SEQUENCE LISTING

<110> Minomic International Ltd

<120> CELL SURFACE PROSTATE CANCER ANTIGEN FOR DIAGNOSIS

<130> P134908C

<150> US 61/928,776

<151> 2014-01-17

<160> 24

<170> PatentIn version 3.5

<210> 1

<211> 1677

<212> DNA

<213> Homo sapiens

<400> 1

atggagctcc gggccccgagg ctggtggctg ctatgtgcgg ccgcagcgct ggtcgcctgc 60

gcccgcgggg acccggccag caagagccgg agctgcggcg aggtccgcca gatctacgga 120

gccaagggct tcagcctgag cgacgtgccc caggcggaga tctcgggtga gcacctgcgg 180

atctgtcccc agggctacac ctgctgcacc agcgagatgg aggagaacct ggccaaccgc 240

agccatgccg agctggagac cgcgctccgg gacagcagcc gcgtcctgca ggccatgctt 300

gccacccagc tgcgcagctt cgatgaccac ttccagcacc tgctgaacga ctcggagcgg 360

acgctgcagg ccaccttccc cggcgccttc ggagagctgt acacgcagaa cgcgagggcc 420

ttccgggacc tgtactcaga gctgcgcctg tactaccgcg gtgccaacct gcacctggag 480

gagacgctgg ccgagttctg ggcccgcctg ctcgagcgcc tcttcaagca gctgcacccc 540

cagctgctgc tgcctgatga ctacctggac tgcctgggca agcaggccga ggcgctgcgg 600

ccccttcgggg aggccccgag agagctgcgc ctgcgggcca cccgtgcctt cgtggctgct 660

cgctcctttg tgcagggcct gggcgtggcc agcgacgtgg tccggaaagt ggctcaggtc 720

cccctgggcc cggagtgctc gagagctgtc atgaagctgg tctactgtgc tcactgcctg 780

ggagtccccg gcgccaggcc ctgccctgac tattgccgaa atgtgctcaa gggctgcctt 840

gccaaccagg ccgacctgga cgccgagtgg aggaacctcc tggactccat ggtgctcatc 900

accgacaagt tctggggtac atcgggtgtg gagagtgtca tcggcagcgt gcacacgtgg 960

ctggcggagg ccatcaacgc cctccaggac aacagggaca cgctcacggc caaggtcatc 1020

cagggctgcg ggaaccccaa ggtcaacccc cagggccccg ggcctgagga gaagcggcgc 1080

cggggcaagc tggccccgcg ggagaggcca ccttcaggca cgctggagaa gctggtctcc 1140

gaagccaagg cccagctccg cgacgtccag gacttctgga tcagcctccc agggacactg 1200

tgcagtgaga agatggccct gagcactgcc agtgatgacc gctgctggaa cgggatggcc 1260

agaggccggt acctccccga ggtcatgggt gacggcctgg ccaaccagat caacaacccc 1320

gaggtggagg tggacatcac caagccggac atgaccatcc ggcagcagat catgcagctg 1380

aagatcatga ccaaccggct gcgcagcgcc tacaacggca acgacgtgga cttccaggac 1440

gccagtgacg acggcagcgg ctcgggcagc ggtgatggct gtctggatga cctctgcagc 1500

cggaaggtca gcaggaagag ctccagctcc cggacgccct tgacccatgc cctcccaggc 1560

ctgtcagagc aggaaggaca gaagacctcg gctgccagct gcccccagcc cccgaccttc 1620

ctcctgcccc tcctcctctt cctggccctt acagtagcca ggccccggtg gcggtaa 1677

<210> 2
<211> 558
<212> PRT
<213> Homo sapiens
<400> 2

Met Glu Leu Arg Ala Arg Gly Trp Trp Leu Leu Cys Ala Ala Ala Ala
1 5 10 15
Leu Val Ala Cys Ala Arg Gly Asp Pro Ala Ser Lys Ser Arg Ser Cys
20 25 30
Gly Glu Val Arg Gln Ile Tyr Gly Ala Lys Gly Phe Ser Leu Ser Asp
35 40 45
Val Pro Gln Ala Glu Ile Ser Gly Glu His Leu Arg Ile Cys Pro Gln
50 55 60
Gly Tyr Thr Cys Cys Thr Ser Glu Met Glu Glu Asn Leu Ala Asn Arg
65 70 75 80
Ser His Ala Glu Leu Glu Thr Ala Leu Arg Asp Ser Ser Arg Val Leu
85 90 95
Gln Ala Met Leu Ala Thr Gln Leu Arg Ser Phe Asp Asp His Phe Gln
100 105 110
His Leu Leu Asn Asp Ser Glu Arg Thr Leu Gln Ala Thr Phe Pro Gly
