SEQUENCE LISTING

<110> Agency for Science, Technology and Research

<120> Anti-PD-1 Antibodies

<130> RIC/FP7150477

<150> GB 1419084.7
<151> 2014-10-27

<160> 89

<170> PatentIn version 3.3

<210> 1
<211> 110
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<220>
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<400> 1

Leu Pro Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Lys Phe Asn
20 25 30

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

Ile Tyr Ser Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Phe Cys Ala Ser Trp Asp Asp Val Leu
85 90 95

Tyr Gly Ser Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 2
<211> 110
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Light chain variable domain sequence for anti-PD-1 antibody clone A10

<400> 2

Leu Pro Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Lys Phe Asn
20 25 30

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

Ile Tyr Ser Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Phe Cys Ala Ser Trp Asp Asp Tyr Tyr
85 90 95

Tyr Gly Thr Ile Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 3
<211> 110
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<213> Artificial sequence

<220>
<223> Synthetic sequence: Light chain variable domain sequence for anti-PD-1 antibody clone B6

<400> 3

Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Lys Phe Asn
20 25 30

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

Ile Tyr Ser Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Asp Asp Tyr Leu
85 90 95

Arg Gly Thr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 4
<211> 110
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Light chain variable domain sequence for anti-PD-1 antibody clone C4

<400> 4

Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Lys Phe Asn
20 25 30

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

Ile Tyr Ser Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ala Trp Asp Asp Tyr Leu
85 90 95

His Gly Thr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 5
<211> 110
<212> PRT
<213> Artificial sequence

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<223> Synthetic sequence: Light chain variable domain sequence for anti-PD-1 antibody clone D4

<400> 5

Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Lys Phe Asn
20 25 30

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

Ile Tyr Ser Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Asp Asp Tyr Val
85 90 95

Arg Gly Thr Met Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 6
<211> 110
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Light chain variable domain sequence for anti-PD-1 antibody clone E1

<400> 6

Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Lys Phe Asn
20 25 30

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

Ile Tyr Ser Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Trp Asp Asp Phe Leu
85 90 95

Arg Gly Thr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 7
<211> 110
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Light chain variable domain sequence for anti-PD-1 antibody clone F2

<400> 7

Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Lys Phe Asn
20 25 30

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

Ile Tyr Ser Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Trp Asp Asp Asp Ala
85 90 95

Arg Gly Thr Ile Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 8
<211> 110
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Light chain variable domain sequence for anti-PD-1 antibody clone G1

<400> 8

Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Lys Phe Asn
20 25 30

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

Ile Tyr Ser Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ala Trp Asp Asp Val Tyr
85 90 95

Tyr Gly Thr Ile Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 9
<211> 110
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Light chain variable domain sequence for anti-PD-1 antibody clone G2

<400> 9

Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15

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Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Lys Phe Asn
            20                  25                  30

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

Ile Tyr Ser Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln
65                  70                  75                  80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Asp Asp Ser Leu
                85                  90                  95

Tyr Gly Thr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
            100                 105                 110
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<210> 10
<211> 110
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Light chain variable domain sequence for anti-PD-1 antibody clone G10

<400> 10

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Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1               5                   10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Lys Phe Asn
            20                  25                  30

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

Ile Tyr Ser Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln
65                  70                  75                  80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ala Trp Asp Asp Ala Tyr
                85                  90                  95

Tyr Gly Thr Ile Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
            100                 105                 110
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<210> 11
<211> 110
<212> PRT

<213> Artificial sequence

<220>
<223> Synthetic sequence: Light chain variable domain sequence for anti-PD-1 antibody clone H4

<400> 11

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Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1               5                  10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Lys Phe Asn
            20                  25                  30

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

Ile Tyr Ser Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln
65                  70                  75                  80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Asp Asp Val Tyr
                85                  90                  95

Arg Gly Thr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
            100                 105                 110
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<210> 12
<211> 110
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Light chain variable domain sequence for anti-PD-1 antibody clone H9

<400> 12

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Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1               5                  10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Lys Phe Asn
            20                  25                  30

