SEQUENCE LISTING

<110> BRISTOL-MYERS SQUIBB COMPANY

<120> COMBINATION OF ANTI-KIR ANTIBODIES AND ANTI-PD-1 ANTIBODIES TO TREAT CANCER

<130> MXI-515PC

<140> PCT/US2013/063068
<141> 2013-10-02

<150> 61/708,784
<151> 2012-10-02

<160> 30

<170> PatentIn version 3.5

<210> 1
<211> 450
<212> PRT
<213> Homo sapiens

<400> 1

```
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 Gly Thr Phe Ser Phe Tyr
            20                  25                  30


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


Gly Gly Phe Ile Pro Ile Phe Gly Ala 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


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


Ala Arg Ile Pro Ser Gly Ser Tyr Tyr Tyr Asp Tyr Asp Met Asp Val
            100                 105                 110


Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly
        115                 120                 125


Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser
```

```
    130                 135                 140

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
145                 150                 155                 160

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
                165                 170                 175

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
            180                 185                 190

Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val
        195                 200                 205

Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys
    210                 215                 220

Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly
225                 230                 235                 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
                245                 250                 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu
            260                 265                 270

Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
        275                 280                 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg
    290                 295                 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
305                 310                 315                 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu
                325                 330                 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
            340                 345                 350

Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu
        355                 360                 365
```

```
Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
    370                 375                 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
385                 390                 395                 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp
                405                 410                 415

Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His
            420                 425                 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu
        435                 440                 445

Gly Lys
    450
```

<210> 2
<211> 214
<212> PRT
<213> Homo sapiens

<400> 2

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

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

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

Tyr Asp Ala Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65                  70                  75                  80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser Asn Trp Met Tyr
                85                  90                  95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
            100                 105                 110
```

```
Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
        115                 120                 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
    130                 135                 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145                 150                 155                 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
                165                 170                 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
            180                 185                 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
        195                 200                 205

Phe Asn Arg Gly Glu Cys
    210
```

<210> 3
<211> 123
<212> PRT
<213> Homo sapiens

<400> 3

```
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 Gly Thr Phe Ser Phe Tyr
            20                  25                  30

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

Gly Gly Phe Ile Pro Ile Phe Gly Ala 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

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

```
Ala Arg Ile Pro Ser Gly Ser Tyr Tyr Tyr Asp Tyr Asp Met Asp Val
            100                 105                 110


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


<210> 4
<211> 369
<212> DNA
<213> Homo sapiens

<400> 4
caggtccagc tggtgcagtc tggggctgag gtgaagaagc ctgggtcctc ggtgaaggtc
60

tcctgcaagg cttctggagg caccttcagt ttctatgcta tcagctgggt gcgacaggcc
120

cctggacaag ggcttgagtg gatgggaggg ttcatcccta tctttggtgc agcaaactac
180

gcacagaagt tccagggcag agtcacgatt accgcggacg aatccacgag cacagcctac
240

atggaactga gcagcctgag atctgacgac acggccgtgt attactgtgc gagaatccct
300

agtgggagct actactacga ctacgatatg gacgtctggg gccaagggac cacggtcacc
360

gtctcctca
369


<210> 5
<211> 109
<212> PRT
<213> Homo sapiens

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


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


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


Tyr Asp Ala Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50                  55                  60
```

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser Asn Trp Met Tyr
85 90 95

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

<210> 6
<211> 327
<212> DNA
<213> Homo sapiens

<400> 6
gaaattgtgt tgacacagtc tccagtcacc ctgtctttgt ctccagggga aagagccacc
60

ctctcctgca gggccagtca gagtgttagc agctacttag cctggtacca acagaaacct
120

ggccaggctc ccaggctcct catctatgat gcatccaaca gggccactgg catcccagcc
180

aggttcagtg gcagtgggtc tgggacagac ttcactctca ccatcagcag cctagagcct
240

gaagattttg cagtttatta ttgtcagcag cgtagcaact ggatgtacac ttttggccag
300

gggaccaagc tggagatcaa acgaact
327

<210> 7
<211> 5
<212> PRT
<213> Homo sapiens

<400> 7
Phe Tyr Ala Ile Ser
1 5

<210> 8
<211> 16
<212> PRT
<213> Homo sapiens

<400> 8
Gly Phe Ile Pro Ile Phe Gly Ala Ala Asn Tyr Ala Gln Lys Phe Gln
1 5 10 15

