SEQUENCE LISTING

<110> NGM Biopharmaceuticals, Inc.
LING, Lei

<120> Cancer Models and Associated Methods

<130> 13370-020-228

<140>
<141>

<150> 61/896,473
<151> 2013-10-28

<150> 61/922,586
<151> 2013-12-31

<150> 62/067,273
<151> 2014-10-22

<160> 42

<170> PatentIn version 3.5

<210> 1
<211> 190
<212> PRT
<213> Artificial Sequence

<220>
<223> M70 sequence

<400> 1

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

<210> 2
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> FLAG-tag (or FLAG octapeptide) sequence

<400> 2
Asp Tyr Lys Asp Asp Asp Asp Lys
 1   5

<210> 3
<211> 194
<212> PRT
<213> Homo sapiens

<220>
<223> FGF19 sequence

<400> 3
Arg Pro Leu Ala Phe Ser Asp Ala Gly Pro His Val His Tyr Gly Trp
 1   5   10   15
Gly Asp Pro Ile Arg Leu Arg His Leu Tyr Thr Ser Gly Pro His Gly
            20   25   30
Leu Ser Ser Cys Phe Leu Arg Ile Arg Ala Asp Gly Val Val Asp Cys
        35   40   45
Ala Arg Gly Gln Ser Ala His Ser Leu Leu Glu Ile Lys Ala Val Ala
    50   55   60
Leu Arg Thr Val Ala Ile Lys Gly Val His Ser Val Arg Tyr Leu Cys
65   70   75   80
Met Gly Ala Asp Gly Lys Met Gln Gly Leu Leu Gln Tyr Ser Glu Glu
                85   90   95
Asp Cys Ala Phe Glu Glu Glu Ile Arg Pro Asp Gly Tyr Asn Val Tyr
            100   105   110
Arg Ser Glu Lys His Arg Leu Pro Val Ser Leu Ser Ser Ala Lys Gln
        115   120   125
Arg Gln Leu Tyr Lys Asn Arg Gly Phe Leu Pro Leu Ser His Phe Leu
    130   135   140
Pro Met Leu Pro Met Val Pro Glu Glu Pro Glu Asp Leu Arg Gly His
145   150   155   160
Leu Glu Ser Asp Met Phe Ser Ser Pro Leu Glu Thr Asp Ser Met Asp
                165   170   175
Pro Phe Gly Leu Val Thr Gly Leu Glu Ala Val Arg Ser Pro Ser Phe
            180   185   190
Glu Lys

<210> 4
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 4
Trp Gly Asp Pro Ile
 1   5

<210> 5
<211> 191
<212> PRT
<213> Artificial Sequence

<220>
<223> M5 sequence

<400> 5
Arg His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
 1   5   10   15
Val Arg Leu Arg His Leu Tyr Thr Ser Gly Pro His Gly Leu Ser Ser
            20   25   30
Cys Phe Leu Arg Ile Arg Ala Asp Gly Val Val Asp Cys Ala Arg Gly

```
        35                  40                  45
Gln Ser Ala His Ser Leu Leu Glu Ile Lys Ala Val Ala Leu Arg Thr
    50                  55                  60
Val Ala Ile Lys Gly Val His Ser Val Arg Tyr Leu Cys Met Gly Ala
65                  70                  75                  80
Asp Gly Lys Met Gln Gly Leu Leu Gln Tyr Ser Glu Glu Asp Cys Ala
                85                  90                  95
Phe Glu Glu Glu Ile Arg Pro Asp Gly Tyr Asn Val Tyr Arg Ser Glu
            100                 105                 110
Lys His Arg Leu Pro Val Ser Leu Ser Ser Ala Lys Gln Arg Gln Leu
        115                 120                 125
Tyr Lys Asn Arg Gly Phe Leu Pro Leu Ser His Phe Leu Pro Met Leu
    130                 135                 140
Pro Met Val Pro Glu Glu Pro Glu Asp Leu Arg Gly His Leu Glu Ser
145                 150                 155                 160
Asp Met Phe Ser Ser Pro Leu Glu Thr Asp Ser Met Asp Pro Phe Gly
                165                 170                 175
Leu Val Thr Gly Leu Glu Ala Val Arg Ser Pro Ser Phe Glu Lys
            180                 185                 190
```

