SEQUENCE LISTING

<110> University of Aarhus

<120> SorCS1 for use in the treatment of obesity and overweight

<130> P2847PC00

<150> DK PA 2012 70191
<151> 2012-04-17

<160> 69

<170> PatentIn version 3.5

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<211> 1168
<212> PRT
<213> Homo sapiens

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<222> (1)..(1168)
<223> preproSorCS1b, Isoform 1

<400> 1

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Met Gly Lys Val Gly Ala Gly Gly Gly Ser Gln Ala Arg Leu Ser Ala
1               5                   10                  15


Leu Leu Ala Gly Ala Gly Leu Leu Ile Leu Cys Ala Pro Gly Val Cys
            20                  25                  30


Gly Gly Gly Ser Cys Cys Pro Ser Pro His Pro Ser Ser Ala Pro Arg
        35                  40                  45


Ser Ala Ser Thr Pro Arg Gly Phe Ser His Gln Gly Arg Pro Gly Arg
    50                  55                  60


Ala Pro Ala Thr Pro Leu Pro Leu Val Val Arg Pro Leu Phe Ser Val
65                  70                  75                  80


Ala Pro Gly Asp Arg Ala Leu Ser Leu Glu Arg Ala Arg Gly Thr Gly
                85                  90                  95


Ala Ser Met Ala Val Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly
            100                 105                 110


Ala Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg Ser Pro
        115                 120                 125


Arg Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr Arg Glu
    130                 135                 140


Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu
145                 150                 155                 160
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Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala
                165                 170                 175

Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr
            180                 185                 190

Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp
        195                 200                 205

Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val
    210                 215                 220

Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys
225                 230                 235                 240

Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu
                245                 250                 255

Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe
            260                 265                 270

Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu
        275                 280                 285

Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg
    290                 295                 300

Arg Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe Tyr Trp
305                 310                 315                 320

Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu Glu Ala
                325                 330                 335

Arg Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met Gln Asn
            340                 345                 350

Cys Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr Ile Asp Pro
        355                 360                 365

Asp Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu Thr Ser
    370                 375                 380

Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala Phe Ala
385                 390                 395                 400

Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile
                405                 410                 415

Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln
            420                 425                 430
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Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe
        435                 440                 445

Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu Gly Asn
    450                 455                 460

Ile Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu
465                 470                 475                 480

Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn
                485                 490                 495

Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp Leu Arg
            500                 505                 510

Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His
        515                 520                 525

Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Lys
    530                 535                 540

Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu
545                 550                 555                 560

Leu Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn
                565                 570                 575

Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu Asp
            580                 585                 590

Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg
        595                 600                 605

His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser
    610                 615                 620

Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly
625                 630                 635                 640

Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser
                645                 650                 655

Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg
            660                 665                 670

Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu
        675                 680                 685

Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu
    690                 695                 700
```

```
Arg Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro
705                 710                 715                 720

Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg
                725                 730                 735

His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser
            740                 745                 750

Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly
        755                 760                 765

Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln
    770                 775                 780

Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu
785                 790                 795                 800

Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn
                805                 810                 815

Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu
            820                 825                 830

Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu
        835                 840                 845

Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile
    850                 855                 860

Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala
865                 870                 875                 880

Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser
                885                 890                 895

Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val
            900                 905                 910

Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly
        915                 920                 925

Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Arg
    930                 935                 940

Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly
945                 950                 955                 960

Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe
                965                 970                 975
```

```
Arg Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro
            980                 985                 990

Asp Ile Pro Glu Trp Arg Arg Asp  Ile Gly Arg Val Ile  Lys Lys Ser
        995                 1000                1005

Leu Val  Glu Ala Thr Gly Val  Pro Gly Gln His Ile  Leu Val Ala
    1010                1015                1020

Val Leu  Pro Gly Leu Pro Thr  Thr Ala Glu Leu Phe  Val Leu Pro
    1025                1030                1035

Tyr Gln  Asp Pro Ala Gly Glu  Asn Lys Arg Ser Thr  Asp Asp Leu
    1040                1045                1050

Glu Gln  Ile Ser Glu Leu Leu  Ile His Thr Leu Asn  Gln Asn Ser
    1055                1060                1065

Val His  Phe Glu Leu Lys Pro  Gly Val Arg Val Leu  Val His Ala
    1070                1075                1080

Ala His  Leu Thr Ala Ala Pro  Leu Val Asp Leu Thr  Pro Thr His
    1085                1090                1095

Ser Gly  Ser Ala Met Leu Met  Leu Leu Ser Val Val  Phe Val Gly
    1100                1105                1110

Leu Ala  Val Phe Val Ile Tyr  Lys Phe Lys Arg Arg  Val Ala Leu
    1115                1120                1125

Pro Ser  Pro Pro Ser Pro Ser  Thr Gln Pro Gly Asp  Ser Ser Leu
    1130                1135                1140

Arg Leu  Gln Arg Ala Arg His  Ala Thr Pro Pro Ser  Thr Pro Lys
    1145                1150                1155

Arg Gly  Ser Ala Gly Ala Gln  Tyr Ala Ile
    1160                1165
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<210> 2
<211> 1197
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<213> Homo sapiens

<220>
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<223> preproSorCS1, Isoform 2

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Met Gly Lys Val Gly Ala Gly Gly Gly Ser Gln Ala Arg Leu Ser Ala
1               5                   10                  15
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Leu Leu Ala Gly Ala Gly Leu Leu Ile Leu Cys Ala Pro Gly Val Cys
            20                  25                  30

Gly Gly Gly Ser Cys Cys Pro Ser Pro His Pro Ser Ser Ala Pro Arg
        35                  40                  45

Ser Ala Ser Thr Pro Arg Gly Phe Ser His Gln Gly Arg Pro Gly Arg
    50                  55                  60

Ala Pro Ala Thr Pro Leu Pro Leu Val Val Arg Pro Leu Phe Ser Val
65                  70                  75                  80

Ala Pro Gly Asp Arg Ala Leu Ser Leu Glu Arg Ala Arg Gly Thr Gly
                85                  90                  95

Ala Ser Met Ala Val Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly
            100                 105                 110

Ala Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg Ser Pro
        115                 120                 125

Arg Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr Arg Glu
    130                 135                 140

Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu
145                 150                 155                 160

Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala
                165                 170                 175

Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr
            180                 185                 190

Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp
        195                 200                 205

Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val
    210                 215                 220

Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys
225                 230                 235                 240

Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu
                245                 250                 255

Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe
            260                 265                 270

Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu
        275                 280                 285
```

```
Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg
    290                 295                 300

Arg Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe Tyr Trp
305                 310                 315                 320

Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu Glu Ala
                325                 330                 335

Arg Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met Gln Asn
            340                 345                 350

Cys Thr Glu Ala Asn Arg Gln Pro Phe Pro Gly Tyr Ile Asp Pro Asp
        355                 360                 365

Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu Thr Ser Gly
    370                 375                 380

Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala Phe Ala Gln
385                 390                 395                 400

Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile Ser
                405                 410                 415

Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn
            420                 425                 430

Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr
        435                 440                 445

Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu Gly Asn Ile
    450                 455                 460

Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala
465                 470                 475                 480

Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys
                485                 490                 495

Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp Leu Arg Gly
            500                 505                 510

Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu
        515                 520                 525

Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Lys Asp
    530                 535                 540

Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu Leu
545                 550                 555                 560
```

```
Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr
                565                 570                 575

Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu Asp Gln
            580                 585                 590

Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg His
        595                 600                 605

Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser Phe
    610                 615                 620

Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly Glu
625                 630                 635                 640

Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu
                645                 650                 655

Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys
            660                 665                 670

Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu Ala
        675                 680                 685

Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg
    690                 695                 700

Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys
705                 710                 715                 720

Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His
                725                 730                 735

Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu
            740                 745                 750

Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly Tyr
        755                 760                 765

Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr
    770                 775                 780

Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg
785                 790                 795                 800

Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val
                805                 810                 815

Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile
            820                 825                 830
```

```
Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser
        835                 840                 845

Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe
    850                 855                 860

Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val
865                 870                 875                 880

Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu
                885                 890                 895

Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu
            900                 905                 910

Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn
        915                 920                 925

Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Arg Phe
    930                 935                 940

Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn
945                 950                 955                 960

Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg
                965                 970                 975

Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp
            980                 985                 990

Ile Pro Glu Trp Arg Arg Asp Ile  Gly Arg Val Ile Lys  Lys Ser Leu
        995                 1000                1005

Val Glu  Ala Thr Gly Val Pro  Gly Gln His Ile Leu  Val Ala Val
    1010                1015                1020

Leu Pro  Gly Leu Pro Thr Thr  Ala Glu Leu Phe Val  Leu Pro Tyr
    1025                1030                1035

Gln Asp  Pro Ala Gly Glu Asn  Lys Arg Ser Thr Asp  Asp Leu Glu
    1040                1045                1050

Gln Ile  Ser Glu Leu Leu Ile  His Thr Leu Asn Gln  Asn Ser Val
    1055                1060                1065

His Phe  Glu Leu Lys Pro Gly  Val Arg Val Leu Val  His Ala Ala
    1070                1075                1080

His Leu  Thr Ala Ala Pro Leu  Val Asp Leu Thr Pro  Thr His Ser
    1085                1090                1095
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Gly Ser Ala Met Leu Met Leu Leu Ser Val Val Phe Val Gly Leu
1100 1105 1110

Ala Val Phe Val Ile Tyr Lys Phe Lys Arg Lys Ile Pro Gly Ile
1115 1120 1125

Asn Val Tyr Ala Gln Met Gln Asn Glu Lys Glu Gln Glu Met Ile
1130 1135 1140

Ser Pro Val Ser His Ser Glu Ser Arg Pro Asn Val Pro Gln Thr
1145 1150 1155

Glu Leu Arg Arg Pro Gly Gln Leu Ile Asp Glu Lys Val Glu Ser
1160 1165 1170

Gln Leu Ile Gly Ser Ile Ser Ile Val Ala Glu Asn Gln Ser Thr
1175 1180 1185

Lys Glu Ile Pro Thr Tyr Val Asn Val
1190 1195

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<213> Homo sapiens

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<223> preproSorCS1c, Isoform 3

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Met Gly Lys Val Gly Ala Gly Gly Gly Ser Gln Ala Arg Leu Ser Ala
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Leu Leu Ala Gly Ala Gly Leu Leu Ile Leu Cys Ala Pro Gly Val Cys
20 25 30

Gly Gly Gly Ser Cys Cys Pro Ser Pro His Pro Ser Ser Ala Pro Arg
35 40 45

Ser Ala Ser Thr Pro Arg Gly Phe Ser His Gln Gly Arg Pro Gly Arg
50 55 60

Ala Pro Ala Thr Pro Leu Pro Leu Val Val Arg Pro Leu Phe Ser Val
65 70 75 80

Ala Pro Gly Asp Arg Ala Leu Ser Leu Glu Arg Ala Arg Gly Thr Gly
85 90 95

Ala Ser Met Ala Val Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly
100 105 110

```
Ala Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg Ser Pro
        115                 120                 125

Arg Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr Arg Glu
    130                 135                 140

Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu
145                 150                 155                 160

Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala
                165                 170                 175

Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr
            180                 185                 190

Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp
        195                 200                 205

Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val
    210                 215                 220

Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys
225                 230                 235                 240

Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu
                245                 250                 255

Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe
            260                 265                 270

Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu
        275                 280                 285

Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg
    290                 295                 300

Arg Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe Tyr Trp
305                 310                 315                 320

Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu Glu Ala
                325                 330                 335

Arg Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met Gln Asn
            340                 345                 350

Cys Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr Ile Asp Pro
        355                 360                 365

Asp Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu Thr Ser
    370                 375                 380
```

```
Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala Phe Ala
385                 390                 395                 400

Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile
                405                 410                 415

Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln
            420                 425                 430

Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe
        435                 440                 445

Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu Gly Asn
    450                 455                 460

Ile Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu
465                 470                 475                 480

Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn
                485                 490                 495

Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp Leu Arg
            500                 505                 510

Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His
        515                 520                 525

Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Lys
    530                 535                 540

Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu
545                 550                 555                 560

Leu Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn
                565                 570                 575

Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu Asp
            580                 585                 590

Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg
        595                 600                 605

His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser
    610                 615                 620

Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly
625                 630                 635                 640

Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser
                645                 650                 655
```

```
Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg
            660                 665                 670

Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu
        675                 680                 685

Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu
    690                 695                 700

Arg Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro
705                 710                 715                 720

Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg
                725                 730                 735

His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser
            740                 745                 750

Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly
        755                 760                 765

Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln
    770                 775                 780

Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu
785                 790                 795                 800

Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn
                805                 810                 815

Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu
            820                 825                 830

Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu
        835                 840                 845

Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile
    850                 855                 860

Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala
865                 870                 875                 880

Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser
                885                 890                 895

Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val
            900                 905                 910

Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly
        915                 920                 925
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```
Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Arg
    930                 935                 940

Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly
945                 950                 955                 960

Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe
                965                 970                 975

Arg Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro
            980                 985                 990

Asp Ile Pro Glu Trp Arg Arg Asp  Ile Gly Arg Val Ile  Lys Lys Ser
        995                 1000                1005

Leu Val  Glu Ala Thr Gly Val  Pro Gly Gln His Ile  Leu Val Ala
    1010                1015                1020

Val Leu  Pro Gly Leu Pro Thr  Thr Ala Glu Leu Phe  Val Leu Pro
    1025                1030                1035

Tyr Gln  Asp Pro Ala Gly Glu  Asn Lys Arg Ser Thr  Asp Asp Leu
    1040                1045                1050

Glu Gln  Ile Ser Glu Leu Leu  Ile His Thr Leu Asn  Gln Asn Ser
    1055                1060                1065

Val His  Phe Glu Leu Lys Pro  Gly Val Arg Val Leu  Val His Ala
    1070                1075                1080

Ala His  Leu Thr Ala Ala Pro  Leu Val Asp Leu Thr  Pro Thr His
    1085                1090                1095

Ser Gly  Ser Ala Met Leu Met  Leu Leu Ser Val Val  Phe Val Gly
    1100                1105                1110

Leu Ala  Val Phe Val Ile Tyr  Lys Phe Lys Arg Lys  Ile Pro Gly
    1115                1120                1125

Ile Asn  Val Tyr Ala Gln Met  Gln Asn Glu Lys Glu  Gln Glu Met
    1130                1135                1140

Ile Ser  Pro Val Ser His Ser  Glu Ser Arg Pro Asn  Val Pro Gln
    1145                1150                1155

Thr Glu  Leu Arg Arg Pro Gly  Gln Leu Ile Asp Glu  Lys Val Glu
    1160                1165                1170

Ser Gln  Leu Ile Gly Lys
    1175
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<220>
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<223> preproSorCS1a, Isoform 4

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Met Gly Lys Val Gly Ala Gly Gly Gly Ser Gln Ala Arg Leu Ser Ala
1               5                  10                  15

Leu Leu Ala Gly Ala Gly Leu Leu Ile Leu Cys Ala Pro Gly Val Cys
            20                  25                  30

Gly Gly Gly Ser Cys Cys Pro Ser Pro His Pro Ser Ser Ala Pro Arg
        35                  40                  45

Ser Ala Ser Thr Pro Arg Gly Phe Ser His Gln Gly Arg Pro Gly Arg
    50                  55                  60

Ala Pro Ala Thr Pro Leu Pro Leu Val Val Arg Pro Leu Phe Ser Val
65                  70                  75                  80

Ala Pro Gly Asp Arg Ala Leu Ser Leu Glu Arg Ala Arg Gly Thr Gly
                85                  90                  95

Ala Ser Met Ala Val Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly
            100                 105                 110

Ala Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg Ser Pro
        115                 120                 125

Arg Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr Arg Glu
    130                 135                 140

Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu
145                 150                 155                 160

Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala
                165                 170                 175

Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr
            180                 185                 190

Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp
        195                 200                 205

Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val
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210 215 220

Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys
225 230 235 240

Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu
245 250 255

Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe
260 265 270

Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu
275 280 285

Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg
290 295 300

Arg Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe Tyr Trp
305 310 315 320

Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu Glu Ala
325 330 335

Arg Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met Gln Asn
340 345 350

Cys Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr Ile Asp Pro
355 360 365

Asp Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu Thr Ser
370 375 380

Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala Phe Ala
385 390 395 400

Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile
405 410 415

Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln
420 425 430

Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe
435 440 445

Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu Gly Asn
450 455 460

Ile Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu
465 470 475 480

Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn

485 490 495

Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp Leu Arg
500 505 510

Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His
515 520 525

Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Lys
530 535 540

Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu
545 550 555 560

Leu Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn
565 570 575

Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu Asp
580 585 590

Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg
595 600 605

His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser
610 615 620

Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly
625 630 635 640

Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser
645 650 655

Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg
660 665 670

Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu
675 680 685

Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu
690 695 700

Arg Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro
705 710 715 720

Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg
725 730 735

His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser
740 745 750

Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly

```
        755                 760                 765

Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln
    770                 775                 780

Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu
785                 790                 795                 800

Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn
                805                 810                 815

Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu
            820                 825                 830

Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu
        835                 840                 845

Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile
    850                 855                 860

Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala
865                 870                 875                 880

Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser
                885                 890                 895

Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val
            900                 905                 910

Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly
        915                 920                 925

Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Arg
    930                 935                 940

Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly
945                 950                 955                 960

Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe
                965                 970                 975

Arg Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro
            980                 985                 990

Asp Ile Pro Glu Trp Arg Arg Asp  Ile Gly Arg Val Ile  Lys Lys Ser
        995                 1000                1005

Leu Val  Glu Ala Thr Gly Val  Pro Gly Gln His Ile  Leu Val Ala
    1010                1015                1020

Val Leu  Pro Gly Leu Pro Thr  Thr Ala Glu Leu Phe  Val Leu Pro
```

1025 1030 1035

Tyr Gln Asp Pro Ala Gly Glu Asn Lys Arg Ser Thr Asp Asp Leu
1040 1045 1050

Glu Gln Ile Ser Glu Leu Leu Ile His Thr Leu Asn Gln Asn Ser
1055 1060 1065

Val His Phe Glu Leu Lys Pro Gly Val Arg Val Leu Val His Ala
1070 1075 1080

Ala His Leu Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His
1085 1090 1095

Ser Gly Ser Ala Met Leu Met Leu Leu Ser Val Val Phe Val Gly
1100 1105 1110

Leu Ala Val Phe Val Ile Tyr Lys Phe Lys Arg Cys Val Ser Leu
1115 1120 1125

Tyr Pro Arg Ser Pro Thr Pro Asp Leu Phe Leu Leu Pro Asp Arg
1130 1135 1140

Phe Arg Ser Met Cys Tyr Ser Asp Val His Ser Ser Asp Gly Phe
1145 1150 1155

Tyr

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Met Gly Lys Val Gly Ala Gly Gly Gly Ser Gln Ala Arg Leu Ser Ala
1 5 10 15

Leu Leu Ala Gly Ala Gly Leu Leu Ile Leu Cys Ala Pro Gly Val Cys
20 25 30

Gly Gly Gly Ser Cys Cys Pro Ser Pro His Pro Ser Ser Ala Pro Arg
35 40 45

Ser Ala Ser Thr Pro Arg Gly Phe Ser His Gln Gly Arg Pro Gly Arg
50 55 60

```
Ala Pro Ala Thr Pro Leu Pro Leu Val Val Arg Pro Leu Phe Ser Val
65                  70                  75                  80

Ala Pro Gly Asp Arg Ala Leu Ser Leu Glu Arg Ala Arg Gly Thr Gly
                85                  90                  95

Ala Ser Met Ala Val Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly
            100                 105                 110

Ala Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg Ser Pro
        115                 120                 125

Arg Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr Arg Glu
    130                 135                 140

Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu
145                 150                 155                 160

Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala
                165                 170                 175

Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr
            180                 185                 190

Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp
        195                 200                 205

Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val
    210                 215                 220

Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys
225                 230                 235                 240

Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu
                245                 250                 255

Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe
            260                 265                 270

Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu
        275                 280                 285

Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg
    290                 295                 300

Arg Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe Tyr Trp
305                 310                 315                 320

Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu Glu Ala
                325                 330                 335
```

```
Arg Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met Gln Asn
            340                 345                 350

Cys Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr Ile Asp Pro
        355                 360                 365

Asp Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu Thr Ser
    370                 375                 380

Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala Phe Ala
385                 390                 395                 400

Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile
                405                 410                 415

Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln
            420                 425                 430

Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe
        435                 440                 445

Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu Gly Asn
    450                 455                 460

Ile Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu
465                 470                 475                 480

Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn
                485                 490                 495

Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp Leu Arg
            500                 505                 510

Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His
        515                 520                 525

Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Lys
    530                 535                 540

Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu
545                 550                 555                 560

Leu Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn
                565                 570                 575

Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu Asp
            580                 585                 590

Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg
        595                 600                 605
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```
His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser
    610                 615                 620

Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly
625                 630                 635                 640

Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser
                645                 650                 655

Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg
            660                 665                 670

Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu
        675                 680                 685

Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu
    690                 695                 700

Arg Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro
705                 710                 715                 720

Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg
                725                 730                 735

His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser
            740                 745                 750

Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly
        755                 760                 765

Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln
    770                 775                 780

Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu
785                 790                 795                 800

Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn
                805                 810                 815

Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu
            820                 825                 830

Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu
        835                 840                 845

Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile
    850                 855                 860

Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala
865                 870                 875                 880
```

Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser
885 890 895

Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val
900 905 910

Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly
915 920 925

Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Arg
930 935 940

Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly
945 950 955 960

Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe
965 970 975

Arg Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro
980 985 990

Asp Ile Pro Glu Trp Arg Arg Asp Ile Gly Arg Val Ile Lys Lys Ser
995 1000 1005

Leu Val Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val Ala
1010 1015 1020

Val Leu Pro Gly Leu Pro Thr Thr Ala Glu Leu Phe Val Leu Pro
1025 1030 1035

Tyr Gln Asp Pro Ala Gly Glu Asn Lys Arg Ser Thr Asp Asp Leu
1040 1045 1050

Glu Gln Ile Ser Glu Leu Leu Ile His Thr Leu Asn Gln Asn Ser
1055 1060 1065

Val His Phe Glu Leu Lys Pro Gly Val Arg Val Leu Val His Ala
1070 1075 1080

Ala His Leu Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His
1085 1090 1095

Ser Gly
1100

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Gly Gly Ser Cys Cys Pro Ser Pro His Pro Ser Ser Ala Pro Arg Ser
1               5                  10                  15

Ala Ser Thr Pro Arg Gly Phe Ser His Gln Gly Arg Pro Gly Arg Ala
            20                  25                  30

Pro Ala Thr Pro Leu Pro Leu Val Val Arg Pro Leu Phe Ser Val Ala
        35                  40                  45

Pro Gly Asp Arg Ala Leu Ser Leu Glu Arg Ala Arg Gly Thr Gly Ala
    50                  55                  60

Ser Met Ala Val Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly Ala
65                  70                  75                  80

Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg Ser Pro Arg
                85                  90                  95

Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr Arg Glu Arg
            100                 105                 110

Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu Thr
        115                 120                 125

Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met
    130                 135                 140

Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr Lys
145                 150                 155                 160

Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg
                165                 170                 175

Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val Gly
            180                 185                 190

Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Arg
        195                 200                 205

Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu Ile
    210                 215                 220

Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr
225                 230                 235                 240

Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala
                245                 250                 255
```

```
Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg Arg
            260                 265                 270

Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe Tyr Trp Ser
        275                 280                 285

Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu Glu Ala Arg
    290                 295                 300

Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met Gln Asn Cys
305                 310                 315                 320

Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr Ile Asp Pro Asp
                325                 330                 335

Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu Thr Ser Gly
            340                 345                 350

Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala Phe Ala Gln
        355                 360                 365

Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile Ser
    370                 375                 380

Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn
385                 390                 395                 400

Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr
                405                 410                 415

Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu Gly Asn Ile
            420                 425                 430

Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala
        435                 440                 445

Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys
    450                 455                 460

Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp Leu Arg Gly
465                 470                 475                 480

Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu
                485                 490                 495

Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Lys Asp
            500                 505                 510

Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu Leu
        515                 520                 525
```

```
Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr
    530                 535                 540

Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu Asp Gln
545                 550                 555                 560

Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg His
                565                 570                 575

Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser Phe
            580                 585                 590

Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly Glu
        595                 600                 605

Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu
    610                 615                 620

Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys
625                 630                 635                 640

Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu Ala
                645                 650                 655

Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg
            660                 665                 670

Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys
        675                 680                 685

Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His
    690                 695                 700

Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu
705                 710                 715                 720

Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly Tyr
                725                 730                 735

Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr
            740                 745                 750

Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg
        755                 760                 765

Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val
    770                 775                 780

Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile
785                 790                 795                 800
```

```
Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser
                805                 810                 815

Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe
            820                 825                 830

Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val
        835                 840                 845

Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu
    850                 855                 860

Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu
865                 870                 875                 880

Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn
                885                 890                 895

Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Arg Phe
            900                 905                 910

Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn
        915                 920                 925

Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg
    930                 935                 940

Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp
945                 950                 955                 960

Ile Pro Glu Trp Arg Arg Asp Ile Gly Arg Val Ile Lys Lys Ser Leu
                965                 970                 975

Val Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val Ala Val Leu
            980                 985                 990

Pro Gly Pro Thr Thr Ala Glu Leu  Phe Val Leu Pro Tyr  Gln Asp Pro
        995                 1000                1005

Ala Gly  Glu Asn Lys Arg Ser  Thr Asp Asp Leu Glu  Gln Ile Ser
    1010                1015                1020

Glu Leu  Leu Ile His Thr Leu  Asn Gln Asn Ser Val  His Phe Glu
    1025                1030                1035

Leu Lys  Pro Gly Val Arg Val  Leu Val His Ala Ala  His Leu Thr
    1040                1045                1050

Ala Ala  Pro Leu Val Asp Leu  Thr Pro Thr His Ser  Gly Ser Ala
    1055                1060                1065
```

```
Met Leu  Met Leu Leu Ser Val  Val Phe Val Gly Leu  Ala Val Phe
    1070                1075                1080


Val Ile  Tyr Lys Phe Lys Arg  Arg Val Ala Leu Pro  Ser Pro Pro
    1085                1090                1095


Ser Pro  Ser Thr Gln Pro Gly  Asp Ser Ser Leu Arg  Leu Gln Arg
    1100                1105                1110


Ala Arg  His Ala Thr Pro Pro  Ser Thr Pro Lys Arg  Gly Ser Ala
    1115                1120                1125


Gly Ala  Gln Tyr Ala Ile
    1130


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Gly Gly Ser Cys Cys Pro Ser Pro His Pro Ser Ser Ala Pro Arg Ser
1               5                  10                  15


Ala Ser Thr Pro Arg Gly Phe Ser His Gln Gly Arg Pro Gly Arg Ala
            20                  25                  30


Pro Ala Thr Pro Leu Pro Leu Val Val Arg Pro Leu Phe Ser Val Ala
        35                  40                  45


Pro Gly Asp Arg Ala Leu Ser Leu Glu Arg Ala Arg Gly Thr Gly Ala
    50                  55                  60


Ser Met Ala Val Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly Ala
65                  70                  75                  80


Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg Ser Pro Arg
                85                  90                  95


Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr Arg Glu Arg
            100                 105                 110


Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu Thr
        115                 120                 125


Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met
    130                 135                 140
```

```
Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr Lys
145                 150                 155                 160

Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg
                165                 170                 175

Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val Gly
            180                 185                 190

Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Arg
        195                 200                 205

Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu Ile
    210                 215                 220

Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr
225                 230                 235                 240

Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala
                245                 250                 255

Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg Arg
            260                 265                 270

Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe Tyr Trp Ser
        275                 280                 285

Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu Glu Ala Arg
    290                 295                 300

Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met Gln Asn Cys
305                 310                 315                 320

Thr Glu Ala Asn Arg Gln Pro Phe Pro Gly Tyr Ile Asp Pro Asp Ser
                325                 330                 335

Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu Thr Ser Gly Gly
            340                 345                 350

Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala Phe Ala Gln Met
        355                 360                 365

Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile Ser Thr
    370                 375                 380

Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn Asp
385                 390                 395                 400

Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr Leu
                405                 410                 415
```

```
Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu Gly Asn Ile Met
            420                 425                 430

Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala Asn
        435                 440                 445

Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys Gly
    450                 455                 460

Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp Leu Arg Gly Asp
465                 470                 475                 480

Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu Lys
                485                 490                 495

Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Lys Asp Thr
            500                 505                 510

Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu Leu Ser
        515                 520                 525

Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr Trp
    530                 535                 540

Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu Asp Gln Gly
545                 550                 555                 560

Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg His Leu
                565                 570                 575

Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser Phe Thr
            580                 585                 590

Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly Glu Glu
        595                 600                 605

Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu Trp
    610                 615                 620

Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys Ala
625                 630                 635                 640

Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu Ala Cys
                645                 650                 655

Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg Lys
            660                 665                 670

Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys Val
        675                 680                 685
```

```
Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His Ser
    690                 695                 700

Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu Ser
705                 710                 715                 720

Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly Tyr Arg
                725                 730                 735

Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr Thr
            740                 745                 750

Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg Ile
        755                 760                 765

Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val Thr
    770                 775                 780

Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile Gln
785                 790                 795                 800

Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser Ser
                805                 810                 815

Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe Arg
            820                 825                 830

Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val Leu
        835                 840                 845

Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu Pro
    850                 855                 860

Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu Trp
865                 870                 875                 880

Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn Asn
                885                 890                 895

Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Arg Phe Thr
            900                 905                 910

Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn Ala
        915                 920                 925

Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg Ser
    930                 935                 940

Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp Ile
945                 950                 955                 960
```

```
Pro Glu Trp Arg Arg Asp Ile Gly Arg Val Ile Lys Lys Ser Leu Val
                965                 970                 975

Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val Ala Val Leu Pro
            980                 985                 990

Gly Leu Pro Thr Thr Ala Glu Leu  Phe Val Leu Pro Tyr  Gln Asp Pro
        995                 1000                1005

Ala Gly  Glu Asn Lys Arg Ser  Thr Asp Asp Leu Glu  Gln Ile Ser
    1010                1015                1020

Glu Leu  Leu Ile His Thr Leu  Asn Gln Asn Ser Val  His Phe Glu
    1025                1030                1035

Leu Lys  Pro Gly Val Arg Val  Leu Val His Ala Ala  His Leu Thr
    1040                1045                1050

Ala Ala  Pro Leu Val Asp Leu  Thr Pro Thr His Ser  Gly Ser Ala
    1055                1060                1065

Met Leu  Met Leu Leu Ser Val  Val Phe Val Gly Leu  Ala Val Phe
    1070                1075                1080

Val Ile  Tyr Lys Phe Lys Arg  Lys Ile Pro Gly Ile  Asn Val Tyr
    1085                1090                1095

Ala Gln  Met Gln Asn Glu Lys  Glu Gln Glu Met Ile  Ser Pro Val
    1100                1105                1110

Ser His  Ser Glu Ser Arg Pro  Asn Val Pro Gln Thr  Glu Leu Arg
    1115                1120                1125

Arg Pro  Gly Gln Leu Ile Asp  Glu Lys Val Glu Ser  Gln Leu Ile
    1130                1135                1140

Gly Ser  Ile Ser Ile Val Ala  Glu Asn Gln Ser Thr  Lys Glu Ile
    1145                1150                1155

Pro Thr  Tyr Val Asn Val
    1160


<210>  8
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<213>  Homo sapiens


<220>
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<222>  (1)..(1146)
<223>  proSorCS1c, Isoform 3
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Gly Gly Ser Cys Cys Pro Ser Pro His Pro Ser Ser Ala Pro Arg Ser
1               5                  10                  15

Ala Ser Thr Pro Arg Gly Phe Ser His Gln Gly Arg Pro Gly Arg Ala
            20                  25                  30

Pro Ala Thr Pro Leu Pro Leu Val Val Arg Pro Leu Phe Ser Val Ala
        35                  40                  45

Pro Gly Asp Arg Ala Leu Ser Leu Glu Arg Ala Arg Gly Thr Gly Ala
    50                  55                  60

Ser Met Ala Val Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly Ala
65                  70                  75                  80

Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg Ser Pro Arg
                85                  90                  95

Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr Arg Glu Arg
            100                 105                 110

Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu Thr
        115                 120                 125

Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met
    130                 135                 140

Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr Lys
145                 150                 155                 160

Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg
                165                 170                 175

Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val Gly
            180                 185                 190

Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Arg
        195                 200                 205

Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu Ile
    210                 215                 220

Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr
225                 230                 235                 240

Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala
                245                 250                 255

Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg Arg
```

260 265 270

Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe Tyr Trp Ser
275 280 285

Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu Glu Ala Arg
290 295 300

Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met Gln Asn Cys
305 310 315 320

Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr Ile Asp Pro Asp
325 330 335

Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu Thr Ser Gly
340 345 350

Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala Phe Ala Gln
355 360 365

Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile Ser
370 375 380

Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn
385 390 395 400

Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr
405 410 415

Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu Gly Asn Ile
420 425 430

Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala
435 440 445

Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys
450 455 460

Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp Leu Arg Gly
465 470 475 480

Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu
485 490 495

Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Lys Asp
500 505 510

Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu Leu
515 520 525

Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr

530 535 540

Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu Asp Gln
545 550 555 560

Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg His
565 570 575

Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser Phe
580 585 590

Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly Glu
595 600 605

Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu
610 615 620

Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys
625 630 635 640

Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu Ala
645 650 655

Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg
660 665 670

Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys
675 680 685

Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His
690 695 700

Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu
705 710 715 720

Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly Tyr
725 730 735

Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr
740 745 750

Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg
755 760 765

Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val
770 775 780

Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile
785 790 795 800

Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser

805 810 815

Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe
820 825 830

Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val
835 840 845

Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu
850 855 860

Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu
865 870 875 880

Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn
885 890 895

Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Arg Phe
900 905 910

Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn
915 920 925

Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg
930 935 940

Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp
945 950 955 960

Ile Pro Glu Trp Arg Arg Asp Ile Gly Arg Val Ile Lys Lys Ser Leu
965 970 975

Val Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val Ala Val Leu
980 985 990