115 120 125
Ala Phe Gly Glu Leu Tyr Thr Gln Asn Ala Arg Ala Phe Arg Asp Leu
130 135 140
Tyr Ser Glu Leu Arg Leu Tyr Tyr Arg Gly Ala Asn Leu His Leu Glu
145 150 155 160
Glu Thr Leu Ala Glu Phe Trp Ala Arg Leu Leu Glu Arg Leu Phe Lys
165 170 175
Gln Leu His Pro Gln Leu Leu Leu Pro Asp Asp Tyr Leu Asp Cys Leu
180 185 190
Gly Lys Gln Ala Glu Ala Leu Arg Pro Phe Gly Glu Ala Pro Arg Glu
195 200 205
Leu Arg Leu Arg Ala Thr Arg Ala Phe Val Ala Ala Arg Ser Phe Val
210 215 220
Gln Gly Leu Gly Val Ala Ser Asp Val Val Arg Lys Val Ala Gln Val
225 230 235 240
Pro Leu Gly Pro Glu Cys Ser Arg Ala Val Met Lys Leu Val Tyr Cys
245 250 255
Ala His Cys Leu Gly Val Pro Gly Ala Arg Pro Cys Pro Asp Tyr Cys
260 265 270

```
Arg Asn Val Leu Lys Gly Cys Leu Ala Asn Gln Ala Asp Leu Asp Ala
        275                 280                 285
Glu Trp Arg Asn Leu Leu Asp Ser Met Val Leu Ile Thr Asp Lys Phe
    290                 295                 300
Trp Gly Thr Ser Gly Val Glu Ser Val Ile Gly Ser Val His Thr Trp
305                 310                 315                 320
Leu Ala Glu Ala Ile Asn Ala Leu Gln Asp Asn Arg Asp Thr Leu Thr
                325                 330                 335
Ala Lys Val Ile Gln Gly Cys Gly Asn Pro Lys Val Asn Pro Gln Gly
            340                 345                 350
Pro Gly Pro Glu Glu Lys Arg Arg Arg Gly Lys Leu Ala Pro Arg Glu
        355                 360                 365
Arg Pro Pro Ser Gly Thr Leu Glu Lys Leu Val Ser Glu Ala Lys Ala
    370                 375                 380
Gln Leu Arg Asp Val Gln Asp Phe Trp Ile Ser Leu Pro Gly Thr Leu
385                 390                 395                 400
Cys Ser Glu Lys Met Ala Leu Ser Thr Ala Ser Asp Asp Arg Cys Trp
                405                 410                 415
Asn Gly Met Ala Arg Gly Arg Tyr Leu Pro Glu Val Met Gly Asp Gly
            420                 425                 430
Leu Ala Asn Gln Ile Asn Asn Pro Glu Val Glu Val Asp Ile Thr Lys
        435                 440                 445
Pro Asp Met Thr Ile Arg Gln Gln Ile Met Gln Leu Lys Ile Met Thr
    450                 455                 460
Asn Arg Leu Arg Ser Ala Tyr Asn Gly Asn Asp Val Asp Phe Gln Asp
465                 470                 475                 480
Ala Ser Asp Asp Gly Ser Gly Ser Gly Ser Gly Asp Gly Cys Leu Asp
                485                 490                 495
Asp Leu Cys Ser Arg Lys Val Ser Arg Lys Ser Ser Ser Ser Arg Thr
            500                 505                 510
Pro Leu Thr His Ala Leu Pro Gly Leu Ser Glu Gln Glu Gly Gln Lys
        515                 520                 525
Thr Ser Ala Ala Ser Cys Pro Gln Pro Pro Thr Phe Leu Leu Pro Leu
    530                 535                 540
Leu Leu Phe Leu Ala Leu Thr Val Ala Arg Pro Arg Trp Arg
545                 550                 555
```