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

Ile Tyr Ser Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln
65                  70                  75                  80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Trp Asp Asp Ser Leu
```

85 90 95

Tyr Gly Thr Ile Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 13
<211> 122
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Heavy chain variable domain sequence for anti-PD-1 antibody clone A3

<400> 13

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

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

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

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Ser Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Lys Asp His Trp
100 105 110

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

<210> 14
<211> 122
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Heavy chain variable domain sequence for anti-PD-1 antibody clone A10

<400> 14

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

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

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

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80

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

Ala Ser Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Lys Asp Val Trp
            100                 105                 110

Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115                 120
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<210> 15
<211> 122
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Heavy chain variable domain sequence for anti-PD-1 antibody clone B6

<400> 15

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

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

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

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80

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

Ala Ser Asp Tyr Gly Ala Gly Pro Tyr Tyr Tyr Gly Met Asp Val Trp
            100                 105                 110

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

<210> 16
<211> 122
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Heavy chain variable domain sequence for anti-PD-1 antibody clone C4

<400> 16

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

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

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

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Ser Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Leu Asp Val Trp
100 105 110

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

<210> 17
<211> 122
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Heavy chain variable domain sequence for anti-PD-1 antibody clone D4

<400> 17

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

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

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

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Ser Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Met Asp Val Trp
100 105 110

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

<210> 18
<211> 122
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Heavy chain variable domain sequence for anti-PD-1 antibody clone E1

<400> 18

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

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

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

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Ser Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Met Asp Val Trp
100 105 110

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

<210> 19
<211> 122
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Heavy chain variable domain sequence for

anti-PD-1 antibody clone F2

<400> 19

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

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

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

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80

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

Ala Ser Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Met Asp Val Trp
            100                 105                 110

Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115                 120
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<210> 20
<211> 122
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Heavy chain variable domain sequence for anti-PD-1 antibody clone G1

<400> 20

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

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

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

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
```

85 90 95

Ala Ser Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Met Asp Val Trp
100 105 110

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

<210> 21
<211> 122
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Heavy chain variable domain sequence for anti-PD-1 antibody clone G2

<400> 21

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

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

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

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Ser Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Met Asp Val Trp
100 105 110

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

<210> 22
<211> 122
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Heavy chain variable domain sequence for anti-PD-1 antibody clone G10

<400> 22

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

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

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

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Ser Asp Tyr Gly Ala Gly Pro Tyr Tyr Tyr Gly Met Asp Val Trp
100 105 110

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

<210> 23
<211> 122
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Heavy chain variable domain sequence for anti-PD-1 antibody clone H4

<400> 23

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

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

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

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Ser Asp Leu Gly Ser Gly Tyr Tyr Leu Tyr Gly Met Asp Val Trp
100 105 110

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

<210> 24
<211> 122
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Heavy chain variable domain sequence for anti-PD-1 antibody clone H9

<400> 24

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

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

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

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Ser Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Met Asp Val Trp
100 105 110

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

<210> 25
<211> 13
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: LC-CDR1

<400> 25

Ser Gly Ser Ser Ser Asn Ile Lys Phe Asn Ser Val Asn
1 5 10

<210> 26
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: LC-CDR2

<400> 26

Ser Asn Asn Gln Arg Pro Ser
1 5

<210> 27
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: LC-CDR3

<400> 27

Ala Ser Trp Asp Asp Val Leu Tyr Gly Ser Val
1 5 10

<210> 28
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: LC-CDR3

<400> 28

Ala Ser Trp Asp Asp Tyr Tyr Tyr Gly Thr Ile
1 5 10

<210> 29
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: LC-CDR3

<400> 29

Ala Ser Trp Asp Asp Tyr Leu Arg Gly Thr Val
1 5 10

<210> 30
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: LC-CDR3

<400> 30

Ser Ala Trp Asp Asp Tyr Leu His Gly Thr Val
1 5 10

<210> 31
<211> 11
<212> PRT
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<220>
<223> Synthetic sequence: LC-CDR3

<400> 31

Ala Ser Trp Asp Asp Tyr Val Arg Gly Thr Met
1 5 10

<210> 32
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: LC-CDR3

<400> 32

Ser Ser Trp Asp Asp Phe Leu Arg Gly Thr Val
1 5 10

<210> 33
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: LC-CDR3

<400> 33

Ser Ser Trp Asp Asp Asp Ala Arg Gly Thr Ile
1 5 10

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

<220>
<223> Synthetic sequence: LC-CDR3

<400> 34

Ala Ala Trp Asp Asp Val Tyr Tyr Gly Thr Ile
1 5 10

<210> 35
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: LC-CDR3

<400> 35

Ala Ser Trp Asp Asp Ser Leu Tyr Gly Thr Val
1 5 10

<210> 36
<211> 11
<212> PRT

<213> Artificial sequence

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<400> 36

Ala Ala Trp Asp Asp Ala Tyr Tyr Gly Thr Ile
1 5 10

<210> 37
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: LC-CDR3

<400> 37

Ala Ser Trp Asp Asp Val Tyr Arg Gly Thr Val
1 5 10

<210> 38
<211> 11
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<213> Artificial sequence

