SEQUENCE LISTING

<110> vivo-TIL Therapeutics Inc.
Scharenberg, Andrew
Beitz, Laurie

<120> VIRAL VECTORS AND PACKAGING CELL LINES

<130> VITI-001/01WO 332134-2003

<150> US 62/656,823
<151> 2018-04-12

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

<220>
<223> RACCR-beta - FKBP-IL2Rb fusion protein with signal peptide with 2A peptide

<400> 12

Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

His Ala Ala Arg Pro Ile Leu Trp His Glu Met Trp His Glu Gly Leu
20 25 30

Glu Glu Ala Ser Arg Leu Tyr Phe Gly Glu Arg Asn Val Lys Gly Met
35 40 45

Phe Glu Val Leu Glu Pro Leu His Ala Met Met Glu Arg Gly Pro Gln
50 55 60

```
Thr Leu Lys Glu Thr Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu Met
65                  70                  75                  80

Glu Ala Gln Glu Trp Cys Arg Lys Tyr Met Lys Ser Gly Asn Val Lys
                85                  90                  95

Asp Leu Leu Gln Ala Trp Asp Leu Tyr Tyr His Val Phe Arg Arg Ile
            100                 105                 110

Ser Lys Gly Lys Asp Thr Ile Pro Trp Leu Gly His Leu Leu Val Gly
        115                 120                 125

Leu Ser Gly Ala Phe Gly Phe Ile Ile Leu Val Tyr Leu Leu Ile Asn
    130                 135                 140

Cys Arg Asn Thr Gly Pro Trp Leu Lys Lys Val Leu Lys Cys Asn Thr
145                 150                 155                 160

Pro Asp Pro Ser Lys Phe Phe Ser Gln Leu Ser Ser Glu His Gly Gly
                165                 170                 175

Asp Val Gln Lys Trp Leu Ser Ser Pro Phe Pro Ser Ser Ser Phe Ser
            180                 185                 190

Pro Gly Gly Leu Ala Pro Glu Ile Ser Pro Leu Glu Val Leu Glu Arg
        195                 200                 205

Asp Lys Val Thr Gln Leu Leu Leu Gln Gln Asp Lys Val Pro Glu Pro
    210                 215                 220

Ala Ser Leu Ser Ser Asn His Ser Leu Thr Ser Cys Phe Thr Asn Gln
225                 230                 235                 240

Gly Tyr Phe Phe Phe His Leu Pro Asp Ala Leu Glu Ile Glu Ala Cys
                245                 250                 255
```

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

Gly Val Ala Gly Ala Pro Thr Gly Ser Ser Pro Gln Pro Leu Gln Pro
        275                 280                 285

Leu Ser Gly Glu Asp Asp Ala Tyr Cys Thr Phe Pro Ser Arg Asp Asp
    290                 295                 300

Leu Leu Leu Phe Ser Pro Ser Leu Leu Gly Gly Pro Ser Pro Pro Ser
305                 310                 315                 320

Thr Ala Pro Gly Gly Ser Gly Ala Gly Glu Glu Arg Met Pro Pro Ser
                325                 330                 335

Leu Gln Glu Arg Val Pro Arg Asp Trp Asp Pro Gln Pro Leu Gly Pro
            340                 345                 350

Pro Thr Pro Gly Val Pro Asp Leu Val Asp Phe Gln Pro Pro Pro Glu
        355                 360                 365

Leu Val Leu Arg Glu Ala Gly Glu Glu Val Pro Asp Ala Gly Pro Arg
    370                 375                 380

Glu Gly Val Ser Phe Pro Trp Ser Arg Pro Pro Gly Gln Gly Glu Phe
385                 390                 395                 400

Arg Ala Leu Asn Ala Arg Leu Pro Leu Asn Thr Asp Ala Tyr Leu Ser
                405                 410                 415

Leu Gln Glu Leu Gln Gly Gln Asp Pro Thr His Leu Val Gly Ser Gly
            420                 425                 430

Ala Thr Asn Phe Ser Leu Leu Lys Gln Ala Gly Asp Val Glu Glu Asn
        435                 440                 445

Pro Gly
    450
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<210> 13
<211> 89
<212> PRT
<213> Artificial Sequence