<210> 3
<211> 23
<212> PRT
<213> Homo sapiens

<400> 3

Met Glu Leu Arg Ala Arg Gly Trp Trp Leu Leu Cys Ala Ala Ala Ala
1 5 10 15

Leu Val Ala Cys Ala Arg Gly
20

<210> 4
<211> 28
<212> PRT
<213> Homo sapiens
<400> 4

Ala Ala Ser Cys Pro Gln Pro Pro Thr Phe Leu Leu Pro Leu Leu Leu
1 5 10 15

Phe Leu Ala Leu Thr Val Ala Arg Pro Arg Trp Arg
20 25

<210> 5
<211> 507
<212> PRT
<213> Homo sapiens
<400> 5

Asp Pro Ala Ser Lys Ser Arg Ser Cys Gly Glu Val Arg Gln Ile Tyr
1 5 10 15

Gly Ala Lys Gly Phe Ser Leu Ser Asp Val Pro Gln Ala Glu Ile Ser
20 25 30

Gly Glu His Leu Arg Ile Cys Pro Gln Gly Tyr Thr Cys Cys Thr Ser
35 40 45

Glu Met Glu Glu Asn Leu Ala Asn Arg Ser His Ala Glu Leu Glu Thr
50 55 60

Ala Leu Arg Asp Ser Ser Arg Val Leu Gln Ala Met Leu Ala Thr Gln
65 70 75 80

Leu Arg Ser Phe Asp Asp His Phe Gln His Leu Leu Asn Asp Ser Glu
85 90 95

Arg Thr Leu Gln Ala Thr Phe Pro Gly Ala Phe Gly Glu Leu Tyr Thr
100 105 110

Gln Asn Ala Arg Ala Phe Arg Asp Leu Tyr Ser Glu Leu Arg Leu Tyr
115 120 125

Tyr Arg Gly Ala Asn Leu His Leu Glu Glu Thr Leu Ala Glu Phe Trp
130 135 140

Ala Arg Leu Leu Glu Arg Leu Phe Lys Gln Leu His Pro Gln Leu Leu

```
145                 150                 155                 160
Leu Pro Asp Asp Tyr Leu Asp Cys Leu Gly Lys Gln Ala Glu Ala Leu
                165                 170                 175
Arg Pro Phe Gly Glu Ala Pro Arg Glu Leu Arg Leu Arg Ala Thr Arg
            180                 185                 190
Ala Phe Val Ala Ala Arg Ser Phe Val Gln Gly Leu Gly Val Ala Ser
        195                 200                 205
Asp Val Val Arg Lys Val Ala Gln Val Pro Leu Gly Pro Glu Cys Ser
    210                 215                 220
Arg Ala Val Met Lys Leu Val Tyr Cys Ala His Cys Leu Gly Val Pro
225                 230                 235                 240
Gly Ala Arg Pro Cys Pro Asp Tyr Cys Arg Asn Val Leu Lys Gly Cys
                245                 250                 255
Leu Ala Asn Gln Ala Asp Leu Asp Ala Glu Trp Arg Asn Leu Leu Asp
            260                 265                 270
Ser Met Val Leu Ile Thr Asp Lys Phe Trp Gly Thr Ser Gly Val Glu
        275                 280                 285
Ser Val Ile Gly Ser Val His Thr Trp Leu Ala Glu Ala Ile Asn Ala
    290                 295                 300
Leu Gln Asp Asn Arg Asp Thr Leu Thr Ala Lys Val Ile Gln Gly Cys
305                 310                 315                 320
Gly Asn Pro Lys Val Asn Pro Gln Gly Pro Gly Pro Glu Glu Lys Arg
                325                 330                 335
Arg Arg Gly Lys Leu Ala Pro Arg Glu Arg Pro Pro Ser Gly Thr Leu
            340                 345                 350
Glu Lys Leu Val Ser Glu Ala Lys Ala Gln Leu Arg Asp Val Gln Asp
        355                 360                 365
Phe Trp Ile Ser Leu Pro Gly Thr Leu Cys Ser Glu Lys Met Ala Leu
    370                 375                 380
Ser Thr Ala Ser Asp Asp Arg Cys Trp Asn Gly Met Ala Arg Gly Arg
385                 390                 395                 400
Tyr Leu Pro Glu Val Met Gly Asp Gly Leu Ala Asn Gln Ile Asn Asn
                405                 410                 415
Pro Glu Val Glu Val Asp Ile Thr Lys Pro Asp Met Thr Ile Arg Gln
            420                 425                 430
Gln Ile Met Gln Leu Lys Ile Met Thr Asn Arg Leu Arg Ser Ala Tyr
        435                 440                 445
Asn Gly Asn Asp Val Asp Phe Gln Asp Ala Ser Asp Asp Gly Ser Gly
    450                 455                 460
Ser Gly Ser Gly Asp Gly Cys Leu Asp Asp Leu Cys Ser Arg Lys Val
465                 470                 475                 480
```