Pro Gly Leu Pro Thr Thr Ala Glu Leu Phe Val Leu Pro Tyr Gln Asp
995 1000 1005

Pro Ala Gly Glu Asn Lys Arg Ser Thr Asp Asp Leu Glu Gln Ile
1010 1015 1020

Ser Glu Leu Leu Ile His Thr Leu Asn Gln Asn Ser Val His Phe
1025 1030 1035

Glu Leu Lys Pro Gly Val Arg Val Leu Val His Ala Ala His Leu
1040 1045 1050

Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly Ser
1055 1060 1065

Ala Met Leu Met Leu Leu Ser Val Val Phe Val Gly Leu Ala Val

```
    1070                1075                1080

Phe Val  Ile Tyr Lys Phe Lys  Arg Lys Ile Pro Gly  Ile Asn Val
    1085                1090                1095

Tyr Ala  Gln Met Gln Asn Glu  Lys Glu Gln Glu Met  Ile Ser Pro
    1100                1105                1110

Val Ser  His Ser Glu Ser Arg  Pro Asn Val Pro Gln  Thr Glu Leu
    1115                1120                1125

Arg Arg  Pro Gly Gln Leu Ile  Asp Glu Lys Val Glu  Ser Gln Leu
    1130                1135                1140

Ile Gly  Lys
    1145
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<210> 9
<211> 1125
<212> PRT
<213> Homo sapiens

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<223> proSorCS1a, Isoform 4

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Gly Gly Ser Cys Cys Pro Ser Pro His Pro Ser Ser Ala Pro Arg Ser
1               5                   10                  15

Ala Ser Thr Pro Arg Gly Phe Ser His Gln Gly Arg Pro Gly Arg Ala
            20                  25                  30

Pro Ala Thr Pro Leu Pro Leu Val Val Arg Pro Leu Phe Ser Val Ala
        35                  40                  45

Pro Gly Asp Arg Ala Leu Ser Leu Glu Arg Ala Arg Gly Thr Gly Ala
    50                  55                  60

Ser Met Ala Val Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly Ala
65                  70                  75                  80

Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg Ser Pro Arg
                85                  90                  95

Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr Arg Glu Arg
            100                 105                 110

Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu Thr
        115                 120                 125
```

```
Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met
    130                 135                 140

Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr Lys
145                 150                 155                 160

Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg
                165                 170                 175

Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val Gly
            180                 185                 190

Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Arg
        195                 200                 205

Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu Ile
    210                 215                 220

Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr
225                 230                 235                 240

Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala
                245                 250                 255

Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg Arg
            260                 265                 270

Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe Tyr Trp Ser
        275                 280                 285

Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu Glu Ala Arg
    290                 295                 300

Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met Gln Asn Cys
305                 310                 315                 320

Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr Ile Asp Pro Asp
                325                 330                 335

Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu Thr Ser Gly
            340                 345                 350

Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala Phe Ala Gln
        355                 360                 365

Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile Ser
    370                 375                 380

Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn
385                 390                 395                 400
```

```
Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr
                405                 410                 415

Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu Gly Asn Ile
            420                 425                 430

Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala
        435                 440                 445

Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys
    450                 455                 460

Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp Leu Arg Gly
465                 470                 475                 480

Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu
                485                 490                 495

Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ala Ser Lys Asp Thr
            500                 505                 510

Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu Leu Ser
        515                 520                 525

Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr Trp
    530                 535                 540

Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu Asp Gln Gly
545                 550                 555                 560

Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg His Leu
                565                 570                 575

Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser Phe Thr
            580                 585                 590

Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly Glu Glu
        595                 600                 605

Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu Trp
    610                 615                 620

Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys Ala
625                 630                 635                 640

Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu Ala Cys
                645                 650                 655

Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg Lys
            660                 665                 670
```

```
Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys Val
        675                 680                 685

Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His Ser
    690                 695                 700

Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu Ser
705                 710                 715                 720

Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly Tyr Arg
                725                 730                 735

Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr Thr
            740                 745                 750

Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg Ile
        755                 760                 765

Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val Thr
    770                 775                 780

Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile Gln
785                 790                 795                 800

Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser Ser
                805                 810                 815

Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe Arg
            820                 825                 830

Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val Leu
        835                 840                 845

Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu Pro
    850                 855                 860

Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu Trp
865                 870                 875                 880

Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn Asn
                885                 890                 895

Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Arg Phe Thr
            900                 905                 910

Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn Ala
        915                 920                 925

Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg Ser
    930                 935                 940
```

```
Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp Ile
945                 950                 955                 960


Pro Glu Trp Arg Arg Asp Ile Gly Arg Val Ile Lys Lys Ser Leu Val
                965                 970                 975


Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val Ala Val Leu Pro
            980                 985                 990


Gly Leu Pro Thr Thr Ala Glu Leu  Phe Val Leu Pro Tyr  Gln Asp Pro
        995                 1000                1005


Ala Gly  Glu Asn Lys Arg Ser  Thr Asp Asp Leu Glu  Gln Ile Ser
    1010                1015                1020


Glu Leu  Leu Ile His Thr Leu  Asn Gln Asn Ser Val  His Phe Glu
    1025                1030                1035


Leu Lys  Pro Gly Val Arg Val  Leu Val His Ala Ala  His Leu Thr
    1040                1045                1050


Ala Ala  Pro Leu Val Asp Leu  Thr Pro Thr His Ser  Gly Ser Ala
    1055                1060                1065


Met Leu  Met Leu Leu Ser Val  Val Phe Val Gly Leu  Ala Val Phe
    1070                1075                1080


Val Ile  Tyr Lys Phe Lys Arg  Cys Val Ser Leu Tyr  Pro Arg Ser
    1085                1090                1095


Pro Thr  Pro Asp Leu Phe Leu  Leu Pro Asp Arg Phe  Arg Ser Met
    1100                1105                1110


Cys Tyr  Ser Asp Val His Ser  Ser Asp Gly Phe Tyr
    1115                1120                1125


<210>  10
<211>  1046
<212>  PRT
<213>  Homo sapiens


<220>
<221>  MISC_FEATURE
<222>  (1)..(1046)
<223>  Soluble proSorCS1

<400>  10

Gly Phe Ser His Gln Gly Arg Pro Gly Arg Ala Pro Ala Thr Pro Leu
1               5                   10                  15


Pro Leu Val Val Arg Pro Leu Phe Ser Val Ala Pro Gly Asp Arg Ala
            20                  25                  30
```

```
Leu Ser Leu Glu Arg Ala Arg Gly Thr Gly Ala Ser Met Ala Val Ala
        35                  40                  45

Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly Ala Asp Gln Glu Lys Ala
    50                  55                  60

Glu Arg Gly Glu Gly Ala Ser Arg Ser Pro Arg Gly Val Leu Arg Asp
65                  70                  75                  80

Gly Gly Gln Gln Glu Pro Gly Thr Arg Glu Arg Asp Pro Asp Lys Ala
                85                  90                  95

Thr Arg Phe Arg Met Glu Glu Leu Arg Leu Thr Ser Thr Thr Phe Ala
            100                 105                 110

Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met Val His Trp Ser Gly
        115                 120                 125

His Asn Ser Ser Val Ile Leu Ile Leu Thr Lys Leu Tyr Asp Tyr Asn
    130                 135                 140

Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg Ser Thr Asp Tyr Gly
145                 150                 155                 160

Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val Gly Leu Lys Thr Ile Leu
                165                 170                 175

Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Arg Lys Ile Met Leu Leu
            180                 185                 190

Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu Ile Ser Ser Asp Glu Gly
        195                 200                 205

Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr Ile Gln Ser Leu Leu
    210                 215                 220

Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala Tyr Ser Gln Asp Gln
225                 230                 235                 240

Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg Arg Trp Gln Leu Ile Gln
                245                 250                 255

Glu Gly Val Val Pro Asn Arg Phe Tyr Trp Ser Val Met Gly Ser Asn
            260                 265                 270

Lys Glu Pro Asp Leu Val His Leu Glu Ala Arg Thr Val Asp Gly His
        275                 280                 285

Ser His Tyr Leu Thr Cys Arg Met Gln Asn Cys Thr Glu Ala Asn Arg
    290                 295                 300
```

```
Asn Gln Pro Phe Pro Gly Tyr Ile Asp Pro Asp Ser Leu Ile Val Gln
305                 310                 315                 320

Asp His Tyr Val Phe Val Gln Leu Thr Ser Gly Gly Arg Pro His Tyr
                325                 330                 335

Tyr Val Ser Tyr Arg Arg Asn Ala Phe Ala Gln Met Lys Leu Pro Lys
            340                 345                 350

Tyr Ala Leu Pro Lys Asp Met His Val Ile Ser Thr Asp Glu Asn Gln
        355                 360                 365

Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn Asp Thr Tyr Asn Leu
    370                 375                 380

Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr Leu Ala Leu Glu Asn
385                 390                 395                 400

Val Gln Ser Ser Arg Gly Pro Glu Gly Asn Ile Met Ile Asp Leu Tyr
                405                 410                 415

Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala Asn Lys Lys Ile Asp
            420                 425                 430

Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys Gly Arg Asp Trp Arg
        435                 440                 445

Leu Leu Gln Ala Pro Asp Thr Asp Leu Arg Gly Asp Pro Val His Cys
    450                 455                 460

Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu Lys Val Ser Glu Asn
465                 470                 475                 480

Pro Tyr Thr Ser Gly Ile Ile Ala Ser Lys Asp Thr Ala Pro Ser Ile
                485                 490                 495

Ile Val Ala Ser Gly Asn Ile Gly Ser Glu Leu Ser Asp Thr Asp Ile
            500                 505                 510

Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr Trp Arg Gln Ile Phe
        515                 520                 525

Glu Glu Glu His Ser Val Leu Tyr Leu Asp Gln Gly Gly Val Leu Val
    530                 535                 540

Ala Met Lys His Thr Ser Leu Pro Ile Arg His Leu Trp Leu Ser Phe
545                 550                 555                 560

Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser Phe Thr Ser Ile Pro Leu
                565                 570                 575
```

```
Phe Val Asp Gly Val Leu Gly Glu Pro Gly Glu Glu Thr Leu Ile Met
            580                 585                 590

Thr Val Phe Gly His Phe Ser His Arg Ser Glu Trp Gln Leu Val Lys
        595                 600                 605

Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys Ala Glu Glu Asp Tyr
    610                 615                 620

Arg Pro Trp Gln Leu His Ser Gln Gly Glu Ala Cys Ile Met Gly Ala
625                 630                 635                 640

Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg Lys Cys Met Gln Gly
                645                 650                 655

Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys Val Cys Thr Glu Ala
            660                 665                 670

Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His Ser Asn Gly Gln Cys
        675                 680                 685

Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu Ser Lys Asp Cys Ser
    690                 695                 700

Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly Tyr Arg Lys Val Val Ser
705                 710                 715                 720

Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr Thr Ala Lys Pro Gln
                725                 730                 735

Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg Ile Val Thr Ala Asp
            740                 745                 750

Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val Thr Leu Met Val Gln
        755                 760                 765

Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile Gln Val Asp Phe Gly
    770                 775                 780

Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser Ser Met Glu Asp Gly
785                 790                 795                 800

Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe Arg Val Thr Val Gln
                805                 810                 815

Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val Leu Tyr Leu His Val
            820                 825                 830

Thr Cys Pro Leu Glu His Val His Leu Ser Leu Pro Phe Val Thr Thr
        835                 840                 845
```

```
Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu Trp Pro Ser Gln Val
    850                 855                 860

Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn Asn Thr Glu Pro Leu
865                 870                 875                 880

Ile Thr Leu Glu Gly Ser Ile Ser Phe Arg Phe Thr Ser Glu Gly Met
                885                 890                 895

Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn Ala Ile Leu Gln Asp
            900                 905                 910

Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg Ser Leu Arg Leu Ser
        915                 920                 925

Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp Ile Pro Glu Trp Arg
    930                 935                 940

Arg Asp Ile Gly Arg Val Ile Lys Lys Ser Leu Val Glu Ala Thr Gly
945                 950                 955                 960

Val Pro Gly Gln His Ile Leu Val Ala Val Leu Pro Gly Leu Pro Thr
                965                 970                 975

Thr Ala Glu Leu Phe Val Leu Pro Tyr Gln Asp Pro Ala Gly Glu Asn
            980                 985                 990

Lys Arg Ser Thr Asp Asp Leu Glu  Gln Ile Ser Glu Leu  Leu Ile His
        995                 1000                1005

Thr Leu  Asn Gln Asn Ser Val  His Phe Glu Leu Lys  Pro Gly Val
    1010                1015                1020

Arg Val  Leu Val His Ala Ala  His Leu Thr Ala Ala  Pro Leu Val
    1025                1030                1035

Asp Leu  Thr Pro Thr His Ser  Gly
    1040                1045


<210>  11
<211>  1058
<212>  PRT
<213>  Homo sapiens


<220>
<221>  MISC_FEATURE
<222>  (1)..(1058)
<223>  Mature SorCS1b, Isoform 1

<400>  11

Ser Gly Ala Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg
1               5                   10                  15
```

```
Ser Pro Arg Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr
            20                  25                  30

Arg Glu Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu
        35                  40                  45

Arg Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
    50                  55                  60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65                  70                  75                  80

Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
                85                  90                  95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
            100                 105                 110

Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
        115                 120                 125

Asn Lys Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
    130                 135                 140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145                 150                 155                 160

Asn Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
                165                 170                 175

Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe
            180                 185                 190

Gly Arg Arg Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe
        195                 200                 205

Tyr Trp Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu
    210                 215                 220

Glu Ala Arg Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met
225                 230                 235                 240

Gln Asn Cys Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr Ile
                245                 250                 255

Asp Pro Asp Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu
            260                 265                 270

Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala
        275                 280                 285
```

```
Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His
    290                 295                 300

Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305                 310                 315                 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val
                325                 330                 335

Tyr Phe Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu
            340                 345                 350

Gly Asn Ile Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met
        355                 360                 365

Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr
    370                 375                 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp
385                 390                 395                 400

Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His
                405                 410                 415

Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala
            420                 425                 430

Ser Lys Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly
        435                 440                 445

Ser Glu Leu Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala
    450                 455                 460

Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr
465                 470                 475                 480

Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro
                485                 490                 495

Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys
            500                 505                 510

Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu
        515                 520                 525

Pro Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His
    530                 535                 540

Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp
545                 550                 555                 560
```

```
Arg Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln
                565                 570                 575

Gly Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys
            580                 585                 590

Ser Glu Arg Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser
        595                 600                 605

Glu Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr
    610                 615                 620

Glu Arg His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro
625                 630                 635                 640

Ser Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser
                645                 650                 655

Thr Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg
            660                 665                 670

Glu Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg
        675                 680                 685

Gly Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly
    690                 695                 700

His Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg
705                 710                 715                 720

Thr Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val
                725                 730                 735

Asn Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val
            740                 745                 750

Gly Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp
        755                 760                 765

Ser Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His
    770                 775                 780

Leu Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr
785                 790                 795                 800

Ala Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp
                805                 810                 815

Tyr Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser
            820                 825                 830
```

```
Phe Arg Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser
        835                 840                 845

Ala Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu
    850                 855                 860

Glu Phe Arg Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr
865                 870                 875                 880

Asn Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Gly Arg Val Ile Lys
                885                 890                 895

Lys Ser Leu Val Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val
            900                 905                 910

Ala Val Leu Pro Gly Leu Pro Thr Thr Ala Glu Leu Phe Val Leu Pro
        915                 920                 925

Tyr Gln Asp Pro Ala Gly Glu Asn Lys Arg Ser Thr Asp Asp Leu Glu
    930                 935                 940

Gln Ile Ser Glu Leu Leu Ile His Thr Leu Asn Gln Asn Ser Val His
945                 950                 955                 960

Phe Glu Leu Lys Pro Gly Val Arg Val Leu Val His Ala Ala His Leu
                965                 970                 975

Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly Ser Ala
            980                 985                 990

Met Leu Met Leu Leu Ser Val Val  Phe Val Gly Leu Ala  Val Phe Val
        995                 1000                1005

Ile Tyr  Lys Phe Lys Arg Arg  Val Ala Leu Pro Ser  Pro Pro Ser
    1010                1015                1020

Pro Ser  Thr Gln Pro Gly Asp  Ser Ser Leu Arg Leu  Gln Arg Ala
    1025                1030                1035

Arg His  Ala Thr Pro Pro Ser  Thr Pro Lys Arg Gly  Ser Ala Gly
    1040                1045                1050

Ala Gln  Tyr Ala Ile
    1055
```

<210> 12
<211> 1087
<212> PRT
<213> Homo sapiens

<220>
<221> MISC_FEATURE
<222> (1)..(1087)
<223> Mature SorCS1, Isoform 2

<400> 12

Ser Gly Ala Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg
1 5 10 15

Ser Pro Arg Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr
20 25 30

Arg Glu Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu
35 40 45

Arg Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
50 55 60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65 70 75 80

Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
85 90 95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
100 105 110

Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
115 120 125

Asn Lys Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
130 135 140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145 150 155 160

Asn Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
165 170 175

Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe
180 185 190

Gly Arg Arg Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe
195 200 205

Tyr Trp Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu
210 215 220

Glu Ala Arg Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met
225 230 235 240

Gln Asn Cys Thr Glu Ala Asn Arg Gln Pro Phe Pro Gly Tyr Ile Asp

245 250 255

Pro Asp Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu Thr
260 265 270

Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala Phe
275 280 285

Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val
290 295 300

Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn
305 310 315 320

Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr
325 330 335

Phe Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu Gly
340 345 350

Asn Ile Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe
355 360 365

Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr
370 375 380

Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp Leu
385 390 395 400

Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu
405 410 415

His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser
420 425 430

Lys Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser
435 440 445

Glu Leu Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly
450 455 460

Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu
465 470 475 480

Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile
485 490 495

Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr
500 505 510

Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro

```
        515                 520                 525

Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg
    530                 535                 540

Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg
545                 550                 555                 560

Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly
                565                 570                 575

Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser
            580                 585                 590

Glu Arg Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser Glu
        595                 600                 605

Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu
    610                 615                 620

Arg His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser
625                 630                 635                 640

Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr
                645                 650                 655

Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu
            660                 665                 670

Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly
        675                 680                 685

Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His
    690                 695                 700

Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr
705                 710                 715                 720

Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn
                725                 730                 735

Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly
            740                 745                 750

Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser
        755                 760                 765

Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu
    770                 775                 780

Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala
```

785 790 795 800

Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr
805 810 815

Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe
820 825 830

Arg Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala
835 840 845

Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu
850 855 860

Phe Arg Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn
865 870 875 880

Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Gly Arg Val Ile Lys Lys
885 890 895

Ser Leu Val Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val Ala
900 905 910

Val Leu Pro Gly Leu Pro Thr Thr Ala Glu Leu Phe Val Leu Pro Tyr
915 920 925

Gln Asp Pro Ala Gly Glu Asn Lys Arg Ser Thr Asp Asp Leu Glu Gln
930 935 940

Ile Ser Glu Leu Leu Ile His Thr Leu Asn Gln Asn Ser Val His Phe
945 950 955 960

Glu Leu Lys Pro Gly Val Arg Val Leu Val His Ala Ala His Leu Thr
965 970 975

Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly Ser Ala Met
980 985 990

Leu Met Leu Leu Ser Val Val Phe Val Gly Leu Ala Val Phe Val Ile
995 1000 1005

Tyr Lys Phe Lys Arg Lys Ile Pro Gly Ile Asn Val Tyr Ala Gln
1010 1015 1020

Met Gln Asn Glu Lys Glu Gln Glu Met Ile Ser Pro Val Ser His
1025 1030 1035

Ser Glu Ser Arg Pro Asn Val Pro Gln Thr Glu Leu Arg Arg Pro
1040 1045 1050

Gly Gln Leu Ile Asp Glu Lys Val Glu Ser Gln Leu Ile Gly Ser

1055 1060 1065

Ile Ser Ile Val Ala Glu Asn Gln Ser Thr Lys Glu Ile Pro Thr
1070 1075 1080

Tyr Val Asn Val
1085

<210> 13
<211> 1069
<212> PRT
<213> Homo sapiens

<220>
<221> MISC_FEATURE
<222> (1)..(1069)
<223> Mature SorCS1c, Isoform 3

<400> 13

Ser Gly Ala Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg
1 5 10 15

Ser Pro Arg Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr
20 25 30

Arg Glu Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu
35 40 45

Arg Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
50 55 60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65 70 75 80

Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
85 90 95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
100 105 110

Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
115 120 125

Asn Lys Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
130 135 140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145 150 155 160

Asn Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
165 170 175

```
Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe
            180                 185                 190

Gly Arg Arg Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe
        195                 200                 205

Tyr Trp Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu
    210                 215                 220

Glu Ala Arg Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met
225                 230                 235                 240

Gln Asn Cys Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr Ile
                245                 250                 255

Asp Pro Asp Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu
            260                 265                 270

Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala
        275                 280                 285

Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His
    290                 295                 300

Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305                 310                 315                 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val
                325                 330                 335

Tyr Phe Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu
            340                 345                 350

Gly Asn Ile Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met
        355                 360                 365

Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr
    370                 375                 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp
385                 390                 395                 400

Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His
                405                 410                 415

Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala
            420                 425                 430

Ser Lys Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly
        435                 440                 445
```

```
Ser Glu Leu Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala
    450                 455                 460

Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr
465                 470                 475                 480

Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro
                485                 490                 495

Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys
            500                 505                 510

Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu
        515                 520                 525

Pro Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His
    530                 535                 540

Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp
545                 550                 555                 560

Arg Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln
                565                 570                 575

Gly Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys
            580                 585                 590

Ser Glu Arg Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser
        595                 600                 605

Glu Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr
    610                 615                 620

Glu Arg His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro
625                 630                 635                 640

Ser Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser
                645                 650                 655

Thr Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg
            660                 665                 670

Glu Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg
        675                 680                 685

Gly Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly
    690                 695                 700

His Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg
705                 710                 715                 720
```

```
Thr Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val
                725                 730                 735

Asn Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val
            740                 745                 750

Gly Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp
        755                 760                 765

Ser Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His
    770                 775                 780

Leu Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr
785                 790                 795                 800

Ala Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp
                805                 810                 815

Tyr Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser
            820                 825                 830

Phe Arg Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser
        835                 840                 845

Ala Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu
    850                 855                 860

Glu Phe Arg Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr
865                 870                 875                 880

Asn Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Gly Arg Val Ile Lys
                885                 890                 895

Lys Ser Leu Val Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val
            900                 905                 910

Ala Val Leu Pro Gly Leu Pro Thr Thr Ala Glu Leu Phe Val Leu Pro
        915                 920                 925

Tyr Gln Asp Pro Ala Gly Glu Asn Lys Arg Ser Thr Asp Asp Leu Glu
    930                 935                 940

Gln Ile Ser Glu Leu Leu Ile His Thr Leu Asn Gln Asn Ser Val His
945                 950                 955                 960

Phe Glu Leu Lys Pro Gly Val Arg Val Leu Val His Ala Ala His Leu
                965                 970                 975

Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly Ser Ala
            980                 985                 990
```

Met Leu Met Leu Leu Ser Val Val Phe Val Gly Leu Ala Val Phe Val
995 1000 1005

Ile Tyr Lys Phe Lys Arg Lys Ile Pro Gly Ile Asn Val Tyr Ala
1010 1015 1020

Gln Met Gln Asn Glu Lys Glu Gln Glu Met Ile Ser Pro Val Ser
1025 1030 1035

His Ser Glu Ser Arg Pro Asn Val Pro Gln Thr Glu Leu Arg Arg
1040 1045 1050

Pro Gly Gln Leu Ile Asp Glu Lys Val Glu Ser Gln Leu Ile Gly
1055 1060 1065

Lys

<210> 14
<211> 1048
<212> PRT
<213> Homo sapiens

<220>
<221> MISC_FEATURE
<222> (1)..(1048)
<223> Mature SorCS1a, Isoform 4

<400> 14

Ser Gly Ala Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg
1 5 10 15

Ser Pro Arg Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr
20 25 30

Arg Glu Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu
35 40 45

Arg Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
50 55 60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65 70 75 80

Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
85 90 95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
100 105 110

Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
115 120 125

```
Asn Lys Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
    130                 135                 140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145                 150                 155                 160

Asn Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
                165                 170                 175

Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe
            180                 185                 190

Gly Arg Arg Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe
        195                 200                 205

Tyr Trp Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu
    210                 215                 220

Glu Ala Arg Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met
225                 230                 235                 240

Gln Asn Cys Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr Ile
                245                 250                 255

Asp Pro Asp Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu
            260                 265                 270

Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala
        275                 280                 285

Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His
    290                 295                 300

Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305                 310                 315                 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val
                325                 330                 335

Tyr Phe Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu
            340                 345                 350

Gly Asn Ile Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met
        355                 360                 365

Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr
    370                 375                 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp
385                 390                 395                 400
```

```
Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His
                405                 410                 415

Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ala Ser
            420                 425                 430

Lys Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser
        435                 440                 445

Glu Leu Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly
    450                 455                 460

Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu
465                 470                 475                 480

Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile
                485                 490                 495

Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr
            500                 505                 510

Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro
        515                 520                 525

Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg
    530                 535                 540

Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg
545                 550                 555                 560

Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly
                565                 570                 575

Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser
            580                 585                 590

Glu Arg Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser Glu
        595                 600                 605

Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu
    610                 615                 620

Arg His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser
625                 630                 635                 640

Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr
                645                 650                 655

Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu
            660                 665                 670
```

```
Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly
        675                 680                 685

Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His
    690                 695                 700

Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr
705                 710                 715                 720

Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn
                725                 730                 735

Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly
            740                 745                 750

Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser
        755                 760                 765

Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu
    770                 775                 780

Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala
785                 790                 795                 800

Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr
                805                 810                 815

Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe
            820                 825                 830

Arg Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala
        835                 840                 845

Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu
    850                 855                 860

Phe Arg Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn
865                 870                 875                 880

Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Gly Arg Val Ile Lys Lys
                885                 890                 895

Ser Leu Val Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val Ala
            900                 905                 910

Val Leu Pro Gly Leu Pro Thr Thr Ala Glu Leu Phe Val Leu Pro Tyr
        915                 920                 925

Gln Asp Pro Ala Gly Glu Asn Lys Arg Ser Thr Asp Asp Leu Glu Gln
    930                 935                 940
```

```
Ile Ser Glu Leu Leu Ile His Thr Leu Asn Gln Asn Ser Val His Phe
945                 950                 955                 960


Glu Leu Lys Pro Gly Val Arg Val Leu Val His Ala Ala His Leu Thr
                965                 970                 975


Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly Ser Ala Met
            980                 985                 990


Leu Met Leu Leu Ser Val Val Phe  Val Gly Leu Ala Val  Phe Val Ile
        995                 1000                1005


Tyr Lys  Phe Lys Arg Cys Val  Ser Leu Tyr Pro Arg  Ser Pro Thr
    1010                1015                1020


Pro Asp  Leu Phe Leu Leu Pro  Asp Arg Phe Arg Ser  Met Cys Tyr
    1025                1030                1035


Ser Asp  Val His Ser Ser Asp  Gly Phe Tyr
    1040                1045


<210>  15
<211>  990
<212>  PRT
<213>  Homo sapiens


<220>
<221>  MISC_FEATURE
<222>  (1)..(990)
<223>  Soluble mature SorCS1

<400>  15

Ser Gly Ala Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg
1               5                   10                  15


Ser Pro Arg Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr
            20                  25                  30


Arg Glu Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu
        35                  40                  45


Arg Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
    50                  55                  60


Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65                  70                  75                  80


Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
                85                  90                  95


Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
            100                 105                 110
```

```
Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
        115                 120                 125

Asn Lys Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
    130                 135                 140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145                 150                 155                 160

Asn Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
                165                 170                 175

Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe
            180                 185                 190

Gly Arg Arg Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe
        195                 200                 205

Tyr Trp Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu
    210                 215                 220

Glu Ala Arg Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met
225                 230                 235                 240

Gln Asn Cys Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr Ile
                245                 250                 255

Asp Pro Asp Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu
            260                 265                 270

Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala
        275                 280                 285

Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His
    290                 295                 300

Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305                 310                 315                 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val
                325                 330                 335

Tyr Phe Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu
            340                 345                 350

Gly Asn Ile Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met
        355                 360                 365

Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr
    370                 375                 380
```

```
Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp
385                 390                 395                 400

Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His
                405                 410                 415

Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala
            420                 425                 430

Ser Lys Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly
        435                 440                 445

Ser Glu Leu Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala
    450                 455                 460

Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr
465                 470                 475                 480

Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro
                485                 490                 495

Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys
            500                 505                 510

Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu
        515                 520                 525

Pro Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His
    530                 535                 540

Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp
545                 550                 555                 560

Arg Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln
                565                 570                 575

Gly Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys
            580                 585                 590

Ser Glu Arg Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser
        595                 600                 605

Glu Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr
    610                 615                 620

Glu Arg His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro
625                 630                 635                 640

Ser Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser
                645                 650                 655
```

```
Thr Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg
            660                 665                 670

Glu Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg
        675                 680                 685

Gly Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly
    690                 695                 700

His Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg
705                 710                 715                 720

Thr Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val
                725                 730                 735

Asn Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val
            740                 745                 750

Gly Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp
        755                 760                 765

Ser Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His
    770                 775                 780

Leu Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr
785                 790                 795                 800

Ala Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp
                805                 810                 815

Tyr Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser
            820                 825                 830

Phe Arg Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser
        835                 840                 845

Ala Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu
    850                 855                 860

Glu Phe Arg Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr
865                 870                 875                 880

Asn Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Gly Arg Val Ile Lys
                885                 890                 895

Lys Ser Leu Val Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val
            900                 905                 910

Ala Val Leu Pro Gly Leu Pro Thr Thr Ala Glu Leu Phe Val Leu Pro
        915                 920                 925
```

```
Tyr Gln Asp Pro Ala Gly Glu Asn Lys Arg Ser Thr Asp Asp Leu Glu
    930                 935                 940

Gln Ile Ser Glu Leu Leu Ile His Thr Leu Asn Gln Asn Ser Val His
945                 950                 955                 960

Phe Glu Leu Lys Pro Gly Val Arg Val Leu Val His Ala Ala His Leu
                965                 970                 975

Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly
            980                 985                 990

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<213>  Mus musculus

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<222>  (1)..(1167)
<223>  preproSorCS1b, isoform 1

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Met Gly Lys Val Gly Ala Gly Asp Gly Ser Ser Ala Gly Leu Ser Ala
1               5                   10                  15

Leu Leu Ala Gly Ala Gly Leu Leu Met Leu Leu Ala Pro Gly Val Cys
            20                  25                  30

Ser Ser Leu Ser Cys Cys Pro Pro Gln His Pro Ser Ser Thr Pro Arg
        35                  40                  45

Arg Thr Leu Thr Pro Arg Gly Phe Pro His Pro Gly Pro Leu Gly Arg
    50                  55                  60

Ala Pro Ala Thr Pro Pro Pro Leu Phe Met Arg Pro Leu Phe Ala Val
65                  70                  75                  80

Ala Pro Gly Asp Arg Ala Leu Phe Leu Glu Arg Ala Gly Gly Ser Arg
                85                  90                  95

Val Ser Val Ala Thr Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly
            100                 105                 110

Thr Glu Pro Glu Lys Ile Glu Pro Gly Glu Gly Ala Ser Arg Ser Arg
        115                 120                 125

Arg Asp Met Leu Lys Asp Gly Gly Gln Gln Gly Leu Gly Thr Gly Ala
    130                 135                 140

Arg Asp Pro Gly Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu
```

145 150 155 160

Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala
165 170 175

Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr
180 185 190

Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp
195 200 205

Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val
210 215 220

Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys
225 230 235 240

Cys Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu
245 250 255

Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe
260 265 270

Tyr Leu Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu
275 280 285

Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg
290 295 300

Arg Trp Gln Leu Ile Gln Glu Ser Val Val Pro Asn Arg Phe Tyr Trp
305 310 315 320

Ser Val Met Gly Ser Ser Lys Glu Pro Asp Leu Val His Leu Glu Ala
325 330 335

Arg Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met Gln Asn
340 345 350

Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile Asp Pro
355 360 365

Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser
370 375 380

Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Ser Pro Phe Ala
385 390 395 400

Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile
405 410 415

Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln

```
            420                 425                 430

Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe
        435                 440                 445

Thr Leu Ala Leu Glu Asn Val Arg Ser Ser Arg Gly Pro Glu Gly Asn
    450                 455                 460

Val Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu
465                 470                 475                 480

Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn
                485                 490                 495

Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp Leu Arg
            500                 505                 510

Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His
        515                 520                 525

Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Arg
    530                 535                 540

Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu
545                 550                 555                 560

Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn
                565                 570                 575

Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr Leu Asp
            580                 585                 590

Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg
        595                 600                 605

His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser
    610                 615                 620

Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly
625                 630                 635                 640

Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser
                645                 650                 655

Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg
            660                 665                 670

Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu
        675                 680                 685

Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu
```

690 695 700

Arg Lys Cys Met Gln Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys
705 710 715 720

Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His
725 730 735

Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu
740 745 750

Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Ala Gly Tyr
755 760 765

Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr
770 775 780

Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg
785 790 795 800

Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val
805 810 815

Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile
820 825 830

Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser
835 840 845

Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe
850 855 860

Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val
865 870 875 880

Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu
885 890 895

Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu
900 905 910

Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn
915 920 925

Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Lys Phe
930 935 940

Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn
945 950 955 960

Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg

965 970 975

Ser Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp
980 985 990

Ile Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Ile Lys Lys Ser Leu
995 1000 1005

Val Glu Ala Thr Gly Ile Pro Ser Gln His Ile Leu Val Ala Val
1010 1015 1020

Leu Pro Gly Leu Pro Thr Ala Ala Glu Leu Phe Val Leu Pro Tyr
1025 1030 1035

Gln Asp Gly Thr Arg Glu Asn Lys Arg Ser Pro Glu Asp Leu Glu
1040 1045 1050

Gln Ile Ser Glu Val Leu Ile His Lys Leu Asn Gln Asn Leu Val
1055 1060 1065

His Phe Glu Leu Lys Pro Gly Val Gln Val Leu Val His Ala Ala
1070 1075 1080

His Leu Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser
1085 1090 1095

Gly Ser Ala Met Leu Met Leu Leu Ser Val Val Phe Val Gly Leu
1100 1105 1110

Ala Val Phe Val Ile Tyr Lys Phe Lys Arg Arg Val Ala Leu Pro
1115 1120 1125

Ser Pro Pro Ser Pro Ser Ala Gln Pro Gly Asp Ser Ser Leu Arg
1130 1135 1140

Leu Gln Arg Pro Arg Pro Ala Thr Pro Pro Ser Ser Pro Lys Arg
1145 1150 1155

Gly Ser Ala Gly Ala Gln Phe Ala Ile
1160 1165

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<211> 1147
<212> PRT
<213> Mus musculus

<220>
<221> MISC_FEATURE
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<223> preproSorCS1b, isoform 2

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Met Gly Lys Val Gly Ala Gly Asp Gly Ser Ser Ala Gly Leu Ser Ala
1               5                  10                  15

Leu Leu Ala Gly Ala Gly Leu Leu Met Leu Leu Ala Pro Gly Val Cys
            20                  25                  30

Ser Ser Leu Ser Cys Cys Pro Pro Gln His Pro Ser Ser Thr Pro Arg
        35                  40                  45

Arg Thr Leu Thr Pro Arg Gly Phe Pro His Pro Gly Pro Leu Gly Arg
    50                  55                  60

Ala Pro Ala Thr Pro Pro Pro Leu Phe Met Arg Pro Leu Phe Ala Val
65                  70                  75                  80

Ala Pro Gly Asp Arg Ala Leu Phe Leu Glu Arg Ala Gly Gly Ser Arg
                85                  90                  95

Val Ser Val Ala Thr Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly
            100                 105                 110

Thr Glu Pro Glu Lys Ile Glu Pro Gly Glu Gly Ala Ser Arg Ser Arg
        115                 120                 125

Arg Asp Met Leu Lys Asp Gly Gly Gln Gln Gly Leu Gly Thr Gly Ala
    130                 135                 140

Arg Asp Pro Gly Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu
145                 150                 155                 160

Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala
                165                 170                 175

Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr
            180                 185                 190

Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp
        195                 200                 205

Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val
    210                 215                 220

Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys
225                 230                 235                 240

Cys Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu
                245                 250                 255

Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe
            260                 265                 270
```

```
Tyr Leu Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu
        275                 280                 285

Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg
    290                 295                 300

Arg Trp Gln Leu Ile Gln Glu Ser Val Val Pro Asn Arg Phe Tyr Trp
305                 310                 315                 320

Ser Val Met Gly Ser Ser Lys Glu Pro Asp Leu Val His Leu Glu Ala
                325                 330                 335

Arg Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met Gln Asn
            340                 345                 350

Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile Asp Pro
        355                 360                 365

Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser
    370                 375                 380

Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Ser Pro Phe Ala
385                 390                 395                 400

Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile
                405                 410                 415

Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln
            420                 425                 430

Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe
        435                 440                 445

Thr Leu Ala Leu Glu Asn Val Arg Ser Ser Arg Gly Pro Glu Gly Asn
    450                 455                 460

Val Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu
465                 470                 475                 480

Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn
                485                 490                 495

Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp Leu Arg
            500                 505                 510

Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His
        515                 520                 525

Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Arg
    530                 535                 540
```

```
Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu
545                 550                 555                 560

Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn
                565                 570                 575

Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr Leu Asp
            580                 585                 590

Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg
        595                 600                 605

His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser
    610                 615                 620

Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly
625                 630                 635                 640

Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser
                645                 650                 655

Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg
            660                 665                 670

Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu
        675                 680                 685

Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu
    690                 695                 700

Arg Lys Cys Met Gln Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys
705                 710                 715                 720

Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His
                725                 730                 735

Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu
            740                 745                 750

Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Ala Gly Tyr
        755                 760                 765

Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr
    770                 775                 780

Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg
785                 790                 795                 800

Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val
                805                 810                 815
```

```
Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile
            820                 825                 830

Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser
        835                 840                 845

Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe
    850                 855                 860

Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val
865                 870                 875                 880

Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu
                885                 890                 895

Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu
            900                 905                 910

Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn
        915                 920                 925

Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Lys Phe
    930                 935                 940

Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn
945                 950                 955                 960

Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg
                965                 970                 975

Ser Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp
            980                 985                 990

Ile Pro Glu Trp Arg Arg Asp Ile  Ser Arg Val Ile Lys  Lys Ser Leu
        995                 1000                1005

Val Glu  Ala Thr Gly Ile Pro  Ser Gln His Ile Leu  Val Ala Val
    1010                1015                1020

Leu Pro  Gly Leu Pro Thr Ala  Ala Glu Leu Phe Val  Leu Pro Tyr
    1025                1030                1035

Gln Asp  Gly Thr Arg Glu Asn  Lys Arg Ser Pro Glu  Asp Leu Glu
    1040                1045                1050

Gln Ile  Ser Glu Val Leu Ile  His Lys Leu Asn Gln  Asn Leu Val
    1055                1060                1065

