SEQUENCE LISTING

<110> CSL Limited
Panousis, Con

<120> HUMANIZED ANTI-INTERLEUKIN 3 RECEPTOR ALPHA CHAIN ANTIBODIES

<130> 510921

<150> USSN 61/374489
<151> 2010-08-17

<150> PCT/AU2011/000155
<151> 2011-02-17

<160> 23

<170> PatentIn version 3.5

<210> 1
<211> 359
<212> PRT
<213> Homo sapiens

<400> 1

Lys Glu Asp Pro Asn Pro Pro Ile Thr Asn Leu Arg Met Lys Ala Lys
1 5 10 15

Ala Gln Gln Leu Thr Trp Asp Leu Asn Arg Asn Val Thr Asp Ile Glu
20 25 30

Cys Val Lys Asp Ala Asp Tyr Ser Met Pro Ala Val Asn Asn Ser Tyr
35 40 45

Cys Gln Phe Gly Ala Ile Ser Leu Cys Glu Val Thr Asn Tyr Thr Val
50 55 60

Arg Val Ala Asn Pro Pro Phe Ser Thr Trp Ile Leu Phe Pro Glu Asn
65 70 75 80

Ser Gly Lys Pro Trp Ala Gly Ala Glu Asn Leu Thr Cys Trp Ile His
85 90 95

Asp Val Asp Phe Leu Ser Cys Ser Trp Ala Val Gly Pro Gly Ala Pro
100 105 110

Ala Asp Val Gln Tyr Asp Leu Tyr Leu Asn Val Ala Asn Arg Arg Gln
115 120 125

Gln Tyr Glu Cys Leu His Tyr Lys Thr Asp Ala Gln Gly Thr Arg Ile
130 135 140

Gly Cys Arg Phe Asp Asp Ile Ser Arg Leu Ser Ser Gly Ser Gln Ser
145 150 155 160

Ser His Ile Leu Val Arg Gly Arg Ser Ala Ala Phe Gly Ile Pro Cys
165 170 175

```
Thr Asp Lys Phe Val Val Phe Ser Gln Ile Glu Ile Leu Thr Pro Pro
            180                 185                 190

Asn Met Thr Ala Lys Cys Asn Lys Thr His Ser Phe Met His Trp Lys
        195                 200                 205

Met Arg Ser His Phe Asn Arg Lys Phe Arg Tyr Glu Leu Gln Ile Gln
    210                 215                 220

Lys Arg Met Gln Pro Val Ile Thr Glu Gln Val Arg Asp Arg Thr Ser
225                 230                 235                 240

Phe Gln Leu Leu Asn Pro Gly Thr Tyr Thr Val Gln Ile Arg Ala Arg
                245                 250                 255

Glu Arg Val Tyr Glu Phe Leu Ser Ala Trp Ser Thr Pro Gln Arg Phe
            260                 265                 270

Glu Cys Asp Gln Glu Glu Gly Ala Asn Thr Arg Ala Trp Arg Thr Ser
        275                 280                 285

Leu Leu Ile Ala Leu Gly Thr Leu Leu Ala Leu Val Cys Val Phe Val
    290                 295                 300

Ile Cys Arg Arg Tyr Leu Val Met Gln Arg Leu Phe Pro Arg Ile Pro
305                 310                 315                 320

His Met Lys Asp Pro Ile Gly Asp Ser Phe Gln Asn Asp Lys Leu Val
                325                 330                 335

Val Trp Glu Ala Gly Lys Ala Gly Leu Glu Glu Cys Leu Val Thr Glu
            340                 345                 350

Val Gln Val Val Gln Lys Thr
        355


<210>  2
<211>  17
<212>  PRT
<213>  Artificial

<220>
<223>  amino acid sequence of LCDR1 of humanized anti- IL-3Ralpha chain
       antibody CSL362 and modified forms thereof

<400>  2

Glu Ser Ser Gln Ser Leu Leu Asn Ser Gly Asn Gln Lys Asn Tyr Leu
1               5                   10                  15

Thr


<210>  3
```

<211> 7
<212> PRT
<213> Artificial

<220>
<223> amino acid sequence of LCDR2 of humanized anti- IL-3Ralpha chain antibody CSL362 and modified forms thereof

<400> 3

Trp Ala Ser Thr Arg Glu Ser
1 5

<210> 4
<211> 9
<212> PRT
<213> Artificial

<220>
<223> amino acid sequence of LCDR3 of humanized anti- IL-3Ralpha chain antibody CSL362 and modified forms thereof