Ser Arg Lys Ser Ser Ser Ser Arg Thr Pro Leu Thr His Ala Leu Pro
485 490 495
Gly Leu Ser Glu Gln Glu Gly Gln Lys Thr Ser
500 505

<210> 6
<211> 10
<212> PRT
<213> Homo sapiens
<400> 6
Lys Val Asn Pro Gln Gly Pro Gly Pro Glu
1 5 10

<210> 7
<211> 9
<212> PRT
<213> Homo sapiens
<400> 7
Lys Val Asn Pro Gln Gly Pro Gly Pro
1 5

<210> 8
<211> 6
<212> PRT
<213> Homo sapiens
<400> 8
Thr Gln Asn Ala Arg Ala
1 5

<210> 9
<211> 9
<212> PRT
<213> Homo sapiens
<400> 9
Thr Gln Asn Ala Arg Ala Phe Arg Asp
1 5

<210> 10
<211> 461
<212> PRT
<213> Mus musculus
<400> 10

```
Met Ala Trp Val Trp Thr Leu Leu Phe Leu Met Ala Ala Ala Gln Ser
1               5                  10                  15
Ile Gln Ala Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys
            20                  25                  30
Pro Gly Glu Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe
        35                  40                  45
Thr Asp Tyr Ser Met Asn Trp Val Lys Gln Ala Pro Gly Lys Gly Leu
    50                  55                  60
Arg Trp Met Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Thr
65                  70                  75                  80
Asp Asp Phe Lys Gly Arg Phe Ala Phe Ser Leu Glu Thr Ser Ala Ser
                85                  90                  95
Thr Ala Phe Leu Gln Ile Asn Asn Leu Arg Asn Glu Asp Thr Ala Thr
            100                 105                 110
Tyr Phe Cys Ala Arg His Tyr Asp Tyr Gly Gly Phe Pro Tyr Trp Gly
        115                 120                 125
Gln Gly Thr Leu Val Thr Val Ser Ala Ala Lys Thr Thr Pro Pro Ser
    130                 135                 140
Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser Met Val
145                 150                 155                 160
Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Val
                165                 170                 175
Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe Pro Ala
            180                 185                 190
Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr Val Pro
        195                 200                 205
Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val Ala His Pro
    210                 215                 220
Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp Cys Gly
225                 230                 235                 240
Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser Val Phe Ile
                245                 250                 255
Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu Thr Pro Lys
            260                 265                 270
Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro Glu Val Gln
        275                 280                 285
```

```
Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr Ala Gln Thr Gln
    290                 295                 300
Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser Glu Leu
305                 310                 315                 320
Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys Cys Arg
                325                 330                 335
Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
            340                 345                 350
Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro Pro Pro
        355                 360                 365
Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met Ile Thr
    370                 375                 380
Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn Gly Gln
385                 390                 395                 400
Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr Asp Gly
                405                 410                 415
Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn Trp Glu
            420                 425                 430
Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu His Asn
        435                 440                 445
His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
    450                 455                 460
```

<210> 11
<211> 234
<212> PRT
<213> Mus musculus
<400> 11

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

100 105 110

Ser Asn Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg

115 120 125

Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln

130 135 140

Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr

145 150 155 160

Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln

165 170 175

Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr

180 185 190

Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg

195 200 205

His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro

210 215 220

Ile Val Lys Ser Phe Asn Arg Asn Glu Cys

225 230

<210> 12

<211> 238

<212> PRT

<213> Mus musculus

<400> 12

Met Gly Ile Lys Met Glu Ser Gln Thr Gln Val Phe Val Tyr Met Leu

1 5 10 15

Leu Trp Leu Ser Gly Val Asp Gly Asp Ile Val Met Thr Gln Ser Gln

20 25 30

Lys Phe Met Ser Thr Ser Ile Gly Asp Arg Val Ser Val Thr Cys Lys

35 40 45

Ala Ser Gln Asn Val Gly Ser His Val Ala Trp Phe Gln Gln Lys Pro

50 55 60

Gly Gln Ser Pro Lys Ala Leu Ile Tyr Ser Ala Ser Tyr Arg Tyr Ser

65 70 75 80

Gly Val Thr Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr

85 90 95

Leu Thr Ile Asn Asn Val Gln Ser Glu Asp Leu Ala Glu Tyr Phe Cys

100 105 110

Gln Gln Tyr Asn Ser Phe Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu

115 120 125

Glu Ile Lys Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro

130 135 140

Ser Ser Glu Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu

```
145                 150                 155                 160
Asn Asn Phe Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly
                165                 170                 175
Ser Glu Arg Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser
            180                 185                 190
Lys Asp Ser Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp
        195                 200                 205
Glu Tyr Glu Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr
    210                 215                 220
Ser Thr Ser Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
225                 230                 235
```

