SEQUENCE LISTING

<110> Regeneron Pharmaceuticals, Inc.

<120> Methods for treating eosinophilic esophagitis by administering an IL-4R inhibitor

<130> 9110-WO

<150> 61/844978
<151> 2013-07-11

<160> 14

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> HCVR

<400> 1
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Glu Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Arg Asp Tyr
            20   25   30
Ala Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Ser Ile Ser Gly Ser Gly Gly Asn Thr 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 Lys Asp Arg Leu Ser Ile Thr Ile Arg Pro Arg Tyr Tyr Gly Leu
            100   105   110
Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser
        115   120

<210> 2
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> LCVR

<400> 2
Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
 1   5   10   15
Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu Tyr Ser
            20   25   30
Ile Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Ser Gly Gln Ser
        35   40   45
Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly Val Pro

```
    50                  55                  60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65                  70                  75                  80
Ser Arg Val Glu Ala Glu Asp Val Gly Phe Tyr Tyr Cys Met Gln Ala
                85                  90                  95
Leu Gln Thr Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
            100                 105                 110


<210> 3
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR1

<400> 3
Gly Phe Thr Phe Arg Asp Tyr Ala
 1               5


<210> 4
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR2

<400> 4
Ile Ser Gly Ser Gly Gly Asn Thr
 1               5


<210> 5
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> HCDR3

<400> 5
Ala Lys Asp Arg Leu Ser Ile Thr Ile Arg Pro Arg Tyr Tyr Gly Leu
 1               5                  10                  15
Asp Val



<210> 6
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR1

<400> 6
Gln Ser Leu Leu Tyr Ser Ile Gly Tyr Asn Tyr
 1               5                  10
```

<210> 7
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR2

<400> 7
Leu Gly Ser
 1

<210> 8
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> LCDR3

<400> 8
Met Gln Ala Leu Gln Thr Pro Tyr Thr
 1   5

<210> 9
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> HCVR-mouse surrogate Ab

<400> 9
Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
 1   5   10   15
Ser Val Arg Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
            20   25   30
Asn Ile His Trp Val Lys Gln Ser His Gly Lys Ser Leu Glu Trp Ile
        35   40   45
Gly Tyr Ile Tyr Pro Asn Asn Gly Asp Asn Gly Tyr Asn Gln Lys Phe
    50   55   60
Arg Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
65   70   75   80
Met Glu Leu Arg Ser Leu Thr Ser Asp Asp Ser Ala Val Tyr Tyr Cys
                85   90   95
Ala Arg Gly Arg Leu Arg Tyr Phe Asp Val Trp Gly Thr Gly Thr Thr
            100   105   110
Val Thr Val Ser Ser
        115

<210> 10
<211> 111
<212> PRT
<213> Artificial Sequence

<220>

<223> LCVR-mouse surrogate Ab

<400> 10
Asn Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly
 1   5   10   15
Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Asp Asn Tyr
            20   25   30
Gly His Ser Phe Met His Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro
        35   40   45
Lys Leu Leu Ile Tyr Leu Ala Ser Asn Leu Glu Ser Gly Val Pro Ala
    50   55   60
Arg Phe Ser Gly Ser Gly Ser Arg Thr Asp Phe Thr Leu Thr Leu Asp
65   70   75   80
Pro Val Glu Ala Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn
                85   90   95
Glu Asp Pro Pro Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
            100   105   110