<400> 4

Gln Asn Asp Tyr Ser Tyr Pro Tyr Thr
1 5

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

<220>
<223> amino acid sequence of HCDR1 of humanized anti- IL-3Ralpha chain antibody CSL362 and modified forms thereof

<400> 5

Asp Tyr Tyr Met Lys
1 5

<210> 6
<211> 17
<212> PRT
<213> Artificial

<220>
<223> amino acid sequence of HCDR2 of humanized anti- IL-3Ralpha chain antibody CSL362 and modified forms thereof

<400> 6

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

Gly

<210> 7
<211> 11
<212> PRT
<213> Artificial

<220>

<223> mino acid sequence of HCDR3 of a humanized anti- IL-3R alpha chain antibody

<400> 7

Ser His Leu Leu Arg Ala Ser Trp Phe Ala Tyr
1 5 10

<210> 8
<211> 114
<212> PRT
<213> Artificial

<220>
<223> amino acid sequence of light chain variable region of humanized anti- IL-3Ralpha chain antibody CSL362 and modified forms thereof

<400> 8

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

Glu Arg Ala Thr Ile Asn Cys Glu Ser Ser Gln Ser Leu Leu Asn Ser
20 25 30

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

Pro Pro Lys Pro Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val
50 55 60

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65 70 75 80

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

Asp Tyr Ser Tyr Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile
100 105 110

Lys Arg

<210> 9
<211> 120
<212> PRT
<213> Artificial

<220>
<223> amino acid sequence of heavy chain variable region of humanized anti- IL-3Ralpha chain antibody CSL362 and modified forms thereof

<400> 9

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

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

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

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

Lys Gly Gln Val Thr Ile Ser Ala Asp Lys Ser Ile Ser Thr Thr Tyr
65                  70                  75                  80

Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Tyr Cys
                85                  90                  95

Ala Arg Ser His Leu Leu Arg Ala Ser Trp Phe Ala Tyr Trp Gly Gln
            100                 105                 110

Gly Thr Met Val Thr Val Ser Ser
        115                 120
```

<210> 10
<211> 450
<212> PRT
<213> Artificial

<220>
<223> amino acid sequence of heavy chain of humanized anti- IL-3Ralpha chain antibody CSL362 and CSL362B

<400> 10

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

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

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

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

Lys Gly Gln Val Thr Ile Ser Ala Asp Lys Ser Ile Ser Thr Thr Tyr
65                  70                  75                  80

Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Tyr Cys
                85                  90                  95

Ala Arg Ser His Leu Leu Arg Ala Ser Trp Phe Ala Tyr Trp Gly Gln
            100                 105                 110

Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
        115                 120                 125
```

```
Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
    130                 135                 140

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

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

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

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
        195                 200                 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
    210                 215                 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu 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 His Glu
            260                 265                 270

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

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr 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 Ala Leu Pro Ala Pro 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 Arg Asp Glu Leu 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 Lys Leu Thr Val Asp
```

405 410 415

Lys Ser Arg Trp Gln Gln 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 Pro
435 440 445

Gly Lys
450

<210> 11
<211> 450
<212> PRT
<213> Artificial

<220>
<223> amino acid sequence of heavy chain of humanized anti- IL-3Ralpha chain antibody CSL362X1

<400> 11

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

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

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

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

Lys Gly Gln Val Thr Ile Ser Ala Asp Lys Ser Ile Ser Thr Thr Tyr
65 70 75 80

Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Tyr Cys
85 90 95

Ala Arg Ser His Leu Leu Arg Ala Ser Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
130 135 140

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

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

```
Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
            180                 185                 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
        195                 200                 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
    210                 215                 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
225                 230                 235                 240

Pro Asp 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 His 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 Phe Arg
    290                 295                 300

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

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

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

Thr Leu Pro Pro Ser Arg 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 Met
385                 390                 395                 400

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

Lys Ser Arg Trp Gln Gln 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 Pro
        435                 440                 445
```

Gly Lys
    450

<210> 12
<211> 450
<212> PRT
<213> Artificial

<220>
<223> amino acid sequence of heavy chain of humanized anti- IL-3Ralpha chain antibody CSL362X2

<400> 12

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

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

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

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

Lys Gly Gln Val Thr Ile Ser Ala Asp Lys Ser Ile Ser Thr Thr Tyr
65   70   75   80

Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Tyr Cys
                85   90   95