<210> 13
<211> 1386
<212> DNA
<213> Mus musculus
<400> 13

```
atggcttggg tgtggacctt gctattcctg atggctgctg cccaaagtat ccaagcacag       60
atccagttgg tgcagtctgg acctgagctg aagaagcctg gagagacagt caagatctcc      120
tgcaaggctt ctggttatgc cttcacagac tattcaatga actgggtgaa gcaggctcca      180
ggaaagggtt taaggtggat gggctggata aacactgaga ctggtgagcc aacatataca      240
gatgacttca agggacggtt tgccttctct ttggaaacct ctgccagcac tgccttttg       300
cagatcaaca acctcagaaa tgaagacacg gctacatatt tctgtgctag acactatgat      360
tacgggggt ttccttactg gggccaaggg actctggtca ctgtctctgc agccaaaacg       420
acaccccat ctgtctatcc actggccct ggatctgctg cccaaactaa ctccatggtg        480
accctgggat gcctggtcaa gggctatttc cctgagccag tgacagtgac ctggaactct      540
ggatccctgt ccagcggtgt gcacaccttc ccagctgtcc tgcagtctga cctctacact      600
ctgagcagct cagtgactgt ccctccagc acctggccca gcgagaccgt cacctgcaac       660
gttgcccacc cggccagcag caccaaggtg gacaagaaaa ttgtgcccag ggattgtggt      720
tgtaagcctt gcatatgtac agtcccagaa gtatcatctg tcttcatctt cccccaaag        780
cccaaggatg tgctcaccat tactctgact cctaaggtca cgtgtgttgt ggtagacatc      840
agcaaggatg atcccgaggt ccagttcagc tggtttgtag atgatgtgga ggtgcacaca      900
gctcagacgc aaccccggga ggagcagttc aacagcactt tccgctcagt cagtgaactt       960
cccatcatgc accaggactg gctcaatggc aaggagttca aatgcagggt caacagtgca     1020
gctttccctg cccccatcga gaaaaccatc tccaaaacca aaggcagacc gaaggctcca      1080
caggtgtaca ccattccacc tcccaaggag cagatggcca aggataaagt cagtctgacc      1140
```

tgcatgataa cagacttctt ccctgaagac attactgtgg agtggcagtg gaatgggcag 1200
ccagcggaga actacaagaa cactcagccc atcatggaca cagatggctc ttacttcgtc 1260
tacagcaagc tcaatgtgca gaagagcaac tgggaggcag gaaatacttt cacctgctct 1320
gtgttacatg agggcctgca caaccaccat actgagaaga gcctctccca ctctcctggt 1380
aaatga 1386

<210> 14
<211> 705
<212> DNA
<213> Mus musculus
<400> 14
atgagtgtgc tcactcaggt cctggcgttg ctgctgctgt ggcttacagg tgccagatgt 60
gacatccaga tgactcagtc tccagcctcc ctatctgcat ctgtgggaga aactgtcacc 120
atcacatgtc gagcaagtgg gaatgttcac aattatttag catggtatca gcagaaacag 180
ggaaaatctc ctcaactcct ggtctatact gcaaaaacct tagcagatgg tgtgccatca 240
aggttcagtg gcagtggatc aggaacacaa tattctctca agatcaatag cctgcagcct 300
gaagattttg ggacttatta ctgtcaacat ttttggagta atccgtggac gttcggtgga 360
ggcaccaagc tggaaatcaa acgggctgat gctgcaccaa ctgtatccat cttcccacca 420
tccagtgagc agttaacatc tggaggtgcc tcagtcgtgt gcttcttgaa caacttctac 480
cccaaagaca tcaatgtcaa gtggaagatt gatggcagtg aacgacaaaa tggcgtcctg 540
aacagttgga ctgatcagga cagcaaagac agcacctaca gcatgagcag caccctcacg 600
ttgaccaagg acgagtatga acgacataac agctatacct gtgaggccac tcacaagaca 660
tcaacttcac ccattgtcaa gagcttcaac aggaatgagt gttag 705