<210> 6
<211> 187
<212> PRT
<213> Artificial Sequence

<220>
<223> M6 sequence

<400> 6

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

<210> 7
<211> 192
<212> PRT
<213> Artificial Sequence

<220>
<223> M7 sequence

<400> 7

```
Arg Pro Leu Ala Phe Ser Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly
 1               5                  10                  15
Gln Val Arg Leu Arg His Leu Tyr Thr Ser Gly Pro His Gly Leu Ser
```

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


<210>  8
<211>  191
<212>  PRT
<213>  Artificial Sequence

<220>
<223> M14 sequence

<400>  8
Arg His Pro Ile Pro Asp Ser Ser Pro His Val His Tyr Gly Gly Gln
 1               5                  10                  15
Val Arg Leu Arg His Leu Tyr Thr Ser Gly Pro His Gly Leu Ser Ser
            20                  25                  30
Cys Phe Leu Arg Ile Arg Ala Asp Gly Val Val Asp Cys Ala Arg Gly
        35                  40                  45
Gln Ser Ala His Ser Leu Leu Glu Ile Lys Ala Val Ala Leu Arg Thr
    50                  55                  60
Val Ala Ile Lys Gly Val His Ser Val Arg Tyr Leu Cys Met Gly Ala
65                  70                  75                  80
Asp Gly Lys Met Gln Gly Leu Leu Gln Tyr Ser Glu Glu Asp Cys Ala
                85                  90                  95
Phe Glu Glu Glu Ile Arg Pro Asp Gly Tyr Asn Val Tyr Arg Ser Glu
            100                 105                 110
Lys His Arg Leu Pro Val Ser Leu Ser Ser Ala Lys Gln Arg Gln Leu
        115                 120                 125
Tyr Lys Asn Arg Gly Phe Leu Pro Leu Ser His Phe Leu Pro Met Leu
    130                 135                 140
Pro Met Val Pro Glu Glu Pro Glu Asp Leu Arg Gly His Leu Glu Ser
145                 150                 155                 160
Asp Met Phe Ser Ser Pro Leu Glu Thr Asp Ser Met Asp Pro Phe Gly
                165                 170                 175
Leu Val Thr Gly Leu Glu Ala Val Arg Ser Pro Ser Phe Glu Lys
            180                 185                 190


<210>  9
<211>  192
<212>  PRT
<213>  Artificial Sequence

<220>
<223> M15 sequence

<400>  9
Arg Pro Leu Ala Phe Ser Asp Ala Gly Pro His Val His Tyr Gly Gly
```

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


<210>  10
<211>  191
<212>  PRT
<213>  Artificial Sequence

<220>
<223> M32 sequence

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


<210>  11
<211>  191
<212>  PRT
<213>  Artificial Sequence

<220>
<223> M36 sequence
```