Ala Arg Ser His Leu Leu Arg Ala Ser Trp Phe Ala Tyr Trp Gly Gln
            100   105   110

Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
        115   120   125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
    130   135   140

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

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

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

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
        195   200   205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
    210   215   220

```
Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
225                 230                 235                 240

Pro Asp 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 His 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 Phe Arg
    290                 295                 300

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

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

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

Thr Leu Pro Pro Ser Arg 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 Met
385                 390                 395                 400

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

Lys Ser Arg Trp Gln Gln 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 Pro
        435                 440                 445

Gly Lys
    450
```

<210> 13
<211> 220
<212> PRT
<213> Artificial

<220>
<223> amino acid sequence of light chain of humanized anti- IL-3Ralpha

chain antibody CSL362 and modified forms thereof

<400> 13

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

Glu Arg Ala Thr Ile Asn Cys Glu Ser Ser Gln Ser Leu Leu Asn Ser
20 25 30

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

Pro Pro Lys Pro Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val
50 55 60

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65 70 75 80

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

Asp Tyr Ser Tyr Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile
100 105 110

Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp
115 120 125

Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn
130 135 140

Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu
145 150 155 160

Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp
165 170 175

Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr
180 185 190

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

Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
210 215 220

<210> 14
<211> 51
<212> DNA
<213> Artificial

<220>
<223> nucleotide sequence encoding a LCDR1 of humanized anti-IL-3Ralpha chain antibody CSL362 and modified forms thereof

<400> 14
gagagcagcc agagcctgct gaacagcggc aaccagaaga actacctgac c 51

<210> 15
<211> 21
<212> DNA
<213> Artificial

<220>
<223> nucleotide sequence encoding a LCDR2 of humanized anti-IL-3Ralpha chain antibody CSL362 and modified forms thereof

<400> 15
tgggccagca cccgggagag c 21

<210> 16
<211> 27
<212> DNA
<213> Artificial

<220>
<223> nucleotide sequence encoding a LCDR3 of humanized anti-IL-3Ralpha chain antibody CSL362 and modified forms thereof

<400> 16
cagaacgact acagctaccc ctacacc 27

<210> 17
<211> 15
<212> DNA
<213> Artificial

<220>
<223> nucleotide sequence encoding a HCDR1 of humanized anti-IL-3Ralpha chain antibody CSL362 and modified forms thereof

<400> 17
gactactaca tgaag 15

<210> 18
<211> 51
<212> DNA
<213> Artificial

<220>
<223> nucleotide sequence encoding a HCDR2 of humanized anti-IL-3Ralpha chain antibody CSL362 and modified forms thereof

<400> 18
gacatcatcc ccagcaacgg cgccaccttc tacaaccaga agttcaaggg c 51

<210> 19
<211> 33
<212> DNA
<213> Artificial

<220>
<223> nucleotide sequence encoding a HCDR3 of humanized anti-IL-3Ralpha chain antibody CSL362 and modified forms thereof

<400> 19
tcccacctgc tgagggccag ctggttcgcc tac 33

<210> 20
<211> 342
<212> DNA
<213> Artificial

<220>
<223> nucleotide sequence encoding a light chain variable region of humanized anti- IL-3Ralpha chain antibody CSL362 and modified forms thereof

<400> 20
gacatcgtga tgacccagag ccccgacagc ctggccgtga gcctgggcga gagggccacc 60

atcaactgcg agagcagcca gagcctgctg aacagcggca accagaagaa ctacctgacc 120

tggtatcagc agaagcccgg ccagcccccc aagccactga tctactgggc cagcacccgg 180

gagagcggcg tgcccgacag gttcagcggc agcggctccg gcaccgactt caccctgacc 240

atcagcagcc tgcaggccga ggacgtggcc gtgtactact gccagaacga ctacagctac 300

ccctacacct tcggccaggg caccaagctg gaaatcaaga gg 342

<210> 21
<211> 360
<212> DNA
<213> Artificial

<220>
<223> nucleotide sequence encoding a heavy chain variable region of humanized anti- IL-3Ralpha chain antibody CSL362 and modified forms thereof

<400> 21
gaggtgcagc tggtgcagag cggagccgag gtgaagaagc ccggcgagag cctgaagatc 60

agctgcaagg gcagcggcta cagcttcacc gactactaca tgaagtgggc ccggcagatg 120

cccggcaagg gcctggaatg gatgggcgac atcatcccca gcaacggcgc caccttctac 180

aaccagaagt tcaagggcca ggtcaccatc agcgccgaca agagcatcag caccacctac 240

ctgcagtgga gcagcctgaa ggccagcgac accgccatgt actactgcgc caggtcccac 300

ctgctgaggg ccagctggtt cgcctactgg ggccagggca caatggtgac cgtgagcagc 360

<210> 22
<211> 1353
<212> DNA
<213> Artificial

<220>
<223> nucleotide sequence encoding a heavy chain of humanized anti-IL-3Ralpha chain antibody CSL362 and CSL362B