<210> 15
<211> 717
<212> DNA
<213> Mus musculus
<400> 15
atgggcatca agatggagtc acagactcag gtctttgtat acatgttgct gtggttgtct 60
ggtgttgatg gagacattgt gatgacccag tctcaaaagt tcatgtccac atcaatagga 120
gacagggtca gcgtcacctg caaggccagt cagaatgtgg gttctcatgt agcctggttt 180
cagcagaaac cagggcaatc tcctaaagca ctgatttact cggcatccta ccggtacagc 240
ggagtcactg atcgcttcac aggcagtgga tctgggacag atttcactct caccatcaac 300
aatgtgcagt ctgaagactt ggcagagtat ttctgtcagc aatataacag ttttccattc 360
acgttcggtt cggggacaaa gttggaaata aaacgggctg atgctgcacc aactgtatcc 420
atcttcccac catccagtga gcagttaaca tctggaggtg cctcagtcgt gtgcttcttg 480
aacaacttct accccaaaga catcaatgtc aagtggaaga ttgatggcag tgaacgacaa 540
aatggcgtcc tgaacagttg gactgatcag gacagcaaag acagcaccta cagcatgagc 600
agcaccctca cgttgaccaa ggacgagtat gaacgacata acagctatac ctgtgaggcc 660
actcacaaga catcaacttc acccattgtc aagagcttca acaggaatga gtgttag 717

<210> 16
<211> 558
<212> PRT
<213> Homo sapiens
<400> 16

```
Met Glu Leu Arg Ala Arg Gly Trp Trp Leu Leu Cys Ala Ala Ala Ala
1               5                  10                  15
Leu Val Ala Cys Ala Arg Gly Asp Pro Ala Ser Lys Ser Arg Ser Cys
            20                  25                  30
Gly Glu Val Arg Gln Ile Tyr Gly Ala Lys Gly Phe Ser Leu Ser Asp
        35                  40                  45
Val Pro Gln Ala Glu Ile Ser Gly Glu His Leu Arg Ile Cys Pro Gln
    50                  55                  60
Gly Tyr Thr Cys Cys Thr Ser Glu Met Glu Glu Asn Leu Ala Asn Arg
65                  70                  75                  80
Ser His Ala Glu Leu Glu Thr Ala Leu Arg Asp Ser Ser Arg Val Leu
                85                  90                  95
Gln Ala Met Leu Ala Thr Gln Leu Arg Ser Phe Asp Asp His Phe Gln
            100                 105                 110
His Leu Leu Asn Asp Ser Glu Arg Thr Leu Gln Ala Thr Phe Pro Gly
        115                 120                 125
Ala Phe Gly Glu Leu Tyr Thr Gln Asn Ala Arg Ala Phe Arg Asp Leu
    130                 135                 140
Tyr Ser Glu Leu Arg Leu Tyr Tyr Arg Gly Ala Asn Leu His Leu Glu
145                 150                 155                 160
Glu Thr Leu Ala Glu Phe Trp Ala Arg Leu Leu Glu Arg Leu Phe Lys
                165                 170                 175
Gln Leu His Pro Gln Leu Leu Leu Pro Asp Asp Tyr Leu Asp Cys Leu
            180                 185                 190
Gly Lys Gln Ala Glu Ala Leu Arg Pro Phe Gly Glu Ala Pro Arg Glu
        195                 200                 205
Leu Arg Leu Arg Ala Thr Arg Ala Phe Val Ala Ala Arg Ser Phe Val
    210                 215                 220
Gln Gly Leu Gly Val Ala Ser Asp Val Val Arg Lys Val Ala Gln Val
225                 230                 235                 240
Pro Leu Gly Pro Glu Cys Ser Arg Ala Val Met Lys Leu Val Tyr Cys
                245                 250                 255
Ala His Cys Leu Gly Val Pro Gly Ala Arg Pro Cys Pro Asp Tyr Cys
            260                 265                 270
Arg Asn Val Leu Lys Gly Cys Leu Ala Asn Gln Ala Asp Leu Asp Ala
```

```
          275                 280                 285
Glu Trp Arg Asn Leu Leu Asp Ser Met Val Leu Ile Thr Asp Lys Phe
      290                 295                 300
Trp Gly Thr Ser Gly Val Glu Ser Val Ile Gly Ser Val His Thr Trp
305                 310                 315                 320
Leu Ala Glu Ala Ile Asn Ala Leu Gln Asp Asn Arg Asp Thr Leu Thr
                  325                 330                 335
Ala Lys Val Ile Gln Gly Cys Gly Asn Pro Lys Val Asn Pro Gln Gly
              340                 345                 350
Pro Gly Pro Glu Glu Lys Arg Arg Arg Gly Lys Leu Ala Pro Arg Glu
          355                 360                 365
Arg Pro Pro Ser Gly Thr Leu Glu Lys Leu Val Ser Glu Ala Lys Ala
      370                 375                 380
Gln Leu Arg Asp Val Gln Asp Phe Trp Ile Ser Leu Pro Gly Thr Leu
385                 390                 395                 400
Cys Ser Glu Lys Met Ala Leu Ser Thr Ala Ser Asp Asp Arg Cys Trp
                  405                 410                 415
Asn Gly Met Ala Arg Gly Arg Tyr Leu Pro Glu Val Met Gly Asp Gly
              420                 425                 430
Leu Ala Asn Gln Ile Asn Asn Pro Glu Val Glu Val Asp Ile Thr Lys
          435                 440                 445
Pro Asp Met Thr Ile Arg Gln Gln Ile Met Gln Leu Lys Ile Met Thr
      450                 455                 460
Asn Arg Leu Arg Ser Ala Tyr Asn Gly Asn Asp Val Asp Phe Gln Asp
465                 470                 475                 480
Ala Ser Asp Asp Gly Ser Gly Ser Gly Ser Gly Asp Gly Cys Leu Asp
                  485                 490                 495
Asp Leu Cys Ser Arg Lys Val Ser Arg Lys Ser Ser Ser Ser Arg Thr
              500                 505                 510
Pro Leu Thr His Ala Leu Pro Gly Leu Ser Glu Gln Glu Gly Gln Lys
          515                 520                 525
Thr Ser Ala Ala Ser Cys Pro Gln Pro Pro Thr Phe Leu Leu Pro Leu
      530                 535                 540
Leu Leu Phe Leu Ala Leu Thr Val Ala Arg Pro Arg Trp Arg
545                 550                 555
```