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

<210> 12
<211> 192
<212> PRT
<213> Artificial Sequence

<220>
<223> M43 sequence

<400> 12
Arg Pro Leu Ala Phe Ser Asp Ala Gly Pro His Val His Tyr Gly Gly
 1   5   10   15
Asp Ile Arg Leu Arg His Leu Tyr Thr Ser Gly Pro His Gly Leu Ser
            20   25   30
Ser Cys Phe Leu Arg Ile Arg Ala Asp Gly Val Val Asp Cys Ala Arg
        35   40   45
Gly Gln Ser Ala His Ser Leu Leu Glu Ile Lys Ala Val Ala Leu Arg
    50   55   60
Thr Val Ala Ile Lys Gly Val His Ser Val Arg Tyr Leu Cys Met Gly
65   70   75   80
Ala Asp Gly Lys Met Gln Gly Leu Leu Gln Tyr Ser Glu Glu Asp Cys
                85   90   95
Ala Phe Glu Glu Glu Ile Arg Pro Asp Gly Tyr Asn Val Tyr Arg Ser
            100   105   110
Glu Lys His Arg Leu Pro Val Ser Leu Ser Ser Ala Lys Gln Arg Gln
        115   120   125
Leu Tyr Lys Asn Arg Gly Phe Leu Pro Leu Ser His Phe Leu Pro Met
    130   135   140
Leu Pro Met Val Pro Glu Glu Pro Glu Asp Leu Arg Gly His Leu Glu
145   150   155   160
Ser Asp Met Phe Ser Ser Pro Leu Glu Thr Asp Ser Met Asp Pro Phe
                165   170   175
Gly Leu Val Thr Gly Leu Glu Ala Val Arg Ser Pro Ser Phe Glu Lys
            180   185   190

<210> 13
<211> 191
<212> PRT
<213> Artificial Sequence

<220>

<223> M50 sequence

<400> 13

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

<210> 14
<211> 187
<212> PRT
<213> Artificial Sequence

<220>
<223> M52 sequence

<400> 14

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

<210> 15
<211> 194
<212> PRT
<213> Artificial Sequence

<220>
<223> M53 sequence

<400> 15

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

<210> 16
<211> 191
<212> PRT
<213> Artificial Sequence

<220>
<223> M67 sequence

<400> 16

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

<210> 17
<211> 193
<212> PRT
<213> Artificial Sequence

<220>
<223> M68 sequence

<400> 17
Arg Pro Leu Ala Phe Ser Asp Ala Gly Pro His Val His Tyr Trp Gly
 1   5   10   15
Asp Pro Ile Arg Leu Arg His Leu Tyr Thr Ser Gly Pro His Gly Leu
            20   25   30
Ser Ser Cys Phe Leu Arg Ile Arg Ala Asp Gly Val Val Asp Cys Ala
        35   40   45
Arg Gly Gln Ser Ala His Ser Leu Leu Glu Ile Lys Ala Val Ala Leu
    50   55   60
Arg Thr Val Ala Ile Lys Gly Val His Ser Val Arg Tyr Leu Cys Met
65   70   75   80
Gly Ala Asp Gly Lys Met Gln Gly Leu Leu Gln Tyr Ser Glu Glu Asp
                85   90   95
Cys Ala Phe Glu Glu Glu Ile Arg Pro Asp Gly Tyr Asn Val Tyr Arg
            100   105   110
Ser Glu Lys His Arg Leu Pro Val Ser Leu Ser Ser Ala Lys Gln Arg
        115   120   125
Gln Leu Tyr Lys Asn Arg Gly Phe Leu Pro Leu Ser His Phe Leu Pro
    130   135   140
Met Leu Pro Met Val Pro Glu Glu Pro Glu Asp Leu Arg Gly His Leu
145   150   155   160
Glu Ser Asp Met Phe Ser Ser Pro Leu Glu Thr Asp Ser Met Asp Pro
                165   170   175
Phe Gly Leu Val Thr Gly Leu Glu Ala Val Arg Ser Pro Ser Phe Glu
            180   185   190
Lys