<210> 11
<211> 207
<212> PRT
<213> Human

<220>
<223> IL-4Ralpha

<400> 11
Met Lys Val Leu Gln Glu Pro Thr Cys Val Ser Asp Tyr Met Ser Ile
 1   5   10   15
Ser Thr Cys Glu Trp Lys Met Asn Gly Pro Thr Asn Cys Ser Thr Glu
            20   25   30
Leu Arg Leu Leu Tyr Gln Leu Val Phe Leu Leu Ser Glu Ala His Thr
        35   40   45
Cys Ile Pro Glu Asn Asn Gly Gly Ala Gly Cys Val Cys His Leu Leu
    50   55   60
Met Asp Asp Val Val Ser Ala Asp Asn Tyr Thr Leu Asp Leu Trp Ala
65   70   75   80
Gly Gln Gln Leu Leu Trp Lys Gly Ser Phe Lys Pro Ser Glu His Val
                85   90   95
Lys Pro Arg Ala Pro Gly Asn Leu Thr Val His Thr Asn Val Ser Asp
            100   105   110
Thr Leu Leu Leu Thr Trp Ser Asn Pro Tyr Pro Pro Asp Asn Tyr Leu
        115   120   125
Tyr Asn His Leu Thr Tyr Ala Val Asn Ile Trp Ser Glu Asn Asp Pro
    130   135   140
Ala Asp Phe Arg Ile Tyr Asn Val Thr Tyr Leu Glu Pro Ser Leu Arg
145   150   155   160
Ile Ala Ala Ser Thr Leu Lys Ser Gly Ile Ser Tyr Arg Ala Arg Val
                165   170   175
Arg Ala Trp Ala Gln Cys Tyr Asn Thr Thr Trp Ser Glu Trp Ser Pro
            180   185   190
Ser Thr Lys Trp His Asn Ser Tyr Arg Glu Pro Phe Glu Gln His
        195   200   205

<210> 12
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<223> IL13Ra2 - mIgG2a
aa 1-311: mouse IL-13Ra2 (E23-S333)
aa 312-314: linker
aa315-547: mouse IgG2a Fc (E127 - K359)

<400> 12

```
Glu Ile Lys Val Asn Pro Pro Gln Asp Phe Glu Ile Leu Asp Pro Gly
 1               5                  10                  15
Leu Leu Gly Tyr Leu Tyr Leu Gln Trp Lys Pro Pro Val Val Ile Glu
            20                  25                  30
Lys Phe Lys Gly Cys Thr Leu Glu Tyr Glu Leu Lys Tyr Arg Asn Val
        35                  40                  45
Asp Ser Asp Ser Trp Lys Thr Ile Ile Thr Arg Asn Leu Ile Tyr Lys
    50                  55                  60
Asp Gly Phe Asp Leu Asn Lys Gly Ile Glu Gly Lys Ile Arg Thr His
65                  70                  75                  80
Leu Ser Glu His Cys Thr Asn Gly Ser Glu Val Gln Ser Pro Trp Ile
                85                  90                  95
Glu Ala Ser Tyr Gly Ile Ser Asp Glu Gly Ser Leu Glu Thr Lys Ile
            100                 105                 110
Gln Asp Met Lys Cys Ile Tyr Tyr Asn Trp Gln Tyr Leu Val Cys Ser
        115                 120                 125
Trp Lys Pro Gly Lys Thr Val Tyr Ser Asp Thr Asn Tyr Thr Met Phe
    130                 135                 140
Phe Trp Tyr Glu Gly Leu Asp His Ala Leu Gln Cys Ala Asp Tyr Leu
145                 150                 155                 160
Gln His Asp Glu Lys Asn Val Gly Cys Lys Leu Ser Asn Leu Asp Ser
                165                 170                 175
Ser Asp Tyr Lys Asp Phe Phe Ile Cys Val Asn Gly Ser Ser Lys Leu
            180                 185                 190
Glu Pro Ile Arg Ser Ser Tyr Thr Val Phe Gln Leu Gln Asn Ile Val
        195                 200                 205
Lys Pro Leu Pro Pro Glu Phe Leu His Ile Ser Val Glu Asn Ser Ile
    210                 215                 220
Asp Ile Arg Met Lys Trp Ser Thr Pro Gly Gly Pro Ile Pro Pro Arg
225                 230                 235                 240
Cys Tyr Thr Tyr Glu Ile Val Ile Arg Glu Asp Asp Ile Ser Trp Glu
                245                 250                 255
Ser Ala Thr Asp Lys Asn Asp Met Lys Leu Lys Arg Arg Ala Asn Glu
            260                 265                 270
Ser Glu Asp Leu Cys Phe Phe Val Arg Cys Lys Val Asn Ile Tyr Cys
        275                 280                 285
Ala Asp Asp Gly Ile Trp Ser Glu Trp Ser Glu Glu Glu Cys Trp Glu
    290                 295                 300
Gly Tyr Thr Gly Pro Asp Ser Gly Pro Gly Glu Pro Arg Gly Pro Thr
305                 310                 315                 320
Ile Lys Pro Cys Pro Pro Cys Lys Cys Pro Ala Pro Asn Leu Leu Gly
                325                 330                 335
Gly Pro Ser Val Phe Ile Phe Pro Pro Lys Ile Lys Asp Val Leu Met
            340                 345                 350
Ile Ser Leu Ser Pro Ile Val Thr Cys Val Val Val Asp Val Ser Glu
        355                 360                 365
Asp Asp Pro Asp Val Gln Ile Ser Trp Phe Val Asn Asn Val Glu Val
    370                 375                 380
His Thr Ala Gln Thr Gln Thr His Arg Glu Asp Tyr Asn Ser Thr Leu
385                 390                 395                 400
Arg Val Val Ser Ala Leu Pro Ile Gln His Gln Asp Trp Met Ser Gly
                405                 410                 415
Lys Glu Phe Lys Cys Lys Val Asn Asn Lys Asp Leu Pro Ala Pro Ile
            420                 425                 430
```

```
Glu Arg Thr Ile Ser Lys Pro Lys Gly Ser Val Arg Ala Pro Gln Val
        435                 440                 445
Tyr Val Leu Pro Pro Pro Glu Glu Glu Met Thr Lys Lys Gln Val Thr
    450                 455                 460
Leu Thr Cys Met Val Thr Asp Phe Met Pro Glu Asp Ile Tyr Val Glu
465                 470                 475                 480
Trp Thr Asn Asn Gly Lys Thr Glu Leu Asn Tyr Lys Asn Thr Glu Pro
                485                 490                 495
Val Leu Asp Ser Asp Gly Ser Tyr Phe Met Tyr Ser Lys Leu Arg Val
            500                 505                 510
Glu Lys Lys Asn Trp Val Glu Arg Asn Ser Tyr Ser Cys Ser Val Val
        515                 520                 525
His Glu Gly Leu His Asn His His Thr Thr Lys Ser Phe Ser Arg Thr
    530                 535                 540
Pro Gly Lys
545
```