<220>
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<400> 38

Ser Ser Trp Asp Asp Ser Leu Tyr Gly Thr Ile
1 5 10

<210> 39
<211> 10
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: HC-CDR1

<400> 39

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

<210> 40
<211> 17
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: HC-CDR2

<400> 40

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

Gly

<210> 41
<211> 13
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: HC-CDR3

<400> 41

Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Lys Asp His
1 5 10

<210> 42
<211> 13
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: HC-CDR3

<400> 42

Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Lys Asp Val
1 5 10

<210> 43
<211> 13
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: HC-CDR3

<400> 43

Asp Tyr Gly Ala Gly Pro Tyr Tyr Tyr Gly Met Asp Val
1 5 10

<210> 44
<211> 13
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: HC-CDR3

<400> 44

Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Leu Asp Val
1 5 10

<210> 45
<211> 13
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: HC-CDR3

<400> 45

Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Met Asp Val
1 5 10

<210> 46
<211> 13
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: HC-CDR3

<400> 46

Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Met Asp Val
1 5 10

<210> 47
<211> 13
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: HC-CDR3

<400> 47

Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Met Asp Val
1 5 10

<210> 48
<211> 13
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: HC-CDR3

<400> 48

Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Met Asp Val
1 5 10

<210> 49
<211> 13
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: HC-CDR3

<400> 49

Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Met Asp Val
1 5 10

<210> 50
<211> 13
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: HC-CDR3

<400> 50

Asp Tyr Gly Ala Gly Pro Tyr Tyr Tyr Gly Met Asp Val
1 5 10

<210> 51
<211> 13
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: HC-CDR3

<400> 51

Asp Leu Gly Ser Gly Tyr Tyr Leu Tyr Gly Met Asp Val
1 5 10

<210> 52
<211> 13
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: HC-CDR3

<400> 52

Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Met Asp Val
1 5 10

<210> 53
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: LC-CDR3

<220>
<221> VARIANT
<222> (1)..(1)
<223> Xaa= Ala or Ser

<220>
<221> VARIANT
<222> (2)..(2)
<223> Xaa= Ser or Ala

<220>
<221> VARIANT
<222> (6)..(6)
<223> Xaa= Val, Tyr, Phe, Asp, Ser or Ala

<220>
<221> VARIANT
<222> (7)..(7)
<223> Xaa= Leu, Tyr, Val or Ala

<220>
<221> VARIANT
<222> (8)..(8)
<223> Xaa= Tyr, Arg or His

<220>
<221> VARIANT
<222> (10)..(10)
<223> Xaa= Ser, or Thr

<220>
<221> VARIANT
<222> (11)..(11)
<223> Xaa= Val, Ile, or Met

<400> 53

Xaa Xaa Trp Asp Asp Xaa Xaa Xaa Gly Xaa Xaa
1 5 10

<210> 54
<211> 13
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: HC-CDR3

<220>
<221> VARIANT
<222> (2)..(2)
<223> Xaa= Leu or Tyr

<220>
<221> VARIANT
<222> (4)..(4)
<223> Xaa= Ala or Ser

<220>
<221> VARIANT
<222> (6)..(6)
<223> Xaa= Pro or Tyr

<220>
<221> VARIANT
<222> (8)..(8)
<223> Xaa= Tyr or Leu

<220>
<221> VARIANT
<222> (11)..(11)
<223> Xaa= Lys, Met or Leu

<220>
<221> VARIANT
<222> (13)..(13)
<223> Xaa= His or Val

<400> 54

Asp Xaa Gly Xaa Gly Xaa Tyr Xaa Tyr Gly Xaa Asp Xaa
1 5 10

<210> 55
<211> 330
<212> DNA
<213> Artificial sequence

<220>

<223> Synthetic sequence: Nucleotide sequence of light chain variable domain sequence for anti-PD-1 antibody clone A3