<210> 18
<211> 189
<212> PRT
<213> Artificial Sequence

<220>
<223> M69 sequence

<400> 18
Arg Asp Ser Ser Pro Leu Val His Tyr Gly Trp Gly Asp Pro Ile Arg
 1   5   10   15
Leu Arg His Leu Tyr Thr Ser Gly Pro His Gly Leu Ser Ser Cys Phe
            20   25   30
Leu Arg Ile Arg Ala Asp Gly Val Val Asp Cys Ala Arg Gly Gln Ser
        35   40   45
Ala His Ser Leu Leu Glu Ile Lys Ala Val Ala Leu Arg Thr Val Ala
    50   55   60
Ile Lys Gly Val His Ser Val Arg Tyr Leu Cys Met Gly Ala Asp Gly
65   70   75   80
Lys Met Gln Gly Leu Leu Gln Tyr Ser Glu Glu Asp Cys Ala Phe Glu
                85   90   95
Glu Glu Ile Arg Pro Asp Gly Tyr Asn Val Tyr Arg Ser Glu Lys His
            100   105   110
Arg Leu Pro Val Ser Leu Ser Ser Ala Lys Gln Arg Gln Leu Tyr Lys
        115   120   125
Asn Arg Gly Phe Leu Pro Leu Ser His Phe Leu Pro Met Leu Pro Met
    130   135   140
Val Pro Glu Glu Pro Glu Asp Leu Arg Gly His Leu Glu Ser Asp Met
145   150   155   160
Phe Ser Ser Pro Leu Glu Thr Asp Ser Met Asp Pro Phe Gly Leu Val
                165   170   175
Thr Gly Leu Glu Ala Val Arg Ser Pro Ser Phe Glu Lys

180 185

<210> 19
<211> 190
<212> PRT
<213> Artificial Sequence

<220>
<223> M70 sequence

<400> 19
Met Arg Asp Ser Ser Pro Leu Val His Tyr Gly Trp Gly Asp Pro Ile
1 5 10 15
Arg Leu Arg His Leu Tyr Thr Ser Gly Pro His Gly Leu Ser Ser Cys
20 25 30
Phe Leu Arg Ile Arg Ala Asp Gly Val Val Asp Cys Ala Arg Gly Gln
35 40 45
Ser Ala His Ser Leu Leu Glu Ile Lys Ala Val Ala Leu Arg Thr Val
50 55 60
Ala Ile Lys Gly Val His Ser Val Arg Tyr Leu Cys Met Gly Ala Asp
65 70 75 80
Gly Lys Met Gln Gly Leu Leu Gln Tyr Ser Glu Glu Asp Cys Ala Phe
85 90 95
Glu Glu Glu Ile Arg Pro Asp Gly Tyr Asn Val Tyr Arg Ser Glu Lys
100 105 110
His Arg Leu Pro Val Ser Leu Ser Ser Ala Lys Gln Arg Gln Leu Tyr
115 120 125
Lys Asn Arg Gly Phe Leu Pro Leu Ser His Phe Leu Pro Met Leu Pro
130 135 140
Met Val Pro Glu Glu Pro Glu Asp Leu Arg Gly His Leu Glu Ser Asp
145 150 155 160
Met Phe Ser Ser Pro Leu Glu Thr Asp Ser Met Asp Pro Phe Gly Leu
165 170 175
Val Thr Gly Leu Glu Ala Val Arg Ser Pro Ser Phe Glu Lys
180 185 190

<210> 20
<211> 184
<212> PRT
<213> Artificial Sequence

<220>
<223> M75 sequence

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

165 170 175
Val Arg Ser Pro Ser Phe Glu Lys
180

<210> 21
<211> 179
<212> PRT
<213> Artificial Sequence

<220>
<223> M76 sequence

<400> 21
Arg Gly Asp Pro Ile Arg Leu Arg His Leu Tyr Thr Ser Gly Pro His
1 5 10 15
Gly Leu Ser Ser Cys Phe Leu Arg Ile Arg Ala Asp Gly Val Val Asp
20 25 30
Cys Ala Arg Gly Gln Ser Ala His Ser Leu Leu Glu Ile Lys Ala Val
35 40 45
Ala Leu Arg Thr Val Ala Ile Lys Gly Val His Ser Val Arg Tyr Leu
50 55 60
Cys Met Gly Ala Asp Gly Lys Met Gln Gly Leu Leu Gln Tyr Ser Glu
65 70 75 80
Glu Asp Cys Ala Phe Glu Glu Glu Ile Arg Pro Asp Gly Tyr Asn Val
85 90 95
Tyr Arg Ser Glu Lys His Arg Leu Pro Val Ser Leu Ser Ser Ala Lys
100 105 110
Gln Arg Gln Leu Tyr Lys Asn Arg Gly Phe Leu Pro Leu Ser His Phe
115 120 125
Leu Pro Met Leu Pro Met Val Pro Glu Glu Pro Glu Asp Leu Arg Gly
130 135 140
His Leu Glu Ser Asp Met Phe Ser Ser Pro Leu Glu Thr Asp Ser Met
145 150 155 160
Asp Pro Phe Gly Leu Val Thr Gly Leu Glu Ala Val Arg Ser Pro Ser
165 170 175
Phe Glu Lys