<210> 17
<211> 23
<212> PRT
<213> Homo sapiens
<400> 17

Gly Asn Pro Lys Val Asn Pro Gln Gly Pro Gly Pro Glu Glu Lys Arg
1 5 10 15
Arg Arg Gly Lys Leu Ala Pro
20

<210> 18
<211> 19
<212> PRT
<213> Homo sapiens
<400> 18
Gly Glu Leu Tyr Thr Gln Asn Ala Arg Ala Phe Arg Asp Leu Tyr Ser
1 5 10 15
Glu Leu Arg

<210> 19
<211> 17
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Labeled homo sapiens Glypican-1 sequence
<400> 19
Arg Asn Pro Lys Val Asn Pro Gln Gly Pro Gly Pro Glu Glu Lys Arg
1 5 10 15
Arg

<210> 20
<211> 15
<212> PRT
<213> Homo sapiens
<400> 20
Pro Lys Val Asn Pro Gln Gly Pro Gly Pro Glu Glu Lys Arg Arg
1 5 10 15

<210> 21
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Labeled homo sapiens Glypican-1 sequence
<400> 21
Arg Asn Glu Leu Cys Thr Gln Asn Cys Arg Ala Phe Arg Asp Leu Tyr
1 5 10 15
Ser

<210> 22
<211> 11
<212> PRT
<213> Homo sapiens
<400> 22
Val Asn Pro Gln Gly Pro Gly Pro Glu Glu Lys
1 5 10