<400> 55

ctgcctgtgc tgactcagcc cccctcagcg tccgggaccc ccgggcagag ggtcaccatc 60

tcttgttctg gaagcagctc caacatcaaa tttaacagtg ttaactggta tcagcaactc 120

ccaggaacgg cccccaaact cctcatctat agtaataatc agcgaccctc aggggtccct 180

gaccgattct ctggctccaa gtctggcact tcagcctccc tggccatcag tgggctccag 240

tctgaggatg aggctgatta tttctgtgct tcttgggatg atgttcttta tggatctgtg 300

ttcggcggag ggaccaagct gaccgtcctg 330

<210> 56
<211> 330
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of light chain variable domain sequence for anti-PD-1 antibody clone A10

<400> 56

ctgcctgtgc tgactcagcc cccctcagcg tccgggaccc ccgggcagag ggtcaccatc 60

tcttgttctg gaagcagctc caacatcaaa tttaacagtg ttaactggta tcagcaactc 120

ccaggaacgg cccccaaact cctcatctat agtaataatc agcgaccctc aggggtccct 180

gaccgattct ctggctccaa gtctggcact tcagcctccc tggccatcag tgggctccag 240

tctgaggatg aggctgatta tttctgtgct tcttgggatg attattatta tggaactatt 300

ttcggcggag ggaccaagct gaccgtcctg 330

<210> 57
<211> 110
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Encoded amino acid sequence of light chain variable domain sequence for anti-PD-1 antibody codon-optimised clone A10

<400> 57

Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Lys Phe Asn
20 25 30

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

Ile Tyr Ser Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Asp Asp Tyr Tyr
85 90 95

Tyr Gly Thr Ile Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 58
<211> 330
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of light chain variable domain sequence for anti-PD-1 antibody codon-optimised clone A10

<400> 58
cagagcgtcc tgacacagcc tcctagtgca agcggaaccc ctgggcagag agtgaccatt 60

tcttgtagcg gcagcagcag taacatcaag ttcaactccg tgaattggta tcagcagctg 120

cccggaactg ctcctaaact gctgatctac tctaacaatc agcgaccaag tggcgtcccc 180

gaccggttca gcggctccaa gtctgggacc agtgcctcac tggctatcag cgggctccag 240

tccgaggacg aagcagatta ctattgcgcc agctgggacg attactatta cggcaccatt 300

ttcggcgggg gaacaaaact gaccgtcctg 330

<210> 59
<211> 330
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of light chain variable domain sequence for anti-PD-1 antibody clone B6

<400> 59
cagtctgtgc tgactcagcc cccctcagcg tccgggaccc ccgggcagag ggtcaccatc 60

tcttgttctg gaagcagctc caacatcaaa tttaacagtg ttaactggta tcagcaactc 120

ccaggaacgg cccccaaact cctcatctat agtaataatc agcgaccctc aggggtccct 180

gaccgattct ctggctccaa gtctggcact tcagcctccc tggccatcag tgggctccag 240

tctgaggatg aggctgatta ttactgtgct tcttgggatg attatcttcg tggaactgtt 300

ttcggcggag ggaccaagct gaccgtcctg 330

<210> 60
<211> 330
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of light chain variable domain sequence for anti-PD-1 antibody codon-optimised clone B6

<400> 60

cagagcgtgc tgacccagcc ccccagcgcc agtggaacac ccggacagag agtgaccatc 60

agttgctcag gcagctcctc taacattaag ttcaactctg tgaattggta tcagcagctg 120

cccggaactg ctcctaaact gctgatctat tctaacaatc agcgaccaag tggcgtcccc 180

gaccggttca gcggctccaa gtctgggacc agtgcctcac tggctattag cgggctccag 240

tccgaggacg aagcagatta ctattgtgcc agctgggacg attacctgag gggcaccgtg 300

ttcggaggag gaacaaaact gaccgtcctg 330

<210> 61
<211> 330
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of light chain variable domain sequence for anti-PD-1 antibody clone C4

<400> 61
cagtctgtgc tgactcagcc cccctcagcg tccgggaccc ccgggcagag ggtcaccatc 60

tcttgttctg gaagcagctc caacatcaaa tttaacagtg ttaactggta tcagcaactc 120

ccaggaacgg cccccaaact cctcatctat agtaataatc agcgaccctc aggggtccct 180

gaccgattct ctggctccaa gtctggcact tcagcctccc tggccatcag tgggctccag 240

tctgaggatg aggctgatta ttactgttct gcttgggatg attatcttca tggaactgtg 300

ttcggcggag ggaccaagct gaccgtcctg 330

<210> 62
<211> 330
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of light chain variable domain sequence for anti-PD-1 antibody codon-optimised clone C4