<210> 9
<211> 14
<212> PRT
<213> Homo sapiens

<400> 9
Ile Pro Ser Gly Ser Tyr Tyr Tyr Asp Tyr Asp Met Asp Val
1   5   10

<210> 10
<211> 11
<212> PRT
<213> Homo sapiens

<400> 10
Arg Ala Ser Gln Ser Val Ser Ser Tyr Leu Ala
1   5   10

<210> 11
<211> 7
<212> PRT
<213> Homo sapiens

<400> 11
Asp Ala Ser Asn Arg Ala Thr
1   5

<210> 12
<211> 9
<212> PRT
<213> Homo sapiens

<400> 12
Gln Gln Arg Ser Asn Trp Met Tyr Thr
1   5

<210> 13
<211> 224
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (16)..(16)
<223> /replace="Arg"

<220>
<221> VARIANT
<222> (114)..(114)
<223> /replace="Leu"

<220>
<221> misc_feature

<222> (1)..(224)
<223> /note="Variant residues given in the sequence have no preference with respect to those in the annotations for variant positions"

<400> 13

```
His Glu Gly Val His Arg Lys Pro Ser Leu Leu Ala His Pro Gly Pro
1               5                  10                  15

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

Met Phe Glu His Phe Leu Leu His Arg Glu Gly Met Phe Asn Asp Thr
        35                  40                  45

Leu Arg Leu Ile Gly Glu His His Asp Gly Val Ser Lys Ala Asn Phe
    50                  55                  60

Ser Ile Ser Arg Met Thr Gln Asp Leu Ala Gly Thr Tyr Arg Cys Tyr
65                  70                  75                  80

Gly Ser Val Thr His Ser Pro Tyr Gln Val Ser Ala Pro Ser Asp Pro
                85                  90                  95

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

Gln Pro Gly Pro Thr Val Leu Ala Gly Glu Asn Val Thr Leu Ser Cys
        115                 120                 125

Ser Ser Arg Ser Ser Tyr Asp Met Tyr His Leu Ser Arg Glu Gly Glu
    130                 135                 140

Ala His Glu Arg Arg Leu Pro Ala Gly Pro Lys Val Asn Gly Thr Phe
145                 150                 155                 160

Gln Ala Asp Phe Pro Leu Gly Pro Ala Thr His Gly Gly Thr Tyr Arg
                165                 170                 175

Cys Phe Gly Ser Phe His Asp Ser Pro Tyr Glu Trp Ser Lys Ser Ser
            180                 185                 190

Asp Pro Leu Leu Val Ser Val Thr Gly Asn Pro Ser Asn Ser Trp Pro
        195                 200                 205
```

Ser Pro Thr Glu Pro Ser Ser Lys Thr Gly Asn Pro Arg His Leu His
210 215 220

<210> 14
<211> 224
<212> PRT
<213> Homo sapiens

<400> 14
His Glu Gly Val His Arg Lys Pro Ser Leu Leu Ala His Pro Gly Arg
1 5 10 15