<210> 22
<211> 175
<212> PRT
<213> Artificial Sequence

<220>
<223> M77 sequence

<400> 22
Arg Arg Leu Arg His Leu Tyr Thr Ser Gly Pro His Gly Leu Ser Ser
1 5 10 15
Cys Phe Leu Arg Ile Arg Ala Asp Gly Val Val Asp Cys Ala Arg Gly
20 25 30
Gln Ser Ala His Ser Leu Leu Glu Ile Lys Ala Val Ala Leu Arg Thr
35 40 45
Val Ala Ile Lys Gly Val His Ser Val Arg Tyr Leu Cys Met Gly Ala
50 55 60
Asp Gly Lys Met Gln Gly Leu Leu Gln Tyr Ser Glu Glu Asp Cys Ala
65 70 75 80
Phe Glu Glu Glu Ile Arg Pro Asp Gly Tyr Asn Val Tyr Arg Ser Glu
85 90 95
Lys His Arg Leu Pro Val Ser Leu Ser Ser Ala Lys Gln Arg Gln Leu
100 105 110
Tyr Lys Asn Arg Gly Phe Leu Pro Leu Ser His Phe Leu Pro Met Leu
115 120 125
Pro Met Val Pro Glu Glu Pro Glu Asp Leu Arg Gly His Leu Glu Ser
130 135 140
Asp Met Phe Ser Ser Pro Leu Glu Thr Asp Ser Met Asp Pro Phe Gly
145 150 155 160

Leu Val Thr Gly Leu Glu Ala Val Arg Ser Pro Ser Phe Glu Lys
165 170 175

<210> 23
<211> 194
<212> PRT
<213> Artificial Sequence

<220>
<223> M83 sequence

<400> 23
Arg Pro Leu Ala Phe Ser Asp Ala Ala Pro His Val His Tyr Gly Trp
1 5 10 15
Gly Asp Pro Ile Arg Leu Arg His Leu Tyr Thr Ser Gly Pro His Gly
20 25 30
Leu Ser Ser Cys Phe Leu Arg Ile Arg Ala Asp Gly Val Val Asp Cys
35 40 45
Ala Arg Gly Gln Ser Ala His Ser Leu Leu Glu Ile Lys Ala Val Ala
50 55 60
Leu Arg Thr Val Ala Ile Lys Gly Val His Ser Val Arg Tyr Leu Cys
65 70 75 80
Met Gly Ala Asp Gly Lys Met Gln Gly Leu Leu Gln Tyr Ser Glu Glu
85 90 95
Asp Cys Ala Phe Glu Glu Glu Ile Arg Pro Asp Gly Tyr Asn Val Tyr
100 105 110
Arg Ser Glu Lys His Arg Leu Pro Val Ser Leu Ser Ser Ala Lys Gln
115 120 125
Arg Gln Leu Tyr Lys Asn Arg Gly Phe Leu Pro Leu Ser His Phe Leu
130 135 140
Pro Met Leu Pro Met Val Pro Glu Glu Pro Glu Asp Leu Arg Gly His
145 150 155 160
Leu Glu Ser Asp Met Phe Ser Ser Pro Leu Glu Thr Asp Ser Met Asp
165 170 175
Pro Phe Gly Leu Val Thr Gly Leu Glu Ala Val Arg Ser Pro Ser Phe
180 185 190
Glu Lys