His Phe  Glu Leu Lys Pro Gly  Val Gln Val Leu Val  His Ala Ala
    1070                1075                1080
```

His Leu Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser
1085 1090 1095

Gly Ser Ala Met Leu Met Leu Leu Ser Val Val Phe Val Gly Leu
1100 1105 1110

Ala Val Phe Val Ile Tyr Lys Phe Lys Arg Cys Val Phe Leu Leu
1115 1120 1125

Leu Pro Ser Tyr Pro Arg Pro Pro Pro Pro Ser Ser Phe Cys Gln
1130 1135 1140

Val Gln Lys Gln
1145

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<212> PRT
<213> Mus musculus

<220>
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<222> (1)..(1178)
<223> preproSorCS1c, isoform 3

<400> 18

Met Gly Lys Val Gly Ala Gly Asp Gly Ser Ser Ala Gly Leu Ser Ala
1 5 10 15

Leu Leu Ala Gly Ala Gly Leu Leu Met Leu Leu Ala Pro Gly Val Cys
20 25 30

Ser Ser Leu Ser Cys Cys Pro Pro Gln His Pro Ser Ser Thr Pro Arg
35 40 45

Arg Thr Leu Thr Pro Arg Gly Phe Pro His Pro Gly Pro Leu Gly Arg
50 55 60

Ala Pro Ala Thr Pro Pro Pro Leu Phe Met Arg Pro Leu Phe Ala Val
65 70 75 80

Ala Pro Gly Asp Arg Ala Leu Phe Leu Glu Arg Ala Gly Gly Ser Arg
85 90 95

Val Ser Val Ala Thr Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly
100 105 110

Thr Glu Pro Glu Lys Ile Glu Pro Gly Glu Gly Ala Ser Arg Ser Arg
115 120 125

Arg Asp Met Leu Lys Asp Gly Gly Gln Gln Gly Leu Gly Thr Gly Ala
130 135 140

```
Arg Asp Pro Gly Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu
145                 150                 155                 160

Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala
                165                 170                 175

Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr
            180                 185                 190

Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp
        195                 200                 205

Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val
    210                 215                 220

Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys
225                 230                 235                 240

Cys Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu
                245                 250                 255

Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe
            260                 265                 270

Tyr Leu Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu
        275                 280                 285

Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg
    290                 295                 300

Arg Trp Gln Leu Ile Gln Glu Ser Val Val Pro Asn Arg Phe Tyr Trp
305                 310                 315                 320

Ser Val Met Gly Ser Ser Lys Glu Pro Asp Leu Val His Leu Glu Ala
                325                 330                 335

Arg Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met Gln Asn
            340                 345                 350

Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile Asp Pro
        355                 360                 365

Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser
    370                 375                 380

Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Ser Pro Phe Ala
385                 390                 395                 400

Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile
                405                 410                 415
```

```
Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln
            420                 425                 430

Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe
        435                 440                 445

Thr Leu Ala Leu Glu Asn Val Arg Ser Ser Arg Gly Pro Glu Gly Asn
    450                 455                 460

Val Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu
465                 470                 475                 480

Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn
                485                 490                 495

Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp Leu Arg
            500                 505                 510

Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His
        515                 520                 525

Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Arg
    530                 535                 540

Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu
545                 550                 555                 560

Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn
                565                 570                 575

Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr Leu Asp
            580                 585                 590

Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg
        595                 600                 605

His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser
    610                 615                 620

Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly
625                 630                 635                 640

Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser
                645                 650                 655

Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg
            660                 665                 670

Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu
        675                 680                 685
```

```
Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu
    690                 695                 700

Arg Lys Cys Met Gln Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys
705                 710                 715                 720

Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His
                725                 730                 735

Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu
            740                 745                 750

Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Ala Gly Tyr
        755                 760                 765

Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr
    770                 775                 780

Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg
785                 790                 795                 800

Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val
                805                 810                 815

Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile
            820                 825                 830

Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser
        835                 840                 845

Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe
    850                 855                 860

Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val
865                 870                 875                 880

Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu
                885                 890                 895

Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu
            900                 905                 910

Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn
        915                 920                 925

Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Lys Phe
    930                 935                 940

Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn
945                 950                 955                 960
```

```
Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg
                965                 970                 975

Ser Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp
            980                 985                 990

Ile Pro Glu Trp Arg Arg Asp Ile  Ser Arg Val Ile Lys  Lys Ser Leu
        995                 1000                1005

Val Glu  Ala Thr Gly Ile Pro  Ser Gln His Ile Leu  Val Ala Val
    1010                1015                1020

Leu Pro  Gly Leu Pro Thr Ala  Ala Glu Leu Phe Val  Leu Pro Tyr
    1025                1030                1035

Gln Asp  Gly Thr Arg Glu Asn  Lys Arg Ser Pro Glu  Asp Leu Glu
    1040                1045                1050

Gln Ile  Ser Glu Val Leu Ile  His Lys Leu Asn Gln  Asn Leu Val
    1055                1060                1065

His Phe  Glu Leu Lys Pro Gly  Val Gln Val Leu Val  His Ala Ala
    1070                1075                1080

His Leu  Thr Ala Ala Pro Leu  Val Asp Leu Thr Pro  Thr His Ser
    1085                1090                1095

Gly Ser  Ala Met Leu Met Leu  Leu Ser Val Val Phe  Val Gly Leu
    1100                1105                1110

Ala Val  Phe Val Ile Tyr Lys  Phe Lys Arg Lys Ile  Pro Gly Ile
    1115                1120                1125

Asn Val  Tyr Ala Gln Met Gln  Asn Glu Lys Glu Gln  Glu Leu Ile
    1130                1135                1140

Asn Pro  Val Ser His Ser Glu  Ser Arg Pro Ser Val  Pro His Pro
    1145                1150                1155

Asp Leu  Arg Arg Pro Gly Gln  Leu Val Asp Glu Lys  Val Glu Ser
    1160                1165                1170

Gln Leu  Leu Gly Lys
    1175
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<210> 19
<211> 1178
<212> PRT
<213> Mus musculus

<220>

<221> MISC_FEATURE
<222> (1)..(1178)
<223> preproSorCS1c+, isoform 4

<400> 19

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Met Gly Lys Val Gly Ala Gly Asp Gly Ser Ser Ala Gly Leu Ser Ala
1               5                  10                  15

Leu Leu Ala Gly Ala Gly Leu Leu Met Leu Leu Ala Pro Gly Val Cys
            20                  25                  30

Ser Ser Leu Ser Cys Cys Pro Pro Gln His Pro Ser Ser Thr Pro Arg
        35                  40                  45

Arg Thr Leu Thr Pro Arg Gly Phe Pro His Pro Gly Pro Leu Gly Arg
    50                  55                  60

Ala Pro Ala Thr Pro Pro Pro Leu Phe Met Arg Pro Leu Phe Ala Val
65                  70                  75                  80

Ala Pro Gly Asp Arg Ala Leu Phe Leu Glu Arg Ala Gly Gly Ser Arg
                85                  90                  95

Val Ser Val Ala Thr Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly
            100                 105                 110

Thr Glu Pro Glu Lys Ile Glu Pro Gly Glu Gly Ala Ser Arg Ser Arg
        115                 120                 125

Arg Asp Met Leu Lys Asp Gly Gly Gln Gln Gly Leu Gly Thr Gly Ala
    130                 135                 140

Arg Asp Pro Gly Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu
145                 150                 155                 160

Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala
                165                 170                 175

Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr
            180                 185                 190

Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp
        195                 200                 205

Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val
    210                 215                 220

Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys
225                 230                 235                 240

Cys Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu
                245                 250                 255
```

```
Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe
            260                 265                 270

Tyr Leu Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu
        275                 280                 285

Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg
    290                 295                 300

Arg Trp Gln Leu Ile Gln Glu Ser Val Val Pro Asn Arg Phe Tyr Trp
305                 310                 315                 320

Ser Val Met Gly Ser Ser Lys Glu Pro Asp Leu Val His Leu Glu Ala
                325                 330                 335

Arg Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met Gln Asn
            340                 345                 350

Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile Asp Pro
        355                 360                 365

Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser
    370                 375                 380

Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Ser Pro Phe Ala
385                 390                 395                 400

Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile
                405                 410                 415

Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln
            420                 425                 430

Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe
        435                 440                 445

Thr Leu Ala Leu Glu Asn Val Arg Ser Ser Arg Gly Pro Glu Gly Asn
    450                 455                 460

Val Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu
465                 470                 475                 480

Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn
                485                 490                 495

Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp Leu Arg
            500                 505                 510

Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His
        515                 520                 525
```

```
Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Arg
    530                 535                 540

Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu
545                 550                 555                 560

Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn
                565                 570                 575

Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr Leu Asp
            580                 585                 590

Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg
        595                 600                 605

His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser
    610                 615                 620

Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly
625                 630                 635                 640

Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser
                645                 650                 655

Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg
            660                 665                 670

Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu
        675                 680                 685

Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu
    690                 695                 700

Arg Lys Cys Met Gln Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys
705                 710                 715                 720

Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His
                725                 730                 735

Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu
            740                 745                 750

Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Ala Gly Tyr
        755                 760                 765

Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr
    770                 775                 780

Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg
785                 790                 795                 800
```

```
Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val
                805                 810                 815

Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile
            820                 825                 830

Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser
        835                 840                 845

Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe
    850                 855                 860

Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val
865                 870                 875                 880

Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu
                885                 890                 895

Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu
            900                 905                 910

Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn
        915                 920                 925

Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Lys Phe
    930                 935                 940

Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn
945                 950                 955                 960

Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg
                965                 970                 975

Ser Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp
            980                 985                 990

Ile Pro Glu Trp Arg Arg Asp Ile  Ser Arg Val Ile Lys  Lys Ser Leu
        995                 1000                1005

Val Glu  Ala Thr Gly Ile Pro  Ser Gln His Ile Leu  Val Ala Val
    1010                1015                1020

Leu Pro  Gly Leu Pro Thr Ala  Ala Glu Leu Phe Val  Leu Pro Tyr
    1025                1030                1035

Gln Asp  Gly Thr Arg Glu Asn  Lys Arg Ser Pro Glu  Asp Leu Glu
    1040                1045                1050

Gln Ile  Ser Glu Val Leu Ile  His Lys Leu Asn Gln  Asn Leu Val
    1055                1060                1065
```

His Phe Glu Leu Lys Pro Gly Val Gln Val Leu Val His Ala Ala
1070 1075 1080

His Leu Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser
1085 1090 1095

Gly Ser Ala Met Leu Met Leu Leu Ser Val Val Phe Val Gly Leu
1100 1105 1110

Ala Val Phe Val Ile Tyr Lys Phe Lys Arg Lys Ile Pro Gly Ile
1115 1120 1125

Asn Val Tyr Ala Gln Met Gln Asn Glu Lys Glu Gln Glu Leu Ile
1130 1135 1140

Asn Pro Val Ser His Ser Glu Ser Arg Ser Ser Val Pro His Pro
1145 1150 1155

Asp Leu Arg Arg Pro Gly Gln Leu Val Asp Glu Lys Val Glu Ser
1160 1165 1170

Gln Leu Leu Gly Glu
1175

<210> 20
<211> 1191
<212> PRT
<213> Mus musculus

<220>
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<222> (1)..(1191)
<223> preproSorCS1d

<400> 20

Met Gly Lys Val Gly Ala Gly Asp Gly Ser Ser Ala Gly Leu Ser Ala
1 5 10 15

Leu Leu Ala Gly Ala Gly Leu Leu Met Leu Leu Ala Pro Gly Val Cys
20 25 30

Ser Ser Leu Ser Cys Cys Pro Pro Gln His Pro Ser Ser Thr Pro Arg
35 40 45

Arg Thr Leu Thr Pro Arg Gly Phe Pro His Pro Gly Pro Leu Gly Arg
50 55 60

Ala Pro Ala Thr Pro Pro Pro Leu Phe Met Arg Pro Leu Phe Ala Val
65 70 75 80

Ala Pro Gly Asp Arg Ala Leu Phe Leu Glu Arg Ala Gly Gly Ser Arg

85 90 95

Val Ser Val Ala Thr Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly
100 105 110

Thr Glu Pro Glu Lys Ile Glu Pro Gly Glu Gly Ala Ser Arg Ser Arg
115 120 125

Arg Asp Met Leu Lys Asp Gly Gly Gln Gln Gly Leu Gly Thr Gly Ala
130 135 140

Arg Asp Pro Gly Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu
145 150 155 160

Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala
165 170 175

Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr
180 185 190

Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp
195 200 205

Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val
210 215 220

Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys
225 230 235 240

Cys Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu
245 250 255

Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe
260 265 270

Tyr Leu Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu
275 280 285

Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg
290 295 300

Arg Trp Gln Leu Ile Gln Glu Ser Val Val Pro Asn Arg Phe Tyr Trp
305 310 315 320

Ser Val Met Gly Ser Ser Lys Glu Pro Asp Leu Val His Leu Glu Ala
325 330 335

Arg Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met Gln Asn
340 345 350

Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile Asp Pro

```
        355                 360                 365

Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser
    370                 375                 380

Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Ser Pro Phe Ala
385                 390                 395                 400

Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile
                405                 410                 415

Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln
            420                 425                 430

Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe
        435                 440                 445

Thr Leu Ala Leu Glu Asn Val Arg Ser Ser Arg Gly Pro Glu Gly Asn
    450                 455                 460

Val Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu
465                 470                 475                 480

Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn
                485                 490                 495

Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp Leu Arg
            500                 505                 510

Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His
        515                 520                 525

Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Arg
    530                 535                 540

Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu
545                 550                 555                 560

Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn
                565                 570                 575

Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr Leu Asp
            580                 585                 590

Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg
        595                 600                 605

His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser
    610                 615                 620

Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly
```

625 630 635 640

Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser
645 650 655

Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg
660 665 670

Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu
675 680 685

Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu
690 695 700

Arg Lys Cys Met Gln Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys
705 710 715 720

Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His
725 730 735

Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu
740 745 750

Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Ala Gly Tyr
755 760 765

Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr
770 775 780

Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg
785 790 795 800

Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val
805 810 815

Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile
820 825 830

Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser
835 840 845

Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe
850 855 860

Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val
865 870 875 880

Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu
885 890 895

Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu

900 905 910

Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn
915 920 925

Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Lys Phe
930 935 940

Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn
945 950 955 960

Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg
965 970 975

Ser Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp
980 985 990

Ile Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Ile Lys Lys Ser Leu
995 1000 1005

Val Glu Ala Thr Gly Ile Pro Ser Gln His Ile Leu Val Ala Val
1010 1015 1020

Leu Pro Gly Leu Pro Thr Ala Ala Glu Leu Phe Val Leu Pro Tyr
1025 1030 1035

Gln Asp Gly Thr Arg Glu Asn Lys Arg Ser Pro Glu Asp Leu Glu
1040 1045 1050

Gln Ile Ser Glu Val Leu Ile His Lys Leu Asn Gln Asn Leu Val
1055 1060 1065

His Phe Glu Leu Lys Pro Gly Val Gln Val Leu Val His Ala Ala
1070 1075 1080

His Leu Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser
1085 1090 1095

Gly Ser Ala Met Leu Met Leu Leu Ser Val Val Phe Val Gly Leu
1100 1105 1110

Ala Val Phe Val Ile Tyr Lys Phe Lys Arg Gly Trp Arg Asp Arg
1115 1120 1125

Ser Ala Val Lys Asn Ile Gly Cys Ser Cys Arg Gly Pro Gly Phe
1130 1135 1140

Asn Ser Gln His Gln Gln Gly Gly Ser Gln Ala Ser Val Thr Ser
1145 1150 1155

Val Pro Arg Asp Pro Ser Pro Ser Ser Asp Leu His Gly His Gln

1160 1165 1170

Glu His Thr Trp Cys Thr Asp Ile His Pro Gly Lys Thr Pro Ile
1175 1180 1185

His Ile Lys
1190

<210> 21
<211> 1099
<212> PRT
<213> Mus musculus

<220>
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<222> (1)..(1099)
<223> Soluble preproSorCS1

<400> 21

Met Gly Lys Val Gly Ala Gly Asp Gly Ser Ser Ala Gly Leu Ser Ala
1 5 10 15

Leu Leu Ala Gly Ala Gly Leu Leu Met Leu Leu Ala Pro Gly Val Cys
20 25 30

Ser Ser Leu Ser Cys Cys Pro Pro Gln His Pro Ser Ser Thr Pro Arg
35 40 45

Arg Thr Leu Thr Pro Arg Gly Phe Pro His Pro Gly Pro Leu Gly Arg
50 55 60

Ala Pro Ala Thr Pro Pro Pro Leu Phe Met Arg Pro Leu Phe Ala Val
65 70 75 80

Ala Pro Gly Asp Arg Ala Leu Phe Leu Glu Arg Ala Gly Gly Ser Arg
85 90 95

Val Ser Val Ala Thr Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly
100 105 110

Thr Glu Pro Glu Lys Ile Glu Pro Gly Glu Gly Ala Ser Arg Ser Arg
115 120 125

Arg Asp Met Leu Lys Asp Gly Gly Gln Gln Gly Leu Gly Thr Gly Ala
130 135 140

Arg Asp Pro Gly Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu
145 150 155 160

Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala
165 170 175

```
Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr
            180                 185                 190

Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp
        195                 200                 205

Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val
    210                 215                 220

Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys
225                 230                 235                 240

Cys Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu
                245                 250                 255

Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe
            260                 265                 270

Tyr Leu Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu
        275                 280                 285

Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg
    290                 295                 300

Arg Trp Gln Leu Ile Gln Glu Ser Val Val Pro Asn Arg Phe Tyr Trp
305                 310                 315                 320

Ser Val Met Gly Ser Ser Lys Glu Pro Asp Leu Val His Leu Glu Ala
                325                 330                 335

Arg Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met Gln Asn
            340                 345                 350

Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile Asp Pro
        355                 360                 365

Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser
    370                 375                 380

Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Ser Pro Phe Ala
385                 390                 395                 400

Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile
                405                 410                 415

Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln
            420                 425                 430

Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe
        435                 440                 445
```

```
Thr Leu Ala Leu Glu Asn Val Arg Ser Ser Arg Gly Pro Glu Gly Asn
    450                 455                 460

Val Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu
465                 470                 475                 480

Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn
                485                 490                 495

Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp Leu Arg
            500                 505                 510

Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His
        515                 520                 525

Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Arg
    530                 535                 540

Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu
545                 550                 555                 560

Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn
                565                 570                 575

Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr Leu Asp
            580                 585                 590

Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg
        595                 600                 605

His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser
    610                 615                 620

Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly
625                 630                 635                 640

Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser
                645                 650                 655

Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg
            660                 665                 670

Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu
        675                 680                 685

Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu
    690                 695                 700

Arg Lys Cys Met Gln Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys
705                 710                 715                 720
```

```
Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His
                725                 730                 735

Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu
            740                 745                 750

Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Ala Gly Tyr
        755                 760                 765

Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr
    770                 775                 780

Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg
785                 790                 795                 800

Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val
                805                 810                 815

Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile
            820                 825                 830

Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser
        835                 840                 845

Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe
    850                 855                 860

Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val
865                 870                 875                 880

Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu
                885                 890                 895

Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu
            900                 905                 910

Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn
        915                 920                 925

Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Lys Phe
    930                 935                 940

Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn
945                 950                 955                 960

Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg
                965                 970                 975

Ser Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp
            980                 985                 990
```

Ile Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Ile Lys Lys Ser Leu
995 1000 1005

Val Glu Ala Thr Gly Ile Pro Ser Gln His Ile Leu Val Ala Val
1010 1015 1020

Leu Pro Gly Leu Pro Thr Ala Ala Glu Leu Phe Val Leu Pro Tyr
1025 1030 1035

Gln Asp Gly Thr Arg Glu Asn Lys Arg Ser Pro Glu Asp Leu Glu
1040 1045 1050

Gln Ile Ser Glu Val Leu Ile His Lys Leu Asn Gln Asn Leu Val
1055 1060 1065

His Phe Glu Leu Lys Pro Gly Val Gln Val Leu Val His Ala Ala
1070 1075 1080

His Leu Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser
1085 1090 1095

Gly

<210> 22
<211> 1134
<212> PRT
<213> Mus musculus

<220>
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<222> (1)..(1134)
<223> proSorCS1b (isoform 1)

<400> 22

Ser Leu Ser Cys Cys Pro Pro Gln His Pro Ser Ser Thr Pro Arg Arg
1 5 10 15

Thr Leu Thr Pro Arg Gly Phe Pro His Pro Gly Pro Leu Gly Arg Ala
20 25 30

Pro Ala Thr Pro Pro Pro Leu Phe Met Arg Pro Leu Phe Ala Val Ala
35 40 45

Pro Gly Asp Arg Ala Leu Phe Leu Glu Arg Ala Gly Gly Ser Arg Val
50 55 60

Ser Val Ala Thr Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly Thr
65 70 75 80

Glu Pro Glu Lys Ile Glu Pro Gly Glu Gly Ala Ser Arg Ser Arg Arg
85 90 95

```
Asp Met Leu Lys Asp Gly Gly Gln Gln Gly Leu Gly Thr Gly Ala Arg
            100                 105                 110

Asp Pro Gly Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu Thr
        115                 120                 125

Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met
    130                 135                 140

Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr Lys
145                 150                 155                 160

Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg
                165                 170                 175

Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val Gly
            180                 185                 190

Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Cys
        195                 200                 205

Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu Ile
    210                 215                 220

Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr
225                 230                 235                 240

Leu Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala
                245                 250                 255

Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg Arg
            260                 265                 270

Trp Gln Leu Ile Gln Glu Ser Val Val Pro Asn Arg Phe Tyr Trp Ser
        275                 280                 285

Val Met Gly Ser Ser Lys Glu Pro Asp Leu Val His Leu Glu Ala Arg
    290                 295                 300

Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met Gln Asn Cys
305                 310                 315                 320

Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile Asp Pro Asp
                325                 330                 335

Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser Gly
            340                 345                 350

Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Ser Pro Phe Ala Gln
        355                 360                 365
```

```
Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile Ser
    370                 375                 380

Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn
385                 390                 395                 400

Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr
                405                 410                 415

Leu Ala Leu Glu Asn Val Arg Ser Ser Arg Gly Pro Glu Gly Asn Val
            420                 425                 430

Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala
        435                 440                 445

Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys
    450                 455                 460

Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp Leu Arg Gly
465                 470                 475                 480

Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu
                485                 490                 495

Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Arg Asp
            500                 505                 510

Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu Leu
        515                 520                 525

Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr
    530                 535                 540

Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr Leu Asp Gln
545                 550                 555                 560

Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg His
                565                 570                 575

Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser Phe
            580                 585                 590

Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly Glu
        595                 600                 605

Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu
    610                 615                 620

Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys
625                 630                 635                 640
```

```
Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu Ala
                645                 650                 655

Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg
            660                 665                 670

Lys Cys Met Gln Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys Val
        675                 680                 685

Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His Ser
    690                 695                 700

Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu Ser
705                 710                 715                 720

Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Ala Gly Tyr Arg
                725                 730                 735

Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr Thr
            740                 745                 750

Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg Ile
        755                 760                 765

Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val Thr
    770                 775                 780

Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile Gln
785                 790                 795                 800

Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser Ser
                805                 810                 815

Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe Arg
            820                 825                 830

Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val Leu
        835                 840                 845

Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu Pro
    850                 855                 860

Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu Trp
865                 870                 875                 880

Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn Asn
                885                 890                 895

Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Lys Phe Thr
            900                 905                 910
```

```
Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn Ala
        915                 920                 925


Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg Ser
    930                 935                 940


Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp Ile
945                 950                 955                 960


Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Ile Lys Lys Ser Leu Val
                965                 970                 975


Glu Ala Thr Gly Ile Pro Ser Gln His Ile Leu Val Ala Val Leu Pro
            980                 985                 990


Gly Leu Pro Thr Ala Ala Glu Leu  Phe Val Leu Pro Tyr  Gln Asp Gly
        995                 1000                1005


Thr Arg  Glu Asn Lys Arg Ser  Pro Glu Asp Leu Glu  Gln Ile Ser
    1010                1015                1020


Glu Val  Leu Ile His Lys Leu  Asn Gln Asn Leu Val  His Phe Glu
    1025                1030                1035


Leu Lys  Pro Gly Val Gln Val  Leu Val His Ala Ala  His Leu Thr
    1040                1045                1050


Ala Ala  Pro Leu Val Asp Leu  Thr Pro Thr His Ser  Gly Ser Ala
    1055                1060                1065


Met Leu  Met Leu Leu Ser Val  Val Phe Val Gly Leu  Ala Val Phe
    1070                1075                1080


Val Ile  Tyr Lys Phe Lys Arg  Arg Val Ala Leu Pro  Ser Pro Pro
    1085                1090                1095


Ser Pro  Ser Ala Gln Pro Gly  Asp Ser Ser Leu Arg  Leu Gln Arg
    1100                1105                1110


Pro Arg  Pro Ala Thr Pro Pro  Ser Ser Pro Lys Arg  Gly Ser Ala
    1115                1120                1125


Gly Ala  Gln Phe Ala Ile
    1130


<210>  23
<211>  1114
<212>  PRT
<213>  Mus musculus


<220>
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<221> MISC_FEATURE
<222> (1)..(1114)
<223> proSorCS1a, isoform 2

<400> 23

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Ser Leu Ser Cys Cys Pro Pro Gln His Pro Ser Ser Thr Pro Arg Arg
1               5                  10                  15

Thr Leu Thr Pro Arg Gly Phe Pro His Pro Gly Pro Leu Gly Arg Ala
            20                  25                  30

Pro Ala Thr Pro Pro Pro Leu Phe Met Arg Pro Leu Phe Ala Val Ala
        35                  40                  45

Pro Gly Asp Arg Ala Leu Phe Leu Glu Arg Ala Gly Gly Ser Arg Val
    50                  55                  60

Ser Val Ala Thr Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly Thr
65                  70                  75                  80

Glu Pro Glu Lys Ile Glu Pro Gly Glu Gly Ala Ser Arg Ser Arg Arg
                85                  90                  95

Asp Met Leu Lys Asp Gly Gly Gln Gln Gly Leu Gly Thr Gly Ala Arg
            100                 105                 110

Asp Pro Gly Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu Thr
        115                 120                 125

Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met
    130                 135                 140

Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr Lys
145                 150                 155                 160

Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg
                165                 170                 175

Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val Gly
            180                 185                 190

Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Cys
        195                 200                 205

Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu Ile
    210                 215                 220

Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr
225                 230                 235                 240

Leu Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala
                245                 250                 255
```

```
Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg Arg
            260                 265                 270

Trp Gln Leu Ile Gln Glu Ser Val Val Pro Asn Arg Phe Tyr Trp Ser
        275                 280                 285

Val Met Gly Ser Ser Lys Glu Pro Asp Leu Val His Leu Glu Ala Arg
    290                 295                 300

Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met Gln Asn Cys
305                 310                 315                 320

Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile Asp Pro Asp
                325                 330                 335

Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser Gly
            340                 345                 350

Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Ser Pro Phe Ala Gln
        355                 360                 365

Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile Ser
    370                 375                 380

Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn
385                 390                 395                 400

Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr
                405                 410                 415

Leu Ala Leu Glu Asn Val Arg Ser Ser Arg Gly Pro Glu Gly Asn Val
            420                 425                 430

Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala
        435                 440                 445

Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys
    450                 455                 460

Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp Leu Arg Gly
465                 470                 475                 480

Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu
                485                 490                 495

Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Arg Asp
            500                 505                 510

Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu Leu
        515                 520                 525
```

```
Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr
    530                 535                 540

Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr Leu Asp Gln
545                 550                 555                 560

Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg His
                565                 570                 575

Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser Phe
            580                 585                 590

Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly Glu
        595                 600                 605

Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu
    610                 615                 620

Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys
625                 630                 635                 640

Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu Ala
                645                 650                 655

Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg
            660                 665                 670

Lys Cys Met Gln Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys Val
        675                 680                 685

Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His Ser
    690                 695                 700

Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu Ser
705                 710                 715                 720

Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Ala Gly Tyr Arg
                725                 730                 735

Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr Thr
            740                 745                 750

Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg Ile
        755                 760                 765

Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val Thr
    770                 775                 780

Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile Gln
785                 790                 795                 800
```

```
Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser Ser
                805                 810                 815

Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe Arg
            820                 825                 830

Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val Leu
        835                 840                 845

Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu Pro
    850                 855                 860

Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu Trp
865                 870                 875                 880

Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn Asn
                885                 890                 895

Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Lys Phe Thr
            900                 905                 910

Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn Ala
        915                 920                 925

Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg Ser
    930                 935                 940

Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp Ile
945                 950                 955                 960

Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Ile Lys Lys Ser Leu Val
                965                 970                 975

Glu Ala Thr Gly Ile Pro Ser Gln His Ile Leu Val Ala Val Leu Pro
            980                 985                 990

Gly Leu Pro Thr Ala Ala Glu Leu  Phe Val Leu Pro Tyr  Gln Asp Gly
        995                 1000                1005

Thr Arg  Glu Asn Lys Arg Ser  Pro Glu Asp Leu Glu  Gln Ile Ser
    1010                1015                1020

Glu Val  Leu Ile His Lys Leu  Asn Gln Asn Leu Val  His Phe Glu
    1025                1030                1035

Leu Lys  Pro Gly Val Gln Val  Leu Val His Ala Ala  His Leu Thr
    1040                1045                1050

Ala Ala  Pro Leu Val Asp Leu  Thr Pro Thr His Ser  Gly Ser Ala
    1055                1060                1065
```

```
Met Leu  Met Leu Leu Ser Val  Val Phe Val Gly Leu  Ala Val Phe
    1070                1075                1080

Val Ile  Tyr Lys Phe Lys Arg  Cys Val Phe Leu Leu  Leu Pro Ser
    1085                1090                1095

Tyr Pro  Arg Pro Pro Pro Pro  Ser Ser Phe Cys Gln  Val Gln Lys
    1100                1105                1110

Gln
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<210> 24
<211> 1145
<212> PRT
<213> Mus musculus

<220>
<221> MISC_FEATURE
<222> (1)..(1145)
<223> proSorCS1c, isoform 3

<400> 24

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Ser Leu Ser Cys Cys Pro Pro Gln His Pro Ser Ser Thr Pro Arg Arg
1               5                   10                  15

Thr Leu Thr Pro Arg Gly Phe Pro His Pro Gly Pro Leu Gly Arg Ala
            20                  25                  30

Pro Ala Thr Pro Pro Pro Leu Phe Met Arg Pro Leu Phe Ala Val Ala
        35                  40                  45

Pro Gly Asp Arg Ala Leu Phe Leu Glu Arg Ala Gly Gly Ser Arg Val
    50                  55                  60

Ser Val Ala Thr Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly Thr
65                  70                  75                  80

Glu Pro Glu Lys Ile Glu Pro Gly Glu Gly Ala Ser Arg Ser Arg Arg
                85                  90                  95

Asp Met Leu Lys Asp Gly Gly Gln Gln Gly Leu Gly Thr Gly Ala Arg
            100                 105                 110

Asp Pro Gly Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu Thr
        115                 120                 125

Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met
    130                 135                 140

Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr Lys
```

145 150 155 160

Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg
165 170 175

Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val Gly
180 185 190

Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Cys
195 200 205

Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu Ile
210 215 220

Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr
225 230 235 240

Leu Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala
245 250 255

Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg Arg
260 265 270

Trp Gln Leu Ile Gln Glu Ser Val Val Pro Asn Arg Phe Tyr Trp Ser
275 280 285

Val Met Gly Ser Ser Lys Glu Pro Asp Leu Val His Leu Glu Ala Arg
290 295 300

Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met Gln Asn Cys
305 310 315 320

Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile Asp Pro Asp
325 330 335

Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser Gly
340 345 350

Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Ser Pro Phe Ala Gln
355 360 365

Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile Ser
370 375 380

Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn
385 390 395 400

Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr
405 410 415

Leu Ala Leu Glu Asn Val Arg Ser Ser Arg Gly Pro Glu Gly Asn Val

```
            420                 425                 430

Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala
        435                 440                 445

Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys
    450                 455                 460

Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp Leu Arg Gly
465                 470                 475                 480

Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu
                485                 490                 495

Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Arg Asp
            500                 505                 510

Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu Leu
        515                 520                 525

Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr
    530                 535                 540

Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr Leu Asp Gln
545                 550                 555                 560

Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg His
                565                 570                 575

Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser Phe
            580                 585                 590

Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly Glu
        595                 600                 605

Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu
    610                 615                 620

Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys
625                 630                 635                 640

Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu Ala
                645                 650                 655

Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg
            660                 665                 670

Lys Cys Met Gln Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys Val
        675                 680                 685

Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His Ser
```

690 695 700

Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu Ser
705 710 715 720

Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Ala Gly Tyr Arg
725 730 735

Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr Thr
740 745 750

Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg Ile
755 760 765

Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val Thr
770 775 780

Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile Gln
785 790 795 800

Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser Ser
805 810 815

Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe Arg
820 825 830

Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val Leu
835 840 845

Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu Pro
850 855 860

Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu Trp
865 870 875 880

Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn Asn
885 890 895

Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Lys Phe Thr
900 905 910

Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn Ala
915 920 925

Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg Ser
930 935 940

Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp Ile
945 950 955 960

Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Ile Lys Lys Ser Leu Val

965 970 975

Glu Ala Thr Gly Ile Pro Ser Gln His Ile Leu Val Ala Val Leu Pro
980 985 990

Gly Leu Pro Thr Ala Ala Glu Leu Phe Val Leu Pro Tyr Gln Asp Gly
995 1000 1005

Thr Arg Glu Asn Lys Arg Ser Pro Glu Asp Leu Glu Gln Ile Ser
1010 1015 1020

Glu Val Leu Ile His Lys Leu Asn Gln Asn Leu Val His Phe Glu
1025 1030 1035

Leu Lys Pro Gly Val Gln Val Leu Val His Ala Ala His Leu Thr
1040 1045 1050

Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly Ser Ala
1055 1060 1065

Met Leu Met Leu Leu Ser Val Val Phe Val Gly Leu Ala Val Phe
1070 1075 1080

Val Ile Tyr Lys Phe Lys Arg Lys Ile Pro Gly Ile Asn Val Tyr
1085 1090 1095

Ala Gln Met Gln Asn Glu Lys Glu Gln Glu Leu Ile Asn Pro Val
1100 1105 1110

Ser His Ser Glu Ser Arg Pro Ser Val Pro His Pro Asp Leu Arg
1115 1120 1125

Arg Pro Gly Gln Leu Val Asp Glu Lys Val Glu Ser Gln Leu Leu
1130 1135 1140

Gly Lys
1145

<210> 25
<211> 1144
<212> PRT
<213> Mus musculus

<220>
<221> MISC_FEATURE
<222> (1)..(1144)
<223> proSorCS1c+, isoform 4

<400> 25

Ser Leu Ser Cys Cys Pro Pro Gln His Pro Ser Ser Thr Pro Arg Arg
1 5 10 15

```
Thr Leu Thr Pro Arg Gly Phe Pro His Pro Gly Pro Leu Gly Arg Ala
            20                  25                  30

Pro Ala Thr Pro Pro Pro Leu Phe Met Arg Pro Leu Phe Ala Val Ala
        35                  40                  45

Pro Gly Asp Arg Ala Leu Phe Leu Glu Arg Ala Gly Gly Ser Arg Val
    50                  55                  60

Ser Val Ala Thr Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly Thr
65                  70                  75                  80

Glu Pro Glu Lys Ile Glu Pro Gly Glu Gly Ala Ser Arg Ser Arg Arg
                85                  90                  95

Asp Met Leu Lys Asp Gly Gly Gln Gln Gly Leu Gly Thr Gly Ala Arg
            100                 105                 110

Asp Pro Gly Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu Thr
        115                 120                 125

Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met
    130                 135                 140

Val Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr Lys Leu
145                 150                 155                 160

Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg Ser
                165                 170                 175

Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val Gly Leu
            180                 185                 190

Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Cys Lys
        195                 200                 205

Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu Ile Ser
    210                 215                 220

Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr Leu
225                 230                 235                 240

Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala Tyr
                245                 250                 255

Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg Arg Trp
            260                 265                 270

Gln Leu Ile Gln Glu Ser Val Val Pro Asn Arg Phe Tyr Trp Ser Val
        275                 280                 285
```

```
Met Gly Ser Ser Lys Glu Pro Asp Leu Val His Leu Glu Ala Arg Thr
    290                 295                 300

Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met Gln Asn Cys Thr
305                 310                 315                 320

Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile Asp Pro Asp Ser
                325                 330                 335

Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser Gly Gly
            340                 345                 350

Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Ser Pro Phe Ala Gln Met
        355                 360                 365

Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile Ser Thr
    370                 375                 380

Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn Asp
385                 390                 395                 400

Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr Leu
                405                 410                 415

Ala Leu Glu Asn Val Arg Ser Ser Arg Gly Pro Glu Gly Asn Val Met
            420                 425                 430

Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala Asn
        435                 440                 445

Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys Gly
    450                 455                 460

Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp Leu Arg Gly Asp
465                 470                 475                 480

Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu Lys
                485                 490                 495

Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Arg Asp Thr
            500                 505                 510

Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu Leu Ser
        515                 520                 525

Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr Trp
    530                 535                 540

Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr Leu Asp Gln Gly
545                 550                 555                 560
```

```
Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg His Leu
                565                 570                 575

Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser Phe Thr
            580                 585                 590

Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly Glu Glu
        595                 600                 605

Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu Trp
    610                 615                 620

Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys Ala
625                 630                 635                 640

Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu Ala Cys
                645                 650                 655

Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg Lys
            660                 665                 670

Cys Met Gln Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys Val Cys
        675                 680                 685

Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His Ser Asn
    690                 695                 700

Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu Ser Lys
705                 710                 715                 720

Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Ala Gly Tyr Arg Lys
                725                 730                 735

Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr Thr Ala
            740                 745                 750

Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg Ile Val
        755                 760                 765

Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val Thr Leu
    770                 775                 780

Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile Gln Val
785                 790                 795                 800

Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser Ser Met
                805                 810                 815

Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe Arg Val
            820                 825                 830
```

```
Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val Leu Tyr
        835                 840                 845

Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu Pro Phe
    850                 855                 860

Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu Trp Pro
865                 870                 875                 880

Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn Asn Thr
                885                 890                 895

Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Lys Phe Thr Ser
            900                 905                 910

Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn Ala Ile
        915                 920                 925

Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg Ser Leu
    930                 935                 940

Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp Ile Pro
945                 950                 955                 960

Glu Trp Arg Arg Asp Ile Ser Arg Val Ile Lys Lys Ser Leu Val Glu
                965                 970                 975

Ala Thr Gly Ile Pro Ser Gln His Ile Leu Val Ala Val Leu Pro Gly
            980                 985                 990

Leu Pro Thr Ala Ala Glu Leu Phe  Val Leu Pro Tyr Gln  Asp Gly Thr
        995                 1000                1005

Arg Glu  Asn Lys Arg Ser Pro  Glu Asp Leu Glu Gln  Ile Ser Glu
    1010                1015                1020

Val Leu  Ile His Lys Leu Asn  Gln Asn Leu Val His  Phe Glu Leu
    1025                1030                1035

Lys Pro  Gly Val Gln Val Leu  Val His Ala Ala His  Leu Thr Ala
    1040                1045                1050

Ala Pro  Leu Val Asp Leu Thr  Pro Thr His Ser Gly  Ser Ala Met
    1055                1060                1065

Leu Met  Leu Leu Ser Val Val  Phe Val Gly Leu Ala  Val Phe Val
    1070                1075                1080

Ile Tyr  Lys Phe Lys Arg Lys  Ile Pro Gly Ile Asn  Val Tyr Ala
    1085                1090                1095
```

Gln Met Gln Asn Glu Lys Glu Gln Glu Leu Ile Asn Pro Val Ser
1100 1105 1110

His Ser Glu Ser Arg Ser Ser Val Pro His Pro Asp Leu Arg Arg
1115 1120 1125

Pro Gly Gln Leu Val Asp Glu Lys Val Glu Ser Gln Leu Leu Gly
1130 1135 1140

Glu

<210> 26
<211> 1158
<212> PRT
<213> Mus musculus

<220>
<221> MISC_FEATURE
<222> (1)..(1158)
<223> proSorCS1d

<400> 26

Ser Leu Ser Cys Cys Pro Pro Gln His Pro Ser Ser Thr Pro Arg Arg
1 5 10 15

Thr Leu Thr Pro Arg Gly Phe Pro His Pro Gly Pro Leu Gly Arg Ala
20 25 30

Pro Ala Thr Pro Pro Pro Leu Phe Met Arg Pro Leu Phe Ala Val Ala
35 40 45

Pro Gly Asp Arg Ala Leu Phe Leu Glu Arg Ala Gly Gly Ser Arg Val
50 55 60

Ser Val Ala Thr Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly Thr
65 70 75 80

Glu Pro Glu Lys Ile Glu Pro Gly Glu Gly Ala Ser Arg Ser Arg Arg
85 90 95

Asp Met Leu Lys Asp Gly Gly Gln Gln Gly Leu Gly Thr Gly Ala Arg
100 105 110

Asp Pro Gly Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu Thr
115 120 125

Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met
130 135 140

Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr Lys
145 150 155 160

```
Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg
                165                 170                 175

Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val Gly
            180                 185                 190

Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Cys
        195                 200                 205

Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu Ile
    210                 215                 220

Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr
225                 230                 235                 240

Leu Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala
                245                 250                 255

Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg Arg
            260                 265                 270

Trp Gln Leu Ile Gln Glu Ser Val Val Pro Asn Arg Phe Tyr Trp Ser
        275                 280                 285

Val Met Gly Ser Ser Lys Glu Pro Asp Leu Val His Leu Glu Ala Arg
    290                 295                 300

Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met Gln Asn Cys
305                 310                 315                 320

Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile Asp Pro Asp
                325                 330                 335

Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser Gly
            340                 345                 350

Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Ser Pro Phe Ala Gln
        355                 360                 365

Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile Ser
    370                 375                 380

Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn
385                 390                 395                 400

Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr
                405                 410                 415

Leu Ala Leu Glu Asn Val Arg Ser Ser Arg Gly Pro Glu Gly Asn Val
            420                 425                 430
```

```
Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala
        435                 440                 445

Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys
    450                 455                 460

Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp Leu Arg Gly
465                 470                 475                 480

Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu
                485                 490                 495

Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Arg Asp
            500                 505                 510

Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu Leu
        515                 520                 525

Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr
    530                 535                 540

Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr Leu Asp Gln
545                 550                 555                 560

Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg His
                565                 570                 575

Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser Phe
            580                 585                 590

Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly Glu
        595                 600                 605

Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu
    610                 615                 620

Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys
625                 630                 635                 640

Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu Ala
                645                 650                 655

Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg
            660                 665                 670

Lys Cys Met Gln Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys Val
        675                 680                 685

Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His Ser
    690                 695                 700
```

```
Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu Ser
705                 710                 715                 720

Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Ala Gly Tyr Arg
                725                 730                 735

Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr Thr
            740                 745                 750

Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg Ile
        755                 760                 765

Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val Thr
    770                 775                 780

Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile Gln
785                 790                 795                 800

Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser Ser
                805                 810                 815

Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe Arg
            820                 825                 830

Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val Leu
        835                 840                 845

Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu Pro
    850                 855                 860

Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu Trp
865                 870                 875                 880

Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn Asn
                885                 890                 895

Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Lys Phe Thr
            900                 905                 910

Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn Ala
        915                 920                 925

Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg Ser
    930                 935                 940

Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp Ile
945                 950                 955                 960

Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Ile Lys Lys Ser Leu Val
                965                 970                 975
```

Glu Ala Thr Gly Ile Pro Ser Gln His Ile Leu Val Ala Val Leu Pro
980 985 990

Gly Leu Pro Thr Ala Ala Glu Leu Phe Val Leu Pro Tyr Gln Asp Gly
995 1000 1005

Thr Arg Glu Asn Lys Arg Ser Pro Glu Asp Leu Glu Gln Ile Ser
1010 1015 1020

Glu Val Leu Ile His Lys Leu Asn Gln Asn Leu Val His Phe Glu
1025 1030 1035

Leu Lys Pro Gly Val Gln Val Leu Val His Ala Ala His Leu Thr
1040 1045 1050

Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly Ser Ala
1055 1060 1065

Met Leu Met Leu Leu Ser Val Val Phe Val Gly Leu Ala Val Phe
1070 1075 1080

Val Ile Tyr Lys Phe Lys Arg Gly Trp Arg Asp Arg Ser Ala Val
1085 1090 1095

Lys Asn Ile Gly Cys Ser Cys Arg Gly Pro Gly Phe Asn Ser Gln
1100 1105 1110

His Gln Gln Gly Gly Ser Gln Ala Ser Val Thr Ser Val Pro Arg
1115 1120 1125

Asp Pro Ser Pro Ser Ser Asp Leu His Gly His Gln Glu His Thr
1130 1135 1140

Trp Cys Thr Asp Ile His Pro Gly Lys Thr Pro Ile His Ile Lys
1145 1150 1155

<210> 27
<211> 1066
<212> PRT
<213> Mus musculus

<220>
<221> MISC_FEATURE
<222> (1)..(1066)
<223> Soluble proSorCS1

<400> 27

Ser Leu Ser Cys Cys Pro Pro Gln His Pro Ser Ser Thr Pro Arg Arg
1 5 10 15

Thr Leu Thr Pro Arg Gly Phe Pro His Pro Gly Pro Leu Gly Arg Ala
20 25 30

```
Pro Ala Thr Pro Pro Pro Leu Phe Met Arg Pro Leu Phe Ala Val Ala
        35                  40                  45

Pro Gly Asp Arg Ala Leu Phe Leu Glu Arg Ala Gly Gly Ser Arg Val
    50                  55                  60

Ser Val Ala Thr Ala Ala Arg Ser Gly Arg Arg Arg Arg Ser Gly Thr
65                  70                  75                  80

Glu Pro Glu Lys Ile Glu Pro Gly Glu Gly Ala Ser Arg Ser Arg Arg
                85                  90                  95

Asp Met Leu Lys Asp Gly Gly Gln Gln Gly Leu Gly Thr Gly Ala Arg
            100                 105                 110

Asp Pro Gly Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu Thr
        115                 120                 125

Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met
    130                 135                 140

Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr Lys
145                 150                 155                 160

Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg
                165                 170                 175

Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val Gly
            180                 185                 190

Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Cys
        195                 200                 205

Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu Ile
    210                 215                 220

Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr
225                 230                 235                 240

Leu Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala
                245                 250                 255

Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg Arg
            260                 265                 270

Trp Gln Leu Ile Gln Glu Ser Val Val Pro Asn Arg Phe Tyr Trp Ser
        275                 280                 285

Val Met Gly Ser Ser Lys Glu Pro Asp Leu Val His Leu Glu Ala Arg
    290                 295                 300
```

```
Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met Gln Asn Cys
305                 310                 315                 320

Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile Asp Pro Asp
                325                 330                 335

Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser Gly
            340                 345                 350

Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Ser Pro Phe Ala Gln
        355                 360                 365

Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile Ser
    370                 375                 380

Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn
385                 390                 395                 400

Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr
                405                 410                 415

Leu Ala Leu Glu Asn Val Arg Ser Ser Arg Gly Pro Glu Gly Asn Val
            420                 425                 430

Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala
        435                 440                 445

Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys
    450                 455                 460

Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp Leu Arg Gly
465                 470                 475                 480

Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu
                485                 490                 495

Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Arg Asp
            500                 505                 510

Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu Leu
        515                 520                 525

Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr
    530                 535                 540

Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr Leu Asp Gln
545                 550                 555                 560

Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg His
                565                 570                 575
```

```
Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser Phe
            580                 585                 590

Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly Glu
        595                 600                 605

Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu
    610                 615                 620

Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys
625                 630                 635                 640

Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu Ala
                645                 650                 655

Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg
            660                 665                 670

Lys Cys Met Gln Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys Val
        675                 680                 685

Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His Ser
    690                 695                 700

Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu Ser
705                 710                 715                 720

Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Ala Gly Tyr Arg
                725                 730                 735

Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr Thr
            740                 745                 750

Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg Ile
        755                 760                 765

Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val Thr
    770                 775                 780

Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile Gln
785                 790                 795                 800

Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser Ser
                805                 810                 815

Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe Arg
            820                 825                 830

Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val Leu
        835                 840                 845
```

```
Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu Pro
    850                 855                 860

Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu Trp
865                 870                 875                 880

Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn Asn
                885                 890                 895

Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Lys Phe Thr
            900                 905                 910

Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn Ala
        915                 920                 925

Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg Ser
    930                 935                 940

Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp Ile
945                 950                 955                 960

Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Ile Lys Lys Ser Leu Val
                965                 970                 975

Glu Ala Thr Gly Ile Pro Ser Gln His Ile Leu Val Ala Val Leu Pro
            980                 985                 990

Gly Leu Pro Thr Ala Ala Glu Leu  Phe Val Leu Pro Tyr  Gln Asp Gly
        995                 1000                1005

Thr Arg  Glu Asn Lys Arg Ser  Pro Glu Asp Leu Glu  Gln Ile Ser
    1010                1015                1020

Glu Val  Leu Ile His Lys Leu  Asn Gln Asn Leu Val  His Phe Glu
    1025                1030                1035

Leu Lys  Pro Gly Val Gln Val  Leu Val His Ala Ala  His Leu Thr
    1040                1045                1050

Ala Ala  Pro Leu Val Asp Leu  Thr Pro Thr His Ser  Gly
    1055                1060                1065

<210>  28
<211>  1057
<212>  PRT
<213>  Mus musculus

<220>
<221>  MISC_FEATURE
<222>  (1)..(1057)
<223>  mature SorCS1b, isoform 1
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<400> 28

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Ser Gly Thr Glu Pro Glu Lys Ile Glu Pro Gly Glu Gly Ala Ser Arg
1               5                  10                  15

Ser Arg Arg Asp Met Leu Lys Asp Gly Gly Gln Gln Gly Leu Gly Thr
            20                  25                  30

Gly Ala Arg Asp Pro Gly Lys Ala Thr Arg Phe Arg Met Glu Glu Leu
        35                  40                  45

Arg Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
    50                  55                  60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65                  70                  75                  80

Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
                85                  90                  95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
            100                 105                 110

Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
        115                 120                 125

Asn Lys Cys Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
    130                 135                 140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145                 150                 155                 160

Asn Phe Tyr Leu Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
                165                 170                 175

Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe
            180                 185                 190

Gly Arg Arg Trp Gln Leu Ile Gln Glu Ser Val Val Pro Asn Arg Phe
        195                 200                 205

Tyr Trp Ser Val Met Gly Ser Ser Lys Glu Pro Asp Leu Val His Leu
    210                 215                 220

Glu Ala Arg Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met
225                 230                 235                 240

Gln Asn Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile
                245                 250                 255

Asp Pro Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu
```

260 265 270

Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Ser Pro
275 280 285

Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His
290 295 300

Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305 310 315 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val
325 330 335

Tyr Phe Thr Leu Ala Leu Glu Asn Val Arg Ser Ser Arg Gly Pro Glu
340 345 350

Gly Asn Val Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met
355 360 365

Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr
370 375 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp
385 390 395 400

Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His
405 410 415

Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala
420 425 430

Ser Arg Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly
435 440 445

Ser Glu Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala
450 455 460

Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr
465 470 475 480

Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro
485 490 495

Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys
500 505 510

Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu
515 520 525

Pro Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His

530 535 540

Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp
545 550 555 560

Arg Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln
565 570 575

Gly Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys
580 585 590

Ser Glu Arg Lys Cys Met Gln Lys Tyr Ala Gly Ala Met Glu Ser Glu
595 600 605

Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu
610 615 620

Arg His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser
625 630 635 640

Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Ala
645 650 655

Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu
660 665 670

Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly
675 680 685

Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His
690 695 700

Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr
705 710 715 720

Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn
725 730 735

Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly
740 745 750

Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser
755 760 765

Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu
770 775 780

Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala
785 790 795 800

Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr

805 810 815

Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe
820 825 830

Lys Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala
835 840 845

Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu
850 855 860

Phe Arg Ser Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn
865 870 875 880

Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Ile Lys Lys
885 890 895

Ser Leu Val Glu Ala Thr Gly Ile Pro Ser Gln His Ile Leu Val Ala
900 905 910

Val Leu Pro Gly Leu Pro Thr Ala Ala Glu Leu Phe Val Leu Pro Tyr
915 920 925

Gln Asp Gly Thr Arg Glu Asn Lys Arg Ser Pro Glu Asp Leu Glu Gln
930 935 940

Ile Ser Glu Val Leu Ile His Lys Leu Asn Gln Asn Leu Val His Phe
945 950 955 960

Glu Leu Lys Pro Gly Val Gln Val Leu Val His Ala Ala His Leu Thr
965 970 975

Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly Ser Ala Met
980 985 990

Leu Met Leu Leu Ser Val Val Phe Val Gly Leu Ala Val Phe Val Ile
995 1000 1005

Tyr Lys Phe Lys Arg Arg Val Ala Leu Pro Ser Pro Pro Ser Pro
1010 1015 1020

Ser Ala Gln Pro Gly Asp Ser Ser Leu Arg Leu Gln Arg Pro Arg
1025 1030 1035

Pro Ala Thr Pro Pro Ser Ser Pro Lys Arg Gly Ser Ala Gly Ala
1040 1045 1050

Gln Phe Ala Ile
1055

<210> 29

<211> 1037
<212> PRT
<213> Mus musculus

<220>
<221> MISC_FEATURE
<222> (1)..(1037)
<223> mature SorCS1a, isoform 2

<400> 29

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Ser Gly Thr Glu Pro Glu Lys Ile Glu Pro Gly Glu Gly Ala Ser Arg
1               5                  10                  15

Ser Arg Arg Asp Met Leu Lys Asp Gly Gly Gln Gln Gly Leu Gly Thr
            20                  25                  30

Gly Ala Arg Asp Pro Gly Lys Ala Thr Arg Phe Arg Met Glu Glu Leu
        35                  40                  45

Arg Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
    50                  55                  60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65                  70                  75                  80

Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
                85                  90                  95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
            100                 105                 110

Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
        115                 120                 125

Asn Lys Cys Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
    130                 135                 140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145                 150                 155                 160

Asn Phe Tyr Leu Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
                165                 170                 175

Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe
            180                 185                 190

Gly Arg Arg Trp Gln Leu Ile Gln Glu Ser Val Val Pro Asn Arg Phe
        195                 200                 205

Tyr Trp Ser Val Met Gly Ser Ser Lys Glu Pro Asp Leu Val His Leu
    210                 215                 220
```

```
Glu Ala Arg Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met
225                 230                 235                 240

Gln Asn Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile
                245                 250                 255

Asp Pro Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu
            260                 265                 270

Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Ser Pro
        275                 280                 285

Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His
    290                 295                 300

Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305                 310                 315                 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val
                325                 330                 335

Tyr Phe Thr Leu Ala Leu Glu Asn Val Arg Ser Ser Arg Gly Pro Glu
            340                 345                 350

Gly Asn Val Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met
        355                 360                 365

Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr
    370                 375                 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp
385                 390                 395                 400

Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His
                405                 410                 415

Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala
            420                 425                 430

Ser Arg Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly
        435                 440                 445

Ser Glu Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala
    450                 455                 460

Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr
465                 470                 475                 480

Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro
                485                 490                 495
```

```
Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys
            500                 505                 510

Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu
        515                 520                 525

Pro Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His
    530                 535                 540

Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp
545                 550                 555                 560

Arg Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln
                565                 570                 575

Gly Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys
            580                 585                 590

Ser Glu Arg Lys Cys Met Gln Lys Tyr Ala Gly Ala Met Glu Ser Glu
        595                 600                 605

Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu
    610                 615                 620

Arg His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser
625                 630                 635                 640

Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Ala
                645                 650                 655

Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu
            660                 665                 670

Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly
        675                 680                 685

Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His
    690                 695                 700

Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr
705                 710                 715                 720

Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn
                725                 730                 735

Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly
            740                 745                 750

Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser
        755                 760                 765
```

```
Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu
    770                 775                 780

Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala
785                 790                 795                 800

Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr
                805                 810                 815

Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe
            820                 825                 830

Lys Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala
        835                 840                 845

Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu
    850                 855                 860

Phe Arg Ser Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn
865                 870                 875                 880

Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Ile Lys Lys
                885                 890                 895

Ser Leu Val Glu Ala Thr Gly Ile Pro Ser Gln His Ile Leu Val Ala
            900                 905                 910

Val Leu Pro Gly Leu Pro Thr Ala Ala Glu Leu Phe Val Leu Pro Tyr
        915                 920                 925

Gln Asp Gly Thr Arg Glu Asn Lys Arg Ser Pro Glu Asp Leu Glu Gln
    930                 935                 940

Ile Ser Glu Val Leu Ile His Lys Leu Asn Gln Asn Leu Val His Phe
945                 950                 955                 960

Glu Leu Lys Pro Gly Val Gln Val Leu Val His Ala Ala His Leu Thr
                965                 970                 975

Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly Ser Ala Met
            980                 985                 990

Leu Met Leu Leu Ser Val Val Phe  Val Gly Leu Ala Val  Phe Val Ile
        995                 1000                1005

Tyr Lys  Phe Lys Arg Cys Val  Phe Leu Leu Leu Pro  Ser Tyr Pro
    1010                1015                1020

Arg Pro  Pro Pro Pro Ser Ser  Phe Cys Gln Val Gln  Lys Gln
    1025                1030                1035
```

<210> 30
<211> 1068
<212> PRT
<213> Mus musculus

<220>
<221> MISC_FEATURE
<222> (1)..(1068)
<223> mature SorCS1c, isoform 3

<400> 30

Ser Gly Thr Glu Pro Glu Lys Ile Glu Pro Gly Glu Gly Ala Ser Arg
1 5 10 15

Ser Arg Arg Asp Met Leu Lys Asp Gly Gly Gln Gln Gly Leu Gly Thr
20 25 30

Gly Ala Arg Asp Pro Gly Lys Ala Thr Arg Phe Arg Met Glu Glu Leu
35 40 45

Arg Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
50 55 60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65 70 75 80

Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
85 90 95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
100 105 110

Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
115 120 125

Asn Lys Cys Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
130 135 140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145 150 155 160

Asn Phe Tyr Leu Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
165 170 175

Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe
180 185 190

Gly Arg Arg Trp Gln Leu Ile Gln Glu Ser Val Val Pro Asn Arg Phe
195 200 205

Tyr Trp Ser Val Met Gly Ser Ser Lys Glu Pro Asp Leu Val His Leu
210 215 220

```
Glu Ala Arg Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met
225                 230                 235                 240

Gln Asn Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile
                245                 250                 255

Asp Pro Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu
            260                 265                 270

Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Ser Pro
        275                 280                 285

Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His
    290                 295                 300

Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305                 310                 315                 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val
                325                 330                 335

Tyr Phe Thr Leu Ala Leu Glu Asn Val Arg Ser Ser Arg Gly Pro Glu
            340                 345                 350

Gly Asn Val Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met
        355                 360                 365

Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr
    370                 375                 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp
385                 390                 395                 400

Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His
                405                 410                 415

Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala
            420                 425                 430

Ser Arg Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly
        435                 440                 445

Ser Glu Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala
    450                 455                 460

Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr
465                 470                 475                 480

Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro
                485                 490                 495
```

```
Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys
            500                 505                 510

Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu
        515                 520                 525

Pro Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His
    530                 535                 540

Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp
545                 550                 555                 560

Arg Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln
                565                 570                 575

Gly Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys
            580                 585                 590

Ser Glu Arg Lys Cys Met Gln Lys Tyr Ala Gly Ala Met Glu Ser Glu
        595                 600                 605

Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu
    610                 615                 620

Arg His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser
625                 630                 635                 640

Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Ala
                645                 650                 655

Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu
            660                 665                 670

Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly
        675                 680                 685

Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His
    690                 695                 700

Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr
705                 710                 715                 720

Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn
                725                 730                 735

Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly
            740                 745                 750

Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser
        755                 760                 765
```

```
Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu
    770                 775                 780

Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala
785                 790                 795                 800

Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr
                805                 810                 815

Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe
            820                 825                 830

Lys Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala
        835                 840                 845

Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu
    850                 855                 860

Phe Arg Ser Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn
865                 870                 875                 880

Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Ile Lys Lys
                885                 890                 895

Ser Leu Val Glu Ala Thr Gly Ile Pro Ser Gln His Ile Leu Val Ala
            900                 905                 910

Val Leu Pro Gly Leu Pro Thr Ala Ala Glu Leu Phe Val Leu Pro Tyr
        915                 920                 925

Gln Asp Gly Thr Arg Glu Asn Lys Arg Ser Pro Glu Asp Leu Glu Gln
    930                 935                 940

Ile Ser Glu Val Leu Ile His Lys Leu Asn Gln Asn Leu Val His Phe
945                 950                 955                 960

Glu Leu Lys Pro Gly Val Gln Val Leu Val His Ala Ala His Leu Thr
                965                 970                 975

Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly Ser Ala Met
            980                 985                 990

Leu Met Leu Leu Ser Val Val Phe  Val Gly Leu Ala Val  Phe Val Ile
        995                 1000                1005

Tyr Lys  Phe Lys Arg Lys Ile  Pro Gly Ile Asn Val  Tyr Ala Gln
    1010                1015                1020

Met Gln  Asn Glu Lys Glu Gln  Glu Leu Ile Asn Pro  Val Ser His
    1025                1030                1035
```

Ser Glu Ser Arg Pro Ser Val Pro His Pro Asp Leu Arg Arg Pro
    1040   1045   1050

Gly Gln Leu Val Asp Glu Lys Val Glu Ser Gln Leu Leu Gly Lys
    1055   1060   1065

<210> 31
<211> 1068
<212> PRT
<213> Mus musculus

<220>
<221> MISC_FEATURE
<222> (1)..(1068)
<223> mature SorCS1c+, isoform 4

<400> 31

Ser Gly Thr Glu Pro Glu Lys Ile Glu Pro Gly Glu Gly Ala Ser Arg
1   5   10   15

Ser Arg Arg Asp Met Leu Lys Asp Gly Gly Gln Gln Gly Leu Gly Thr
            20   25   30

Gly Ala Arg Asp Pro Gly Lys Ala Thr Arg Phe Arg Met Glu Glu Leu
        35   40   45

Arg Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
    50   55   60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65   70   75   80

Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
                85   90   95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
            100   105   110

Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
        115   120   125

Asn Lys Cys Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
    130   135   140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145   150   155   160

Asn Phe Tyr Leu Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
                165   170   175

Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe
            180   185   190

```
Gly Arg Arg Trp Gln Leu Ile Gln Glu Ser Val Val Pro Asn Arg Phe
        195                 200                 205

Tyr Trp Ser Val Met Gly Ser Ser Lys Glu Pro Asp Leu Val His Leu
    210                 215                 220

Glu Ala Arg Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met
225                 230                 235                 240

Gln Asn Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile
                245                 250                 255

Asp Pro Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu
            260                 265                 270

Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Ser Pro
        275                 280                 285

Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His
    290                 295                 300

Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305                 310                 315                 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val
                325                 330                 335

Tyr Phe Thr Leu Ala Leu Glu Asn Val Arg Ser Ser Arg Gly Pro Glu
            340                 345                 350

Gly Asn Val Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met
        355                 360                 365

Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr
    370                 375                 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp
385                 390                 395                 400

Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His
                405                 410                 415

Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala
            420                 425                 430

Ser Arg Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly
        435                 440                 445

Ser Glu Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala
    450                 455                 460
```

```
Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr
465                 470                 475                 480

Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro
                485                 490                 495

Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys
            500                 505                 510

Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu
        515                 520                 525

Pro Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His
    530                 535                 540

Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp
545                 550                 555                 560

Arg Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln
                565                 570                 575

Gly Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys
            580                 585                 590

Ser Glu Arg Lys Cys Met Gln Lys Tyr Ala Gly Ala Met Glu Ser Glu
        595                 600                 605

Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu
    610                 615                 620

Arg His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser
625                 630                 635                 640

Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Ala
                645                 650                 655

Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu
            660                 665                 670

Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly
        675                 680                 685

Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His
    690                 695                 700

Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr
705                 710                 715                 720

Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn
                725                 730                 735
```

```
Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly
            740                 745                 750

Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser
        755                 760                 765

Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu
    770                 775                 780

Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala
785                 790                 795                 800

Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr
                805                 810                 815

Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe
            820                 825                 830

Lys Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala
        835                 840                 845

Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu
    850                 855                 860

Phe Arg Ser Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn
865                 870                 875                 880

Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Ile Lys Lys
                885                 890                 895

Ser Leu Val Glu Ala Thr Gly Ile Pro Ser Gln His Ile Leu Val Ala
            900                 905                 910

Val Leu Pro Gly Leu Pro Thr Ala Ala Glu Leu Phe Val Leu Pro Tyr
        915                 920                 925

Gln Asp Gly Thr Arg Glu Asn Lys Arg Ser Pro Glu Asp Leu Glu Gln
    930                 935                 940

Ile Ser Glu Val Leu Ile His Lys Leu Asn Gln Asn Leu Val His Phe
945                 950                 955                 960

Glu Leu Lys Pro Gly Val Gln Val Leu Val His Ala Ala His Leu Thr
                965                 970                 975

Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly Ser Ala Met
            980                 985                 990

Leu Met Leu Leu Ser Val Val Phe  Val Gly Leu Ala Val  Phe Val Ile
        995                 1000                1005
```

```
Tyr Lys  Phe Lys Arg Lys Ile  Pro Gly Ile Asn Val  Tyr Ala Gln
    1010                1015                1020

Met Gln  Asn Glu Lys Glu Gln  Glu Leu Ile Asn Pro  Val Ser His
    1025                1030                1035

Ser Glu  Ser Arg Ser Ser Val  Pro His Pro Asp Leu  Arg Arg Pro
    1040                1045                1050

Gly Gln  Leu Val Asp Glu Lys  Val Glu Ser Gln Leu  Leu Gly Glu
    1055                1060                1065
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<210> 32
<211> 1081
<212> PRT
<213> Mus musculus

<220>
<221> MISC_FEATURE
<222> (1)..(1081)
<223> mature SorCS1d

<400> 32

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Ser Gly Thr Glu Pro Glu Lys Ile Glu Pro Gly Glu Gly Ala Ser Arg
1               5                   10                  15

Ser Arg Arg Asp Met Leu Lys Asp Gly Gly Gln Gln Gly Leu Gly Thr
            20                  25                  30

Gly Ala Arg Asp Pro Gly Lys Ala Thr Arg Phe Arg Met Glu Glu Leu
        35                  40                  45

Arg Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
    50                  55                  60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65                  70                  75                  80

Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
                85                  90                  95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
            100                 105                 110

Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
        115                 120                 125

Asn Lys Cys Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
    130                 135                 140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
```

145 150 155 160

Asn Phe Tyr Leu Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
165 170 175

Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe
180 185 190

Gly Arg Arg Trp Gln Leu Ile Gln Glu Ser Val Val Pro Asn Arg Phe
195 200 205

Tyr Trp Ser Val Met Gly Ser Ser Lys Glu Pro Asp Leu Val His Leu
210 215 220

Glu Ala Arg Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met
225 230 235 240

Gln Asn Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile
245 250 255

Asp Pro Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu
260 265 270

Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Ser Pro
275 280 285

Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His
290 295 300

Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305 310 315 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val
325 330 335

Tyr Phe Thr Leu Ala Leu Glu Asn Val Arg Ser Ser Arg Gly Pro Glu
340 345 350

Gly Asn Val Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met
355 360 365

Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr
370 375 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp
385 390 395 400

Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His
405 410 415

Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala

420 425 430

Ser Arg Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly
435 440 445

Ser Glu Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala
450 455 460

Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr
465 470 475 480

Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro
485 490 495

Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys
500 505 510

Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu
515 520 525

Pro Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His
530 535 540

Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp
545 550 555 560

Arg Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln
565 570 575

Gly Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys
580 585 590

Ser Glu Arg Lys Cys Met Gln Lys Tyr Ala Gly Ala Met Glu Ser Glu
595 600 605

Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu
610 615 620

Arg His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser
625 630 635 640

Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Ala
645 650 655

Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu
660 665 670

Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly
675 680 685

Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His

690 695 700

Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr
705 710 715 720

Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn
725 730 735

Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly
740 745 750

Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser
755 760 765

Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu
770 775 780

Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala
785 790 795 800

Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr
805 810 815

Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe
820 825 830

Lys Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala
835 840 845

Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu
850 855 860

Phe Arg Ser Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn
865 870 875 880

Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Ile Lys Lys
885 890 895

Ser Leu Val Glu Ala Thr Gly Ile Pro Ser Gln His Ile Leu Val Ala
900 905 910

Val Leu Pro Gly Leu Pro Thr Ala Ala Glu Leu Phe Val Leu Pro Tyr
915 920 925

Gln Asp Gly Thr Arg Glu Asn Lys Arg Ser Pro Glu Asp Leu Glu Gln
930 935 940

Ile Ser Glu Val Leu Ile His Lys Leu Asn Gln Asn Leu Val His Phe
945 950 955 960

Glu Leu Lys Pro Gly Val Gln Val Leu Val His Ala Ala His Leu Thr

965 970 975

Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly Ser Ala Met
980 985 990

Leu Met Leu Leu Ser Val Val Phe Val Gly Leu Ala Val Phe Val Ile
995 1000 1005

Tyr Lys Phe Lys Arg Gly Trp Arg Asp Arg Ser Ala Val Lys Asn
1010 1015 1020

Ile Gly Cys Ser Cys Arg Gly Pro Gly Phe Asn Ser Gln His Gln
1025 1030 1035

Gln Gly Gly Ser Gln Ala Ser Val Thr Ser Val Pro Arg Asp Pro
1040 1045 1050

Ser Pro Ser Ser Asp Leu His Gly His Gln Glu His Thr Trp Cys
1055 1060 1065

Thr Asp Ile His Pro Gly Lys Thr Pro Ile His Ile Lys
1070 1075 1080

<210> 33
<211> 989
<212> PRT
<213> Mus musculus

<220>
<221> MISC_FEATURE
<222> (1)..(989)
<223> Soluble mature SorCS1

<400> 33

Ser Gly Thr Glu Pro Glu Lys Ile Glu Pro Gly Glu Gly Ala Ser Arg
1 5 10 15

Ser Arg Arg Asp Met Leu Lys Asp Gly Gly Gln Gln Gly Leu Gly Thr
20 25 30

Gly Ala Arg Asp Pro Gly Lys Ala Thr Arg Phe Arg Met Glu Glu Leu
35 40 45

Arg Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
50 55 60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65 70 75 80

Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
85 90 95

```
Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
            100                 105                 110

Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
        115                 120                 125

Asn Lys Cys Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
    130                 135                 140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145                 150                 155                 160

Asn Phe Tyr Leu Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
                165                 170                 175

Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe
            180                 185                 190

Gly Arg Arg Trp Gln Leu Ile Gln Glu Ser Val Val Pro Asn Arg Phe
        195                 200                 205

Tyr Trp Ser Val Met Gly Ser Ser Lys Glu Pro Asp Leu Val His Leu
    210                 215                 220

Glu Ala Arg Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met
225                 230                 235                 240

Gln Asn Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile
                245                 250                 255

Asp Pro Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu
            260                 265                 270

Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Ser Pro
        275                 280                 285

Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His
    290                 295                 300

Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305                 310                 315                 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val
                325                 330                 335

Tyr Phe Thr Leu Ala Leu Glu Asn Val Arg Ser Ser Arg Gly Pro Glu
            340                 345                 350

Gly Asn Val Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met
        355                 360                 365
```

```
Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr
    370                 375                 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp
385                 390                 395                 400

Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His
                405                 410                 415

Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala
            420                 425                 430

Ser Arg Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly
        435                 440                 445

Ser Glu Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala
    450                 455                 460

Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr
465                 470                 475                 480

Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro
                485                 490                 495

Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys
            500                 505                 510

Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu
        515                 520                 525

Pro Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His
    530                 535                 540

Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp
545                 550                 555                 560

Arg Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln
                565                 570                 575

Gly Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys
            580                 585                 590

Ser Glu Arg Lys Cys Met Gln Lys Tyr Ala Gly Ala Met Glu Ser Glu
        595                 600                 605

Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu
    610                 615                 620

Arg His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser
625                 630                 635                 640
```

```
Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Ala
                645                 650                 655

Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu
            660                 665                 670

Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly
        675                 680                 685

Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His
    690                 695                 700

Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr
705                 710                 715                 720

Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn
                725                 730                 735

Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly
            740                 745                 750

Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser
        755                 760                 765

Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu
    770                 775                 780

Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala
785                 790                 795                 800

Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr
                805                 810                 815

Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe
            820                 825                 830

Lys Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala
        835                 840                 845

Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu
    850                 855                 860

Phe Arg Ser Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn
865                 870                 875                 880

Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Ile Lys Lys
                885                 890                 895

Ser Leu Val Glu Ala Thr Gly Ile Pro Ser Gln His Ile Leu Val Ala
            900                 905                 910
```

Val Leu Pro Gly Leu Pro Thr Ala Ala Glu Leu Phe Val Leu Pro Tyr
915 920 925

Gln Asp Gly Thr Arg Glu Asn Lys Arg Ser Pro Glu Asp Leu Glu Gln
930 935 940

Ile Ser Glu Val Leu Ile His Lys Leu Asn Gln Asn Leu Val His Phe
945 950 955 960

Glu Leu Lys Pro Gly Val Gln Val Leu Val His Ala Ala His Leu Thr
965 970 975

Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly
980 985

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<213> Pan troglodytes

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Met Thr Gly Arg Phe Pro Pro Arg Asn Arg Lys Leu Pro Thr His Arg
1 5 10 15