<400> 62
cagagcgtcc tgacacagcc cccttccgca agtggaaccc ctgggcagcg agtgactatt 60

tcatgcagtg gatcttcatc taacatcaag ttcaactccg tgaattggta tcagcagctg 120

cccggaactg ctcctaaact gctgatctat tctaacaatc agcgaccaag tggcgtcccc 180

gaccggttca gcggctccaa gtctgggacc agtgcctcac tggctattag cgggctccag 240

tccgaggacg aagcagatta ctattgcagc gcctgggacg attacctgca cggcaccgtg 300

ttcggaggag gaacaaaact gaccgtcctg 330

<210> 63
<211> 330
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of light chain variable domain sequence for anti-PD-1 antibody clone D4

<400> 63
cagtctgtgc tgactcagcc cccctcagcg tccgggaccc ccgggcagag ggtcaccatc 60

tcttgttctg gaagcagctc caacatcaaa tttaacagtg ttaactggta tcagcaactc 120

ccaggaacgg cccccaaact cctcatctat agtaataatc agcgaccctc aggggtccct 180

gaccgattct ctggctccaa gtctggcact tcagcctccc tggccatcag tgggctccag 240

tctgaggatg aggctgatta ttactgtgct tcttgggatg attatgttcg tggaactatg 300

ttcggcggag ggaccaagct gaccgtcctg 330

<210> 64
<211> 330
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of light chain variable domain sequence for anti-PD-1 antibody clone E1

<400> 64
cagtctgtgc tgactcagcc cccctcagcg tccgggaccc ccgggcagag ggtcaccatc 60

tcttgttctg gaagcagctc caacatcaaa tttaacagtg ttaactggta tcagcaactc 120

ccaggaacgg cccccaaact cctcatctat agtaataatc agcgaccctc aggggtccct 180

gaccgattct ctggctccaa gtctggcact tcagcctccc tggccatcag tgggctccag 240

tctgaggatg aggctgatta ttactgttct tcttgggatg attttcttcg tggaactgtt 300

ttcggcggag ggaccaagct gaccgtcctg 330

<210> 65
<211> 330
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of light chain variable domain sequence for anti-PD-1 antibody clone F2

<400> 65
cagtctgtgc tgactcagcc cccctcagcg tccgggaccc ccgggcagag ggtcaccatc 60

tcttgttctg gaagcagctc caacatcaaa tttaacagtg ttaactggta tcagcaactc 120

ccaggaacgg cccccaaact cctcatctat agtaataatc agcgaccctc aggggtccct 180

gaccgattct ctggctccaa gtctggcact tcagcctccc tggccatcag tgggctccag 240

tctgaggatg aggctgatta ttactgttct tcttgggatg atgatgctcg tggaactatt 300

ttcggcggag ggaccaagct gaccgtcctg 330

<210> 66
<211> 330
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of light chain variable domain sequence for anti-PD-1 antibody clone G1

<400> 66
cagtctgtgc tgactcagcc cccctcagcg tccgggaccc ccgggcagag ggtcaccatc 60

tcttgttctg gaagcagctc caacatcaaa tttaacagtg ttaactggta tcagcaactc 120

ccaggaacgg cccccaaact cctcatctat agtaataatc agcgaccctc aggggtccct 180

gaccgattct ctggctccaa gtctggcact tcagcctccc tggccatcag tgggctccag 240

tctgaggatg aggctgatta ttactgtgct gcttgggatg atgtttatta tggaactatt 300

ttcggcggag ggaccaagct gaccgtcctg 330

<210> 67
<211> 330
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of light chain variable domain sequence for anti-PD-1 antibody clone G2

<400> 67
cagtctgtgc tgactcagcc cccctcagcg tccgggaccc ccgggcagag ggtcaccatc 60

tcttgttctg gaagcagctc caacatcaaa tttaacagtg ttaactggta tcagcaactc 120

ccaggaacgg cccccaaact cctcatctat agtaataatc agcgaccctc aggggtccct 180

gaccgattct ctggctccaa gtctggcact tcagcctccc tggccatcag tgggctccag 240

tctgaggatg aggctgatta ttactgtgct tcttgggatg attctcttta tggaactgtt 300

ttcggcggag ggaccaagct gaccgtcctg 330

<210> 68
<211> 330
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of light chain variable domain sequence for anti-PD-1 antibody clone G10

