```
                                SEQUENCE
LISTING

<110> BLAKE-HASKINS, Angela
      MARSHALL, Tristan
      PERKINS, Melissa D.
      O'BERRY, Kristen
      CROTTS, George H.
      PURI, Manasi
      DUNLEAVY, Donna M.

<120> ANTIBODY FORMULATION


<130> PU65703

<140> Not Yet Assigned
<141> 2015-05-15

<150> 61/994427
<151> 2014-05-16

<150> 62/093734
<151> 2014-12-18

<150> 62/095181
<151> 2014-12-22

<160> 16

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 285
<212> PRT
<213> Artificial Sequence

<220>
<223> BLyS

<220>
<223> Amino Acid Sequence identified using
molecular
      biology techniques.

<400> 1
Met Asp Asp Ser Thr Glu Arg Glu Gln Ser Arg
Leu Thr Ser Cys Leu
 1               5                  10
15
Lys Lys Arg Glu Glu Met Lys Leu Lys Glu Cys
Val Ser Ile Leu Pro
            20                  25
30
Arg Lys Glu Ser Pro Ser Val Arg Ser Ser Lys
Asp Gly Lys Leu Leu
        35                  40
45
Ala Ala Thr Leu Leu Leu Ala Leu Leu Ser Cys
Cys Leu Thr Val Val
    50                  55                  60
Ser Phe Tyr Gln Val Ala Ala Leu Gln Gly Asp
Leu Ala Ser Leu Arg
65                  70                  75
80
Ala Glu Leu Gln Gly His His Ala Glu Lys Leu
Pro Ala Gly Ala Gly
                85                  90
95
Ala Pro Lys Ala Gly Leu Glu Glu Ala Pro Ala
Val Thr Ala Gly Leu
            100                 105
110
Lys Ile Phe Glu Pro Pro Ala Pro Gly Glu Gly
Asn Ser Ser Gln Asn
        115                 120
125
Ser Arg Asn Lys Arg Ala Val Gln Gly Pro Glu
Glu Thr Val Thr Gln
    130                 135
140
Asp Cys Leu Gln Leu Ile Ala Asp Ser Glu Thr
Pro Thr Ile Gln Lys
145                 150                 155
160
Gly Ser Tyr Thr Phe Val Pro Trp Leu Leu Ser
Phe Lys Arg Gly Ser
                165                 170
175
Ala Leu Glu Glu Lys Glu Asn Lys Ile Leu Val
Lys Glu Thr Gly Tyr
            180                 185
190
Phe Phe Ile Tyr Gly Gln Val Leu Tyr Thr Asp
Lys Thr Tyr Ala Met
        195                 200
205
Gly His Leu Ile Gln Arg Lys Lys Val His Val
Phe Gly Asp Glu Leu
    210                 215
220
Ser Leu Val Thr Leu Phe Arg Cys Ile Gln Asn
Met Pro Glu Thr Leu
225                 230                 235
240
```

```
Pro Asn Asn Ser Cys Tyr Ser Ala Gly Ile Ala
Lys Leu Glu Glu Gly
                245                 250
255
Asp Glu Leu Gln Leu Ala Ile Pro Arg Glu Asn
Ala Gln Ile Ser Leu
            260                 265
270
Asp Gly Asp Val Thr Phe Phe Gly Ala Leu Lys
Leu Leu
        275                 280
285


<210> 2
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino Acid Sequence identified using
molecular
      biology techniques.

<400> 2
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Val
Lys Lys Pro Gly Ser
 1               5                  10
15
Ser Val Arg Val Ser Cys Lys Ala Ser Gly Gly
Thr Phe Asn Asn Asn
            20                  25
30
Ala Ile Asn Trp Val Arg Gln Ala Pro Gly Gln
Gly Leu Glu Trp Met
        35                  40
45
Gly Gly Ile Ile Pro Met Phe Gly Thr Ala Lys
Tyr Ser Gln Asn Phe
    50                  55                  60
Gln Gly Arg Val Ala Ile Thr Ala Asp Glu Ser
Thr Gly Thr Ala Ser
65                  70                  75
80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr
Ala Val Tyr Tyr Cys
                85                  90
95
Ala Arg Ser Arg Asp Leu Leu Leu Phe Pro His
His Ala Leu Ser Pro
            100                 105
110
Trp Gly Arg Gly Thr Met Val Thr Val Ser Ser
        115                 120


<210> 3
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino Acid Sequence identified using
molecular
      biology techniques.

<400> 3
Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser
Val Ala Leu Gly Gln
 1               5                  10
15
Thr Val Arg Val Thr Cys Gln Gly Asp Ser Leu
Arg Ser Tyr Tyr Ala
            20                  25
30
Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
Val Leu Val Ile Tyr
        35                  40
45
Gly Lys Asn Asn Arg Pro Ser Gly Ile Pro Asp
Arg Phe Ser Gly Ser
    50                  55                  60
Ser Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr
Gly Ala Gln Ala Glu
65                  70                  75
80
Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Arg Asp
Ser Ser Gly Asn His
                85                  90
95
Trp Val Phe Gly Gly Gly Thr Glu Leu Thr Val
Leu Gly
            100                 105


<210> 4
<211> 142
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino Acid Sequence identified using
molecular
      biology techniques.

<400> 4
Met Lys His Leu Trp Phe Phe Leu Leu Leu Val
```

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


<210> 5
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino Acid Sequence identified using
molecular
      biology techniques.

<400> 5
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 Arg 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 Ser 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 Pro Arg
                 85                  90
95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
Arg Thr
             100                 105


<210> 6
<211> 453
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino Acid Sequence identified using
molecular
      biology techniques.