Pro Leu Arg Glu Pro Gly Val Asp Arg Pro Arg Gly Gln Gly Ala Arg
20 25 30

Thr Gln Arg Trp Asp Pro Arg Pro Arg Gly Arg Arg Val Gly Gly Gly
35 40 45

Glu Arg Arg Gly Glu Ala Ala Ala Ala Pro Ala Arg Pro Arg Gly Ser
50 55 60

Arg Arg Arg Arg Leu Gln Arg Pro Glu Thr Arg Ala Arg Ala Arg Ser
65 70 75 80

Ala Ser Asp Phe Ser Ser Ala Pro Pro Pro Arg Gly Gly Gly Ser Leu
85 90 95

Arg Pro Asp Pro Arg Ser Ala Gln Ala Gln Pro Gly Arg Ala Ala Ala
100 105 110

Thr Cys Pro Ala Pro Pro Pro Pro Ala Pro Thr Ala Ala Gln Leu Gly
115 120 125

Trp Ser Trp Gly Pro Glu Arg Arg Pro Pro Thr Ala Ala Ser Ala Glu
130 135 140

```
Leu Arg Ala Ala Thr Phe Val Leu Gly Pro Leu Ser Pro Leu Leu Phe
145                 150                 155                 160

Ala Pro Ala Met Gly Lys Val Gly Ala Gly Gly Gly Ser Gln Ala Arg
                165                 170                 175

Leu Ser Ala Leu Leu Ala Gly Ala Gly Leu Leu Val Leu Cys Ala Pro
            180                 185                 190

Gly Val Cys Gly Gly Gly Ser Cys Cys Pro Pro Pro His Pro Ser Ser
        195                 200                 205

Ala Pro Arg Ser Ala Ser Thr Pro Arg Gly Phe Ser His Gln Gly Arg
    210                 215                 220

Pro Gly Arg Ala Pro Ala Thr Pro Leu Pro Leu Val Val Arg Pro Leu
225                 230                 235                 240

Phe Ser Val Ala Pro Gly Asp Arg Ala Leu Ser Leu Glu Arg Ala Arg
                245                 250                 255

Gly Thr Gly Ala Ser Met Ala Val Ala Ala Arg Ser Gly Arg Arg Arg
            260                 265                 270

Arg Ser Gly Ala Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser
        275                 280                 285

Arg Ser Pro Arg Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly
    290                 295                 300

Thr Leu Glu Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu
305                 310                 315                 320

Leu Arg Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His
                325                 330                 335

Asn Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu
            340                 345                 350

Ile Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser
        355                 360                 365

Ser Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn
    370                 375                 380

Asp Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro
385                 390                 395                 400

Thr Asn Lys Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser
                405                 410                 415
```

```
Ser Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg
            420                 425                 430

Leu Asn Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp
        435                 440                 445

Trp Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu
    450                 455                 460

Phe Gly Arg Arg Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg
465                 470                 475                 480

Phe Tyr Trp Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His
                485                 490                 495

Leu Glu Ala Arg Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg
            500                 505                 510

Met Gln Asn Cys Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr
        515                 520                 525

Ile Asp Pro Asp Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln
    530                 535                 540

Leu Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn
545                 550                 555                 560

Ala Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met
                565                 570                 575

His Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu
            580                 585                 590

Trp Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly
        595                 600                 605

Val Tyr Phe Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro
    610                 615                 620

Glu Gly Asn Ile Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly
625                 630                 635                 640

Met Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile
                645                 650                 655

Thr Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr
            660                 665                 670

Asp Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu
        675                 680                 685
```

```
His Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile
    690                 695                 700

Ala Ser Lys Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile
705                 710                 715                 720

Gly Ser Glu Leu Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp
                725                 730                 735

Ala Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu
            740                 745                 750

Tyr Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu
        755                 760                 765

Pro Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser
    770                 775                 780

Lys Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly
785                 790                 795                 800

Glu Pro Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser
                805                 810                 815

His Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe
            820                 825                 830

Asp Arg Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser
        835                 840                 845

Gln Gly Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg
    850                 855                 860

Lys Ser Glu Arg Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu
865                 870                 875                 880

Ser Glu Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly
                885                 890                 895

Tyr Glu Arg His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn
            900                 905                 910

Pro Ser Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn
        915                 920                 925

Ser Thr Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val
    930                 935                 940

Arg Glu Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro
945                 950                 955                 960
```

```
Arg Gly Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln
                965                 970                 975

Gly His Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln
            980                 985                 990

Arg Thr Leu Ile Gln Val Asp Phe  Gly Asp Gly Ile Ala  Val Ser Tyr
        995                 1000                1005

Val Asn  Leu Ser Ser Met Glu  Asp Gly Ile Lys His  Val Tyr Gln
    1010                1015                1020

Asn Val  Gly Ile Phe Arg Val  Thr Val Gln Val Asp  Asn Ser Leu
    1025                1030                1035

Gly Ser  Asp Ser Ala Val Leu  Tyr Leu His Val Thr  Cys Pro Leu
    1040                1045                1050

Glu His  Val His Leu Ser Leu  Pro Phe Val Thr Thr  Lys Asn Lys
    1055                1060                1065

Glu Val  Asn Ala Thr Ala Val  Leu Trp Pro Ser Gln  Val Gly Thr
    1070                1075                1080

Leu Thr  Tyr Val Trp Trp Tyr  Gly Asn Asn Thr Glu  Pro Leu Ile
    1085                1090                1095

Thr Leu  Glu Gly Ser Ile Ser  Phe Arg Phe Thr Ser  Glu Gly Met
    1100                1105                1110

Asn Thr  Ile Thr Val Gln Val  Ser Ala Gly Asn Ala  Ile Leu Gln
    1115                1120                1125

Asp Thr  Lys Thr Ile Ala Val  Tyr Glu Glu Phe Arg  Ser Leu Arg
    1130                1135                1140

Leu Ser  Phe Ser Pro Asn Leu  Asp Asp Tyr Asn Pro  Asp Ile Pro
    1145                1150                1155

Glu Trp  Arg Arg Asp Ile Gly  Arg Val Ile Lys Lys  Ser Leu Val
    1160                1165                1170

Glu Ala  Thr Gly Val Pro Gly  Gln His Ile Leu Val  Ala Val Leu
    1175                1180                1185

Pro Gly  Leu Pro Thr Thr Ala  Glu Leu Phe Val Leu  Pro Tyr Gln
    1190                1195                1200

Asp Pro  Ala Gly Glu Asn Lys  Arg Ser Thr Asp Asp  Leu Glu Gln
    1205                1210                1215
```

```
Ile Ser  Glu Leu Leu Ile His  Thr Leu Asn Gln Asn  Ser Val His
    1220                1225                1230


Phe Glu  Leu Lys Pro Gly Val  Arg Val Leu Val His  Ala Ala His
    1235                1240                1245


Leu Thr  Ala Ala Pro Leu Val  Asp Leu Thr Pro Thr  His Ser Gly
    1250                1255                1260


Ser Ala  Met Leu Met Leu Leu  Ser Val Val Phe Val  Gly Leu Ala
    1265                1270                1275


Val Phe  Val Ile Tyr Lys Phe  Lys Arg Lys Ile Pro  Gly Ile Asn
    1280                1285                1290


Val Tyr  Ala Gln Met Gln Asn  Glu Lys Glu Gln Glu  Met Ile Ser
    1295                1300                1305


Pro Val  Ser His Phe Glu Ser  Arg Pro Ser Val Pro  Gln Thr Glu
    1310                1315                1320


Leu Arg  Arg Pro Gly Gln Leu  Ile Asp Glu Lys Val  Glu Ser Gln
    1325                1330                1335


Leu Ile  Gly Ser Ile Ser Ile  Val Ala Glu Asn Gln  Ser Thr Lys
    1340                1345                1350


Glu Ile  Pro Thr Tyr Val Asn  Val
    1355                1360


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<212>  PRT
<213>  Pan troglodytes


<220>
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<222>  (1)..(1165)
<223>  proSorCS1

<400>  35

Gly Gly Ser Cys Cys Pro Pro Pro His Pro Ser Ser Ala Pro Arg Ser
1               5                  10                  15


Ala Ser Thr Pro Arg Gly Phe Ser His Gln Gly Arg Pro Gly Arg Ala
            20                  25                  30


Pro Ala Thr Pro Leu Pro Leu Val Val Arg Pro Leu Phe Ser Val Ala
        35                  40                  45


Pro Gly Asp Arg Ala Leu Ser Leu Glu Arg Ala Arg Gly Thr Gly Ala
    50                  55                  60
```

```
Ser Met Ala Val Ala Ala Arg Ser Gly Arg Arg Arg Ser Gly Ala
65                  70                  75                  80

Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg Ser Pro Arg
                85                  90                  95

Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr Leu Glu Arg
            100                 105                 110

Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu Thr
        115                 120                 125

Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met
    130                 135                 140

Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr Lys
145                 150                 155                 160

Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg
                165                 170                 175

Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val Gly
            180                 185                 190

Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Arg
        195                 200                 205

Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu Ile
    210                 215                 220

Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr
225                 230                 235                 240

Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala
                245                 250                 255

Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg Arg
            260                 265                 270

Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe Tyr Trp Ser
        275                 280                 285

Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu Glu Ala Arg
    290                 295                 300

Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met Gln Asn Cys
305                 310                 315                 320

Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr Ile Asp Pro Asp
                325                 330                 335
```

```
Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu Thr Ser Gly
            340                 345                 350

Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala Phe Ala Gln
        355                 360                 365

Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile Ser
    370                 375                 380

Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn
385                 390                 395                 400

Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr
                405                 410                 415

Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu Gly Asn Ile
            420                 425                 430

Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala
        435                 440                 445

Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys
    450                 455                 460

Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp Leu Arg Gly
465                 470                 475                 480

Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu
                485                 490                 495

Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Lys Asp
            500                 505                 510

Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu Leu
        515                 520                 525

Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr
    530                 535                 540

Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu Asp Gln
545                 550                 555                 560

Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg His
                565                 570                 575

Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser Phe
            580                 585                 590

Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly Glu
        595                 600                 605
```

```
Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu
    610                 615                 620

Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys
625                 630                 635                 640

Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu Ala
                645                 650                 655

Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg
            660                 665                 670

Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys
        675                 680                 685

Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His
    690                 695                 700

Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu
705                 710                 715                 720

Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly Tyr
                725                 730                 735

Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr
            740                 745                 750

Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg
        755                 760                 765

Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val
    770                 775                 780

Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile
785                 790                 795                 800

Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser
                805                 810                 815

Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe
            820                 825                 830

Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val
        835                 840                 845

Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu
    850                 855                 860

Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu
865                 870                 875                 880
```

```
Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn
                885                 890                 895

Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Arg Phe
            900                 905                 910

Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn
        915                 920                 925

Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg
    930                 935                 940

Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp
945                 950                 955                 960

Ile Pro Glu Trp Arg Arg Asp Ile Gly Arg Val Ile Lys Lys Ser Leu
                965                 970                 975

Val Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val Ala Val Leu
            980                 985                 990

Pro Gly Leu Pro Thr Thr Ala Glu  Leu Phe Val Leu Pro  Tyr Gln Asp
        995                 1000                1005

Pro Ala  Gly Glu Asn Lys Arg  Ser Thr Asp Asp Leu  Glu Gln Ile
    1010                1015                1020

Ser Glu  Leu Leu Ile His Thr  Leu Asn Gln Asn Ser  Val His Phe
    1025                1030                1035

Glu Leu  Lys Pro Gly Val Arg  Val Leu Val His Ala  Ala His Leu
    1040                1045                1050

Thr Ala  Ala Pro Leu Val Asp  Leu Thr Pro Thr His  Ser Gly Ser
    1055                1060                1065

Ala Met  Leu Met Leu Leu Ser  Val Val Phe Val Gly  Leu Ala Val
    1070                1075                1080

Phe Val  Ile Tyr Lys Phe Lys  Arg Lys Ile Pro Gly  Ile Asn Val
    1085                1090                1095

Tyr Ala  Gln Met Gln Asn Glu  Lys Glu Gln Glu Met  Ile Ser Pro
    1100                1105                1110

Val Ser  His Phe Glu Ser Arg  Pro Ser Val Pro Gln  Thr Glu Leu
    1115                1120                1125

Arg Arg  Pro Gly Gln Leu Ile  Asp Glu Lys Val Glu  Ser Gln Leu
    1130                1135                1140
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Ile Gly Ser Ile Ser Ile Val Ala Glu Asn Gln Ser Thr Lys Glu
    1145   1150   1155

Ile Pro Thr Tyr Val Asn Val
    1160   1165

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<213> Pan troglodytes

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<223> mature SorCS1

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Ser Gly Ala Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg
1   5   10   15

Ser Pro Arg Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr
            20   25   30

Leu Glu Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu
        35   40   45

Arg Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
    50   55   60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65   70   75   80

Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
                85   90   95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
            100   105   110

Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
        115   120   125

Asn Lys Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
    130   135   140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145   150   155   160

Asn Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
                165   170   175

Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe

```
            180                 185                 190

Gly Arg Arg Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe
        195                 200                 205

Tyr Trp Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu
    210                 215                 220

Glu Ala Arg Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met
225                 230                 235                 240

Gln Asn Cys Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr Ile
                245                 250                 255

Asp Pro Asp Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu
            260                 265                 270

Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala
        275                 280                 285

Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His
    290                 295                 300

Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305                 310                 315                 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val
                325                 330                 335

Tyr Phe Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu
            340                 345                 350

Gly Asn Ile Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met
        355                 360                 365

Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr
    370                 375                 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp
385                 390                 395                 400

Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His
                405                 410                 415

Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala
            420                 425                 430

Ser Lys Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly
        435                 440                 445

Ser Glu Leu Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala
```

450 455 460

Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr
465 470 475 480

Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro
485 490 495

Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys
500 505 510

Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu
515 520 525

Pro Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His
530 535 540

Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp
545 550 555 560

Arg Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln
565 570 575

Gly Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys
580 585 590

Ser Glu Arg Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser
595 600 605

Glu Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr
610 615 620

Glu Arg His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro
625 630 635 640

Ser Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser
645 650 655

Thr Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg
660 665 670

Glu Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg
675 680 685

Gly Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly
690 695 700

His Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg
705 710 715 720

Thr Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val

725 730 735

Asn Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val
740 745 750

Gly Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp
755 760 765

Ser Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His
770 775 780

Leu Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr
785 790 795 800

Ala Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp
805 810 815

Tyr Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser
820 825 830

Phe Arg Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser
835 840 845

Ala Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu
850 855 860

Glu Phe Arg Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr
865 870 875 880

Asn Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Gly Arg Val Ile Lys
885 890 895

Lys Ser Leu Val Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val
900 905 910

Ala Val Leu Pro Gly Leu Pro Thr Thr Ala Glu Leu Phe Val Leu Pro
915 920 925

Tyr Gln Asp Pro Ala Gly Glu Asn Lys Arg Ser Thr Asp Asp Leu Glu
930 935 940

Gln Ile Ser Glu Leu Leu Ile His Thr Leu Asn Gln Asn Ser Val His
945 950 955 960

Phe Glu Leu Lys Pro Gly Val Arg Val Leu Val His Ala Ala His Leu
965 970 975

Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly Ser Ala
980 985 990

Met Leu Met Leu Leu Ser Val Val Phe Val Gly Leu Ala Val Phe Val

995 1000 1005

Ile Tyr Lys Phe Lys Arg Lys Ile Pro Gly Ile Asn Val Tyr Ala
1010 1015 1020

Gln Met Gln Asn Glu Lys Glu Gln Glu Met Ile Ser Pro Val Ser
1025 1030 1035

His Phe Glu Ser Arg Pro Ser Val Pro Gln Thr Glu Leu Arg Arg
1040 1045 1050

Pro Gly Gln Leu Ile Asp Glu Lys Val Glu Ser Gln Leu Ile Gly
1055 1060 1065

Ser Ile Ser Ile Val Ala Glu Asn Gln Ser Thr Lys Glu Ile Pro
1070 1075 1080

Thr Tyr Val Asn Val
1085

<210> 37
<211> 990
<212> PRT
<213> Pan troglodytes

<220>
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<222> (1)..(990)
<223> soluble SorCS1

<400> 37

Ser Gly Ala Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg
1 5 10 15

Ser Pro Arg Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr
20 25 30

Leu Glu Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu
35 40 45

Arg Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
50 55 60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65 70 75 80

Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
85 90 95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
100 105 110

```
Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
        115                 120                 125

Asn Lys Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
    130                 135                 140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145                 150                 155                 160

Asn Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
                165                 170                 175

Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe
            180                 185                 190

Gly Arg Arg Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe
        195                 200                 205

Tyr Trp Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu
    210                 215                 220

Glu Ala Arg Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met
225                 230                 235                 240

Gln Asn Cys Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr Ile
                245                 250                 255

Asp Pro Asp Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu
            260                 265                 270

Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala
        275                 280                 285

Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His
    290                 295                 300

Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305                 310                 315                 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val
                325                 330                 335

Tyr Phe Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu
            340                 345                 350

Gly Asn Ile Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met
        355                 360                 365

Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr
    370                 375                 380
```

```
Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp
385                 390                 395                 400

Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His
                405                 410                 415

Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala
            420                 425                 430

Ser Lys Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly
        435                 440                 445

Ser Glu Leu Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala
    450                 455                 460

Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr
465                 470                 475                 480

Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro
                485                 490                 495

Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys
            500                 505                 510

Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu
        515                 520                 525

Pro Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His
    530                 535                 540

Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp
545                 550                 555                 560

Arg Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln
                565                 570                 575

Gly Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys
            580                 585                 590

Ser Glu Arg Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser
        595                 600                 605

Glu Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr
    610                 615                 620

Glu Arg His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro
625                 630                 635                 640

Ser Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser
                645                 650                 655
```

```
Thr Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg
            660                 665                 670

Glu Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg
        675                 680                 685

Gly Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly
    690                 695                 700

His Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg
705                 710                 715                 720

Thr Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val
                725                 730                 735

Asn Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val
            740                 745                 750

Gly Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp
        755                 760                 765

Ser Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His
    770                 775                 780

Leu Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr
785                 790                 795                 800

Ala Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp
                805                 810                 815

Tyr Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser
            820                 825                 830

Phe Arg Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser
        835                 840                 845

Ala Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu
    850                 855                 860

Glu Phe Arg Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr
865                 870                 875                 880

Asn Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Gly Arg Val Ile Lys
                885                 890                 895

Lys Ser Leu Val Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val
            900                 905                 910

Ala Val Leu Pro Gly Leu Pro Thr Thr Ala Glu Leu Phe Val Leu Pro
        915                 920                 925
```

Tyr Gln Asp Pro Ala Gly Glu Asn Lys Arg Ser Thr Asp Asp Leu Glu
930 935 940

Gln Ile Ser Glu Leu Leu Ile His Thr Leu Asn Gln Asn Ser Val His
945 950 955 960

Phe Glu Leu Lys Pro Gly Val Arg Val Leu Val His Ala Ala His Leu
965 970 975

Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly
980 985 990

<210> 38
<211> 997
<212> PRT
<213> Canis lupus familiaris

<220>
<221> MISC_FEATURE
<222> (1)..(997)
<223> mature SorCS1

<400> 38

Met Arg Lys Val Ser Glu Ile Met Val Leu Arg Ser Trp His Ser Val
1 5 10 15

Ile Leu Ile Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr
20 25 30

Glu Ser Ser Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys
35 40 45

Leu Asn Asp Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val
50 55 60

Cys Pro Thr Asn Lys Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile
65 70 75 80

Glu Ser Ser Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys
85 90 95

Tyr Arg Leu Asn Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln
100 105 110

Glu Asp Trp Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser
115 120 125

Ala Glu Phe Gly Arg Arg Trp Gln Leu Ile Gln Glu Gly Val Val Pro
130 135 140

Asn Arg Phe Tyr Trp Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu
145 150 155 160

```
Val His Leu Glu Ala Arg Thr Val Asp Gly His Ser Gln Tyr Leu Thr
                165                 170                 175

Cys Arg Met Gln Asn Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro
            180                 185                 190

Gly Tyr Ile Asp Pro Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe
        195                 200                 205

Val Gln Leu Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg
    210                 215                 220

Arg Asn Ala Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys
225                 230                 235                 240

Asp Met His Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val
                245                 250                 255

Gln Glu Trp Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr
            260                 265                 270

Arg Gly Val Tyr Phe Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg
        275                 280                 285

Gly Pro Glu Gly Asn Ile Met Ile Asp Leu Tyr Glu Val Ala Gly Ile
    290                 295                 300

Lys Gly Met Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr
305                 310                 315                 320

Phe Ile Thr Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro
                325                 330                 335

Asp Thr Asp Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys
            340                 345                 350

Ser Leu His Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly
        355                 360                 365

Ile Ile Ala Ser Arg Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly
    370                 375                 380

Asn Ile Gly Ser Glu Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser
385                 390                 395                 400

Ser Asp Ala Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser
                405                 410                 415

Val Leu Tyr Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr
            420                 425                 430
```

```
Ser Leu Pro Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser
        435                 440                 445

Trp Ser Lys Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val
    450                 455                 460

Leu Gly Glu Pro Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His
465                 470                 475                 480

Phe Ser His Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser
                485                 490                 495

Ile Phe Asp Arg Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu
            500                 505                 510

His Ser Gln Gly Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys
        515                 520                 525

Lys Arg Lys Ser Glu Arg Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala
    530                 535                 540

Met Glu Ser Glu Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp
545                 550                 555                 560

Tyr Gly Tyr Glu Arg His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp
                565                 570                 575

Phe Asn Pro Ser Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr
            580                 585                 590

Leu Asn Ser Thr Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp
        595                 600                 605

Gly Val Arg Glu Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys
    610                 615                 620

Ala Pro Arg Gly Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala
625                 630                 635                 640

Glu Gln Gly His Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp
                645                 650                 655

Val Gln Arg Thr Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val
            660                 665                 670

Ser Tyr Val Asn Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr
        675                 680                 685

His Asn Val Gly Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu
    690                 695                 700
```

```
Gly Ser Asp Ser Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu
705                 710                 715                 720

His Val His Leu Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val
                725                 730                 735

Asn Ala Thr Ala Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr
            740                 745                 750

Val Trp Trp Tyr Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly
        755                 760                 765

Ser Ile Ser Phe Lys Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val
    770                 775                 780

Gln Val Ser Ala Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala
785                 790                 795                 800

Val Tyr Glu Glu Phe Arg Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu
                805                 810                 815

Asp Asp Tyr Asn Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Ser Arg
            820                 825                 830

Val Ile Lys Lys Ser Leu Val Glu Ala Thr Gly Val Pro Gly Gln His
        835                 840                 845

Ile Leu Val Ala Val Leu Pro Gly Leu Pro Thr Ala Ala Glu Leu Phe
    850                 855                 860

Val Leu Pro Tyr Gln Asp Pro Thr Gly Glu Asn Lys Arg Ser Ala Glu
865                 870                 875                 880

Asp Leu Glu Gln Ile Ser Glu Leu Leu Ile His Lys Leu Asn Gln Asn
                885                 890                 895

Ser Val His Phe Glu Leu Lys Pro Gly Val Gln Ile Leu Val His Ala
            900                 905                 910

Ala His Leu Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser
        915                 920                 925

Gly Ser Ala Met Leu Met Leu Leu Ser Val Val Phe Val Gly Leu Ala
    930                 935                 940

Val Phe Val Ile Tyr Lys Phe Lys Arg Arg Val Ala Leu Pro Ser Pro
945                 950                 955                 960

Pro Ser Pro Ser Thr Gln Pro Gly Asp Ser Ser Leu Arg Leu Gln Arg
                965                 970                 975
```

Ala Arg His Ala Thr Pro Pro Ser Thr Pro Lys Arg Gly Ser Ala Gly
980 985 990

Ala Gln Phe Ala Ile
995

<210> 39
<211> 929
<212> PRT
<213> Canis lupus familiaris

<220>
<221> MISC_FEATURE
<222> (1)..(929)
<223> soluble SorCS1

<400> 39

Met Arg Lys Val Ser Glu Ile Met Val Leu Arg Ser Trp His Ser Val
1 5 10 15

Ile Leu Ile Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr
20 25 30

Glu Ser Ser Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys
35 40 45

Leu Asn Asp Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val
50 55 60

Cys Pro Thr Asn Lys Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile
65 70 75 80

Glu Ser Ser Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys
85 90 95

Tyr Arg Leu Asn Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln
100 105 110

Glu Asp Trp Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser
115 120 125

Ala Glu Phe Gly Arg Arg Trp Gln Leu Ile Gln Glu Gly Val Val Pro
130 135 140

Asn Arg Phe Tyr Trp Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu
145 150 155 160

Val His Leu Glu Ala Arg Thr Val Asp Gly His Ser Gln Tyr Leu Thr
165 170 175

Cys Arg Met Gln Asn Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro
180 185 190

```
Gly Tyr Ile Asp Pro Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe
        195                 200                 205

Val Gln Leu Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg
    210                 215                 220

Arg Asn Ala Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys
225                 230                 235                 240

Asp Met His Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val
                245                 250                 255

Gln Glu Trp Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr
            260                 265                 270

Arg Gly Val Tyr Phe Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg
        275                 280                 285

Gly Pro Glu Gly Asn Ile Met Ile Asp Leu Tyr Glu Val Ala Gly Ile
    290                 295                 300

Lys Gly Met Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr
305                 310                 315                 320

Phe Ile Thr Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro
                325                 330                 335

Asp Thr Asp Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys
            340                 345                 350

Ser Leu His Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly
        355                 360                 365

Ile Ile Ala Ser Arg Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly
    370                 375                 380

Asn Ile Gly Ser Glu Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser
385                 390                 395                 400

Ser Asp Ala Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser
                405                 410                 415

Val Leu Tyr Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr
            420                 425                 430

Ser Leu Pro Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser
        435                 440                 445

Trp Ser Lys Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val
    450                 455                 460
```

```
Leu Gly Glu Pro Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His
465                 470                 475                 480

Phe Ser His Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser
                485                 490                 495

Ile Phe Asp Arg Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu
            500                 505                 510

His Ser Gln Gly Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys
        515                 520                 525

Lys Arg Lys Ser Glu Arg Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala
    530                 535                 540

Met Glu Ser Glu Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp
545                 550                 555                 560

Tyr Gly Tyr Glu Arg His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp
                565                 570                 575

Phe Asn Pro Ser Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr
            580                 585                 590

Leu Asn Ser Thr Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp
        595                 600                 605

Gly Val Arg Glu Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys
    610                 615                 620

Ala Pro Arg Gly Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala
625                 630                 635                 640

Glu Gln Gly His Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp
                645                 650                 655

Val Gln Arg Thr Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val
            660                 665                 670

Ser Tyr Val Asn Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr
        675                 680                 685

His Asn Val Gly Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu
    690                 695                 700

Gly Ser Asp Ser Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu
705                 710                 715                 720

His Val His Leu Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val
                725                 730                 735
```

```
Asn Ala Thr Ala Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr
            740                 745                 750

Val Trp Trp Tyr Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly
        755                 760                 765

Ser Ile Ser Phe Lys Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val
    770                 775                 780

Gln Val Ser Ala Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala
785                 790                 795                 800

Val Tyr Glu Glu Phe Arg Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu
                805                 810                 815

Asp Asp Tyr Asn Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Ser Arg
            820                 825                 830

Val Ile Lys Lys Ser Leu Val Glu Ala Thr Gly Val Pro Gly Gln His
        835                 840                 845

Ile Leu Val Ala Val Leu Pro Gly Leu Pro Thr Ala Ala Glu Leu Phe
    850                 855                 860

Val Leu Pro Tyr Gln Asp Pro Thr Gly Glu Asn Lys Arg Ser Ala Glu
865                 870                 875                 880

Asp Leu Glu Gln Ile Ser Glu Leu Leu Ile His Lys Leu Asn Gln Asn
                885                 890                 895

Ser Val His Phe Glu Leu Lys Pro Gly Val Gln Ile Leu Val His Ala
            900                 905                 910

Ala His Leu Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser
        915                 920                 925

Gly
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<210> 40
<211> 1196
<212> PRT
<213> Bos taurus

<220>
<221> MISC_FEATURE
<222> (1)..(1196)
<223> preproSorCS1

<400> 40

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Met Gly Lys Val Gly Ala Gly Gly Val Ser Pro Ala Gly Leu Ser Ala
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1 5 10 15

Leu Leu Ala Gly Ala Gly Leu Leu Val Leu Cys Ala Pro Gly Ser Cys
20 25 30

Gly Gly Gly Ser Cys Cys Pro Pro Arg His Pro Ser Ala Ala Pro Arg
35 40 45

Trp Ala Pro Thr Pro Gly Gly Leu Pro His Gln Gly Pro Arg Gly Arg
50 55 60

Ala Pro Ala Thr Pro Leu Pro Gln Leu Gly Arg Pro Leu Phe Ala Val
65 70 75 80

Ala Pro Gly Asp Arg Ala Leu Ser Leu Glu Arg Ala Pro Gly Thr Gly
85 90 95

Ala Ser Val Ala Val Ala Pro Arg Ser Gly Arg Lys Arg Arg Ser Gly
100 105 110

Glu Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Thr Ser Arg Ser Pro
115 120 125

Arg Gly Val Leu Arg Asp Arg Gly Gln Leu Glu Pro Gly Thr Leu Glu
130 135 140

Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Leu Glu Glu Leu Lys Leu
145 150 155 160

Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala
165 170 175

Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr
180 185 190

Lys Leu Phe Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp
195 200 205

Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val
210 215 220

Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys
225 230 235 240

Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu
245 250 255

Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe
260 265 270

Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu

275 280 285

Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg
290 295 300

Arg Trp Gln Leu Ile Gln Glu Ala Val Val Pro Asn Arg Phe Tyr Trp
305 310 315 320

Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu Glu Ala
325 330 335

Arg Thr Val Asp Gly His Ser Gln Tyr Leu Thr Cys Arg Met Gln Asn
340 345 350

Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile Asp Pro
355 360 365

Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser
370 375 380

Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala Phe Ala
385 390 395 400

Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile
405 410 415

Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln
420 425 430

Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe
435 440 445

Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu Gly Asn
450 455 460

Val Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu
465 470 475 480

Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn
485 490 495

Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp Leu Arg
500 505 510

Gly Asp Pro Val His Cys Val Leu Pro Tyr Cys Ser Leu His Leu His
515 520 525

Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Arg
530 535 540

Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu

```
545                 550                 555                 560

Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn
                565                 570                 575

Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu Asp
            580                 585                 590

Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg
        595                 600                 605

His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser
    610                 615                 620

Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly
625                 630                 635                 640

Glu Glu Thr Leu Ile Met Thr Leu Leu Asp His Ser His Ser Asp Trp
                645                 650                 655

Leu Val Thr Ala Leu Gln Pro Cys Cys Leu Phe Leu Leu Gly Asn Glu
            660                 665                 670

Trp Glu Asp Lys Ile Ala Trp Lys Pro Gln Asp Gln Gly Glu Ala Cys
        675                 680                 685

Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg Lys
    690                 695                 700

Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys Val
705                 710                 715                 720

Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His Ser
                725                 730                 735

Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu Ser
            740                 745                 750

Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly Tyr Arg
        755                 760                 765

Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr Thr
    770                 775                 780

Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg Ile
785                 790                 795                 800

Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val Thr
                805                 810                 815

Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile Gln
```

```
            820                 825                 830

Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser Ser
        835                 840                 845

Met Glu Asp Gly Ile Lys His Val Tyr His Asn Val Gly Ile Phe Arg
    850                 855                 860

Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val Leu
865                 870                 875                 880

Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu Pro
                885                 890                 895

Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu Trp
            900                 905                 910

Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn Asn
        915                 920                 925

Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ala Phe Lys Phe Thr
    930                 935                 940

Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn Ala
945                 950                 955                 960

Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg Ser
                965                 970                 975

Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp Ile
            980                 985                 990

Pro Glu Trp Arg Arg Asp Val Ser  Arg Val Ile Lys Lys  Ala Leu Val
        995                 1000                1005

Glu Ala  Thr Gly Val Pro Gly  Gln His Ile Leu Val  Ala Val Leu
    1010                1015                1020

Pro Gly  Leu Pro Thr Ala Ala  Glu Leu Phe Val Leu  Pro His Gln
    1025                1030                1035

Asp Pro  Thr Gly Glu Asn Lys  Arg Pro Ala Glu Asp  Leu Glu Gln
    1040                1045                1050

Ile Ser  Glu Leu Met Ile His  Lys Leu Asn Gln Asn  Ser Val His
    1055                1060                1065

Phe Glu  Leu Lys Pro Gly Val  Gln Val Leu Val His  Ala Ala His
    1070                1075                1080

Leu Thr  Ala Ala Pro Leu Val  Asp Leu Thr Pro Thr  His Ser Gly
```

1085 1090 1095

Ser Ala Met Leu Met Leu Leu Ser Val Val Phe Val Gly Leu Ala
1100 1105 1110

Val Phe Val Ile Tyr Lys Phe Lys Arg Lys Ile Pro Gly Ile Asn
1115 1120 1125

Val Tyr Ala Gln Met Gln Asn Glu Lys Glu Gln Glu Met Val Ser
1130 1135 1140

Arg Val Ser His Pro Glu Ser Arg Pro Tyr Val Pro Gln Thr Glu
1145 1150 1155

Leu Arg Arg Pro Gly Gln Leu Ile Asp Glu Lys Val Glu Ser Gln
1160 1165 1170

Leu Ile Gly Ser Ile Ser Ile Val Ala Glu Asn Gln Ser Thr Lys
1175 1180 1185

Glu Ile Pro Thr Tyr Val Asn Val
1190 1195

<210> 41
<211> 1163
<212> PRT
<213> Bos taurus

<220>
<221> MISC_FEATURE
<222> (1)..(1163)
<223> proSorCS1

<400> 41

Gly Gly Ser Cys Cys Pro Pro Arg His Pro Ser Ala Ala Pro Arg Trp
1 5 10 15

Ala Pro Thr Pro Gly Gly Leu Pro His Gln Gly Pro Arg Gly Arg Ala
20 25 30

Pro Ala Thr Pro Leu Pro Gln Leu Gly Arg Pro Leu Phe Ala Val Ala
35 40 45

Pro Gly Asp Arg Ala Leu Ser Leu Glu Arg Ala Pro Gly Thr Gly Ala
50 55 60

Ser Val Ala Val Ala Pro Arg Ser Gly Arg Lys Arg Arg Ser Gly Glu
65 70 75 80

Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Thr Ser Arg Ser Pro Arg
85 90 95

```
Gly Val Leu Arg Asp Arg Gly Gln Leu Glu Pro Gly Thr Leu Glu Arg
            100                 105                 110

Asp Pro Asp Lys Ala Thr Arg Phe Arg Leu Glu Glu Leu Lys Leu Thr
        115                 120                 125

Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met
    130                 135                 140

Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr Lys
145                 150                 155                 160

Leu Phe Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg
                165                 170                 175

Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val Gly
            180                 185                 190

Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Arg
        195                 200                 205

Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu Ile
    210                 215                 220

Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr
225                 230                 235                 240

Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala
                245                 250                 255

Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg Arg
            260                 265                 270

Trp Gln Leu Ile Gln Glu Ala Val Val Pro Asn Arg Phe Tyr Trp Ser
        275                 280                 285

Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu Glu Ala Arg
    290                 295                 300

Thr Val Asp Gly His Ser Gln Tyr Leu Thr Cys Arg Met Gln Asn Cys
305                 310                 315                 320

Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile Asp Pro Asp
                325                 330                 335

Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser Gly
            340                 345                 350

Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala Phe Ala Gln
        355                 360                 365
```

```
Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile Ser
    370                 375                 380

Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn
385                 390                 395                 400

Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr
                405                 410                 415

Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu Gly Asn Val
            420                 425                 430

Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala
        435                 440                 445

Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys
    450                 455                 460

Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp Leu Arg Gly
465                 470                 475                 480

Asp Pro Val His Cys Val Leu Pro Tyr Cys Ser Leu His Leu His Leu
                485                 490                 495

Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Arg Asp
            500                 505                 510

Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu Leu
        515                 520                 525

Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr
    530                 535                 540

Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu Asp Gln
545                 550                 555                 560

Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg His
                565                 570                 575

Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser Phe
            580                 585                 590

Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly Glu
        595                 600                 605

Glu Thr Leu Ile Met Thr Leu Leu Asp His Ser His Ser Asp Trp Leu
    610                 615                 620

Val Thr Ala Leu Gln Pro Cys Cys Leu Phe Leu Leu Gly Asn Glu Trp
625                 630                 635                 640
```

```
Glu Asp Lys Ile Ala Trp Lys Pro Gln Asp Gln Gly Glu Ala Cys Ile
                645                 650                 655

Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg Lys Cys
            660                 665                 670

Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys Val Cys
        675                 680                 685

Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His Ser Asn
    690                 695                 700

Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu Ser Lys
705                 710                 715                 720

Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly Tyr Arg Lys
                725                 730                 735

Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr Thr Ala
            740                 745                 750

Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg Ile Val
        755                 760                 765

Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val Thr Leu
    770                 775                 780

Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile Gln Val
785                 790                 795                 800

Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser Ser Met
                805                 810                 815

Glu Asp Gly Ile Lys His Val Tyr His Asn Val Gly Ile Phe Arg Val
            820                 825                 830

Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val Leu Tyr
        835                 840                 845

Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu Pro Phe
    850                 855                 860

Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu Trp Pro
865                 870                 875                 880

Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn Asn Thr
                885                 890                 895

Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ala Phe Lys Phe Thr Ser
            900                 905                 910
```

```
Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn Ala Ile
        915                 920                 925

Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg Ser Leu
    930                 935                 940

Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp Ile Pro
945                 950                 955                 960

Glu Trp Arg Arg Asp Val Ser Arg Val Ile Lys Lys Ala Leu Val Glu
                965                 970                 975

Ala Thr Gly Val Pro Gly Gln His Ile Leu Val Ala Val Leu Pro Gly
            980                 985                 990

Leu Pro Thr Ala Ala Glu Leu Phe  Val Leu Pro His Gln  Asp Pro Thr
        995                 1000                1005

Gly Glu  Asn Lys Arg Pro Ala  Glu Asp Leu Glu Gln  Ile Ser Glu
    1010                1015                1020

Leu Met  Ile His Lys Leu Asn  Gln Asn Ser Val His  Phe Glu Leu
    1025                1030                1035

Lys Pro  Gly Val Gln Val Leu  Val His Ala Ala His  Leu Thr Ala
    1040                1045                1050

Ala Pro  Leu Val Asp Leu Thr  Pro Thr His Ser Gly  Ser Ala Met
    1055                1060                1065

Leu Met  Leu Leu Ser Val Val  Phe Val Gly Leu Ala  Val Phe Val
    1070                1075                1080

Ile Tyr  Lys Phe Lys Arg Lys  Ile Pro Gly Ile Asn  Val Tyr Ala
    1085                1090                1095

Gln Met  Gln Asn Glu Lys Glu  Gln Glu Met Val Ser  Arg Val Ser
    1100                1105                1110

His Pro  Glu Ser Arg Pro Tyr  Val Pro Gln Thr Glu  Leu Arg Arg
    1115                1120                1125

Pro Gly  Gln Leu Ile Asp Glu  Lys Val Glu Ser Gln  Leu Ile Gly
    1130                1135                1140

Ser Ile  Ser Ile Val Ala Glu  Asn Gln Ser Thr Lys  Glu Ile Pro
    1145                1150                1155

Thr Tyr  Val Asn Val
    1160
```