<210> 24
<211> 194
<212> PRT
<213> Artificial Sequence

<220>
<223> M84 sequence

<400> 24
Arg Pro Leu Ala Phe Ser Asp Ala Gly Ala His Val His Tyr Gly Trp
1 5 10 15
Gly Asp Pro Ile Arg Leu Arg His Leu Tyr Thr Ser Gly Pro His Gly
20 25 30
Leu Ser Ser Cys Phe Leu Arg Ile Arg Ala Asp Gly Val Val Asp Cys
35 40 45
Ala Arg Gly Gln Ser Ala His Ser Leu Leu Glu Ile Lys Ala Val Ala
50 55 60
Leu Arg Thr Val Ala Ile Lys Gly Val His Ser Val Arg Tyr Leu Cys
65 70 75 80
Met Gly Ala Asp Gly Lys Met Gln Gly Leu Leu Gln Tyr Ser Glu Glu
85 90 95
Asp Cys Ala Phe Glu Glu Glu Ile Arg Pro Asp Gly Tyr Asn Val Tyr
100 105 110
Arg Ser Glu Lys His Arg Leu Pro Val Ser Leu Ser Ser Ala Lys Gln
115 120 125
Arg Gln Leu Tyr Lys Asn Arg Gly Phe Leu Pro Leu Ser His Phe Leu
130 135 140
Pro Met Leu Pro Met Val Pro Glu Glu Pro Glu Asp Leu Arg Gly His

145 150 155 160
Leu Glu Ser Asp Met Phe Ser Ser Pro Leu Glu Thr Asp Ser Met Asp
165 170 175
Pro Phe Gly Leu Val Thr Gly Leu Glu Ala Val Arg Ser Pro Ser Phe
180 185 190
Glu Lys

<210> 25
<211> 194
<212> PRT
<213> Artificial Sequence

<220>
<223> M140 sequence

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

<210> 26
<211> 190
<212> PRT
<213> Artificial Sequence

<220>
<223> M144 (M5-R) sequence

<400> 26
His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val
1 5 10 15
Arg Leu Arg His Leu Tyr Thr Ser Gly Pro His Gly Leu Ser Ser Cys
20 25 30
Phe Leu Arg Ile Arg Ala Asp Gly Val Val Asp Cys Ala Arg Gly Gln
35 40 45
Ser Ala His Ser Leu Leu Glu Ile Lys Ala Val Ala Leu Arg Thr Val
50 55 60
Ala Ile Lys Gly Val His Ser Val Arg Tyr Leu Cys Met Gly Ala Asp
65 70 75 80
Gly Lys Met Gln Gly Leu Leu Gln Tyr Ser Glu Glu Asp Cys Ala Phe
85 90 95
Glu Glu Glu Ile Arg Pro Asp Gly Tyr Asn Val Tyr Arg Ser Glu Lys
100 105 110

```
His Arg Leu Pro Val Ser Leu Ser Ser Ala Lys Gln Arg Gln Leu Tyr
        115                 120                 125
Lys Asn Arg Gly Phe Leu Pro Leu Ser His Phe Leu Pro Met Leu Pro
    130                 135                 140
Met Val Pro Glu Glu Pro Glu Asp Leu Arg Gly His Leu Glu Ser Asp
145                 150                 155                 160
Met Phe Ser Ser Pro Leu Glu Thr Asp Ser Met Asp Pro Phe Gly Leu
                165                 170                 175
Val Thr Gly Leu Glu Ala Val Arg Ser Pro Ser Phe Glu Lys
            180                 185                 190


<210> 27
<211> 186
<212> PRT
<213> Artificial Sequence

<220>
<223> M145 (M6-R) sequence

<400> 27
Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Leu Arg His
 1               5                  10                  15
Leu Tyr Thr Ser Gly Pro His Gly Leu Ser Ser Cys Phe Leu Arg Ile
            20                  25                  30
Arg Ala Asp Gly Val Val Asp Cys Ala Arg Gly Gln Ser Ala His Ser
        35                  40                  45
Leu Leu Glu Ile Lys Ala Val Ala Leu Arg Thr Val Ala Ile Lys Gly
    50                  55                  60
Val His Ser Val Arg Tyr Leu Cys Met Gly Ala Asp Gly Lys Met Gln
65                  70                  75                  80
Gly Leu Leu Gln Tyr Ser Glu Glu Asp Cys Ala Phe Glu Glu Glu Ile
                85                  90                  95
Arg Pro Asp Gly Tyr Asn Val Tyr Arg Ser Glu Lys His Arg Leu Pro
            100                 105                 110
Val Ser Leu Ser Ser Ala Lys Gln Arg Gln Leu Tyr Lys Asn Arg Gly
        115                 120                 125
Phe Leu Pro Leu Ser His Phe Leu Pro Met Leu Pro Met Val Pro Glu
    130                 135                 140
Glu Pro Glu Asp Leu Arg Gly His Leu Glu Ser Asp Met Phe Ser Ser
145                 150                 155                 160
Pro Leu Glu Thr Asp Ser Met Asp Pro Phe Gly Leu Val Thr Gly Leu
                165                 170                 175
Glu Ala Val Arg Ser Pro Ser Phe Glu Lys
            180                 185


<210> 28
<211> 190
<212> PRT
<213> Artificial Sequence

<220>
<223> M146 (M50-R) sequence

<400> 28
His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Asp Gln Val
 1               5                  10                  15
Arg Leu Arg His Leu Tyr Thr Ser Gly Pro His Gly Leu Ser Ser Cys
            20                  25                  30
Phe Leu Arg Ile Arg Ala Asp Gly Val Val Asp Cys Ala Arg Gly Gln
        35                  40                  45
Ser Ala His Ser Leu Leu Glu Ile Lys Ala Val Ala Leu Arg Thr Val
    50                  55                  60
Ala Ile Lys Gly Val His Ser Val Arg Tyr Leu Cys Met Gly Ala Asp
65                  70                  75                  80
Gly Lys Met Gln Gly Leu Leu Gln Tyr Ser Glu Glu Asp Cys Ala Phe
                85                  90                  95
```