<400> 68
cagtctgtgc tgactcagcc cccctcagcg tccgggaccc ccgggcagag ggtcaccatc 60

tcttgttctg gaagcagctc caacatcaaa tttaacagtg ttaactggta tcagcaactc 120

ccaggaacgg cccccaaact cctcatctat agtaataatc agcgaccctc aggggtccct 180

gaccgattct ctggctccaa gtctggcact tcagcctccc tggccatcag tgggctccag 240

tctgaggatg aggctgatta ttactgtgct gcttgggatg atgcttatta tggaactatt 300

ttcggcggag ggaccaagct gaccgtcctg 330

<210> 69
<211> 330
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of light chain variable

domain sequence for anti-PD-1 antibody clone H4

<400> 69
cagtctgtgc tgactcagcc cccctcagcg tccgggaccc ccgggcagag ggtcaccatc 60

tcttgttctg gaagcagctc caacatcaaa tttaacagtg ttaactggta tcagcaactc 120

ccaggaacgg cccccaaact cctcatctat agtaataatc agcgaccctc aggggtccct 180

gaccgattct ctggctccaa gtctggcact tcagcctccc tggccatcag tgggctccag 240

tctgaggatg aggctgatta ttactgtgct tcttgggatg atgtttatcg tggaactgtt 300

ttcggcggag ggaccaagct gaccgtcctg 330

<210> 70
<211> 330
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of light chain variable domain sequence for anti-PD-1 antibody codon-optimised clone H4

<400> 70
cagagcgtcc tgacacagcc cccaagcgca agcggaaccc ccggccagcg agtgaccatt 60

agttgtagtg gaagtagtag taacatcaag ttcaactccg tgaattggta tcagcagctg 120

cccggaactg ctcctaaact gctgatctat tctaacaatc agcgaccaag tggcgtcccc 180

gaccggttca gcggctccaa gtctgggacc agtgcctcac tggctattag cgggctccag 240

tccgaggacg aagcagatta ctattgcgcc agctgggacg atgtgtacag gggcaccgtc 300

ttcggcgggg gaacaaaact gaccgtcctg 330

<210> 71
<211> 330
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of light chain variable domain sequence for anti-PD-1 antibody clone H9

<400> 71
cagtctgtgc tgactcagcc cccctcagcg tccgggaccc ccgggcagag ggtcaccatc 60

tcttgttctg gaagcagctc caacatcaaa tttaacagtg ttaactggta tcagcaactc 120

ccaggaacgg cccccaaact cctcatctat agtaataatc agcgaccctc aggggtccct 180

gaccgattct ctggctccaa gtctggcact tcagcctccc tggccatcag tgggctccag 240

tctgaggatg aggctgatta ttactgttct tcttgggatg attctcttta tggaactatt 300

ttcggcggag ggaccaagct gaccgtcctg 330

<210> 72
<211> 366
<212> DNA
<213> Artificial sequence

<220>

<223> Synthetic sequence: Nucleotide sequence of heavy chain variable domain sequence for anti-PD-1 antibody clone A3

<400> 72

caggtccagc tggtgcagtc cgggggaggc gtggtccagc ctgggcggtc cctgagactc 60

tcctgtgcag cctctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatcatatg atggaagtaa taaatactac 180

gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagtgatctt 300

ggtgctggtc cttattatta tggtaaggat cattggggcc aagggaccac ggtcaccgtc 360

tcaagc 366

<210> 73
<211> 366
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of heavy chain variable domain sequence for anti-PD-1 antibody clone A10

<400> 73

caggtccagc tggtgcagtc tgggggaggc gtggtccagc ctgggcggtc cctgagactc 60

tcctgtgcag cctctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatcatatg atggaagtaa taaatactac 180

gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagtgatctt 300

ggtgctggtc cttattatta tggtaaggat gtttggggcc aagggaccac ggtcaccgtc 360

tcaagc 366

<210> 74
<211> 122
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence: Encoded amino acid sequence of heavy chain variable domain sequence for anti-PD-1 antibody codon-optimised clone A10