<210> 42
<211> 1086
<212> PRT
<213> Bos taurus

<220>
<221> MISC_FEATURE
<222> (1)..(1086)
<223> mature SorCS1

<400> 42

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Ser Gly Glu Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Thr Ser Arg
1               5                  10                  15

Ser Pro Arg Gly Val Leu Arg Asp Arg Gly Gln Leu Glu Pro Gly Thr
            20                  25                  30

Leu Glu Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Leu Glu Glu Leu
        35                  40                  45

Lys Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
    50                  55                  60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65                  70                  75                  80

Leu Thr Lys Leu Phe Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
                85                  90                  95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
            100                 105                 110

Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
        115                 120                 125

Asn Lys Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
    130                 135                 140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145                 150                 155                 160

Asn Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
                165                 170                 175

Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe
            180                 185                 190

Gly Arg Arg Trp Gln Leu Ile Gln Glu Ala Val Val Pro Asn Arg Phe
        195                 200                 205

Tyr Trp Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu
    210                 215                 220
```

```
Glu Ala Arg Thr Val Asp Gly His Ser Gln Tyr Leu Thr Cys Arg Met
225                 230                 235                 240

Gln Asn Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile
                245                 250                 255

Asp Pro Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu
            260                 265                 270

Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala
        275                 280                 285

Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His
    290                 295                 300

Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305                 310                 315                 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val
                325                 330                 335

Tyr Phe Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu
            340                 345                 350

Gly Asn Val Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met
        355                 360                 365

Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr
    370                 375                 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp
385                 390                 395                 400

Leu Arg Gly Asp Pro Val His Cys Val Leu Pro Tyr Cys Ser Leu His
                405                 410                 415

Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala
            420                 425                 430

Ser Arg Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly
        435                 440                 445

Ser Glu Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala
    450                 455                 460

Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr
465                 470                 475                 480

Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro
                485                 490                 495
```

```
Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys
            500                 505                 510

Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu
        515                 520                 525

Pro Gly Glu Glu Thr Leu Ile Met Thr Leu Leu Asp His Ser His Ser
    530                 535                 540

Asp Trp Leu Val Thr Ala Leu Gln Pro Cys Cys Leu Phe Leu Leu Gly
545                 550                 555                 560

Asn Glu Trp Glu Asp Lys Ile Ala Trp Lys Pro Gln Asp Gln Gly Glu
                565                 570                 575

Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu
            580                 585                 590

Arg Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro
        595                 600                 605

Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg
    610                 615                 620

His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser
625                 630                 635                 640

Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly
                645                 650                 655

Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln
            660                 665                 670

Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu
        675                 680                 685

Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn
    690                 695                 700

Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu
705                 710                 715                 720

Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu
                725                 730                 735

Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr His Asn Val Gly Ile
            740                 745                 750

Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala
        755                 760                 765
```

```
Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser
    770                 775                 780

Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val
785                 790                 795                 800

Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly
                805                 810                 815

Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ala Phe Lys
            820                 825                 830

Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly
        835                 840                 845

Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe
    850                 855                 860

Arg Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro
865                 870                 875                 880

Asp Ile Pro Glu Trp Arg Arg Asp Val Ser Arg Val Ile Lys Lys Ala
                885                 890                 895

Leu Val Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val Ala Val
            900                 905                 910

Leu Pro Gly Leu Pro Thr Ala Ala Glu Leu Phe Val Leu Pro His Gln
        915                 920                 925

Asp Pro Thr Gly Glu Asn Lys Arg Pro Ala Glu Asp Leu Glu Gln Ile
    930                 935                 940

Ser Glu Leu Met Ile His Lys Leu Asn Gln Asn Ser Val His Phe Glu
945                 950                 955                 960

Leu Lys Pro Gly Val Gln Val Leu Val His Ala Ala His Leu Thr Ala
                965                 970                 975

Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly Ser Ala Met Leu
            980                 985                 990

Met Leu Leu Ser Val Val Phe Val  Gly Leu Ala Val Phe  Val Ile Tyr
        995                 1000                1005

Lys Phe  Lys Arg Lys Ile Pro  Gly Ile Asn Val Tyr  Ala Gln Met
    1010                1015                1020

Gln Asn  Glu Lys Glu Gln Glu  Met Val Ser Arg Val  Ser His Pro
    1025                1030                1035
```

Glu Ser Arg Pro Tyr Val Pro Gln Thr Glu Leu Arg Arg Pro Gly
    1040   1045   1050

Gln Leu Ile Asp Glu Lys Val Glu Ser Gln Leu Ile Gly Ser Ile
    1055   1060   1065

Ser Ile Val Ala Glu Asn Gln Ser Thr Lys Glu Ile Pro Thr Tyr
    1070   1075   1080

Val Asn Val
    1085

<210> 43
<211> 988
<212> PRT
<213> Bos taurus

<220>
<221> MISC_FEATURE
<222> (1)..(988)
<223> soluble SorCS1

<400> 43

Ser Gly Glu Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Thr Ser Arg
1   5   10   15

Ser Pro Arg Gly Val Leu Arg Asp Arg Gly Gln Leu Glu Pro Gly Thr
            20   25   30

Leu Glu Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Leu Glu Glu Leu
        35   40   45

Lys Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
    50   55   60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65   70   75   80

Leu Thr Lys Leu Phe Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
                85   90   95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
            100   105   110

Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
        115   120   125

Asn Lys Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
    130   135   140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145   150   155   160

```
Asn Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
                165                 170                 175

Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe
            180                 185                 190

Gly Arg Arg Trp Gln Leu Ile Gln Glu Ala Val Val Pro Asn Arg Phe
        195                 200                 205

Tyr Trp Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu
    210                 215                 220

Glu Ala Arg Thr Val Asp Gly His Ser Gln Tyr Leu Thr Cys Arg Met
225                 230                 235                 240

Gln Asn Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile
                245                 250                 255

Asp Pro Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu
            260                 265                 270

Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala
        275                 280                 285

Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His
    290                 295                 300

Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305                 310                 315                 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val
                325                 330                 335

Tyr Phe Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu
            340                 345                 350

Gly Asn Val Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met
        355                 360                 365

Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr
    370                 375                 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp
385                 390                 395                 400

Leu Arg Gly Asp Pro Val His Cys Val Leu Pro Tyr Cys Ser Leu His
                405                 410                 415

Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala
            420                 425                 430
```

```
Ser Arg Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly
        435                 440                 445

Ser Glu Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala
    450                 455                 460

Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr
465                 470                 475                 480

Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro
                485                 490                 495

Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys
            500                 505                 510

Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu
        515                 520                 525

Pro Gly Glu Glu Thr Leu Ile Met Thr Leu Leu Asp His Ser His Ser
    530                 535                 540

Asp Trp Leu Val Thr Ala Leu Gln Pro Cys Cys Leu Phe Leu Leu Gly
545                 550                 555                 560

Asn Glu Trp Glu Asp Lys Ile Ala Trp Lys Pro Gln Asp Gln Gly Glu
                565                 570                 575

Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu
            580                 585                 590

Arg Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro
        595                 600                 605

Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg
    610                 615                 620

His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser
625                 630                 635                 640

Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly
                645                 650                 655

Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln
            660                 665                 670

Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu
        675                 680                 685

Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn
    690                 695                 700
```

```
Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu
705                 710                 715                 720

Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu
                725                 730                 735

Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr His Asn Val Gly Ile
            740                 745                 750

Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala
        755                 760                 765

Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser
    770                 775                 780

Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val
785                 790                 795                 800

Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly
                805                 810                 815

Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ala Phe Lys
            820                 825                 830

Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly
        835                 840                 845

Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe
    850                 855                 860

Arg Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro
865                 870                 875                 880

Asp Ile Pro Glu Trp Arg Arg Asp Val Ser Arg Val Ile Lys Lys Ala
                885                 890                 895

Leu Val Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val Ala Val
            900                 905                 910

Leu Pro Gly Leu Pro Thr Ala Ala Glu Leu Phe Val Leu Pro His Gln
        915                 920                 925

Asp Pro Thr Gly Glu Asn Lys Arg Pro Ala Glu Asp Leu Glu Gln Ile
    930                 935                 940

Ser Glu Leu Met Ile His Lys Leu Asn Gln Asn Ser Val His Phe Glu
945                 950                 955                 960

Leu Lys Pro Gly Val Gln Val Leu Val His Ala Ala His Leu Thr Ala
                965                 970                 975
```

Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly
980 985

<210> 44
<211> 1369
<212> PRT
<213> Rattus norvegicus

<220>
<221> MISC_FEATURE
<222> (1)..(1369)
<223> preproSorCS1

<400> 44

Met Arg Ala Gln Val Phe Leu Gln Gln Ser Gly Leu Ser Glu Lys Lys
1 5 10 15

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

Arg Ser Lys Glu Leu Leu Val Pro Arg Gly Arg Val Leu Trp Leu Leu
35 40 45

Ala Gly Thr Leu Arg Ser Leu Gly Arg Val Gly Asp Ser Thr Ala Arg
50 55 60

Ala Arg Leu Pro Val His Ser Ala Ala Arg Arg Arg Asp Ala Ala Pro
65 70 75 80

Gly Ala Leu Ala Glu Pro Ala Leu Pro Pro Ala Ser Pro Arg Arg Arg
85 90 95

Arg Arg Arg Trp Leu Ala Ala Pro Ser Gln Pro Ala Arg Ser Ser Gln
100 105 110

Ala Gln Pro Gly Arg Ala Ala Gly Thr Cys Pro Ala Pro Pro Pro Arg
115 120 125

Ala Pro Pro Pro Pro Asn Leu Asp Gly Val Val Val Leu Ser Ala His
130 135 140

Pro Ala Ala Val Ser Pro Val Pro Arg Ser Ala Ala Cys Leu Arg Phe
145 150 155 160

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

Ala Gly Asp Gly Ser Ser Ala Ala Leu Ser Ala Leu Leu Thr Gly Ala
180 185 190

Gly Leu Leu Met Leu Leu Ala Pro Gly Ile Cys Ser Ser Leu Ser Cys

195 200 205

Cys Pro Pro Gln His Pro Ser Ser Thr Pro Arg Trp Thr Leu Thr Pro
210 215 220

Arg Gly Phe Ser Tyr Pro Gly Pro Leu Gly Arg Ala Pro Ala Thr Pro
225 230 235 240

Pro Pro Leu Phe Met Arg Pro Leu Phe Ala Val Ala Pro Gly Asp Arg
245 250 255

Ala Leu Phe Leu Glu Arg Ala Gly Gly Ser Arg Val Ser Val Ala Thr
260 265 270

Ala Ser Arg Ser Gly Arg Arg Arg Arg Ser Gly Met Asp Pro Glu Lys
275 280 285

Thr Glu Pro Gly Glu Gly Thr Ser Arg Ser Arg Arg Asp Met Leu Arg
290 295 300

Asp Gly Gly Gln Gln Gly Pro Gly Thr Gly Ala Arg Asp Pro Asp Lys
305 310 315 320

Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu Thr Ser Thr Thr Phe
325 330 335

Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met Val His Trp Ser
340 345 350

Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr Lys Leu Tyr Asp Tyr
355 360 365

Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg Ser Thr Asp Tyr
370 375 380

Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val Gly Leu Lys Thr Ile
385 390 395 400

Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Arg Lys Ile Met Leu
405 410 415

Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu Ile Ser Ser Asp Glu
420 425 430

Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr Ile Gln Ser Leu
435 440 445

Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala Tyr Ser Gln Asp
450 455 460

Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg Arg Trp Gln Leu Ile

```
465                 470                 475                 480

Gln Glu Ala Val Val Pro Asn Arg Phe Tyr Trp Ser Val Leu Gly Ser
                485                 490                 495

Asn Lys Glu Pro Asp Leu Val His Leu Glu Ala Arg Thr Val Asp Gly
            500                 505                 510

His Ser Ile Tyr Leu Thr Cys Arg Met Gln Asn Cys Thr Glu Ala Asn
        515                 520                 525

Arg Asn Lys Pro Phe Pro Gly Tyr Ile Asp Pro Asp Ser Leu Ile Val
    530                 535                 540

Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser Gly Gly Arg Pro His
545                 550                 555                 560

Tyr Tyr Val Ser Tyr Arg Arg Asn Pro Phe Ala Gln Met Lys Leu Pro
                565                 570                 575

Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile Ser Thr Asp Glu Asn
            580                 585                 590

Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn Asp Thr Tyr Asn
        595                 600                 605

Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr Leu Ala Leu Glu
    610                 615                 620

Asn Val Gln Ser Ser Arg Gly Pro Glu Gly Asn Val Met Ile Asp Leu
625                 630                 635                 640

Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala Asn Lys Lys Ile
                645                 650                 655

Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys Gly Arg Asp Trp
            660                 665                 670

Arg Leu Leu Gln Ala Pro Asp Ala Asp Leu Arg Gly Asp Pro Val His
        675                 680                 685

Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu Lys Val Ser Glu
    690                 695                 700

Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Arg Asp Thr Ala Pro Ser
705                 710                 715                 720

Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu Leu Ser Asp Ser Asp
                725                 730                 735

Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr Trp Arg Gln Ile
```

740 745 750

Phe Glu Glu Glu His Ser Ile Leu Tyr Leu Asp Gln Gly Gly Val Leu
755 760 765

Val Ala Met Lys His Thr Ser Leu Pro Ile Arg His Leu Trp Leu Ser
770 775 780

Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser Phe Thr Ser Ile Pro
785 790 795 800

Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly Glu Glu Thr Leu Ile
805 810 815

Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu Trp Gln Leu Val
820 825 830

Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys Ala Glu Glu Asp
835 840 845

Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu Ala Cys Ile Met Gly
850 855 860

Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg Lys Cys Met Gln
865 870 875 880

Gly Thr Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys Val Cys Thr Glu
885 890 895

Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His Ser Ser Gly Gln
900 905 910

Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu Ser Lys Asp Cys
915 920 925

Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly Tyr Arg Lys Val Val
930 935 940

Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr Thr Ala Lys Pro
945 950 955 960

Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg Ile Val Thr Ala
965 970 975

Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val Thr Leu Met Val
980 985 990

Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile Gln Val Asp Phe
995 1000 1005

Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser Ser Met Glu

1010 1015 1020

Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe Arg Val
1025 1030 1035

Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val Leu
1040 1045 1050

Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu
1055 1060 1065

Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val
1070 1075 1080

Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr
1085 1090 1095

Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser
1100 1105 1110

Phe Lys Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val
1115 1120 1125

Ser Ala Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val
1130 1135 1140

Tyr Glu Glu Phe Arg Ser Leu Arg Leu Ala Phe Ser Pro Asn Leu
1145 1150 1155

Asp Asp Tyr Asn Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Ser
1160 1165 1170

Arg Val Ile Lys Lys Ser Leu Val Glu Ala Thr Gly Ile Pro Ser
1175 1180 1185

Gln His Ile Leu Val Ala Val Leu Pro Gly Leu Pro Thr Ala Ala
1190 1195 1200

Glu Leu Phe Val Leu Pro Tyr Gln Asp Gly Ala Arg Glu Asn Lys
1205 1210 1215

Arg Ser Pro Glu Asp Leu Glu Gln Ile Ser Glu Val Leu Ile His
1220 1225 1230

Lys Leu Asn Gln Asn Leu Val His Phe Glu Leu Lys Pro Gly Val
1235 1240 1245

Gln Val Leu Val His Ala Ala His Leu Thr Ala Ala Pro Leu Val
1250 1255 1260

Asp Leu Thr Pro Thr His Ser Gly Ser Ala Met Leu Met Leu Leu

1265 1270 1275

Ser Val Val Phe Val Gly Leu Ala Val Phe Val Ile Tyr Lys Phe
1280 1285 1290

Lys Arg Lys Ile Pro Gly Ile Asn Val Tyr Ala Gln Met Gln Asn
1295 1300 1305

Glu Lys Glu Gln Glu Leu Ile Asn Pro Val Ser His Thr Glu Ser
1310 1315 1320

Arg Pro Thr Ala Pro His Pro Asp Leu Arg Arg Pro Gly Gln Leu
1325 1330 1335

Val Asp Glu Lys Val Glu Ser His Leu Leu Gly Ser Ile Ser Ile
1340 1345 1350

Val Ala Glu Asn Gln Ser Thr Lys Glu Ile Pro Thr Tyr Val Asn
1355 1360 1365

Val

<210> 45
<211> 1165
<212> PRT
<213> Rattus norvegicus

<220>
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<222> (1)..(1165)
<223> proSorCS1

<400> 45

Ser Leu Ser Cys Cys Pro Pro Gln His Pro Ser Ser Thr Pro Arg Trp
1 5 10 15

Thr Leu Thr Pro Arg Gly Phe Ser Tyr Pro Gly Pro Leu Gly Arg Ala
20 25 30

Pro Ala Thr Pro Pro Pro Leu Phe Met Arg Pro Leu Phe Ala Val Ala
35 40 45

Pro Gly Asp Arg Ala Leu Phe Leu Glu Arg Ala Gly Gly Ser Arg Val
50 55 60

Ser Val Ala Thr Ala Ser Arg Ser Gly Arg Arg Arg Arg Ser Gly Met
65 70 75 80

Asp Pro Glu Lys Thr Glu Pro Gly Glu Gly Thr Ser Arg Ser Arg Arg
85 90 95

```
Asp Met Leu Arg Asp Gly Gly Gln Gln Gly Pro Gly Thr Gly Ala Arg
            100                 105                 110

Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu Thr
        115                 120                 125

Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met
    130                 135                 140

Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr Lys
145                 150                 155                 160

Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg
                165                 170                 175

Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val Gly
            180                 185                 190

Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Arg
        195                 200                 205

Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu Ile
    210                 215                 220

Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr
225                 230                 235                 240

Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala
                245                 250                 255

Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg Arg
            260                 265                 270

Trp Gln Leu Ile Gln Glu Ala Val Val Pro Asn Arg Phe Tyr Trp Ser
        275                 280                 285

Val Leu Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu Glu Ala Arg
    290                 295                 300

Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met Gln Asn Cys
305                 310                 315                 320

Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile Asp Pro Asp
                325                 330                 335

Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser Gly
            340                 345                 350

Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Pro Phe Ala Gln
        355                 360                 365
```

```
Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile Ser
    370                 375                 380

Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn
385                 390                 395                 400

Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr
                405                 410                 415

Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu Gly Asn Val
            420                 425                 430

Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala
        435                 440                 445

Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys
    450                 455                 460

Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp Leu Arg Gly
465                 470                 475                 480

Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu
                485                 490                 495

Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Arg Asp
            500                 505                 510

Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu Leu
        515                 520                 525

Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr
    530                 535                 540

Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr Leu Asp Gln
545                 550                 555                 560

Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg His
                565                 570                 575

Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser Phe
            580                 585                 590

Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly Glu
        595                 600                 605

Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu
    610                 615                 620

Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys
625                 630                 635                 640
```

```
Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu Ala
                645                 650                 655

Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg
            660                 665                 670

Lys Cys Met Gln Gly Thr Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys
        675                 680                 685

Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His
    690                 695                 700

Ser Ser Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu
705                 710                 715                 720

Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly Tyr
                725                 730                 735

Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr
            740                 745                 750

Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg
        755                 760                 765

Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val
    770                 775                 780

Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile
785                 790                 795                 800

Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser
                805                 810                 815

Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe
            820                 825                 830

Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val
        835                 840                 845

Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu
    850                 855                 860

Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu
865                 870                 875                 880

Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn
                885                 890                 895

Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Lys Phe
            900                 905                 910
```

```
Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn
        915                 920                 925

Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg
    930                 935                 940

Ser Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp
945                 950                 955                 960

Ile Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Ile Lys Lys Ser Leu
                965                 970                 975

Val Glu Ala Thr Gly Ile Pro Ser Gln His Ile Leu Val Ala Val Leu
            980                 985                 990

Pro Gly Leu Pro Thr Ala Ala Glu  Leu Phe Val Leu Pro  Tyr Gln Asp
        995                 1000                1005

Gly Ala  Arg Glu Asn Lys Arg  Ser Pro Glu Asp Leu  Glu Gln Ile
    1010                1015                1020

Ser Glu  Val Leu Ile His Lys  Leu Asn Gln Asn Leu  Val His Phe
    1025                1030                1035

Glu Leu  Lys Pro Gly Val Gln  Val Leu Val His Ala  Ala His Leu
    1040                1045                1050

Thr Ala  Ala Pro Leu Val Asp  Leu Thr Pro Thr His  Ser Gly Ser
    1055                1060                1065

Ala Met  Leu Met Leu Leu Ser  Val Val Phe Val Gly  Leu Ala Val
    1070                1075                1080

Phe Val  Ile Tyr Lys Phe Lys  Arg Lys Ile Pro Gly  Ile Asn Val
    1085                1090                1095

Tyr Ala  Gln Met Gln Asn Glu  Lys Glu Gln Glu Leu  Ile Asn Pro
    1100                1105                1110

Val Ser  His Thr Glu Ser Arg  Pro Thr Ala Pro His  Pro Asp Leu
    1115                1120                1125

Arg Arg  Pro Gly Gln Leu Val  Asp Glu Lys Val Glu  Ser His Leu
    1130                1135                1140

Leu Gly  Ser Ile Ser Ile Val  Ala Glu Asn Gln Ser  Thr Lys Glu
    1145                1150                1155

Ile Pro  Thr Tyr Val Asn Val
    1160                1165
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<210> 46
<211> 1088
<212> PRT
<213> Rattus norvegicus

<220>
<221> MISC_FEATURE
<222> (1)..(1088)
<223> mature SorCS1

<400> 46

Ser Gly Met Asp Pro Glu Lys Thr Glu Pro Gly Glu Gly Thr Ser Arg
1 5 10 15

Ser Arg Arg Asp Met Leu Arg Asp Gly Gly Gln Gln Gly Pro Gly Thr
20 25 30

Gly Ala Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu
35 40 45

Arg Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
50 55 60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65 70 75 80

Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
85 90 95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
100 105 110

Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
115 120 125

Asn Lys Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
130 135 140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145 150 155 160

Asn Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
165 170 175

Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe
180 185 190

Gly Arg Arg Trp Gln Leu Ile Gln Glu Ala Val Val Pro Asn Arg Phe
195 200 205

Tyr Trp Ser Val Leu Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu
210 215 220

```
Glu Ala Arg Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met
225                 230                 235                 240

Gln Asn Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile
                245                 250                 255

Asp Pro Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu
            260                 265                 270

Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Pro
        275                 280                 285

Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His
    290                 295                 300

Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305                 310                 315                 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val
                325                 330                 335

Tyr Phe Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu
            340                 345                 350

Gly Asn Val Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met
        355                 360                 365

Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr
    370                 375                 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp
385                 390                 395                 400

Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His
                405                 410                 415

Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala
            420                 425                 430

Ser Arg Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly
        435                 440                 445

Ser Glu Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala
    450                 455                 460

Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr
465                 470                 475                 480

Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro
                485                 490                 495
```

```
Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys
            500                 505                 510

Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu
        515                 520                 525

Pro Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His
    530                 535                 540

Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp
545                 550                 555                 560

Arg Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln
                565                 570                 575

Gly Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys
            580                 585                 590

Ser Glu Arg Lys Cys Met Gln Gly Thr Tyr Ala Gly Ala Met Glu Ser
        595                 600                 605

Glu Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr
    610                 615                 620

Glu Arg His Ser Ser Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro
625                 630                 635                 640

Ser Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser
                645                 650                 655

Thr Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg
            660                 665                 670

Glu Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg
        675                 680                 685

Gly Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly
    690                 695                 700

His Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg
705                 710                 715                 720

Thr Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val
                725                 730                 735

Asn Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val
            740                 745                 750

Gly Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp
        755                 760                 765
```

```
Ser Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His
    770                 775                 780

Leu Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr
785                 790                 795                 800

Ala Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp
                805                 810                 815

Tyr Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser
            820                 825                 830

Phe Lys Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser
        835                 840                 845

Ala Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu
    850                 855                 860

Glu Phe Arg Ser Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr
865                 870                 875                 880

Asn Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Ile Lys
                885                 890                 895

Lys Ser Leu Val Glu Ala Thr Gly Ile Pro Ser Gln His Ile Leu Val
            900                 905                 910

Ala Val Leu Pro Gly Leu Pro Thr Ala Ala Glu Leu Phe Val Leu Pro
        915                 920                 925

Tyr Gln Asp Gly Ala Arg Glu Asn Lys Arg Ser Pro Glu Asp Leu Glu
    930                 935                 940

Gln Ile Ser Glu Val Leu Ile His Lys Leu Asn Gln Asn Leu Val His
945                 950                 955                 960

Phe Glu Leu Lys Pro Gly Val Gln Val Leu Val His Ala Ala His Leu
                965                 970                 975

Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly Ser Ala
            980                 985                 990

Met Leu Met Leu Leu Ser Val Val  Phe Val Gly Leu Ala  Val Phe Val
        995                 1000                1005

Ile Tyr  Lys Phe Lys Arg Lys  Ile Pro Gly Ile Asn  Val Tyr Ala
    1010                1015                1020

Gln Met  Gln Asn Glu Lys Glu  Gln Glu Leu Ile Asn  Pro Val Ser
    1025                1030                1035
```

His Thr Glu Ser Arg Pro Thr Ala Pro His Pro Asp Leu Arg Arg
    1040   1045   1050

Pro Gly Gln Leu Val Asp Glu Lys Val Glu Ser His Leu Leu Gly
    1055   1060   1065

Ser Ile Ser Ile Val Ala Glu Asn Gln Ser Thr Lys Glu Ile Pro
    1070   1075   1080

Thr Tyr Val Asn Val
    1085

<210> 47
<211> 990
<212> PRT
<213> Rattus norvegicus

<220>
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<222> (1)..(990)
<223> soluble SorCS1

<400> 47

Ser Gly Met Asp Pro Glu Lys Thr Glu Pro Gly Glu Gly Thr Ser Arg
1   5   10   15

Ser Arg Arg Asp Met Leu Arg Asp Gly Gly Gln Gln Gly Pro Gly Thr
            20   25   30

Gly Ala Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu
        35   40   45

Arg Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
    50   55   60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65   70   75   80

Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
                85   90   95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
            100   105   110

Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
        115   120   125

Asn Lys Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
    130   135   140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145   150   155   160

```
Asn Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
                165                 170                 175

Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe
            180                 185                 190

Gly Arg Arg Trp Gln Leu Ile Gln Glu Ala Val Val Pro Asn Arg Phe
        195                 200                 205

Tyr Trp Ser Val Leu Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu
    210                 215                 220

Glu Ala Arg Thr Val Asp Gly His Ser Ile Tyr Leu Thr Cys Arg Met
225                 230                 235                 240

Gln Asn Cys Thr Glu Ala Asn Arg Asn Lys Pro Phe Pro Gly Tyr Ile
                245                 250                 255

Asp Pro Asp Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu
            260                 265                 270

Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Pro
        275                 280                 285

Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His
    290                 295                 300

Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305                 310                 315                 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val
                325                 330                 335

Tyr Phe Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu
            340                 345                 350

Gly Asn Val Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met
        355                 360                 365

Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr
    370                 375                 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Ala Asp
385                 390                 395                 400

Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His
                405                 410                 415

Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala
            420                 425                 430
```

```
Ser Arg Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly
        435                 440                 445

Ser Glu Leu Ser Asp Ser Asp Ile Ser Met Phe Val Ser Ser Asp Ala
    450                 455                 460

Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Ile Leu Tyr
465                 470                 475                 480

Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro
                485                 490                 495

Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys
            500                 505                 510

Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu
        515                 520                 525

Pro Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His
    530                 535                 540

Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp
545                 550                 555                 560

Arg Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln
                565                 570                 575

Gly Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys
            580                 585                 590

Ser Glu Arg Lys Cys Met Gln Gly Thr Tyr Ala Gly Ala Met Glu Ser
        595                 600                 605

Glu Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr
    610                 615                 620

Glu Arg His Ser Ser Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro
625                 630                 635                 640

Ser Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser
                645                 650                 655

Thr Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg
            660                 665                 670

Glu Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg
        675                 680                 685

Gly Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly
    690                 695                 700
```

```
His Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg
705                 710                 715                 720

Thr Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val
                725                 730                 735

Asn Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val
            740                 745                 750

Gly Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp
        755                 760                 765

Ser Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His
    770                 775                 780

Leu Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr
785                 790                 795                 800

Ala Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp
                805                 810                 815

Tyr Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser
            820                 825                 830

Phe Lys Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser
        835                 840                 845

Ala Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu
    850                 855                 860

Glu Phe Arg Ser Leu Arg Leu Ala Phe Ser Pro Asn Leu Asp Asp Tyr
865                 870                 875                 880

Asn Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Ile Lys
                885                 890                 895

Lys Ser Leu Val Glu Ala Thr Gly Ile Pro Ser Gln His Ile Leu Val
            900                 905                 910

Ala Val Leu Pro Gly Leu Pro Thr Ala Ala Glu Leu Phe Val Leu Pro
        915                 920                 925

Tyr Gln Asp Gly Ala Arg Glu Asn Lys Arg Ser Pro Glu Asp Leu Glu
    930                 935                 940

Gln Ile Ser Glu Val Leu Ile His Lys Leu Asn Gln Asn Leu Val His
945                 950                 955                 960

Phe Glu Leu Lys Pro Gly Val Gln Val Leu Val His Ala Ala His Leu
                965                 970                 975
```

```
Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly
            980                 985                 990


<210>  48
<211>  1258
<212>  PRT
<213>  Gallus gallus


<220>
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<222>  (1)..(1258)
<223>  preproSorCS1

<400>  48

Met Glu Lys Val Ala Gly Trp Tyr Pro Ala Trp His Val Ala Leu Leu
1               5                   10                  15


Tyr Trp Thr Trp Leu Phe Leu Phe Thr Phe Gly Phe Thr Gly Ala Glu
            20                  25                  30


Ile Thr Cys Arg Ser Cys His Ser Gln Val Asn Pro Gln Gln Gln His
        35                  40                  45


Pro Gln Gln Gly Leu Pro Met His Leu Lys Thr Asp Arg Gly Glu Lys
    50                  55                  60


Glu Arg Trp Arg Ile Pro Gly Glu Gln Gly Gly Glu Arg Gly Arg Gly
65                  70                  75                  80


Ala Gly Met Asp Thr Glu Asp Ala Glu Leu Gln Ala Pro Phe Asp Pro
                85                  90                  95


Ala Leu Ala Gly Thr Lys Phe Ser Gly Trp Glu Thr Arg Ser Trp Ala
            100                 105                 110


Ser Glu Pro Glu Lys Ala Pro Gly Asp Ser Arg Pro Gly Ala Ala Ala
        115                 120                 125


Ala Pro Thr Gly Glu Tyr Pro Gln Arg Gly Gln Ala Gly Gly Arg Arg
    130                 135                 140


Asn Ser Ala Arg Arg Arg Arg Gly Arg Ser Pro Arg Gly Thr Ala Gly
145                 150                 155                 160


Pro Gly Gly Ala Ala Gly Arg Glu Pro Gly Gly Ser Gly Ala Ala Arg
                165                 170                 175


Phe Gly Leu Glu Glu Leu Arg Leu Gly Ser Thr Thr Phe Ala Leu Thr
            180                 185                 190


Gly Asp Ser Ala His Asn Gln Ala Met Val His Trp Ser Gly Gln Asn
```

195 200 205

Ser Ser Val Ile Leu Ile Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly
210 215 220

Ser Ile Thr Glu Ser Ser Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr
225 230 235 240

Tyr Glu Lys Leu Asn Asp Lys Ile Gly Leu Lys Thr Ile Leu Ser Tyr
245 250 255

Leu Tyr Val Cys Pro Thr Asn Lys Arg Lys Ile Met Leu Leu Thr Asp
260 265 270

Pro Glu Val Glu Ser Ser Leu Leu Ile Ser Thr Asp Glu Gly Ala Thr
275 280 285

Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr Ile His Ser Leu Leu Phe His
290 295 300

Pro Lys Gln Glu Asp Trp Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu
305 310 315 320

Phe Ser Ser Val Glu Phe Gly Arg Arg Trp Leu Leu Leu His Glu Gly
325 330 335

Val Ala Pro Asn Arg Phe Tyr Trp Ser Met Met Val Ser Gly Arg Glu
340 345 350

Pro Asp Leu Val His Leu Glu Ala Lys Thr Val Asp Gly His Ala Gln
355 360 365

Tyr Ile Thr Cys Lys Met Gln Asn Cys Ser Glu Ala Ser Gln Asn Lys
370 375 380

Pro Phe Pro Gly Tyr Ile Asp His Asn Ser Leu Ile Val Gln Asp Asp
385 390 395 400

Tyr Val Phe Val Gln Leu Thr Ser Gly Gly Arg Pro His Tyr Tyr Val
405 410 415

Ser Tyr Arg Arg Asn Ala Phe Thr Pro Ile Lys Leu Pro Lys Tyr Ser
420 425 430

Leu Pro Lys Asp Met His Val Ile Ser Thr Asp Glu Ser Gln Val Phe
435 440 445

Ala Ala Val Gln Glu Trp Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile
450 455 460

Ser Asp Thr Arg Gly Val Tyr Phe Thr Leu Ala Leu Glu Asn Val Lys

```
465                 470                 475                 480

Ser Ser Gln Gly Leu Asp Gly Asn Val Met Ile Asp Leu Tyr Glu Val
                485                 490                 495

Ala Gly Ile Lys Gly Met Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln
            500                 505                 510

Val Lys Thr Phe Ile Thr Tyr Asn Lys Gly Arg Asp Trp Asn Leu Leu
        515                 520                 525

Gln Ala Pro Asp Thr Asp Leu Lys Gly Asn Pro Val His Cys Leu Leu
    530                 535                 540

Pro Tyr Cys Ser Leu His Leu His Leu Lys Val Ser Glu Asn Pro Tyr
545                 550                 555                 560

Thr Ser Gly Asn Ile Ala Ser Arg Asp Thr Ala Pro Ser Ile Ile Val
                565                 570                 575

Ala Ser Gly Asn Ile Gly Pro Glu Leu Ser Asp Asn Asp Ile Ser Met
            580                 585                 590

Phe Val Ser Ser Asp Ala Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu
        595                 600                 605

Glu His Ser Val Leu Tyr Leu Asp Gln Gly Gly Val Leu Val Ala Ile
    610                 615                 620

Lys His Thr Ser Leu Pro Ile Arg His Leu Trp Leu Ser Phe Asp Glu
625                 630                 635                 640

Gly Lys Ser Trp Ser Lys Tyr Ser Phe Thr Ser Leu Pro Leu Phe Val
                645                 650                 655

Asp Gly Ile Leu Gly Glu Pro Gly Glu Glu Thr Leu Ile Met Thr Val
            660                 665                 670

Phe Gly His Phe Ser His Arg Ser Glu Trp Gln Leu Val Lys Ile Asp
        675                 680                 685

Tyr Lys Ser Ile Phe Asp Arg Arg Cys Ala Glu Glu Asp Tyr Trp Thr
    690                 695                 700

Trp Gln Leu His Ser Gln Gly Glu Ala Cys Ile Met Gly Ala Lys Arg
705                 710                 715                 720

Ile Tyr Arg Lys Arg Lys Ser Glu Lys Lys Cys Met Gln Gly Lys Tyr
                725                 730                 735

Ala Gly Ala Met Thr Ser Glu Pro Cys Val Cys Thr Asp Ala Asp Phe
```