<220>
<223> FKBP domain

<400> 13

Glu Met Trp His Glu Gly Leu Glu Glu Ala Ser Arg Leu Tyr Phe Gly
1 5 10 15

Glu Arg Asn Val Lys Gly Met Phe Glu Val Leu Glu Pro Leu His Ala
20 25 30

Met Met Glu Arg Gly Pro Gln Thr Leu Lys Glu Thr Ser Phe Asn Gln
35 40 45

Ala Tyr Gly Arg Asp Leu Met Glu Ala Gln Glu Trp Cys Arg Lys Tyr
50 55 60

Met Lys Ser Gly Asn Val Lys Asp Leu Leu Gln Ala Trp Asp Leu Tyr
65 70 75 80

Tyr His Val Phe Arg Arg Ile Ser Lys
85

<210> 14
<211> 315
<212> PRT
<213> Artificial Sequence

<220>
<223> IL2Rb domain

<400> 14

Gly Lys Asp Thr Ile Pro Trp Leu Gly His Leu Leu Val Gly Leu Ser
1 5 10 15

```
Gly Ala Phe Gly Phe Ile Ile Leu Val Tyr Leu Leu Ile Asn Cys Arg
            20                  25                  30

Asn Thr Gly Pro Trp Leu Lys Lys Val Leu Lys Cys Asn Thr Pro Asp
        35                  40                  45

Pro Ser Lys Phe Phe Ser Gln Leu Ser Ser Glu His Gly Gly Asp Val
    50                  55                  60

Gln Lys Trp Leu Ser Ser Pro Phe Pro Ser Ser Ser Phe Ser Pro Gly
65                  70                  75                  80

Gly Leu Ala Pro Glu Ile Ser Pro Leu Glu Val Leu Glu Arg Asp Lys
                85                  90                  95

Val Thr Gln Leu Leu Leu Gln Gln Asp Lys Val Pro Glu Pro Ala Ser
            100                 105                 110

Leu Ser Ser Asn His Ser Leu Thr Ser Cys Phe Thr Asn Gln Gly Tyr
        115                 120                 125

Phe Phe Phe His Leu Pro Asp Ala Leu Glu Ile Glu Ala Cys Gln Val
    130                 135                 140

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

Ala Gly Ala Pro Thr Gly Ser Ser Pro Gln Pro Leu Gln Pro Leu Ser
                165                 170                 175

Gly Glu Asp Asp Ala Tyr Cys Thr Phe Pro Ser Arg Asp Asp Leu Leu
            180                 185                 190

Leu Phe Ser Pro Ser Leu Leu Gly Gly Pro Ser Pro Pro Ser Thr Ala
        195                 200                 205

Pro Gly Gly Ser Gly Ala Gly Glu Glu Arg Met Pro Pro Ser Leu Gln
    210                 215                 220
```

```
Glu Arg Val Pro Arg Asp Trp Asp Pro Gln Pro Leu Gly Pro Pro Thr
225                 230                 235                 240


Pro Gly Val Pro Asp Leu Val Asp Phe Gln Pro Pro Pro Glu Leu Val
                245                 250                 255


Leu Arg Glu Ala Gly Glu Glu Val Pro Asp Ala Gly Pro Arg Glu Gly
            260                 265                 270


Val Ser Phe Pro Trp Ser Arg Pro Pro Gly Gln Gly Glu Phe Arg Ala
        275                 280                 285


Leu Asn Ala Arg Leu Pro Leu Asn Thr Asp Ala Tyr Leu Ser Leu Gln
    290                 295                 300


Glu Leu Gln Gly Gln Asp Pro Thr His Leu Val
305                 310                 315
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<210> 15
<211> 272
<212> PRT
<213> Artificial Sequence

<220>
<223> RACCR-gamma - FRB-IL2Rg fusion protein with signal peptide with 2A peptide

<400> 15

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Met Pro Leu Gly Leu Leu Trp Leu Gly Leu Ala Leu Leu Gly Ala Leu
1               5                   10                  15


His Ala Gln Ala Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly
            20                  25                  30


Arg Thr Phe Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly
        35                  40                  45


Met Leu Glu Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys
```

```
    50                  55                  60

Pro Phe Lys Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu
65                  70                  75                  80

Glu Gly Val Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile
                85                  90                  95

Ser Pro Asp Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro
            100                 105                 110

Pro His Ala Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Gly Glu
        115                 120                 125

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

Val Val Ile Ser Val Gly Ser Met Gly Leu Ile Ile Ser Leu Leu Cys
145                 150                 155                 160

Val Tyr Phe Trp Leu Glu Arg Thr Met Pro Arg Ile Pro Thr Leu Lys
                165                 170                 175

Asn Leu Glu Asp Leu Val Thr Glu Tyr His Gly Asn Phe Ser Ala Trp
            180                 185                 190

Ser Gly Val Ser Lys Gly Leu Ala Glu Ser Leu Gln Pro Asp Tyr Ser
        195                 200                 205

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

Gly Glu Gly Pro Gly Ala Ser Pro Cys Asn Gln His Ser Pro Tyr Trp
225                 230                 235                 240

Ala Pro Pro Cys Tyr Thr Leu Lys Pro Glu Thr Gly Ser Gly Ala Thr
                245                 250                 255
```

Asn Phe Ser Leu Leu Lys Gln Ala Gly Asp Val Glu Glu Asn Pro Gly
260 265 270

<210> 16
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> FRB domain

<400> 16

Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe Pro
1 5 10 15

Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu Asp
20 25 30

Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys Phe
35 40 45

Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val Ala
50 55 60

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

Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala Thr
85 90 95

Leu Val Phe Asp Val Glu Leu Leu Lys Leu Gly Glu
100 105

<210> 17
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> IL2Rg domain

<400> 17

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Gly Ser Asn Thr Ser Lys Glu Asn Pro Phe Leu Phe Ala Leu Glu Ala
1               5                  10                  15


Val Val Ile Ser Val Gly Ser Met Gly Leu Ile Ile Ser Leu Leu Cys
            20                  25                  30


Val Tyr Phe Trp Leu Glu Arg Thr Met Pro Arg Ile Pro Thr Leu Lys
        35                  40                  45


Asn Leu Glu Asp Leu Val Thr Glu Tyr His Gly Asn Phe Ser Ala Trp
    50                  55                  60


Ser Gly Val Ser Lys Gly Leu Ala Glu Ser Leu Gln Pro Asp Tyr Ser
65                  70                  75                  80


Glu Arg Leu Cys Leu Val Ser Glu Ile Pro Pro Lys Gly Gly Ala Leu
                85                  90                  95


Gly Glu Gly Pro Gly Ala Ser Pro Cys Asn Gln His Ser Pro Tyr Trp
            100                 105                 110


Ala Pro Pro Cys Tyr Thr Leu Lys Pro Glu Thr
        115                 120
```