

PCB810113GCC_PCT_SQE.txt

<110> GREEN CROSS CORPORATION
MOGAM INSTITUTE FOR BIOMEDICAL RESEARCH

<120> ANTIBODY AGAINST MSLN AND PHARMACEUTICAL COMPOSITION FOR TREATING
CANCER COMPRISING THE SAME

<130> PCB810113GCC

<160> 18

<170> KoPatentIn 3.0

<210> 1
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> VL-1 clone of humanized M1323

<400> 1
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 Ser 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 Pro 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 Thr Pro Trp
85 90 95
Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
100 105

<210> 2
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> VL domain of mouse M1323

<400> 2
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 Gln Asp Val Ser 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 Pro 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
1

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Glu Asp Leu Ala Leu Tyr Tyr Cys Gln Gln His Tyr Ser Thr Pro Trp
 85 90 95

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

<210> 3
 <211> 119
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VH-1 clone of humanized MI323

<400> 3
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
 20 25 30
 Phe Met His Trp Val Arg Gln Ala Pro Gly Gln Arg Leu Glu Trp Met
 35 40 45
 Gly Trp Ile Phe Pro Gly Asn Gly Asn Thr Lys Tyr Ser Gln Lys Phe
 50 55 60
 Gln Gly Arg Val Thr Ile Thr Arg Asp Thr Ser Ala 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 Ser Gly Gly Tyr Gln Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ser
 115

<210> 4
 <211> 119
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VH-2 clone of humanized MI323

<400> 4
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
 20 25 30
 Phe Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45
 Gly Gly Ile Phe Pro Gly Ser Gly Asn Ala Asn Tyr Ala Gln Lys Phe
 50 55 60
 Gln Gly Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
 65 70 75 80

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

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

Thr Leu Val Thr Val Ser Ser
115

<210>	5
<211>	119
<212>	PRT
<213>	Artificial Sequence

<220>
<223> VH-3 clone of humanized MI323

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

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

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

Gly Trp Ile Phe Pro Gly Ser Gly Asn Thr Lys Tyr Ser Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Arg Asp Thr 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 Ser Gly Gly Tyr Gln Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210>	6
<211>	119
<212>	PRT
<213>	Artificial Sequence

<220>
<223> VH domain of mouse M1323

<400> 6
Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Thr
1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

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

Gly Trp Ile Phe Pro Gly Ser Gly Asn Thr Lys Tyr Asn Glu Met Phe
50 55 60

Lys Gly Lys Ala Thr Leu Ala Ala Asp Thr Ser Ser Ser Thr Ala Tyr
3

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

<210> 7
 <211> 106
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> kappa CL domain

<400> 7
 Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
 1 5 10 15
 Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
 20 25 30
 Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
 35 40 45
 Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
 50 55 60
 Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
 65 70 75 80
 His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
 85 90 95
 Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 100 105

<210> 8
 <211> 330
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> IgG1 CH domain

<400> 8
 Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
 1 5 10 15
 Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
 20 25 30
 Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 35 40 45
 Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 50 55 60
 Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 65 70 75 80

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Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95
 Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
 100 105 110
 Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
 115 120 125
 Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
 130 135 140
 Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
 145 150 155 160
 Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
 165 170 175
 Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
 180 185 190
 His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
 195 200 205
 Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
 210 215 220
 Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu
 225 230 235 240
 Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
 245 250 255
 Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
 260 265 270
 Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
 275 280 285
 Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
 290 295 300
 Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
 305 310 315 320
 Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 325 330

<210> 9
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Amino acid sequence for anti-MSLN antibody of CDR1 (VL)

<400> 9
 Arg Ala Ser Gln Asp Val Ser Thr Ala Val Ala
 1 5 10

<210> 10
 <211> 7
 <212> PRT
 <213> Artificial Sequence

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<220>

<223> Amino acid sequence for anti-MSLN antibody of CDR2 (VL)

<400> 10

Ser Ala Ser Tyr Arg Tyr Pro
1 5

<210> 11

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Amino acid sequence for anti-MSLN antibody of CDR3 (VL)

<400> 11

Gln Gln His Tyr Ser Thr Pro Trp Thr
1 5

<210> 12

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Amino acid sequence for anti-MSLN antibody of CDR1 (VH)

<400> 12

Gly Tyr Ser Phe Thr Ser Tyr Phe Met His
1 5 10

<210> 13

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Amino acid sequence for anti-MSLN antibody of CDR1 (VH)

<400> 13

Gly Tyr Ser Phe Thr Ser Tyr Phe Ile Ser
1 5 10

<210> 14

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Amino acid sequence for anti-MSLN antibody of CDR1 (VH)

<400> 14

Gly Tyr Ser Phe Thr Ser Tyr Phe Ile Gln
1 5 10

<210> 15

<211> 17

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<212> PRT

<213> Artificial Sequence

<220>

<223> Amino acid sequence for anti-MSLN antibody of CDR2 (VH)

<400> 15

Trp Ile Phe Pro Gly Asn Gly Asn Thr Lys Tyr Ser Gln Lys Phe Gln
1 5 10 15

Gly

<210> 16

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Amino acid sequence for anti-MSLN antibody of CDR2 (VH)

<400> 16

Gly Ile Phe Pro Gly Ser Gly Asn Ala Asn Tyr Ala Gln Lys Phe Gln
1 5 10 15

Gly

<210> 17

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Amino acid sequence for anti-MSLN antibody of CDR2 (VH)

<400> 17

Trp Ile Phe Pro Gly Ser Gly Asn Thr Lys Tyr Ser Gln Lys Phe Gln
1 5 10 15

Gly

<210> 18

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Amino acid sequence for anti-MSLN antibody of CDR3 (VH)

<400> 18

Ser Gly Gly Tyr Gln Tyr Tyr Phe Asp Tyr
1 5 10