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

Arg Phe Glu His Phe Leu Leu His Arg Glu Gly Lys Phe Lys Asp Thr
35 40 45

Leu His Leu Ile Gly Glu His His Asp Gly Val Ser Lys Ala Asn Phe
50 55 60

Ser Ile Gly Pro Met Met Gln Asp Leu Ala Gly Thr Tyr Arg Cys Tyr
65 70 75 80

Gly Ser Val Thr His Ser Pro Tyr Gln Leu Ser Ala Pro Ser Asp Pro
85 90 95

Leu Asp Ile Val Ile Thr Gly Leu Tyr Glu Lys Pro Ser Leu Ser Ala
100 105 110

Gln Pro Gly Pro Thr Val Leu Ala Gly Glu Ser Val Thr Leu Ser Cys
115 120 125

Ser Ser Arg Ser Ser Tyr Asp Met Tyr His Leu Ser Arg Glu Gly Glu
130 135 140

Ala His Glu Cys Arg Phe Ser Ala Gly Pro Lys Val Asn Gly Thr Phe
145 150 155 160

Gln Ala Asp Phe Pro Leu Gly Pro Ala Thr His Gly Gly Thr Tyr Arg
165 170 175

Cys Phe Gly Ser Phe Arg Asp Ser Pro Tyr Glu Trp Ser Asn Ser Ser
180 185 190

Asp Pro Leu Leu Val Ser Val Ile Gly Asn Pro Ser Asn Ser Trp Pro
195 200 205

Ser Pro Thr Glu Pro Ser Ser Lys Thr Gly Asn Pro Arg His Leu His
210 215 220

<210> 15
<211> 224
<212> PRT
<213> Homo sapiens

<400> 15
His Glu Gly Val His Arg Lys Pro Ser Leu Leu Ala His Pro Gly Pro
1 5 10 15

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

Arg Phe Gln His Phe Leu Leu His Arg Glu Gly Lys Phe Lys Asp Thr
35 40 45

Leu His Leu Ile Gly Glu His His Asp Gly Val Ser Lys Ala Asn Phe
50 55 60

Ser Ile Gly Pro Met Met Gln Asp Leu Ala Gly Thr Tyr Arg Cys Tyr
65 70 75 80

Gly Ser Val Thr His Ser Pro Tyr Gln Leu Ser Ala Pro Ser Asp Pro
85 90 95

Leu Asp Ile Val Ile Thr Gly Leu Tyr Glu Lys Pro Ser Leu Ser Ala
100 105 110

Gln Pro Gly Pro Thr Val Leu Ala Gly Glu Ser Val Thr Leu Ser Cys
115 120 125

Ser Ser Arg Ser Ser Tyr Asp Met Tyr His Leu Ser Arg Glu Gly Glu
130 135 140

Ala His Glu Arg Arg Phe Ser Ala Gly Pro Lys Val Asn Gly Thr Phe
145 150 155 160

Gln Ala Asp Phe Pro Leu Gly Pro Ala Thr His Gly Gly Thr Tyr Arg
165 170 175

```
Cys Phe Gly Ser Phe Arg Asp Ser Pro Tyr Glu Trp Ser Asn Ser Ser
            180                 185                 190

Asp Pro Leu Leu Val Ser Val Thr Gly Asn Pro Ser Asn Ser Trp Pro
        195                 200                 205

Ser Pro Thr Glu Pro Ser Ser Glu Thr Gly Asn Pro Arg His Leu His
    210                 215                 220
```

<210> 16
<211> 100
<212> PRT
<213> Homo sapiens

<400> 16

```
Gln Glu Gly Val His Arg Lys Pro Ser Phe Leu Ala Leu Pro Gly His
1               5                   10                  15

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

Met Phe Glu His Phe Leu Leu His Arg Glu Gly Lys Phe Asn Asn Thr
        35                  40                  45

Leu His Leu Ile Gly Glu His His Asp Gly Val Ser Lys Ala Asn Phe
    50                  55                  60

Ser Ile Gly Pro Met Met Pro Val Leu Ala Gly Thr Tyr Arg Cys Tyr
65                  70                  75                  80

Gly Ser Val Pro His Ser Pro Tyr Gln Leu Ser Ala Pro Ser Asp Pro
                85                  90                  95

Leu Asp Met Val
            100
```

<210> 17
<211> 440
<212> PRT
<213> Homo sapiens

<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 Asp Cys Lys Ala Ser Gly Ile Thr Phe Ser Asn Ser
            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 Trp Tyr Asp Gly Ser Lys Arg Tyr Tyr Ala Asp Ser Val
    50                  55                  60