Glu Glu Glu Ile Leu Glu Asp Gly Tyr Asn Val Tyr Arg Ser Glu Lys
100 105 110
His Arg Leu Pro Val Ser Leu Ser Ser Ala Lys Gln Arg Gln Leu Tyr
115 120 125
Lys Asn Arg Gly Phe Leu Pro Leu Ser His Phe Leu Pro Met Leu Pro
130 135 140
Met Val Pro Glu Glu Pro Glu Asp Leu Arg Gly His Leu Glu Ser Asp
145 150 155 160
Met Phe Ser Ser Pro Leu Glu Thr Asp Ser Met Asp Pro Phe Gly Leu
165 170 175
Val Thr Gly Leu Glu Ala Val Arg Ser Pro Ser Phe Glu Lys
180 185 190

<210> 29
<211> 194
<212> PRT
<213> Artificial Sequence

<220>
<223> M160 sequence

<400> 29
Arg Pro Leu Ala Phe Ser Asp Ala Gly Pro His Val His Tyr Gly Trp
1 5 10 15
Gly Asp Pro Ile Arg Gln Arg His Leu Tyr Thr Ser Gly Pro His Gly
20 25 30
Leu Ser Ser Cys Phe Leu Arg Ile Arg Ala Asp Gly Val Val Asp Cys
35 40 45
Ala Arg Gly Gln Ser Ala His Ser Leu Leu Glu Ile Lys Ala Val Ala
50 55 60
Leu Arg Thr Val Ala Ile Lys Gly Val His Ser Val Arg Tyr Leu Cys
65 70 75 80
Met Gly Ala Asp Gly Lys Met Gln Gly Leu Leu Gln Tyr Ser Glu Glu
85 90 95
Asp Cys Ala Phe Glu Glu Glu Ile Leu Glu Asp Gly Tyr Asn Val Tyr
100 105 110
Arg Ser Glu Lys His Arg Leu Pro Val Ser Leu Ser Ser Ala Lys Gln
115 120 125
Arg Gln Leu Tyr Lys Asn Arg Gly Phe Leu Pro Leu Ser His Phe Leu
130 135 140
Pro Met Leu Pro Met Val Pro Glu Glu Pro Glu Asp Leu Arg Gly His
145 150 155 160
Leu Glu Ser Asp Met Phe Ser Ser Pro Leu Glu Thr Asp Ser Met Asp
165 170 175
Pro Phe Gly Leu Val Thr Gly Leu Glu Ala Val Arg Ser Pro Ser Phe
180 185 190
Glu Lys