740 745 750

Asp Cys Asp Tyr Gly Tyr Glu Arg His Arg Asn Gly Gln Cys Leu Pro
755 760 765

Ala Phe Trp Tyr Asn Pro Ser Ser Leu Ser Lys Asp Cys Ser Leu Gly
770 775 780

Gln Ser Tyr Leu Asn Ser Thr Gly Tyr Arg Lys Val Val Ser Asn Asn
785 790 795 800

Cys Thr Asp Gly Val Arg Glu Gln Tyr Thr Ala Lys Pro Gln Gln Cys
805 810 815

Pro Gly Lys Ala Pro Gln Gly Leu Arg Ile Ile Thr Ser Asp Gly Lys
820 825 830

Leu Thr Ala Glu Gln Gly His Asn Val Thr Phe Leu Val Gln Leu Glu
835 840 845

Glu Gly Asp Leu Gln Arg Ser Leu Ile Gln Val Asp Phe Gly Asp Gly
850 855 860

Thr Ala Val Ser Tyr Ala Asn Leu Ser Ser Thr Glu Asp Gly Ile Lys
865 870 875 880

His Thr Tyr Gln Asn Val Gly Ile Phe Arg Val Thr Val Leu Val Glu
885 890 895

Asn Ser Leu Gly Ser Asp Asn Ala Val Leu Tyr Leu His Val Thr Cys
900 905 910

Pro Leu Glu His Val His Leu Ser Leu Pro Phe Val Thr Thr Lys Asn
915 920 925

Lys Glu Val Asn Ala Thr Ala Val Leu Trp Pro Ser Gln Val Gly Thr
930 935 940

Leu Thr Tyr Val Trp Trp Phe Gly Asn Asn Thr Glu Pro Leu Ile Thr
945 950 955 960

Leu Glu Gly Ser Ile Thr Phe Thr Phe Ser Val Glu Gly Met Asn Thr
965 970 975

Ile Thr Val Gln Val Ser Ala Gly Asn Thr Ile Leu Gln Asp Thr Lys
980 985 990

Thr Ile Ala Val Tyr Glu Gln Phe Arg Ser Leu Arg Leu Ser Phe Ser
995 1000 1005

Pro Asn Leu Asp Asp Tyr Asn Pro Asp Ile Pro Glu Trp Arg Arg

1010 1015 1020

Asp Ile Ser Arg Val Val Lys Arg Ala Leu Val Glu Ala Thr Gly
1025 1030 1035

Ile Ser Ser Lys His Ile Leu Val Ala Val Leu Pro Gly Leu Pro
1040 1045 1050

Thr Ser Ala Glu Leu Phe Ile Leu Pro Tyr Gln Asp Ala Thr Gly
1055 1060 1065

Gly Asn Lys Arg Thr Glu Asp Leu Glu Gln Ile Ser Glu Ile Leu
1070 1075 1080

Ile Gln Lys Leu Asn Gln Asn Phe Val His Phe Glu Leu Lys Pro
1085 1090 1095

Gly Val Arg Val Leu Val His Ala Ala His Leu Thr Ala Ala Pro
1100 1105 1110

Leu Val Asp Leu Thr Pro Ser His Ser Gly Ser Ala Met Leu Met
1115 1120 1125

Leu Leu Ser Val Val Phe Val Gly Leu Ala Val Phe Val Ile Tyr
1130 1135 1140

Lys Phe Lys Arg Lys Ile Pro Gly Leu Asn Ile Tyr Ala Gln Met
1145 1150 1155

Gln Asn Glu Lys Asp Gln Glu Met Val Ser Pro Val Ser Gln Arg
1160 1165 1170

Glu Ser Ile Pro Asn Val Pro Gln Ser Glu Leu Met Ser Pro Glu
1175 1180 1185

Gln Leu Val Asp Glu Lys Leu Asp Val Gln Pro Ile Glu Gln Pro
1190 1195 1200

Gln Ala Thr Val Gln Asn Pro Arg Lys Gly Asn Ala Ala Lys Val
1205 1210 1215

Val Trp Thr Glu Asp Phe Gln Lys Ala Cys Gly Ser Pro Arg Gly
1220 1225 1230

Phe Lys Pro Arg Pro Gly Ala Glu Val Phe Pro Gln Leu Leu Ser
1235 1240 1245

Pro Arg Ala Gln Lys Lys Ser Leu Pro Met
1250 1255

<210> 49

<211> 1200
<212> PRT
<213> Gallus gallus

<220>
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<223> proSorCS1

<400> 49

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Thr Asp Arg Gly Glu Lys Glu Arg Trp Arg Ile Pro Gly Glu Gln Gly
1               5                   10                  15

Gly Glu Arg Gly Arg Gly Ala Gly Met Asp Thr Glu Asp Ala Glu Leu
            20                  25                  30

Gln Ala Pro Phe Asp Pro Ala Leu Ala Gly Thr Lys Phe Ser Gly Trp
        35                  40                  45

Glu Thr Arg Ser Trp Ala Ser Glu Pro Glu Lys Ala Pro Gly Asp Ser
    50                  55                  60

Arg Pro Gly Ala Ala Ala Ala Pro Thr Gly Glu Tyr Pro Gln Arg Gly
65                  70                  75                  80

Gln Ala Gly Gly Arg Arg Asn Ser Ala Arg Arg Arg Arg Gly Arg Ser
                85                  90                  95

Pro Arg Gly Thr Ala Gly Pro Gly Gly Ala Ala Gly Arg Glu Pro Gly
            100                 105                 110

Gly Ser Gly Ala Ala Arg Phe Gly Leu Glu Glu Leu Arg Leu Gly Ser
        115                 120                 125

Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met Val
    130                 135                 140

His Trp Ser Gly Gln Asn Ser Ser Val Ile Leu Ile Leu Thr Lys Leu
145                 150                 155                 160

Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg Ser
                165                 170                 175

Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Ile Gly Leu
            180                 185                 190

Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Arg Lys
        195                 200                 205

Ile Met Leu Leu Thr Asp Pro Glu Val Glu Ser Ser Leu Leu Ile Ser
    210                 215                 220
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```
Thr Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr Ile
225                 230                 235                 240

His Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala Tyr
                245                 250                 255

Ser Gln Asp Gln Lys Leu Phe Ser Ser Val Glu Phe Gly Arg Arg Trp
            260                 265                 270

Leu Leu Leu His Glu Gly Val Ala Pro Asn Arg Phe Tyr Trp Ser Met
        275                 280                 285

Met Val Ser Gly Arg Glu Pro Asp Leu Val His Leu Glu Ala Lys Thr
    290                 295                 300

Val Asp Gly His Ala Gln Tyr Ile Thr Cys Lys Met Gln Asn Cys Ser
305                 310                 315                 320

Glu Ala Ser Gln Asn Lys Pro Phe Pro Gly Tyr Ile Asp His Asn Ser
                325                 330                 335

Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser Gly Gly
            340                 345                 350

Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala Phe Thr Pro Ile
        355                 360                 365

Lys Leu Pro Lys Tyr Ser Leu Pro Lys Asp Met His Val Ile Ser Thr
    370                 375                 380

Asp Glu Ser Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn Asp
385                 390                 395                 400

Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr Leu
                405                 410                 415

Ala Leu Glu Asn Val Lys Ser Ser Gln Gly Leu Asp Gly Asn Val Met
            420                 425                 430

Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala Asn
        435                 440                 445

Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys Gly
    450                 455                 460

Arg Asp Trp Asn Leu Leu Gln Ala Pro Asp Thr Asp Leu Lys Gly Asn
465                 470                 475                 480

Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu Lys
                485                 490                 495
```

```
Val Ser Glu Asn Pro Tyr Thr Ser Gly Asn Ile Ala Ser Arg Asp Thr
            500                 505                 510

Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Pro Glu Leu Ser
        515                 520                 525

Asp Asn Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr Trp
    530                 535                 540

Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu Asp Gln Gly
545                 550                 555                 560

Gly Val Leu Val Ala Ile Lys His Thr Ser Leu Pro Ile Arg His Leu
                565                 570                 575

Trp Leu Ser Phe Asp Glu Gly Lys Ser Trp Ser Lys Tyr Ser Phe Thr
            580                 585                 590

Ser Leu Pro Leu Phe Val Asp Gly Ile Leu Gly Glu Pro Gly Glu Glu
        595                 600                 605

Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu Trp
    610                 615                 620

Gln Leu Val Lys Ile Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys Ala
625                 630                 635                 640

Glu Glu Asp Tyr Trp Thr Trp Gln Leu His Ser Gln Gly Glu Ala Cys
                645                 650                 655

Ile Met Gly Ala Lys Arg Ile Tyr Arg Lys Arg Lys Ser Glu Lys Lys
            660                 665                 670

Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Thr Ser Glu Pro Cys Val
        675                 680                 685

Cys Thr Asp Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His Arg
    690                 695                 700

Asn Gly Gln Cys Leu Pro Ala Phe Trp Tyr Asn Pro Ser Ser Leu Ser
705                 710                 715                 720

Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly Tyr Arg
                725                 730                 735

Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr Thr
            740                 745                 750

Ala Lys Pro Gln Gln Cys Pro Gly Lys Ala Pro Gln Gly Leu Arg Ile
        755                 760                 765
```

```
Ile Thr Ser Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val Thr
    770                 775                 780

Phe Leu Val Gln Leu Glu Glu Gly Asp Leu Gln Arg Ser Leu Ile Gln
785                 790                 795                 800

Val Asp Phe Gly Asp Gly Thr Ala Val Ser Tyr Ala Asn Leu Ser Ser
                805                 810                 815

Thr Glu Asp Gly Ile Lys His Thr Tyr Gln Asn Val Gly Ile Phe Arg
            820                 825                 830

Val Thr Val Leu Val Glu Asn Ser Leu Gly Ser Asp Asn Ala Val Leu
        835                 840                 845

Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu Pro
    850                 855                 860

Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu Trp
865                 870                 875                 880

Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Phe Gly Asn Asn
                885                 890                 895

Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Thr Phe Thr Phe Ser
            900                 905                 910

Val Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn Thr
        915                 920                 925

Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Gln Phe Arg Ser
    930                 935                 940

Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp Ile
945                 950                 955                 960

Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Val Lys Arg Ala Leu Val
                965                 970                 975

Glu Ala Thr Gly Ile Ser Ser Lys His Ile Leu Val Ala Val Leu Pro
            980                 985                 990

Gly Leu Pro Thr Ser Ala Glu Leu  Phe Ile Leu Pro Tyr  Gln Asp Ala
        995                 1000                1005

Thr Gly  Gly Asn Lys Arg Thr  Glu Asp Leu Glu Gln  Ile Ser Glu
    1010                1015                1020

Ile Leu  Ile Gln Lys Leu Asn  Gln Asn Phe Val His  Phe Glu Leu
    1025                1030                1035
```

```
Lys Pro  Gly Val Arg Val Leu  Val His Ala Ala His  Leu Thr Ala
    1040                1045                1050


Ala Pro  Leu Val Asp Leu Thr  Pro Ser His Ser Gly  Ser Ala Met
    1055                1060                1065


Leu Met  Leu Leu Ser Val Val  Phe Val Gly Leu Ala  Val Phe Val
    1070                1075                1080


Ile Tyr  Lys Phe Lys Arg Lys  Ile Pro Gly Leu Asn  Ile Tyr Ala
    1085                1090                1095


Gln Met  Gln Asn Glu Lys Asp  Gln Glu Met Val Ser  Pro Val Ser
    1100                1105                1110


Gln Arg  Glu Ser Ile Pro Asn  Val Pro Gln Ser Glu  Leu Met Ser
    1115                1120                1125


Pro Glu  Gln Leu Val Asp Glu  Lys Leu Asp Val Gln  Pro Ile Glu
    1130                1135                1140


Gln Pro  Gln Ala Thr Val Gln  Asn Pro Arg Lys Gly  Asn Ala Ala
    1145                1150                1155


Lys Val  Val Trp Thr Glu Asp  Phe Gln Lys Ala Cys  Gly Ser Pro
    1160                1165                1170


Arg Gly  Phe Lys Pro Arg Pro  Gly Ala Glu Val Phe  Pro Gln Leu
    1175                1180                1185


Leu Ser  Pro Arg Ala Gln Lys  Lys Ser Leu Pro Met
    1190                1195                1200


<210>  50
<211>  1121
<212>  PRT
<213>  Gallus gallus


<220>
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<222>  (1)..(1121)
<223>  mature SorCS1

<400>  50

Gly Gln Ala Gly Gly Arg Arg Asn Ser Ala Arg Arg Arg Arg Gly Arg
1               5                  10                  15


Ser Pro Arg Gly Thr Ala Gly Pro Gly Gly Ala Ala Gly Arg Glu Pro
            20                  25                  30


Gly Gly Ser Gly Ala Ala Arg Phe Gly Leu Glu Glu Leu Arg Leu Gly
        35                  40                  45
```

```
Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met
    50                  55                  60

Val His Trp Ser Gly Gln Asn Ser Ser Val Ile Leu Ile Leu Thr Lys
65                  70                  75                  80

Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg
                85                  90                  95

Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Ile Gly
            100                 105                 110

Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Arg
        115                 120                 125

Lys Ile Met Leu Leu Thr Asp Pro Glu Val Glu Ser Ser Leu Leu Ile
    130                 135                 140

Ser Thr Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr
145                 150                 155                 160

Ile His Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala
                165                 170                 175

Tyr Ser Gln Asp Gln Lys Leu Phe Ser Ser Val Glu Phe Gly Arg Arg
            180                 185                 190

Trp Leu Leu Leu His Glu Gly Val Ala Pro Asn Arg Phe Tyr Trp Ser
        195                 200                 205

Met Met Val Ser Gly Arg Glu Pro Asp Leu Val His Leu Glu Ala Lys
    210                 215                 220

Thr Val Asp Gly His Ala Gln Tyr Ile Thr Cys Lys Met Gln Asn Cys
225                 230                 235                 240

Ser Glu Ala Ser Gln Asn Lys Pro Phe Pro Gly Tyr Ile Asp His Asn
                245                 250                 255

Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser Gly
            260                 265                 270

Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala Phe Thr Pro
        275                 280                 285

Ile Lys Leu Pro Lys Tyr Ser Leu Pro Lys Asp Met His Val Ile Ser
    290                 295                 300

Thr Asp Glu Ser Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn
305                 310                 315                 320
```

```
Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr
                325                 330                 335

Leu Ala Leu Glu Asn Val Lys Ser Ser Gln Gly Leu Asp Gly Asn Val
            340                 345                 350

Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala
        355                 360                 365

Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys
    370                 375                 380

Gly Arg Asp Trp Asn Leu Leu Gln Ala Pro Asp Thr Asp Leu Lys Gly
385                 390                 395                 400

Asn Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu
                405                 410                 415

Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Asn Ile Ala Ser Arg Asp
            420                 425                 430

Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Pro Glu Leu
        435                 440                 445

Ser Asp Asn Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr
    450                 455                 460

Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu Asp Gln
465                 470                 475                 480

Gly Gly Val Leu Val Ala Ile Lys His Thr Ser Leu Pro Ile Arg His
                485                 490                 495

Leu Trp Leu Ser Phe Asp Glu Gly Lys Ser Trp Ser Lys Tyr Ser Phe
            500                 505                 510

Thr Ser Leu Pro Leu Phe Val Asp Gly Ile Leu Gly Glu Pro Gly Glu
        515                 520                 525

Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu
    530                 535                 540

Trp Gln Leu Val Lys Ile Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys
545                 550                 555                 560

Ala Glu Glu Asp Tyr Trp Thr Trp Gln Leu His Ser Gln Gly Glu Ala
                565                 570                 575

Cys Ile Met Gly Ala Lys Arg Ile Tyr Arg Lys Arg Lys Ser Glu Lys
            580                 585                 590
```

```
Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Thr Ser Glu Pro Cys
        595                 600                 605

Val Cys Thr Asp Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His
    610                 615                 620

Arg Asn Gly Gln Cys Leu Pro Ala Phe Trp Tyr Asn Pro Ser Ser Leu
625                 630                 635                 640

Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly Tyr
                645                 650                 655

Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr
            660                 665                 670

Thr Ala Lys Pro Gln Gln Cys Pro Gly Lys Ala Pro Gln Gly Leu Arg
        675                 680                 685

Ile Ile Thr Ser Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val
    690                 695                 700

Thr Phe Leu Val Gln Leu Glu Glu Gly Asp Leu Gln Arg Ser Leu Ile
705                 710                 715                 720

Gln Val Asp Phe Gly Asp Gly Thr Ala Val Ser Tyr Ala Asn Leu Ser
                725                 730                 735

Ser Thr Glu Asp Gly Ile Lys His Thr Tyr Gln Asn Val Gly Ile Phe
            740                 745                 750

Arg Val Thr Val Leu Val Glu Asn Ser Leu Gly Ser Asp Asn Ala Val
        755                 760                 765

Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu
    770                 775                 780

Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu
785                 790                 795                 800

Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Phe Gly Asn
                805                 810                 815

Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Thr Phe Thr Phe
            820                 825                 830

Ser Val Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn
        835                 840                 845

Thr Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Gln Phe Arg
    850                 855                 860
```

```
Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp
865                 870                 875                 880

Ile Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Val Lys Arg Ala Leu
                885                 890                 895

Val Glu Ala Thr Gly Ile Ser Ser Lys His Ile Leu Val Ala Val Leu
            900                 905                 910

Pro Gly Leu Pro Thr Ser Ala Glu Leu Phe Ile Leu Pro Tyr Gln Asp
        915                 920                 925

Ala Thr Gly Gly Asn Lys Arg Thr Glu Asp Leu Glu Gln Ile Ser Glu
    930                 935                 940

Ile Leu Ile Gln Lys Leu Asn Gln Asn Phe Val His Phe Glu Leu Lys
945                 950                 955                 960

Pro Gly Val Arg Val Leu Val His Ala Ala His Leu Thr Ala Ala Pro
                965                 970                 975

Leu Val Asp Leu Thr Pro Ser His Ser Gly Ser Ala Met Leu Met Leu
            980                 985                 990

Leu Ser Val Val Phe Val Gly Leu  Ala Val Phe Val Ile  Tyr Lys Phe
        995                 1000                1005

Lys Arg  Lys Ile Pro Gly Leu  Asn Ile Tyr Ala Gln  Met Gln Asn
    1010                1015                1020

Glu Lys  Asp Gln Glu Met Val  Ser Pro Val Ser Gln  Arg Glu Ser
    1025                1030                1035

Ile Pro  Asn Val Pro Gln Ser  Glu Leu Met Ser Pro  Glu Gln Leu
    1040                1045                1050

Val Asp  Glu Lys Leu Asp Val  Gln Pro Ile Glu Gln  Pro Gln Ala
    1055                1060                1065

Thr Val  Gln Asn Pro Arg Lys  Gly Asn Ala Ala Lys  Val Val Trp
    1070                1075                1080

Thr Glu  Asp Phe Gln Lys Ala  Cys Gly Ser Pro Arg  Gly Phe Lys
    1085                1090                1095

Pro Arg  Pro Gly Ala Glu Val  Phe Pro Gln Leu Leu  Ser Pro Arg
    1100                1105                1110

Ala Gln  Lys Lys Ser Leu Pro  Met
    1115                1120
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<210> 51
<211> 986
<212> PRT
<213> Gallus gallus

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<223> soluble SorCS1

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Gly Gln Ala Gly Gly Arg Arg Asn Ser Ala Arg Arg Arg Arg Gly Arg
1 5 10 15

Ser Pro Arg Gly Thr Ala Gly Pro Gly Gly Ala Ala Gly Arg Glu Pro
20 25 30

Gly Gly Ser Gly Ala Ala Arg Phe Gly Leu Glu Glu Leu Arg Leu Gly
35 40 45

Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met
50 55 60

Val His Trp Ser Gly Gln Asn Ser Ser Val Ile Leu Ile Leu Thr Lys
65 70 75 80

Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg
85 90 95

Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Ile Gly
100 105 110

Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Arg
115 120 125

Lys Ile Met Leu Leu Thr Asp Pro Glu Val Glu Ser Ser Leu Leu Ile
130 135 140

Ser Thr Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr
145 150 155 160

Ile His Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala
165 170 175

Tyr Ser Gln Asp Gln Lys Leu Phe Ser Ser Val Glu Phe Gly Arg Arg
180 185 190

Trp Leu Leu Leu His Glu Gly Val Ala Pro Asn Arg Phe Tyr Trp Ser
195 200 205

Met Met Val Ser Gly Arg Glu Pro Asp Leu Val His Leu Glu Ala Lys
210 215 220

```
Thr Val Asp Gly His Ala Gln Tyr Ile Thr Cys Lys Met Gln Asn Cys
225                 230                 235                 240

Ser Glu Ala Ser Gln Asn Lys Pro Phe Pro Gly Tyr Ile Asp His Asn
                245                 250                 255

Ser Leu Ile Val Gln Asp Asp Tyr Val Phe Val Gln Leu Thr Ser Gly
            260                 265                 270

Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala Phe Thr Pro
        275                 280                 285

Ile Lys Leu Pro Lys Tyr Ser Leu Pro Lys Asp Met His Val Ile Ser
    290                 295                 300

Thr Asp Glu Ser Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn
305                 310                 315                 320

Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr
                325                 330                 335

Leu Ala Leu Glu Asn Val Lys Ser Ser Gln Gly Leu Asp Gly Asn Val
            340                 345                 350

Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala
        355                 360                 365

Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys
    370                 375                 380

Gly Arg Asp Trp Asn Leu Leu Gln Ala Pro Asp Thr Asp Leu Lys Gly
385                 390                 395                 400

Asn Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu
                405                 410                 415

Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Asn Ile Ala Ser Arg Asp
            420                 425                 430

Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Pro Glu Leu
        435                 440                 445

Ser Asp Asn Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr
    450                 455                 460

Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu Asp Gln
465                 470                 475                 480

Gly Gly Val Leu Val Ala Ile Lys His Thr Ser Leu Pro Ile Arg His
                485                 490                 495
```

```
Leu Trp Leu Ser Phe Asp Glu Gly Lys Ser Trp Ser Lys Tyr Ser Phe
            500                 505                 510

Thr Ser Leu Pro Leu Phe Val Asp Gly Ile Leu Gly Glu Pro Gly Glu
        515                 520                 525

Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu
    530                 535                 540

Trp Gln Leu Val Lys Ile Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys
545                 550                 555                 560

Ala Glu Glu Asp Tyr Trp Thr Trp Gln Leu His Ser Gln Gly Glu Ala
                565                 570                 575

Cys Ile Met Gly Ala Lys Arg Ile Tyr Arg Lys Arg Lys Ser Glu Lys
            580                 585                 590

Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Thr Ser Glu Pro Cys
        595                 600                 605

Val Cys Thr Asp Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His
    610                 615                 620

Arg Asn Gly Gln Cys Leu Pro Ala Phe Trp Tyr Asn Pro Ser Ser Leu
625                 630                 635                 640

Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly Tyr
                645                 650                 655

Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr
            660                 665                 670

Thr Ala Lys Pro Gln Gln Cys Pro Gly Lys Ala Pro Gln Gly Leu Arg
        675                 680                 685

Ile Ile Thr Ser Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val
    690                 695                 700

Thr Phe Leu Val Gln Leu Glu Glu Gly Asp Leu Gln Arg Ser Leu Ile
705                 710                 715                 720

Gln Val Asp Phe Gly Asp Gly Thr Ala Val Ser Tyr Ala Asn Leu Ser
                725                 730                 735

Ser Thr Glu Asp Gly Ile Lys His Thr Tyr Gln Asn Val Gly Ile Phe
            740                 745                 750

Arg Val Thr Val Leu Val Glu Asn Ser Leu Gly Ser Asp Asn Ala Val
        755                 760                 765
```

```
Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu
    770                 775                 780

Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu
785                 790                 795                 800

Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Phe Gly Asn
                805                 810                 815

Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Thr Phe Thr Phe
            820                 825                 830

Ser Val Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn
        835                 840                 845

Thr Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Gln Phe Arg
    850                 855                 860

Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp
865                 870                 875                 880

Ile Pro Glu Trp Arg Arg Asp Ile Ser Arg Val Val Lys Arg Ala Leu
                885                 890                 895

Val Glu Ala Thr Gly Ile Ser Ser Lys His Ile Leu Val Ala Val Leu
            900                 905                 910

Pro Gly Leu Pro Thr Ser Ala Glu Leu Phe Ile Leu Pro Tyr Gln Asp
        915                 920                 925

Ala Thr Gly Gly Asn Lys Arg Thr Glu Asp Leu Glu Gln Ile Ser Glu
    930                 935                 940

Ile Leu Ile Gln Lys Leu Asn Gln Asn Phe Val His Phe Glu Leu Lys
945                 950                 955                 960

Pro Gly Val Arg Val Leu Val His Ala Ala His Leu Thr Ala Ala Pro
                965                 970                 975

Leu Val Asp Leu Thr Pro Ser His Ser Gly
            980                 985
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Met Glu Arg Pro Trp Gly Ala Ala Asp Gly Leu Ser Arg Trp Pro His
1               5                  10                  15

Gly Leu Gly Leu Leu Leu Leu Leu Gln Leu Leu Pro Pro Ser Thr Leu
            20                  25                  30

Ser Gln Asp Arg Leu Asp Ala Pro Pro Pro Pro Ala Ala Pro Leu Pro
        35                  40                  45

Arg Trp Ser Gly Pro Ile Gly Val Ser Trp Gly Leu Arg Ala Ala Ala
    50                  55                  60

Ala Gly Gly Ala Phe Pro Arg Gly Gly Arg Trp Arg Arg Ser Ala Pro
65                  70                  75                  80

Gly Glu Asp Glu Glu Cys Gly Arg Val Arg Asp Phe Val Ala Lys Leu
                85                  90                  95

Ala Asn Asn Thr His Gln His Val Phe Asp Asp Leu Arg Gly Ser Val
            100                 105                 110

Ser Leu Ser Trp Val Gly Asp Ser Thr Gly Val Ile Leu Val Leu Thr
        115                 120                 125

Thr Phe His Val Pro Leu Val Ile Met Thr Phe Gly Gln Ser Lys Leu
    130                 135                 140

Tyr Arg Ser Glu Asp Tyr Gly Lys Asn Phe Lys Asp Ile Thr Asp Leu
145                 150                 155                 160

Ile Asn Asn Thr Phe Ile Arg Thr Glu Phe Gly Met Ala Ile Gly Pro
                165                 170                 175

Glu Asn Ser Gly Lys Val Val Leu Thr Ala Glu Val Ser Gly Gly Ser
            180                 185                 190

Arg Gly Gly Arg Ile Phe Arg Ser Ser Asp Phe Ala Lys Asn Phe Val
        195                 200                 205

Gln Thr Asp Leu Pro Phe His Pro Leu Thr Gln Met Met Tyr Ser Pro
    210                 215                 220

Gln Asn Ser Asp Tyr Leu Leu Ala Leu Ser Thr Glu Asn Gly Leu Trp
225                 230                 235                 240

Val Ser Lys Asn Phe Gly Gly Lys Trp Glu Glu Ile His Lys Ala Val
                245                 250                 255

Cys Leu Ala Lys Trp Gly Ser Asp Asn Thr Ile Phe Phe Thr Thr Tyr
```

```
            260                 265                 270

Ala Asn Gly Ser Cys Lys Ala Asp Leu Gly Ala Leu Glu Leu Trp Arg
        275                 280                 285

Thr Ser Asp Leu Gly Lys Ser Phe Lys Thr Ile Gly Val Lys Ile Tyr
    290                 295                 300

Ser Phe Gly Leu Gly Gly Arg Phe Leu Phe Ala Ser Val Met Ala Asp
305                 310                 315                 320

Lys Asp Thr Thr Arg Arg Ile His Val Ser Thr Asp Gln Gly Asp Thr
                325                 330                 335

Trp Ser Met Ala Gln Leu Pro Ser Val Gly Gln Glu Gln Phe Tyr Ser
            340                 345                 350

Ile Leu Ala Ala Asn Asp Asp Met Val Phe Met His Val Asp Glu Pro
        355                 360                 365

Gly Asp Thr Gly Phe Gly Thr Ile Phe Thr Ser Asp Asp Arg Gly Ile
    370                 375                 380

Val Tyr Ser Lys Ser Leu Asp Arg His Leu Tyr Thr Thr Thr Gly Gly
385                 390                 395                 400

Glu Thr Asp Phe Thr Asn Val Thr Ser Leu Arg Gly Val Tyr Ile Thr
                405                 410                 415

Ser Val Leu Ser Glu Asp Asn Ser Ile Gln Thr Met Ile Thr Phe Asp
            420                 425                 430

Gln Gly Gly Arg Trp Thr His Leu Arg Lys Pro Glu Asn Ser Glu Cys
        435                 440                 445

Asp Ala Thr Ala Lys Asn Lys Asn Glu Cys Ser Leu His Ile His Ala
    450                 455                 460

Ser Tyr Ser Ile Ser Gln Lys Leu Asn Val Pro Met Ala Pro Leu Ser
465                 470                 475                 480

Glu Pro Asn Ala Val Gly Ile Val Ile Ala His Gly Ser Val Gly Asp
                485                 490                 495

Ala Ile Ser Val Met Val Pro Asp Val Tyr Ile Ser Asp Asp Gly Gly
            500                 505                 510

Tyr Ser Trp Thr Lys Met Leu Glu Gly Pro His Tyr Tyr Thr Ile Leu
        515                 520                 525

Asp Ser Gly Gly Ile Ile Val Ala Ile Glu His Ser Ser Arg Pro Ile
```

530 535 540

Asn Val Ile Lys Phe Ser Thr Asp Glu Gly Gln Cys Trp Gln Thr Tyr
545 550 555 560

Thr Phe Thr Arg Asp Pro Ile Tyr Phe Thr Gly Leu Ala Ser Glu Pro
565 570 575

Gly Ala Arg Ser Met Asn Ile Ser Ile Trp Gly Phe Thr Glu Ser Phe
580 585 590

Leu Thr Ser Gln Trp Val Ser Tyr Thr Ile Asp Phe Lys Asp Ile Leu
595 600 605

Glu Arg Asn Cys Glu Glu Lys Asp Tyr Thr Ile Trp Leu Ala His Ser
610 615 620

Thr Asp Pro Glu Asp Tyr Glu Asp Gly Cys Ile Leu Gly Tyr Lys Glu
625 630 635 640

Gln Phe Leu Arg Leu Arg Lys Ser Ser Val Cys Gln Asn Gly Arg Asp
645 650 655

Tyr Val Val Thr Lys Gln Pro Ser Ile Cys Leu Cys Ser Leu Glu Asp
660 665 670

Phe Leu Cys Asp Phe Gly Tyr Tyr Arg Pro Glu Asn Asp Ser Lys Cys
675 680 685

Val Glu Gln Pro Glu Leu Lys Gly His Asp Leu Glu Phe Cys Leu Tyr
690 695 700

Gly Arg Glu Glu His Leu Thr Thr Asn Gly Tyr Arg Lys Ile Pro Gly
705 710 715 720

Asp Lys Cys Gln Gly Gly Val Asn Pro Val Arg Glu Val Lys Asp Leu
725 730 735

Lys Lys Lys Cys Thr Ser Asn Phe Leu Ser Pro Glu Lys Gln Asn Ser
740 745 750

Lys Ser Asn Ser Val Pro Ile Ile Leu Ala Ile Val Gly Leu Met Leu
755 760 765

Val Thr Val Val Ala Gly Val Leu Ile Val Lys Lys Tyr Val Cys Gly
770 775 780

Gly Arg Phe Leu Val His Arg Tyr Ser Val Leu Gln Gln His Ala Glu
785 790 795 800

Ala Asn Gly Val Asp Gly Val Asp Ala Leu Asp Thr Ala Ser His Thr

805 810 815

Asn Lys Ser Gly Tyr His Asp Asp Ser Asp Glu Asp Leu Leu Glu
820 825 830

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Met Ala Thr Arg Ser Ser Arg Arg Glu Ser Arg Leu Pro Phe Leu Phe
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Thr Leu Val Ala Leu Leu Pro Pro Gly Ala Leu Cys Glu Val Trp Thr
20 25 30