<400> 6
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Val
Lys Lys Pro Gly Ser
 1               5                   10
15
Ser Val Arg Val Ser Cys Lys Ala Ser Gly Gly
Thr Phe Asn Asn Asn
             20                  25
30
Ala Ile Asn Trp Val Arg Gln Ala Pro Gly Gln
Gly Leu Glu Trp Met
         35                  40
45
Gly Gly Ile Ile Pro Met Phe Gly Thr Ala Lys
Tyr Ser Gln Asn Phe
     50                  55                  60
Gln Gly Arg Val Ala Ile Thr Ala Asp Glu Ser
Thr Gly Thr Ala Ser
65                   70                  75
80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr
Ala Val Tyr Tyr Cys
```

                85   90
95
Ala Arg Ser Arg Asp Leu Leu Leu Phe Pro His
His Ala Leu Ser Pro
            100   105
110
Trp Gly Arg Gly Thr Met Val Thr Val Ser Ser
Ala Ser Thr Lys Gly
        115   120
125
Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
Ser Thr Ser Gly Gly
    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 Gln Thr
Tyr Ile Cys Asn Val
        195   200
205
Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
Lys Val Glu Pro Lys
    210   215
220
Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
Pro Ala Pro Glu Leu
225   230   235
240
Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
Lys Pro Lys Asp Thr
                245   250
255
Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
Val Val Val Asp Val
            260   265
270
Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
Tyr Val Asp Gly Val
        275   280
285
Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
Glu Gln Tyr Asn Ser
    290   295
300
Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
His Gln Asp Trp Leu
305   310   315
320
Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
Lys Ala Leu Pro Ala
                325   330
335
Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
Gln Pro Arg Glu Pro
            340   345
350
Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu
Leu Thr Lys Asn Gln
        355   360
365
Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
Pro Ser Asp Ile Ala
    370   375
380
Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
Asn Tyr Lys Thr Thr
385   390   395
400
Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
Leu Tyr Ser Lys Leu
                405   410
415
Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
Val Phe Ser Cys Ser
            420   425
430
Val Met His Glu Ala Leu His Asn His Tyr Thr
Gln Lys Ser Leu Ser
        435   440
445
Leu Ser Pro Gly Lys
    450

<210> 7
<211> 214
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino Acid Sequence identified using
molecular
      biology techniques.

<400> 7
Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser
Val Ala Leu Gly Gln

1   5   10
15
Thr Val Arg Val Thr Cys Gln Gly Asp Ser Leu
Arg Ser Tyr Tyr Ala
            20   25
30
Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
Val Leu Val Ile Tyr
        35   40
45
Gly Lys Asn Asn Arg Pro Ser Gly Ile Pro Asp
Arg Phe Ser Gly Ser
    50   55   60
Ser Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr
Gly Ala Gln Ala Glu
65   70   75
80
Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Arg Asp
Ser Ser Gly Asn His
                85   90
95
Trp Val Phe Gly Gly Gly Thr Glu Leu Thr Val
Leu Gly Gln Pro Lys
            100   105
110
Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser
Ser Glu Glu Leu Gln
        115   120
125
Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser
Asp Phe Tyr Pro Gly
    130   135
140
Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser
Pro Val Lys Ala Gly
145   150   155
160
Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn
Asn Lys Tyr Ala Ala
                165   170
175
Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp
Lys Ser His Arg Ser
            180   185
190
Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr
Val Glu Lys Thr Val
        195   200
205
Ala Pro Thr Glu Cys Ser
    210

<210> 8
<211> 450
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino Acid Sequence identified using molecular
biology techniques.

<400> 8
Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu
Leu Lys Pro Ser Glu
1   5   10
15
Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly
Ser Phe Ser Gly Tyr
            20   25
30
Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys
Gly Leu Glu Trp Ile
        35   40
45
Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr
Asn Pro Ser Leu Lys
    50   55   60
Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys
Asn Gln Phe Ser Leu
65   70   75
80
Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala
Val Tyr Tyr Cys Ala
                85   90
95
Arg Gly Tyr Tyr Asp Ile Leu Thr Gly Tyr Tyr
Tyr Tyr Phe Asp Tyr
            100   105
110
Trp Gly Gln Gly Thr Leu 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 Gln 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> 9
<211> 214
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino Acid Sequence identified using
molecular
      biology techniques.

<400> 9
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 Arg 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 Ser 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 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
Asn 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> 10
<211> 152
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino Acid Sequence identified using
molecular
      biology techniques.

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


<210> 11
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino Acid Sequence identified using
molecular
      biology techniques.

<400> 11
Gly Gly Thr Phe Asn Asn Asn Ala Ile Asn
 1               5                  10


<210> 12
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino Acid Sequence identified using
molecular
      biology techniques.

<400> 12
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```
Gly Ile Ile Pro Met Phe Gly Thr Ala Lys Tyr
Ser Gln Asn Phe Gln
 1               5                   10
15
Gly




<210> 13
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino Acid Sequence identified using
molecular
      biology techniques.

<400> 13
Ser Arg Asp Leu Leu Leu Phe Pro His His Ala
Leu Ser Pro
 1               5                   10



<210> 14
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino Acid Sequence identified using
molecular
      biology techniques.

<400> 14
Gln Gly Asp Ser Leu Arg Ser Tyr Tyr Ala Ser
 1               5                   10



<210> 15
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino Acid Sequence identified using
molecular
      biology techniques.

<400> 15
Gly Lys Asn Asn Arg Pro Ser
 1               5



<210> 16
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Amino Acid Sequence identified using
molecular
      biology techniques.

<400> 16
Ser Ser Arg Asp Ser Ser Gly Asn His Trp Val
 1               5                   10
```