<210> 30
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> residues 47-57 of HIV-1 TAT

<400> 30
Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg
1 5 10

<210> 31
<211> 12
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic peptide

<400> 31
Arg Arg Gln Arg Arg Thr Ser Lys Leu Met Lys Arg
 1   5   10

<210> 32
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 32
Gly Trp Thr Leu Asn Ser Ala Gly Tyr Leu Leu Gly Lys Ile Asn Leu
 1   5   10   15
Lys Ala Leu Ala Ala Leu Ala Lys Lys Ile Leu
            20   25

<210> 33
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 33
Lys Ala Leu Ala Trp Glu Ala Lys Leu Ala Lys Ala Leu Ala Lys Ala
 1   5   10   15
Leu Ala Lys His Leu Ala Lys Ala Leu Ala Lys Ala Leu Lys Cys Glu
            20   25   30
Ala

<210> 34
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 34
Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys
 1   5   10   15

<210> 35
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 35
Arg Lys Lys Arg Arg Gln Arg Arg Arg
 1   5

<210> 36
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 36
Arg Lys Lys Arg Arg Gln Arg Arg
 1   5

<210> 37
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 37
Tyr Ala Arg Ala Ala Ala Arg Gln Ala Arg Ala
 1   5   10

<210> 38
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 38
Thr His Arg Leu Pro Arg Arg Arg Arg Arg Arg
 1   5   10

<210> 39
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 39
Gly Gly Arg Arg Ala Arg Arg Arg Arg Arg Arg
 1   5   10

<210> 40
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Forward primer

<400> 40
ccgactagtc accatgcgga gcgggtgtgt gg   32

<210> 41
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> Reverse primer

<400> 41
ataagaatgc ggccgcttac ttctcaaagc tgggactcct c 41

<210> 42
<211> 202
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide

<400> 42
Arg Pro Leu Ala Phe Ser Asp Ala Gly Pro His Val His Tyr Gly Trp
1 5 10 15
Gly Asp Pro Ile Arg Leu Arg His Leu Tyr Thr Ser Gly Pro His Gly
20 25 30
Leu Ser Ser Cys Phe Leu Arg Ile Arg Ala Asp Gly Val Val Asp Cys
35 40 45
Ala Arg Gly Gln Ser Ala His Ser Leu Leu Glu Ile Lys Ala Val Ala
50 55 60
Leu Arg Thr Val Ala Ile Lys Gly Val His Ser Val Arg Tyr Leu Cys
65 70 75 80
Met Gly Ala Asp Gly Lys Met Gln Gly Leu Leu Gln Tyr Ser Glu Glu
85 90 95
Asp Cys Ala Phe Glu Glu Glu Ile Arg Pro Asp Gly Tyr Asn Val Tyr
100 105 110
Arg Ser Glu Lys His Arg Leu Pro Val Ser Leu Ser Ser Ala Lys Gln
115 120 125
Arg Gln Leu Tyr Lys Asn Arg Gly Phe Leu Pro Leu Ser His Phe Leu
130 135 140
Pro Met Leu Pro Met Val Pro Glu Glu Pro Glu Asp Leu Arg Gly His
145 150 155 160
Leu Glu Ser Asp Met Phe Ser Ser Pro Leu Glu Thr Asp Ser Met Asp
165 170 175
Pro Phe Gly Leu Val Thr Gly Leu Glu Ala Val Arg Ser Pro Ser Phe
180 185 190
Glu Lys Asp Tyr Lys Asp Asp Asp Asp Lys
195 200