<210> 23
<211> 558
<212> PRT
<213> Homo sapiens
<400> 23
Met Glu Leu Arg Ala Arg Gly Trp Trp Leu Leu Cys Ala Ala Ala Ala
1 5 10 15
Leu Val Ala Cys Ala Arg Gly Asp Pro Ala Ser Lys Ser Arg Ser Cys
20 25 30
Gly Glu Val Arg Gln Ile Tyr Gly Ala Lys Gly Phe Ser Leu Ser Asp
35 40 45
Val Pro Gln Ala Glu Ile Ser Gly Glu His Leu Arg Ile Cys Pro Gln
50 55 60
Gly Tyr Thr Cys Cys Thr Ser Glu Met Glu Glu Asn Leu Ala Asn Arg
65 70 75 80
Ser His Ala Glu Leu Glu Thr Ala Leu Arg Asp Ser Ser Arg Val Leu
85 90 95
Gln Ala Met Leu Ala Thr Gln Leu Arg Ser Phe Asp Asp His Phe Gln
100 105 110
His Leu Leu Asn Asp Ser Glu Arg Thr Leu Gln Ala Thr Phe Pro Gly
115 120 125
Ala Phe Gly Glu Leu Tyr Thr Gln Asn Ala Arg Ala Phe Arg Asp Leu
130 135 140
Tyr Ser Glu Leu Arg Leu Tyr Tyr Arg Gly Ala Asn Leu His Leu Glu

```
145                 150                 155                 160
Glu Thr Leu Ala Glu Phe Trp Ala Arg Leu Leu Glu Arg Leu Phe Lys
                165                 170                 175
Gln Leu His Pro Gln Leu Leu Leu Pro Asp Asp Tyr Leu Asp Cys Leu
            180                 185                 190
Gly Lys Gln Ala Glu Ala Leu Arg Pro Phe Gly Glu Ala Pro Arg Glu
        195                 200                 205
Leu Arg Leu Arg Ala Thr Arg Ala Phe Val Ala Ala Arg Ser Phe Val
    210                 215                 220
Gln Gly Leu Gly Val Ala Ser Asp Val Val Arg Lys Val Ala Gln Val
225                 230                 235                 240
Pro Leu Gly Pro Glu Cys Ser Arg Ala Val Met Lys Leu Val Tyr Cys
                245                 250                 255
Ala His Cys Leu Gly Val Pro Gly Ala Arg Pro Cys Pro Asp Tyr Cys
            260                 265                 270
Arg Asn Val Leu Lys Gly Cys Leu Ala Asn Gln Ala Asp Leu Asp Ala
        275                 280                 285
Glu Trp Arg Asn Leu Leu Asp Ser Met Val Leu Ile Thr Asp Lys Phe
    290                 295                 300
Trp Gly Thr Ser Gly Val Glu Ser Val Ile Gly Ser Val His Thr Trp
305                 310                 315                 320
Leu Ala Glu Ala Ile Asn Ala Leu Gln Asp Asn Arg Asp Thr Leu Thr
                325                 330                 335
Ala Lys Val Ile Gln Gly Cys Gly Asn Pro Lys Val Asn Pro Gln Gly
            340                 345                 350
Pro Gly Pro Glu Glu Lys Arg Arg Arg Gly Lys Leu Ala Pro Arg Glu
        355                 360                 365
Arg Pro Pro Ser Gly Thr Leu Glu Lys Leu Val Ser Glu Ala Lys Ala
    370                 375                 380
Gln Leu Arg Asp Val Gln Asp Phe Trp Ile Ser Leu Pro Gly Thr Leu
385                 390                 395                 400
Cys Ser Glu Lys Met Ala Leu Ser Thr Ala Ser Asp Asp Arg Cys Trp
                405                 410                 415
Asn Gly Met Ala Arg Gly Arg Tyr Leu Pro Glu Val Met Gly Asp Gly
            420                 425                 430
Leu Ala Asn Gln Ile Asn Asn Pro Glu Val Glu Val Asp Ile Thr Lys
        435                 440                 445
Pro Asp Met Thr Ile Arg Gln Gln Ile Met Gln Leu Lys Ile Met Thr
    450                 455                 460
Asn Arg Leu Arg Ser Ala Tyr Asn Gly Asn Asp Val Asp Phe Gln Asp
465                 470                 475                 480
```

Ala Ser Asp Asp Gly Ser Gly Ser Gly Ser Gly Asp Gly Cys Leu Asp
485 490 495
Asp Leu Cys Ser Arg Lys Val Ser Arg Lys Ser Ser Ser Ser Arg Thr
500 505 510
Pro Leu Thr His Ala Leu Pro Gly Leu Ser Glu Gln Glu Gly Gln Lys
515 520 525
Thr Ser Ala Ala Ser Cys Pro Gln Pro Pro Thr Phe Leu Leu Pro Leu
530 535 540
Leu Leu Phe Leu Ala Leu Thr Val Ala Arg Pro Arg Trp Arg
545 550 555

<210> 24
<211> 17
<212> PRT
<213> Homo sapiens
<400> 24
Cys Pro Lys Val Asn Pro Gln Gly Pro Gly Pro Glu Glu Lys Arg Arg
1 5 10 15
Cys