaagaa ctcactgtat 240

ctgcaaatga acagcctgcg agacgaggac tcggctgtgt attactgtgc gggaactgta 300

acgacatact actactactt cggtatggac gtctggggcc aagggaccac ggtcaccgtc 360

tcctca 366

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<212> DNA
<213> Homo sapiens

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atcacttgtc gggcgagtca gggtattagc agctggttag cctggtatca gcagaaacca 120

gagaaagccc ctaagtccct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180

aggttcagcg gcagtggatc tgggacagat ttcactctca ccatcagctg cctgcagcct 240

gaagattttg cgacttatta ctgccaacag tataatagtt accctcccac tttcggcgga 300

gggaccaagg tggagatcaa a 321

<210> 56
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gacatccaga tgacccagtc tccatcctca ctgtctgcat ctgtaggaga cagagtcacc 60

atcacttgtc gggcgagtca gggtattagc agctggttag cctggtatca gcagaaacca 120

gagaaagccc ctaagtccct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180

aggttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240

gaagattttg caacttatta ctgccaacag tataatagtt accctcccac tttcggcgga 300

gggaccaagg tggagatcaa a 321

<212> DNA
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gacatccaga tgacccagtc tccatcctca ctgtctgcat ctgtaggaga cagagtcacc 60

atcacttgtc gggcgagtca gggtattagc agctggttag cctggtatca gcagaaacca 120

gagaaagccc ctaagtccct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180

aggttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240

gaagattttg caacttatta ctgccaacag tataatagtt accctcccac tttcggcgga 300

gggaccaagg tggagatcaa a 321

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gagaaagccc ctaagtccct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180

aggttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240

gaagattttg caacttatta ctgccaacag tataatagtt accctcccac tttcggcgga 300

gggaccaagg tggagatcaa a 321

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

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

Ser Tyr Ile Ser Ser Ser Ser Ser Thr Ile Tyr 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 Gln Met Asn Ser Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg

<210> 62
<211> 95
<212> PRT
<213> Homo sapiens

<400> 62

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 Gly Ile Ser Ser Trp
20 25 30

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

Tyr Ala Ala Ser Ser 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 Ser Ser Leu Gln Pro
65 70 75 80

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

<210> 63
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<400> 63

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

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

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

Ser Tyr Ile Ser Arg Ser Gly Arg Asp Ile Tyr 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 Gln Met Ser Ser Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Gly Thr Val Thr Thr Tyr Tyr Tyr Tyr Phe Gly Met Asp Val Trp
100 105 110

Gly Leu Gly Thr Thr Val Thr Val Ser Ser
115 120

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<400> 64

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 Gly Ile Ser Ser Trp
20 25 30

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

Tyr Ala Ala Ser Ser 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 Ser Cys Leu Gln Pro
65 70 75 80

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

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

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Arg Tyr Lys Met Asn
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Tyr Ile Ser Arg Ser Gly Arg Asp Ile Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 67
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<212> PRT
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<400> 67

Thr Val Thr Thr Tyr Tyr Tyr Tyr Phe Gly Met Asp Val
1 5 10

<210> 68
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Arg Ala Ser Gln Gly Ile Ser Ser Trp Leu Ala
1 5 10

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Ala Ala Ser Ser Leu Gln Ser
1 5

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Gln Gln Tyr Asn Ser Tyr Pro Pro Thr
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<210> 71
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<400> 71

Gly Thr Val Thr Thr Tyr Tyr Tyr Tyr Phe Gly Met Asp Val Trp Gly
1 5 10 15

Gln Gly Thr Thr Val Thr Val Ser Ser
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<400> 72

Gly Thr Val Thr Thr Tyr Tyr Tyr Tyr Phe Gly Met Asp Val Trp Gly
1 5 10 15

Leu Gly Thr Thr Val Thr Val Ser Ser

20 25

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