SEQUENCE LISTING

<110> EUTILEX CO., LTD.

<120> IFN-gamma-INDUCIBLE REGULATORY T CELL CONVERTIBLE ANTI-CANCER (IRTCA) ANTIBODY AND USES THEREOF

<130> 2012994-0030

<150> 62/457,422
<151> 2017-02-10

<160> 26

<170> PatentIn version 3.5

<210> 1
<211> 128
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<213> Artificial Sequence

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<400> 1

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

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

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

Gly Trp Ile Ser Pro Tyr Thr His Arg Thr Asn Ser Ser Pro Lys Leu
50 55 60

Gln Asp Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Asp Gly Thr Tyr Tyr Asp Phe Trp Ser Gly Tyr Phe Asp Asn
100 105 110

Gly Ala Phe Asp Ile Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120 125

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Gln Ser Val Val Thr Gln Pro Pro Ser Val Ser Ala Ala Pro Gly Gln
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Lys Val Thr Ile Ser Cys Ser Gly Ser Thr Ser Asn Ile Gly Asn Asn
20 25 30

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

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

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

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

Asn Ala Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

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<400> 3

Gln Val Gln Leu Val Gln Ser Gly Thr Gln Val Lys Met Pro Gly Ala

1 5 10 15

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

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

Gly Trp Ile Ser Pro Tyr Thr His Arg Thr Asn Ser Ser Pro Lys Leu
50 55 60

Gln Asp Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Asp Gly Thr Tyr Tyr Asp Phe Trp Ser Gly Tyr Phe Asp Asn
100 105 110

Ala Ala Phe Asp Ser Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120 125

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

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

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

Gly Trp Ile Ser Pro Tyr Thr His Arg Thr Asn Ser Ser Pro Lys Leu

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    50                  55                  60

Gln Asp Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65                  70                  75                  80

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

Ala Arg Asp Gly Thr Tyr Tyr Asp Phe Trp Ser Gly Tyr Phe Asp Asn
            100                 105                 110

Ala Thr Phe Asp Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120                 125


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<400>  5

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

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

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

Gly Trp Ile Ser Pro Tyr Thr His Arg Thr Asn Ser Ser Pro Lys Leu
    50                  55                  60

Gln Asp Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65                  70                  75                  80

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

Ala Arg Asp Gly Thr Tyr Tyr Asp Phe Trp Ser Gly Tyr Phe Asp Asn
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            100                 105                 110

Asn Ala Phe Asp Ile Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120                 125
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1               5                   10                  15

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

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

Gly Trp Ile Ser Pro Tyr Thr His Arg Thr Asn Ser Ser Pro Lys Leu
    50                  55                  60

Gln Asp Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65                  70                  75                  80

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

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

Ala Ala Phe Asp Ile Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120                 125
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Gln Ser Val Val Thr Gln Pro Pro Ser Val Ser Ala Ala Pro Gly Gln
1   5   10   15

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

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

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

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

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

Asn Ala Tyr Lys Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
            100   105   110

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<212> PRT
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<400> 8

Gly Tyr Thr Phe Asp Asp Tyr Gly
1   5

<210> 9
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<400> 9

Ile Ser Pro Tyr Thr His Arg Thr
1 5

<210> 10
<211> 21
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<220>
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<400> 10

Ala Arg Asp Gly Thr Tyr Tyr Asp Phe Trp Ser Gly Tyr Phe Asp Asn
1 5 10 15

Gly Ala Phe Asp Ile
20

<210> 11
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<400> 11

Thr Ser Asn Ile Gly Asn Asn Tyr
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<210> 12
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<400> 12

Asp Asn Tyr
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<210> 13

<211> 11
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<400> 13

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

<210> 14
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<400> 14

Ala Arg Asp Gly Thr Tyr Tyr Asp Phe Trp Ser Gly Tyr Phe Asp Asn
1 5 10 15

Ala Ala Phe Asp Ser
20

<210> 15
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<220>
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<400> 15

Ala Arg Asp Gly Thr Tyr Tyr Asp Phe Trp Ser Gly Tyr Phe Asp Asn
1 5 10 15

Ala Thr Phe Asp Phe
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<400> 16

Ala Arg Asp Gly Thr Tyr Tyr Asp Phe Trp Ser Gly Tyr Phe Asp Asn
1   5   10   15

Asn Ala Phe Asp Ile
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<400> 17

Ala Arg Asp Gly Thr Tyr Tyr Asp Phe Trp Ser Gly Tyr Phe Asp Thr
1   5   10   15

Ala Ala Phe Asp Ile
            20

<210> 18
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<400> 18

Gly Ser Trp Glu Ser Gly Ser Asn Ala Tyr Lys
1   5   10

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<400> 19

His Cys Gly Asp Pro Cys Cys Thr Thr Cys
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<400> 20

Gln Val Gln Leu Val Gln Ser Gly Ala Gln Val Lys Met Pro Gly Glu
1 5 10 15

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

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

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

Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Asp Gly Thr Tyr Tyr Asp Phe Trp Ser Gly Tyr Phe Asp Asn
100 105 110

Asn Ala Phe Asp Ile Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120 125

<210> 21
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<400> 21

Gln Val Gln Leu Val Gln Ser Gly Ala Gln Val Lys Met Pro Gly Glu
1 5 10 15

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

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

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

Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Asp Gly Thr Tyr Tyr Asp Phe Trp Ser Gly Tyr Phe Asp Asn
100 105 110

Asn Ala Phe Asp Ile Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120 125

<210> 22
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Chemically synthesized peptide

<400> 22

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

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

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu

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        35                  40                  45

Ile Tyr Asp Asn Tyr Lys 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 Thr Gly Leu Gln
65                  70                  75                  80

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

Asn Ala Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
            100                 105                 110
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<400> 23

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

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

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

Ile Tyr Asp Asn Tyr Lys 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 Thr Gly Leu Gln
65                  70                  75                  80

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

Asn Ala Tyr Lys Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
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100 105 110

<210> 24
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<400> 24

Gly Tyr Thr Phe Thr Asp Tyr Gly
1 5

<210> 25
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<223> Chemically synthesized peptide

<400> 25

Ile Ser Pro Tyr Thr Gly Arg Thr
1 5

<210> 26
<211> 330
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<400> 26

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

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 Ala Ala 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 Ala 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
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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
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