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

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

Ala Thr Asn Asp Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser
            100                 105                 110

Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser
        115                 120                 125

Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp
    130                 135                 140

Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr
145                 150                 155                 160

Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr
                165                 170                 175

Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys
            180                 185                 190

Thr Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp
        195                 200                 205

Lys Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala
    210                 215                 220

Pro Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
225                 230                 235                 240

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
                245                 250                 255
```

```
Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val
            260                 265                 270

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
        275                 280                 285

Phe Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
    290                 295                 300

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly
305                 310                 315                 320

Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
                325                 330                 335

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr
            340                 345                 350

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
        355                 360                 365

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
    370                 375                 380

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
385                 390                 395                 400

Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe
                405                 410                 415

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
            420                 425                 430

Ser Leu Ser Leu Ser Leu Gly Lys
        435                 440
```

<210> 18
<211> 214
<212> PRT
<213> Homo sapiens

<400> 18

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

```
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Tyr
            20                  25                  30

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

Tyr Asp Ala Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65                  70                  75                  80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Ser Asn Trp Pro Arg
                85                  90                  95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
            100                 105                 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
        115                 120                 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
    130                 135                 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145                 150                 155                 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
                165                 170                 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
            180                 185                 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
        195                 200                 205

Phe Asn Arg Gly Glu Cys
    210
```

<210> 19
<211> 113
<212> PRT
<213> Homo sapiens

<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 Asp Cys Lys Ala Ser Gly Ile Thr Phe Ser Asn Ser
            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 Trp Tyr Asp Gly Ser Lys Arg Tyr Tyr Ala Asp Ser Val
    50                  55                  60

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

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

Ala Thr Asn Asp Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser
            100                 105                 110

Ser
```

<210> 20
<211> 339
<212> DNA
<213> Homo sapiens

<400> 20
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc
60

gactgtaaag cgtctggaat caccttcagt aactctggca tgcactgggt ccgccaggct
120

ccaggcaagg ggctggagtg ggtggcagtt atttggtatg atggaagtaa aagatactat
180

gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgttt
240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gacaaacgac
300

gactactggg gccagggaac cctggtcacc gtctcctca
339

<210> 21

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

<400> 21
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

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

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

Tyr Asp Ala Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Ser Asn Trp Pro Arg
85 90 95

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

<210> 22
<211> 321
<212> DNA
<213> Homo sapiens

<400> 22
gaaattgtgt tgacacagtc tccagccacc ctgtctttgt ctccagggga aagagccacc
60

ctctcctgca gggccagtca gagtgttagt agttacttag cctggtacca acagaaacct
120

ggccaggctc ccaggctcct catctatgat gcatccaaca gggccactgg catcccagcc
180

aggttcagtg gcagtgggtc tgggacagac ttcactctca ccatcagcag cctagagcct
240

gaagattttg cagtttatta ctgtcagcag agtagcaact ggcctcggac gttcggccaa
300

gggaccaagg tggaaatcaa a
321

<210> 23
<211> 5
<212> PRT
<213> Homo sapiens

<400> 23
Asn Ser Gly Met His
1 5

<210> 24
<211> 17
<212> PRT
<213> Homo sapiens

<400> 24
Val Ile Trp Tyr Asp Gly Ser Lys Arg Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 25
<211> 4
<212> PRT
<213> Homo sapiens