<400> 74

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

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

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

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Ser Asp Leu Gly Ala Gly Pro Tyr Tyr Tyr Gly Lys Asp Val Trp
100 105 110

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

<210> 75
<211> 366
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of heavy chain variable domain sequence for anti-PD-1 antibody codon-optimised clone A10

<400> 75
caggtgcagc tggtcgaatc cgggggggg gtggtgcagc ctggacggtc actgagactg 60

agttgtgccg cctctgggtt tactttcagc tcctatggca tgcactgggt gaggcaggct 120

cccggcaagg ggctggagtg ggtggcagtc atctcttacg acggcagtaa caagtactat 180

gccgatagcg tcaaagggcg gttcactatt tcaagagaca acagcaaaaa taccctgtac 240

ctccagatga acagcctgcg ggccgaagac acagctgtgt actattgcgc atctgatctg 300

ggagccggcc cttactatta cggcaaggat gtctgggggc agggaaccac agtcaccgtc 360

tcaagc 366

<210> 76
<211> 366
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of heavy chain variable domain sequence for anti-PD-1 antibody clone B6

<400> 76
caggtccagc tggtagagtc cgggggaggc gtggtccagc ctgggcggtc cctgagactc 60

tcctgtgcag cctctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatcatatg atggaagtaa taaatactac 180

gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagtgattat 300

ggtgctggtc cttattatta tggtatggat gtttggggcc aagggaccac ggtcaccgtc 360

tcaagc 366

<210> 77
<211> 366
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of heavy chain variable domain sequence for anti-PD-1 antibody codon-optimised clone B6

<400> 77
caggtgcagc tggtggaaag cgggggggc gtggtgcagc ctggaaggtc actgagactg 60

tcttgtgccg catctgggtt tacatttagc tcctatggca tgcactgggt gaggcaggct 120

cccggcaagg ggctggagtg ggtggcagtc atctcttacg acggcagtaa caagtactat 180

gccgatagcg tcaaagggcg gttcactatt tcaagagaca acagcaaaaa taccctgtac 240

ctccagatga acagcctgcg ggccgaagac acagctgtgt actattgcgc atctgattac 300

ggagccggcc cttactatta cggcatggat gtctgggggc agggaaccac agtcaccgtc 360

tcaagc 366

<210> 78
<211> 366
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of heavy chain variable domain sequence for anti-PD-1 antibody clone C4

<400> 78
caggtccagc tggtagagtc cgggggaggc gtggtccagc ctgggcggtc cctgagactc 60

tcctgtgcag cctctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatcatatg atggaagtaa taaatactac 180

gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagtgatctt 300

ggtgctggtc cttattatta tggtttggat gtttggggcc aagggaccac ggtcaccgtc 360

tcaagc 366

<210> 79
<211> 366
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of heavy chain variable domain sequence for anti-PD-1 antibody codon-optimised clone C4

<400> 79
caggtgcagc tggtggaatc tgggggggg gtcgtgcagc ccggacggtc actgagactg 60

tcatgtgccg cttcagggtt tacttttagc tcctatggca tgcactgggt gaggcaggct 120

cccggcaagg ggctggagtg ggtggcagtc atctcttacg acggcagtaa caagtactat 180

gccgatagcg tcaaagggcg gttcactatt tcaagagaca acagcaaaaa taccctgtac 240

ctccagatga acagcctgcg ggccgaagac acagctgtgt actattgcgc atctgatctg 300

ggagccggcc cttactatta cggcctggat gtctgggggc agggaaccac agtcaccgtc 360

tcaagc 366

<210> 80
<211> 366
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of heavy chain variable domain sequence for anti-PD-1 antibody clone D4

<400> 80
caggtccagc tggtagagtc cgggggaggc gtggtccagc ctgggcggtc cctgagactc 60

tcctgtgcag cctctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatcatatg atggaagtaa taaatactac 180

gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagtgatctt 300

ggtgctggtc cttattatta tggtatggat gtttggggcc aagggaccac ggtcaccgtc 360

tcaagc 366

<210> 81
<211> 366
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence: Nucleotide sequence of heavy chain variable domain sequence for anti-PD-1 antibody clone E1

<400> 81
caggtccagc tggtagagtc cgggggaggc gtggtccagc ctgggcggtc cctgagactc 60

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<220>
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<400> 89

Ser Tyr Gly Met His
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