<400> 22
gaggtgcagc tggtgcagag cggagccgag gtgaagaagc ccggcgagag cctgaagatc 60

agctgcaagg gcagcggcta cagcttcacc gactactaca tgaagtgggc ccggcagatg 120

cccggcaagg gcctggaatg gatgggcgac atcatcccca gcaacggcgc caccttctac 180

aaccagaagt tcaagggcca ggtcaccatc agcgccgaca agagcatcag caccacctac 240

ctgcagtgga gcagcctgaa ggccagcgac accgccatgt actactgcgc caggtcccac 300

ctgctgaggg ccagctggtt cgcctactgg ggccagggca caatggtgac cgtgagcagc 360

gctagcacca agggccccag cgtgttcccc ctggccccca gcagcaagag caccagcggc 420

ggcacagcag ccctgggatg cctggtgaag gactacttcc ccgagcccgt gaccgtgtcc 480

tggaacagcg gagccctgac ctccggcgtg cacaccttcc ccgccgtgct gcagagcagc 540

ggcctgtatt ctctgagcag cgtcgtgaca gtgcccagca gcagcctggg cacccagacc 600

tacatctgca acgtgaacca caagcccagc aacaccaagg tggacaagaa ggtggagccc 660

aagagctgcg acaagaccca cacctgtcct ccatgcccag ccccagagct gctgggcgga 720

ccctccgtgt tcctgttccc ccccaagccc aaggacaccc tgatgatcag caggaccccc 780

gaggtgacct gcgtggtggt ggacgtgagc cacgaggacc cagaggtgaa gttcaactgg 840

tacgtggacg gcgtggaggt gcacaacgcc aagaccaagc ccagagagga acagtacaac 900

agcacctaca gggtggtgtc cgtgctgacc gtgctgcacc aggactggct gaacggcaag 960

gagtacaagt gcaaagtctc caacaaggcc ctgccagccc ccatcgagaa aaccatcagc 1020

aaggccaagg gccagccacg ggagccccag gtgtacaccc tgccccccctc ccgggacgag 1080

ctgaccaaga accaggtgtc cctgacctgt ctggtgaagg gcttctaccc cagcgacatt 1140

gccgtggagt gggagagcaa cggccagccc gagaacaact acaagaccac ccccccagtg 1200

ctggacagcg acggcagctt cttcctgtac agcaagctga ccgtggacaa gagcaggtgg 1260

cagcagggca acgtgttcag ctgcagcgtg atgcacgagg ccctgcacaa ccactacacc 1320

cagaagagcc tgagcctgtc ccccggcaag tga 1353

<210> 23
<211> 663
<212> DNA
<213> Artificial

<220>
<223> nucleotide sequence encoding a light chain of humanized anti-IL-3Ralpha chain antibody CSL362 and modified forms thereof

<400> 23
gacatcgtga tgacccagag ccccgacagc ctggccgtga gcctgggcga gagggccacc 60

atcaactgcg agagcagcca gagcctgctg aacagcggca accagaagaa ctacctgacc 120

tggtatcagc agaagcccgg ccagcccccc aagccactga tctactgggc cagcacccgg 180

gagagcggcg tgcccgacag gttcagcggc agcggctccg gcaccgactt caccctgacc 240

atcagcagcc tgcaggccga ggacgtggcc gtgtactact gccagaacga ctacagctac 300

ccctacacct tcggccaggg caccaagctg gaaatcaaga ggaccgtggc tgccccatct 360

gtcttcatct tcccccccag cgacgagcag ctgaagagcg gcaccgccag cgtggtgtgc 420

ctgctgaata acttctaccc ccgggaggcc aaggtgcagt ggaaggtgga caacgccctg 480

cagagcggca acagccagga aagcgtcacc gagcaggaca gcaaggactc cacctacagc 540

ctgagcagca ccctgaccct gagcaaggcc gactacgaga agcacaaggt gtacgcctgc 600

gaggtgaccc accagggcct gtccagcccc gtgaccaaga gcttcaacag gggcgagtgc 660

tga 663