<400> 25
Asn Asp Asp Tyr
1

<210> 26
<211> 11
<212> PRT
<213> Homo sapiens

<400> 26
Arg Ala Ser Gln Ser Val Ser Ser Tyr Leu Ala
1 5 10

<210> 27
<211> 7
<212> PRT
<213> Homo sapiens

<400> 27
Asp Ala Ser Asn Arg Ala Thr
1 5

<210> 28
<211> 9
<212> PRT
<213> Homo sapiens

<400> 28
Gln Gln Ser Ser Asn Trp Pro Arg Thr
1 5

<210> 29
<211> 2106
<212> DNA
<213> Homo sapiens

<400> 29
agtttccctt ccgctcacct ccgcctgagc agtggagaag gcggcactct ggtggggctg
60

ctccaggcat gcagatccca caggcgccct ggccagtcgt ctgggcggtg ctacaactgg
120

gctggcggcc aggatggttc ttagactccc cagacaggcc ctggaacccc cccaccttct
180

tcccagccct gctcgtggtg accgaagggg acaacgccac cttcacctgc agcttctcca
240

acacatcgga gagcttcgtg ctaaactggt accgcatgag ccccagcaac cagacggaca
300

agctggccgc cttccccgag gaccgcagcc agcccggcca ggactgccgc ttccgtgtca
360

cacaactgcc caacgggcgt gacttccaca tgagcgtggt cagggcccgg cgcaatgaca
420

gcggcaccta cctctgtggg gccatctccc tggcccccaa ggcgcagatc aaagagagcc
480

tgcgggcaga gctcagggtg acagagagaa gggcagaagt gcccacagcc caccccagcc
540

cctcacccag gccagccggc cagttccaaa ccctggtggt tggtgtcgtg ggcggcctgc
600

tgggcagcct ggtgctgcta gtctgggtcc tggccgtcat ctgctcccgg gccgcacgag
660

ggacaatagg agccaggcgc accggccagc ccctgaagga ggacccctca gccgtgcctg
720

tgttctctgt ggactatggg gagctggatt tccagtggcg agagaagacc ccggagcccc
780

ccgtgccctg tgtccctgag cagacggagt atgccaccat tgtctttcct agcggaatgg
840

gcacctcatc ccccgcccgc aggggctcag ccgacggccc tcggagtgcc cagccactga
900

ggcctgagga tggacactgc tcttggcccc tctgaccggc ttccttggcc accagtgttc
960

tgcagaccct ccaccatgag cccgggtcag cgcatttcct caggagaagc aggcagggtg
1020

caggccattg caggccgtcc aggggctgag ctgcctgggg gcgaccgggg ctccagcctg
1080

cacctgcacc aggcacagcc ccaccacagg actcatgtct caatgcccac agtgagccca
1140

ggcagcaggt gtcaccgtcc cctacaggga gggccagatg cagtcactgc ttcaggtcct
1200

gccagcacag agctgcctgc gtccagctcc ctgaatctct gctgctgctg ctgctgctgc
1260

tgctgctgcc tgcggcccgg ggctgaaggc gccgtggccc tgcctgacgc cccggagcct
1320

cctgcctgaa cttgggggct ggttggagat ggccttggag cagccaaggt gcccctggca
1380

gtggcatccc gaaacgccct ggacgcaggg cccaagactg ggcacaggag tgggaggtac
1440

atggggctgg ggactcccca ggagttatct gctccctgca ggcctagaga agtttcaggg
1500

aaggtcagaa gagctcctgg ctgtggtggg cagggcagga aacccctccc acctttacac
1560

atgcccaggc agcacctcag gccctttgtg gggcagggaa gctgaggcag taagcgggca
1620

ggcagagctg gaggcctttc aggccagcca gcactctggc ctcctgccgc cgcattccac
1680

cccagcccct cacaccactc gggagaggga catcctacgg tcccaaggtc aggagggcag
1740

ggctggggtt gactcaggcc cctcccagct gtggccacct gggtgttggg agggcagaag
1800

tgcaggcacc tagggccccc catgtgccca ccctgggagc tctccttgga acccattcct
1860

gaaattattt aaaggggttg gccgggctcc caccagggcc tgggtgggaa ggtacaggcg
1920

ttccccccggg gcctagtacc cccgcgtggc ctatccactc ctcacatcca cacactgcac
1980

ccccactcct ggggcagggc caccagcatc caggcggcca gcaggcacct gagtggctgg
2040

gacaagggat ccccccttccc tgtggttcta ttatattata attataatta aatatgagag
2100

catgct
2106

<210> 30
<211> 6
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown: CTLA-4
motif peptide"

<400> 30
Met Tyr Pro Pro Pro Tyr
1 5