<210> 13
<211> 451
<212> PRT
<213> Artificial Sequence

<220>
<223> HC
aa 1-124: HCVR
aa 125-451: HC constant

<400> 13

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Glu Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Arg Asp Tyr
            20                  25                  30
Ala Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Ser Ile Ser Gly Ser Gly Gly Asn Thr 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 Lys Asp Arg Leu Ser Ile Thr Ile Arg Pro Arg Tyr Tyr Gly Leu
            100                 105                 110
Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr
        115                 120                 125
Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser
    130                 135                 140
Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu
145                 150                 155                 160
Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His
                165                 170                 175
Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser
            180                 185                 190
Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys
        195                 200                 205
Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
    210                 215                 220
Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu
225                 230                 235                 240
Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
                245                 250                 255
```

```
Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
            260                 265                 270
Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu
        275                 280                 285
Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr
    290                 295                 300
Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
305                 310                 315                 320
Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser
                325                 330                 335
Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
            340                 345                 350
Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val
        355                 360                 365
Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
    370                 375                 380
Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
385                 390                 395                 400
Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr
                405                 410                 415
Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val
            420                 425                 430
Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
        435                 440                 445
Ser Leu Gly
    450
```

<210> 14
<211> 219
<212> PRT
<213> Artificial Sequence

<220>
<223> LC
aa 1-112: LCVR
aa 112-219: LC constant

<400> 14

```
Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
 1               5                  10                  15
Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu Tyr Ser
            20                  25                  30
Ile Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Ser Gly Gln Ser
        35                  40                  45
Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly Val Pro
    50                  55                  60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65                  70                  75                  80
Ser Arg Val Glu Ala Glu Asp Val Gly Phe Tyr Tyr Cys Met Gln Ala
                85                  90                  95
Leu Gln Thr Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
            100                 105                 110
Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
        115                 120                 125
Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
    130                 135                 140
Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
145                 150                 155                 160
Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
                165                 170                 175
```

```
Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
            180                 185                 190
Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
        195                 200                 205
Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
    210                 215
```