Gln Arg Leu His Gly Gly Ser Ala Pro Leu Pro Gln Asp Arg Gly Phe
35 40 45

Leu Val Val Gln Gly Asp Pro Arg Glu Leu Arg Leu Trp Ala Arg Gly
50 55 60

Asp Ala Arg Gly Ala Ser Arg Ala Asp Glu Lys Pro Leu Arg Arg Lys
65 70 75 80

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

Ser Leu Asn Asp Ser His Asn Gln Met Val Val His Trp Ala Gly Glu
100 105 110

Lys Ser Asn Val Ile Val Ala Leu Ala Arg Asp Ser Leu Ala Leu Ala
115 120 125

Arg Pro Lys Ser Ser Asp Val Tyr Val Ser Tyr Asp Tyr Gly Lys Ser
130 135 140

Phe Lys Lys Ile Ser Asp Lys Leu Asn Phe Gly Leu Gly Asn Arg Ser
145 150 155 160

Glu Ala Val Ile Ala Gln Phe Tyr His Ser Pro Ala Asp Asn Lys Arg
165 170 175

Tyr Ile Phe Ala Asp Ala Tyr Ala Gln Tyr Leu Trp Ile Thr Phe Asp
180 185 190

```
Phe Cys Asn Thr Leu Gln Gly Phe Ser Ile Pro Phe Arg Ala Ala Asp
        195                 200                 205

Leu Leu Leu His Ser Lys Ala Ser Asn Leu Leu Leu Gly Phe Asp Arg
    210                 215                 220

Ser His Pro Asn Lys Gln Leu Trp Lys Ser Asp Asp Phe Gly Gln Thr
225                 230                 235                 240

Trp Ile Met Ile Gln Glu His Val Lys Ser Phe Ser Trp Gly Ile Asp
                245                 250                 255

Pro Tyr Asp Lys Pro Asn Thr Ile Tyr Ile Glu Arg His Glu Pro Ser
            260                 265                 270

Gly Tyr Ser Thr Val Phe Arg Ser Thr Asp Phe Phe Gln Ser Arg Glu
        275                 280                 285

Asn Gln Glu Val Ile Leu Glu Glu Val Arg Asp Phe Gln Leu Arg Asp
    290                 295                 300

Lys Tyr Met Phe Ala Thr Lys Val Val His Leu Leu Gly Ser Glu Gln
305                 310                 315                 320

Gln Ser Ser Val Gln Leu Trp Val Ser Phe Gly Arg Lys Pro Met Arg
                325                 330                 335

Ala Ala Gln Phe Val Thr Arg His Pro Ile Asn Glu Tyr Tyr Ile Ala
            340                 345                 350

Asp Ala Ser Glu Asp Gln Val Phe Val Cys Val Ser His Ser Asn Asn
        355                 360                 365

Arg Thr Asn Leu Tyr Ile Ser Glu Ala Glu Gly Leu Lys Phe Ser Leu
    370                 375                 380

Ser Leu Glu Asn Val Leu Tyr Tyr Ser Pro Gly Gly Ala Gly Ser Asp
385                 390                 395                 400

Thr Leu Val Arg Tyr Phe Ala Asn Glu Pro Phe Ala Asp Phe His Arg
                405                 410                 415

Val Glu Gly Leu Gln Gly Val Tyr Ile Ala Thr Leu Ile Asn Gly Ser
            420                 425                 430

Met Asn Glu Glu Asn Met Arg Ser Val Ile Thr Phe Asp Lys Gly Gly
        435                 440                 445

Thr Trp Glu Phe Leu Gln Ala Pro Ala Phe Thr Gly Tyr Gly Glu Lys
    450                 455                 460
```

```
Ile Asn Cys Glu Leu Ser Gln Gly Cys Ser Leu His Leu Ala Gln Arg
465                 470                 475                 480

Leu Ser Gln Leu Leu Asn Leu Gln Leu Arg Arg Met Pro Ile Leu Ser
                485                 490                 495

Lys Glu Ser Ala Pro Gly Leu Ile Ile Ala Thr Gly Ser Val Gly Lys
            500                 505                 510

Asn Leu Ala Ser Lys Thr Asn Val Tyr Ile Ser Ser Ser Ala Gly Ala
        515                 520                 525

Arg Trp Arg Glu Ala Leu Pro Gly Pro His Tyr Tyr Thr Trp Gly Asp
    530                 535                 540

His Gly Gly Ile Ile Thr Ala Ile Ala Gln Gly Met Glu Thr Asn Glu
545                 550                 555                 560

Leu Lys Tyr Ser Thr Asn Glu Gly Glu Thr Trp Lys Thr Phe Ile Phe
                565                 570                 575

Ser Glu Lys Pro Val Phe Val Tyr Gly Leu Leu Thr Glu Pro Gly Glu
            580                 585                 590

Lys Ser Thr Val Phe Thr Ile Phe Gly Ser Asn Lys Glu Asn Val His
        595                 600                 605

Ser Trp Leu Ile Leu Gln Val Asn Ala Thr Asp Ala Leu Gly Val Pro
    610                 615                 620

Cys Thr Glu Asn Asp Tyr Lys Leu Trp Ser Pro Ser Asp Glu Arg Gly
625                 630                 635                 640

Asn Glu Cys Leu Leu Gly His Lys Thr Val Phe Lys Arg Arg Thr Pro
                645                 650                 655

His Ala Thr Cys Phe Asn Gly Glu Asp Phe Asp Arg Pro Val Val Val
            660                 665                 670

Ser Asn Cys Ser Cys Thr Arg Glu Asp Tyr Glu Cys Asp Phe Gly Phe
        675                 680                 685

Lys Met Ser Glu Asp Leu Ser Leu Glu Val Cys Val Pro Asp Pro Glu
    690                 695                 700

Phe Ser Gly Lys Ser Tyr Ser Pro Pro Val Pro Cys Pro Val Gly Ser
705                 710                 715                 720

Thr Tyr Arg Arg Thr Arg Gly Tyr Arg Lys Ile Ser Gly Asp Thr Cys
                725                 730                 735
```

```
Ser Gly Gly Asp Val Glu Ala Arg Leu Glu Gly Glu Leu Val Pro Cys
            740                 745                 750

Pro Leu Ala Glu Glu Asn Glu Phe Ile Leu Tyr Ala Val Arg Lys Ser
        755                 760                 765

Ile Tyr Arg Tyr Asp Leu Ala Ser Gly Ala Thr Glu Gln Leu Pro Leu
    770                 775                 780

Thr Gly Leu Arg Ala Ala Val Ala Leu Asp Phe Asp Tyr Glu His Asn
785                 790                 795                 800

Cys Leu Tyr Trp Ser Asp Leu Ala Leu Asp Val Ile Gln Arg Leu Cys
                805                 810                 815

Leu Asn Gly Ser Thr Gly Gln Glu Val Ile Ile Asn Ser Gly Leu Glu
            820                 825                 830

Thr Val Glu Ala Leu Ala Phe Glu Pro Leu Ser Gln Leu Leu Tyr Trp
        835                 840                 845

Val Asp Ala Gly Phe Lys Lys Ile Glu Val Ala Asn Pro Asp Gly Asp
    850                 855                 860

Phe Arg Leu Thr Ile Val Asn Ser Ser Val Leu Asp Arg Pro Arg Ala
865                 870                 875                 880

Leu Val Leu Val Pro Gln Glu Gly Val Met Phe Trp Thr Asp Trp Gly
                885                 890                 895

Asp Leu Lys Pro Gly Ile Tyr Arg Ser Asn Met Asp Gly Ser Ala Ala
            900                 905                 910

Tyr His Leu Val Ser Glu Asp Val Lys Trp Pro Asn Gly Ile Ser Val
        915                 920                 925

Asp Asp Gln Trp Ile Tyr Trp Thr Asp Ala Tyr Leu Glu Cys Ile Glu
    930                 935                 940

Arg Ile Thr Phe Ser Gly Gln Gln Arg Ser Val Ile Leu Asp Asn Leu
945                 950                 955                 960

Pro His Pro Tyr Ala Ile Ala Val Phe Lys Asn Glu Ile Tyr Trp Asp
                965                 970                 975

Asp Trp Ser Gln Leu Ser Ile Phe Arg Ala Ser Lys Tyr Ser Gly Ser
            980                 985                 990

Gln Met Glu Ile Leu Ala Asn Gln  Leu Thr Gly Leu Met  Asp Met Lys
        995                 1000                1005
```

```
Ile Phe  Tyr Lys Gly Lys Asn  Thr Gly Ser Asn Ala  Cys Val Pro
    1010                1015                1020

Arg Pro  Cys Ser Leu Leu Cys  Leu Pro Lys Ala Asn  Asn Ser Arg
    1025                1030                1035

Ser Cys  Arg Cys Pro Glu Asp  Val Ser Ser Ser Val  Leu Pro Ser
    1040                1045                1050

Gly Asp  Leu Met Cys Asp Cys  Pro Gln Gly Tyr Gln  Leu Lys Asn
    1055                1060                1065

Asn Thr  Cys Val Lys Glu Glu  Asn Thr Cys Leu Arg  Asn Gln Tyr
    1070                1075                1080

Arg Cys  Ser Asn Gly Asn Cys  Ile Asn Ser Ile Trp  Trp Cys Asp
    1085                1090                1095

Phe Asp  Asn Asp Cys Gly Asp  Met Ser Asp Glu Arg  Asn Cys Pro
    1100                1105                1110

Thr Thr  Ile Cys Asp Leu Asp  Thr Gln Phe Arg Cys  Gln Glu Ser
    1115                1120                1125

Gly Thr  Cys Ile Pro Leu Ser  Tyr Lys Cys Asp Leu  Glu Asp Asp
    1130                1135                1140

Cys Gly  Asp Asn Ser Asp Glu  Ser His Cys Glu Met  His Gln Cys
    1145                1150                1155

Arg Ser  Asp Glu Tyr Asn Cys  Ser Ser Gly Met Cys  Ile Arg Ser
    1160                1165                1170

Ser Trp  Val Cys Asp Gly Asp  Asn Asp Cys Arg Asp  Trp Ser Asp
    1175                1180                1185

Glu Ala  Asn Cys Thr Ala Ile  Tyr His Thr Cys Glu  Ala Ser Asn
    1190                1195                1200

Phe Gln  Cys Arg Asn Gly His  Cys Ile Pro Gln Arg  Trp Ala Cys
    1205                1210                1215

Asp Gly  Asp Thr Asp Cys Gln  Asp Gly Ser Asp Glu  Asp Pro Val
    1220                1225                1230

Asn Cys  Glu Lys Lys Cys Asn  Gly Phe Arg Cys Pro  Asn Gly Thr
    1235                1240                1245

Cys Ile  Pro Ser Ser Lys His  Cys Asp Gly Leu Arg  Asp Cys Ser
    1250                1255                1260
```

```
Asp Gly  Ser Asp Glu Gln His  Cys Glu Pro Leu Cys  Thr His Phe
    1265                 1270                 1275

Met Asp  Phe Val Cys Lys Asn  Arg Gln Gln Cys Leu  Phe His Ser
    1280                 1285                 1290

Met Val  Cys Asp Gly Ile Ile  Gln Cys Arg Asp Gly  Ser Asp Glu
    1295                 1300                 1305

Asp Ala  Ala Phe Ala Gly Cys  Ser Gln Asp Pro Glu  Phe His Lys
    1310                 1315                 1320

Val Cys  Asp Glu Phe Gly Phe  Gln Cys Gln Asn Gly  Val Cys Ile
    1325                 1330                 1335

Ser Leu  Ile Trp Lys Cys Asp  Gly Met Asp Asp Cys  Gly Asp Tyr
    1340                 1345                 1350

Ser Asp  Glu Ala Asn Cys Glu  Asn Pro Thr Glu Ala  Pro Asn Cys
    1355                 1360                 1365

Ser Arg  Tyr Phe Gln Phe Arg  Cys Glu Asn Gly His  Cys Ile Pro
    1370                 1375                 1380

Asn Arg  Trp Lys Cys Asp Arg  Glu Asn Asp Cys Gly  Asp Trp Ser
    1385                 1390                 1395

Asp Glu  Lys Asp Cys Gly Asp  Ser His Ile Leu Pro  Phe Ser Thr
    1400                 1405                 1410

Pro Gly  Pro Ser Thr Cys Leu  Pro Asn Tyr Tyr Arg  Cys Ser Ser
    1415                 1420                 1425

Gly Thr  Cys Val Met Asp Thr  Trp Val Cys Asp Gly  Tyr Arg Asp
    1430                 1435                 1440

Cys Ala  Asp Gly Ser Asp Glu  Glu Ala Cys Pro Leu  Leu Ala Asn
    1445                 1450                 1455

Val Thr  Ala Ala Ser Thr Pro  Thr Gln Leu Gly Arg  Cys Asp Arg
    1460                 1465                 1470

Phe Glu  Phe Glu Cys His Gln  Pro Lys Thr Cys Ile  Pro Asn Trp
    1475                 1480                 1485

Lys Arg  Cys Asp Gly His Gln  Asp Cys Gln Asp Gly  Arg Asp Glu
    1490                 1495                 1500

Ala Asn  Cys Pro Thr His Ser  Thr Leu Thr Cys Met  Ser Arg Glu
    1505                 1510                 1515
```

```
Phe Gln  Cys Glu Asp Gly Glu  Ala Cys Ile Val Leu  Ser Glu Arg
    1520                 1525                 1530

Cys Asp  Gly Phe Leu Asp Cys  Ser Asp Glu Ser Asp  Glu Lys Ala
    1535                 1540                 1545

Cys Ser  Asp Glu Leu Thr Val  Tyr Lys Val Gln Asn  Leu Gln Trp
    1550                 1555                 1560

Thr Ala  Asp Phe Ser Gly Asp  Val Thr Leu Thr Trp  Met Arg Pro
    1565                 1570                 1575

Lys Lys  Met Pro Ser Ala Ser  Cys Val Tyr Asn Val  Tyr Tyr Arg
    1580                 1585                 1590

Val Val  Gly Glu Ser Ile Trp  Lys Thr Leu Glu Thr  His Ser Asn
    1595                 1600                 1605

Lys Thr  Asn Thr Val Leu Lys  Val Leu Lys Pro Asp  Thr Thr Tyr
    1610                 1615                 1620

Gln Val  Lys Val Gln Val Gln  Cys Leu Ser Lys Ala  His Asn Thr
    1625                 1630                 1635

Asn Asp  Phe Val Thr Leu Arg  Thr Pro Glu Gly Leu  Pro Asp Ala
    1640                 1645                 1650

Pro Arg  Asn Leu Gln Leu Ser  Leu Pro Arg Glu Ala  Glu Gly Val
    1655                 1660                 1665

Ile Val  Gly His Trp Ala Pro  Pro Ile His Thr His  Gly Leu Ile
    1670                 1675                 1680

Arg Glu  Tyr Ile Val Glu Tyr  Ser Arg Ser Gly Ser  Lys Met Trp
    1685                 1690                 1695

Ala Ser  Gln Arg Ala Ala Ser  Asn Phe Thr Glu Ile  Lys Asn Leu
    1700                 1705                 1710

Leu Val  Asn Thr Leu Tyr Thr  Val Arg Val Ala Ala  Val Thr Ser
    1715                 1720                 1725

Arg Gly  Ile Gly Asn Trp Ser  Asp Ser Lys Ser Ile  Thr Thr Ile
    1730                 1735                 1740

Lys Gly  Lys Val Ile Pro Pro  Pro Asp Ile His Ile  Asp Ser Tyr
    1745                 1750                 1755

Gly Glu  Asn Tyr Leu Ser Phe  Thr Leu Thr Met Glu  Ser Asp Ile
    1760                 1765                 1770
```

```
Lys Val  Asn Gly Tyr Val Val  Asn Leu Phe Trp Ala  Phe Asp Thr
    1775                1780                1785

His Lys  Gln Glu Arg Arg Thr  Leu Asn Phe Arg Gly  Ser Ile Leu
    1790                1795                1800

Ser His  Lys Val Gly Asn Leu  Thr Ala His Thr Ser  Tyr Glu Ile
    1805                1810                1815

Ser Ala  Trp Ala Lys Thr Asp  Leu Gly Asp Ser Pro  Leu Ala Phe
    1820                1825                1830

Glu His  Val Met Thr Arg Gly  Val Arg Pro Pro Ala  Pro Ser Leu
    1835                1840                1845

Lys Ala  Lys Ala Ile Asn Gln  Thr Ala Val Glu Cys  Thr Trp Thr
    1850                1855                1860

Gly Pro  Arg Asn Val Val Tyr  Gly Ile Phe Tyr Ala  Thr Ser Phe
    1865                1870                1875

Leu Asp  Leu Tyr Arg Asn Pro  Lys Ser Leu Thr Thr  Ser Leu His
    1880                1885                1890

Asn Lys  Thr Val Ile Val Ser  Lys Asp Glu Gln Tyr  Leu Phe Leu
    1895                1900                1905

Val Arg  Val Val Val Pro Tyr  Gln Gly Pro Ser Ser  Asp Tyr Val
    1910                1915                1920

Val Val  Lys Met Ile Pro Asp  Ser Arg Leu Pro Pro  Arg His Leu
    1925                1930                1935

His Val  Val His Thr Gly Lys  Thr Ser Val Val Ile  Lys Trp Glu
    1940                1945                1950

Ser Pro  Tyr Asp Ser Pro Asp  Gln Asp Leu Leu Tyr  Ala Ile Ala
    1955                1960                1965

Val Lys  Asp Leu Ile Arg Lys  Thr Asp Arg Ser Tyr  Lys Val Lys
    1970                1975                1980

Ser Arg  Asn Ser Thr Val Glu  Tyr Thr Leu Asn Lys  Leu Glu Pro
    1985                1990                1995

Gly Gly  Lys Tyr His Ile Ile  Val Gln Leu Gly Asn  Met Ser Lys
    2000                2005                2010

Asp Ser  Ser Ile Lys Ile Thr  Thr Val Ser Leu Ser  Ala Pro Asp
    2015                2020                2025
```

```
Ala Leu  Lys Ile Ile Thr Glu  Asn Asp His Val Leu  Leu Phe Trp
    2030                2035                2040


Lys Ser  Leu Ala Leu Lys Glu  Lys His Phe Asn Glu  Ser Arg Gly
    2045                2050                2055


Tyr Glu  Ile His Met Phe Asp  Ser Ala Met Asn Ile  Thr Ala Tyr
    2060                2065                2070


Leu Gly  Asn Thr Thr Asp Asn  Phe Phe Lys Ile Ser  Asn Leu Lys
    2075                2080                2085


Met Gly  His Asn Tyr Thr Phe  Thr Val Gln Ala Arg  Cys Leu Phe
    2090                2095                2100


Gly Asn  Gln Ile Cys Gly Glu  Pro Ala Ile Leu Leu  Tyr Asp Glu
    2105                2110                2115


Leu Gly  Ser Gly Ala Asp Ala  Ser Ala Thr Gln Ala  Ala Arg Ser
    2120                2125                2130


Thr Asp  Val Ala Ala Val Val  Val Pro Ile Leu Phe  Leu Ile Leu
    2135                2140                2145


Leu Ser  Leu Gly Val Gly Phe  Ala Ile Leu Tyr Thr  Lys His Arg
    2150                2155                2160


Arg Leu  Gln Ser Ser Phe Thr  Ala Phe Ala Asn Ser  His Tyr Ser
    2165                2170                2175


Ser Arg  Leu Gly Ser Ala Ile  Phe Ser Ser Gly Asp  Asp Leu Gly
    2180                2185                2190


Glu Asp  Asp Glu Asp Ala Pro  Met Ile Thr Gly Phe  Ser Asp Asp
    2195                2200                2205


Val Pro  Met Val Ile Ala
    2210


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Met Ala His Arg Gly Pro Ser Arg Ala Ser Lys Gly Pro Gly Pro Thr
1               5                  10                  15
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Ala Arg Ala Pro Ser Pro Gly Ala Pro Pro Pro Arg Ser Pro Arg
            20                  25                  30

Ser Arg Pro Leu Leu Leu Leu Leu Leu Leu Leu Gly Ala Cys Gly Ala
        35                  40                  45

Ala Gly Arg Ser Pro Glu Pro Gly Arg Leu Gly Pro His Ala Gln Leu
    50                  55                  60

Thr Arg Val Pro Arg Ser Pro Pro Ala Gly Arg Ala Glu Pro Gly Gly
65                  70                  75                  80

Gly Glu Asp Arg Gln Ala Arg Gly Thr Glu Pro Gly Ala Pro Gly Pro
                85                  90                  95

Ser Pro Gly Pro Ala Pro Gly Pro Gly Glu Asp Gly Ala Pro Ala Ala
            100                 105                 110

Gly Tyr Arg Arg Trp Glu Arg Ala Ala Pro Leu Ala Gly Val Ala Ser
        115                 120                 125

Arg Ala Gln Val Ser Leu Ile Ser Thr Ser Phe Val Leu Lys Gly Asp
    130                 135                 140

Ala Thr His Asn Gln Ala Met Val His Trp Thr Gly Glu Asn Ser Ser
145                 150                 155                 160

Val Ile Leu Ile Leu Thr Lys Tyr Tyr His Ala Asp Met Gly Lys Val
                165                 170                 175

Leu Glu Ser Ser Leu Trp Arg Ser Ser Asp Phe Gly Thr Ser Tyr Thr
            180                 185                 190

Lys Leu Thr Leu Gln Pro Gly Val Thr Thr Val Ile Asp Asn Phe Tyr
        195                 200                 205

Ile Cys Pro Thr Asn Lys Arg Lys Val Ile Leu Val Ser Ser Ser Leu
    210                 215                 220

Ser Asp Arg Asp Gln Ser Leu Phe Leu Ser Ala Asp Glu Gly Ala Thr
225                 230                 235                 240

Phe Gln Lys Gln Pro Ile Pro Phe Phe Val Glu Thr Leu Ile Phe His
                245                 250                 255

Pro Lys Glu Glu Asp Lys Val Leu Ala Tyr Thr Lys Glu Ser Lys Leu
            260                 265                 270

Tyr Val Ser Ser Asp Leu Gly Lys Lys Trp Thr Leu Leu Gln Glu Arg
        275                 280                 285
```

```
Val Thr Lys Asp His Val Phe Trp Ser Val Ser Gly Val Asp Ala Asp
    290                 295                 300

Pro Asp Leu Val His Val Glu Ala Gln Asp Leu Gly Gly Asp Phe Arg
305                 310                 315                 320

Tyr Val Thr Cys Ala Ile His Asn Cys Ser Glu Lys Met Leu Thr Ala
                325                 330                 335

Pro Phe Ala Gly Pro Ile Asp His Gly Ser Leu Thr Val Gln Asp Asp
            340                 345                 350

Tyr Ile Phe Phe Lys Ala Thr Ser Ala Asn Gln Thr Lys Tyr Tyr Val
        355                 360                 365

Ser Tyr Arg Arg Asn Glu Phe Val Leu Met Lys Leu Pro Lys Tyr Ala
    370                 375                 380

Leu Pro Lys Asp Leu Gln Ile Ile Ser Thr Asp Glu Ser Gln Val Phe
385                 390                 395                 400

Val Ala Val Gln Glu Trp Tyr Gln Met Asp Thr Tyr Asn Leu Tyr Gln
                405                 410                 415

Ser Asp Pro Arg Gly Val Arg Tyr Ala Leu Val Leu Gln Asp Val Arg
            420                 425                 430

Ser Ser Arg Gln Ala Glu Glu Ser Val Leu Ile Asp Ile Leu Glu Val
        435                 440                 445

Arg Gly Val Lys Gly Val Phe Leu Ala Asn Gln Lys Ile Asp Gly Lys
    450                 455                 460

Val Met Thr Leu Ile Thr Tyr Asn Lys Gly Arg Asp Trp Asp Tyr Leu
465                 470                 475                 480

Arg Pro Pro Ser Met Asp Met Asn Gly Lys Pro Thr Asn Cys Lys Pro
                485                 490                 495

Pro Asp Cys His Leu His Leu His Leu Arg Trp Ala Asp Asn Pro Tyr
            500                 505                 510

Val Ser Gly Thr Val His Thr Lys Asp Thr Ala Pro Gly Leu Ile Met
        515                 520                 525

Gly Ala Gly Asn Leu Gly Ser Gln Leu Val Glu Tyr Lys Glu Glu Met
    530                 535                 540

Tyr Ile Thr Ser Asp Cys Gly His Thr Trp Arg Gln Val Phe Glu Glu
545                 550                 555                 560
```

```
Glu His His Ile Leu Tyr Leu Asp His Gly Gly Val Ile Val Ala Ile
                565                 570                 575

Lys Asp Thr Ser Ile Pro Leu Lys Ile Leu Lys Phe Ser Val Asp Glu
            580                 585                 590

Gly Leu Thr Trp Ser Thr His Asn Phe Thr Ser Thr Ser Val Phe Val
        595                 600                 605

Asp Gly Leu Leu Ser Glu Pro Gly Asp Glu Thr Leu Val Met Thr Val
    610                 615                 620

Phe Gly His Ile Ser Phe Arg Ser Asp Trp Glu Leu Val Lys Val Asp
625                 630                 635                 640

Phe Arg Pro Ser Phe Ser Arg Gln Cys Gly Glu Glu Asp Tyr Ser Ser
                645                 650                 655

Trp Glu Leu Ser Asn Leu Gln Gly Asp Arg Cys Ile Met Gly Gln Gln
            660                 665                 670

Arg Ser Phe Arg Lys Arg Lys Ser Thr Ser Trp Cys Ile Lys Gly Arg
        675                 680                 685

Ser Phe Thr Ser Ala Leu Thr Ser Arg Val Cys Glu Cys Arg Asp Ser
    690                 695                 700

Asp Phe Leu Cys Asp Tyr Gly Phe Glu Arg Ser Pro Ser Ser Glu Ser
705                 710                 715                 720

Ser Thr Asn Lys Cys Ser Ala Asn Phe Trp Phe Asn Pro Leu Ser Pro
                725                 730                 735

Pro Asp Asp Cys Ala Leu Gly Gln Thr Tyr Thr Ser Ser Leu Gly Tyr
            740                 745                 750

Arg Lys Val Val Ser Asn Val Cys Glu Gly Gly Val Asp Met Gln Gln
        755                 760                 765

Ser Gln Val Gln Leu Gln Cys Pro Leu Thr Pro Pro Arg Gly Leu Gln
    770                 775                 780

Val Ser Ile Gln Gly Glu Ala Val Ala Val Arg Pro Gly Glu Asp Val
785                 790                 795                 800

Leu Phe Val Val Arg Gln Glu Gln Gly Asp Val Leu Thr Thr Lys Tyr
                805                 810                 815

Gln Val Asp Leu Gly Asp Gly Phe Lys Ala Met Tyr Val Asn Leu Thr
            820                 825                 830
```

```
Leu Thr Gly Glu Pro Ile Arg His Arg Tyr Glu Ser Pro Gly Ile Tyr
        835                 840                 845

Arg Val Ser Val Arg Ala Glu Asn Thr Ala Gly His Asp Glu Ala Val
    850                 855                 860

Leu Phe Val Gln Val Asn Ser Pro Leu Gln Ala Leu Tyr Leu Glu Val
865                 870                 875                 880

Val Pro Val Ile Gly Leu Asn Gln Glu Val Asn Leu Thr Ala Val Leu
                885                 890                 895

Leu Pro Leu Asn Pro Asn Leu Thr Val Phe Tyr Trp Trp Ile Gly His
            900                 905                 910

Ser Leu Gln Pro Leu Leu Ser Leu Asp Asn Ser Val Thr Thr Arg Phe
        915                 920                 925

Ser Asp Thr Gly Asp Val Arg Val Thr Val Gln Ala Ala Cys Gly Asn
    930                 935                 940

Ser Val Leu Gln Asp Ser Arg Val Leu Arg Val Leu Asp Gln Phe Gln
945                 950                 955                 960

Val Met Pro Leu Gln Phe Ser Lys Glu Leu Asp Ala Tyr Asn Pro Asn
                965                 970                 975

Thr Pro Glu Trp Arg Glu Asp Val Gly Leu Val Val Thr Arg Leu Leu
            980                 985                 990

Ser Lys Glu Thr Ser Val Pro Gln  Glu Leu Leu Val Thr  Val Val Lys
        995                 1000                1005

Pro Gly  Leu Pro Thr Leu Ala  Asp Leu Tyr Val Leu  Leu Pro Pro
    1010                1015                1020

Pro Arg  Pro Thr Arg Lys Arg  Ser Leu Ser Ser Asp  Lys Arg Leu
    1025                1030                1035

Ala Ala  Ile Gln Gln Val Leu  Asn Ala Gln Lys Ile  Ser Phe Leu
    1040                1045                1050

Leu Arg  Gly Gly Val Arg Val  Leu Val Ala Leu Arg  Asp Thr Gly
    1055                1060                1065

Thr Gly  Ala Glu Gln Leu Gly  Gly Gly Gly Gly Tyr  Trp Ala Val
    1070                1075                1080

Val Val  Leu Phe Val Ile Gly  Leu Phe Ala Ala Gly  Ala Phe Ile
    1085                1090                1095
```

Leu Tyr Lys Phe Lys Arg Lys Arg Pro Gly Arg Thr Val Tyr Ala
1100 1105 1110

Gln Met His Asn Glu Lys Glu Gln Glu Met Thr Ser Pro Val Ser
1115 1120 1125

His Ser Glu Asp Val Gln Gly Ala Val Gln Gly Asn His Ser Gly
1130 1135 1140

Val Val Leu Ser Ile Asn Ser Arg Glu Met His Ser Tyr Leu Val
1145 1150 1155

Ser

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<212> PRT
<213> Homo sapiens

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<400> 55

Met Glu Ala Ala Arg Thr Glu Arg Pro Ala Gly Arg Pro Gly Ala Pro
1 5 10 15

Leu Val Arg Thr Gly Leu Leu Leu Leu Ser Thr Trp Val Leu Ala Gly
20 25 30

Ala Glu Ile Thr Trp Asp Ala Thr Gly Gly Pro Gly Arg Pro Ala Ala
35 40 45

Pro Ala Ser Arg Pro Pro Ala Leu Ser Pro Leu Ser Pro Arg Ala Val
50 55 60

Ala Ser Gln Trp Pro Glu Glu Leu Ala Ser Ala Arg Arg Ala Ala Val
65 70 75 80

Leu Gly Arg Arg Ala Gly Pro Glu Leu Leu Pro Gln Gln Gly Gly Gly
85 90 95

Arg Gly Gly Glu Met Gln Val Glu Ala Gly Gly Thr Ser Pro Ala Gly
100 105 110

Glu Arg Arg Gly Arg Gly Ile Pro Ala Pro Ala Lys Leu Gly Gly Ala
115 120 125

Arg Arg Ser Arg Arg Ala Gln Pro Pro Ile Thr Gln Glu Arg Gly Asp
130 135 140

```
Ala Trp Ala Thr Ala Pro Ala Asp Gly Ser Arg Gly Ser Arg Pro Leu
145                 150                 155                 160

Ala Lys Gly Ser Arg Glu Glu Val Lys Ala Pro Arg Ala Gly Gly Ser
                165                 170                 175

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

Asp Ser Ala His Asn Gln Ala Met Val His Trp Ser Gly His Asn Ser
        195                 200                 205

Ser Val Ile Leu Ile Leu Thr Lys Leu Tyr Asp Phe Asn Leu Gly Ser
    210                 215                 220

Val Thr Glu Ser Ser Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr
225                 230                 235                 240

Glu Lys Leu Asn Asp Lys Val Gly Leu Lys Thr Val Leu Ser Tyr Leu
                245                 250                 255

Tyr Val Asn Pro Thr Asn Lys Arg Lys Ile Met Leu Leu Ser Asp Pro
            260                 265                 270

Glu Met Glu Ser Ser Ile Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr
        275                 280                 285

Gln Lys Tyr Arg Leu Thr Phe Tyr Ile Gln Ser Leu Leu Phe His Pro
    290                 295                 300

Lys Gln Glu Asp Trp Val Leu Ala Tyr Ser Leu Asp Gln Lys Leu Tyr
305                 310                 315                 320

Ser Ser Met Asp Phe Gly Arg Arg Trp Gln Leu Met His Glu Arg Ile
                325                 330                 335

Thr Pro Asn Arg Phe Tyr Trp Ser Val Ala Gly Leu Asp Lys Glu Ala
            340                 345                 350

Asp Leu Val His Met Glu Val Arg Thr Thr Asp Gly Tyr Ala His Tyr
        355                 360                 365

Leu Thr Cys Arg Ile Gln Glu Cys Ala Glu Thr Thr Arg Ser Gly Pro
    370                 375                 380

Phe Ala Arg Ser Ile Asp Ile Ser Ser Leu Val Val Gln Asp Glu Tyr
385                 390                 395                 400

Ile Phe Ile Gln Val Thr Thr Ser Gly Arg Ala Ser Tyr Tyr Val Ser
                405                 410                 415
```

```
Tyr Arg Arg Glu Ala Phe Ala Gln Ile Lys Leu Pro Lys Tyr Ser Leu
            420                 425                 430

Pro Lys Asp Met His Ile Ile Ser Thr Asp Glu Asn Gln Val Phe Ala
        435                 440                 445

Ala Val Gln Glu Trp Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser
    450                 455                 460

Asp Thr Arg Gly Ile Tyr Phe Thr Leu Ala Met Glu Asn Ile Lys Ser
465                 470                 475                 480

Ser Arg Gly Leu Met Gly Asn Ile Ile Ile Glu Leu Tyr Glu Val Ala
                485                 490                 495

Gly Ile Lys Gly Ile Phe Leu Ala Asn Lys Lys Val Asp Asp Gln Val
            500                 505                 510

Lys Thr Tyr Ile Thr Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln
        515                 520                 525

Ala Pro Asp Val Asp Leu Arg Gly Ser Pro Val His Cys Leu Leu Pro
    530                 535                 540

Phe Cys Ser Leu His Leu His Leu Gln Leu Ser Glu Asn Pro Tyr Ser
545                 550                 555                 560

Ser Gly Arg Ile Ser Ser Lys Glu Thr Ala Pro Gly Leu Val Val Ala
                565                 570                 575

Thr Gly Asn Ile Gly Pro Glu Leu Ser Tyr Thr Asp Ile Gly Val Phe
            580                 585                 590

Ile Ser Ser Asp Gly Gly Asn Thr Trp Arg Gln Ile Phe Asp Glu Glu
        595                 600                 605

Tyr Asn Val Trp Phe Leu Asp Trp Gly Gly Ala Leu Val Ala Met Lys
    610                 615                 620

His Thr Pro Leu Pro Val Arg His Leu Trp Val Ser Phe Asp Glu Gly
625                 630                 635                 640

His Ser Trp Asp Lys Tyr Gly Phe Thr Ser Val Pro Leu Phe Val Asp
                645                 650                 655

Gly Ala Leu Val Glu Ala Gly Met Glu Thr His Ile Met Thr Val Phe
            660                 665                 670

Gly His Phe Ser Leu Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr
        675                 680                 685
```

```
Lys Ser Ile Phe Ser Arg His Cys Thr Lys Glu Asp Tyr Gln Thr Trp
    690                 695                 700

His Leu Leu Asn Gln Gly Glu Pro Cys Val Met Gly Glu Arg Lys Ile
705                 710                 715                 720

Phe Lys Lys Arg Lys Pro Gly Ala Gln Cys Ala Leu Gly Arg Asp His
                725                 730                 735

Ser Gly Ser Val Val Ser Glu Pro Cys Val Cys Ala Asn Trp Asp Phe
            740                 745                 750

Glu Cys Asp Tyr Gly Tyr Glu Arg His Gly Glu Ser Gln Cys Val Pro
        755                 760                 765

Ala Phe Trp Tyr Asn Pro Ala Ser Pro Ser Lys Asp Cys Ser Leu Gly
    770                 775                 780

Gln Ser Tyr Leu Asn Ser Thr Gly Tyr Arg Arg Ile Val Ser Asn Asn
785                 790                 795                 800

Cys Thr Asp Gly Leu Arg Glu Lys Tyr Thr Ala Lys Ala Gln Met Cys
                805                 810                 815

Pro Gly Lys Ala Pro Arg Gly Leu His Val Val Thr Thr Asp Gly Arg
            820                 825                 830

Leu Val Ala Glu Gln Gly His Asn Ala Thr Phe Ile Ile Leu Met Glu
        835                 840                 845

Glu Gly Asp Leu Gln Arg Thr Asn Ile Gln Leu Asp Phe Gly Asp Gly
    850                 855                 860

Ile Ala Val Ser Tyr Ala Asn Phe Ser Pro Ile Glu Asp Gly Ile Lys
865                 870                 875                 880

His Val Tyr Lys Ser Ala Gly Ile Phe Gln Val Thr Ala Tyr Ala Glu
                885                 890                 895

Asn Asn Leu Gly Ser Asp Thr Ala Val Leu Phe Leu His Val Val Cys
            900                 905                 910

Pro Val Glu His Val His Leu Arg Val Pro Phe Val Ala Ile Arg Asn
        915                 920                 925

Lys Glu Val Asn Ile Ser Ala Val Val Trp Pro Ser Gln Leu Gly Thr
    930                 935                 940

Leu Thr Tyr Phe Trp Trp Phe Gly Asn Ser Thr Lys Pro Leu Ile Thr
945                 950                 955                 960
```

```
Leu Asp Ser Ser Ile Ser Phe Thr Phe Leu Ala Glu Gly Thr Asp Thr
               965                 970                 975

Ile Thr Val Gln Val Ala Ala Gly Asn Ala Leu Ile Gln Asp Thr Lys
           980                 985                 990

Glu Ile Ala Val His Glu Tyr Phe  Gln Ser Gln Leu Leu  Ser Phe Ser
       995                 1000                1005

Pro Asn  Leu Asp Tyr His Asn  Pro Asp Ile Pro Glu  Trp Arg Lys
   1010                1015                1020

Asp Ile  Gly Asn Val Ile Lys  Arg Ala Leu Val Lys  Val Thr Ser
   1025                1030                1035

Val Pro  Glu Asp Gln Ile Leu  Ile Ala Val Phe Pro  Gly Leu Pro
   1040                1045                1050

Thr Ser  Ala Glu Leu Phe Ile  Leu Pro Pro Lys Asn  Leu Thr Glu
   1055                1060                1065

Arg Arg  Lys Gly Asn Glu Gly  Asp Leu Glu Gln Ile  Val Glu Thr
   1070                1075                1080

Leu Phe  Asn Ala Leu Asn Gln  Asn Leu Val Gln Phe  Glu Leu Lys
   1085                1090                1095

Pro Gly  Val Gln Val Ile Val  Tyr Val Thr Gln Leu  Thr Leu Ala
   1100                1105                1110

Pro Leu  Val Asp Ser Ser Ala  Gly His Ser Ser Ser  Ala Met Leu
   1115                1120                1125

Met Leu  Leu Ser Val Val Phe  Val Gly Leu Ala Val  Phe Leu Ile
   1130                1135                1140

Tyr Lys  Phe Lys Arg Lys Ile  Pro Trp Ile Asn Ile  Tyr Ala Gln
   1145                1150                1155

Val Gln  His Asp Lys Glu Gln  Glu Met Ile Gly Ser  Val Ser Gln
   1160                1165                1170

Ser Glu  Asn Ala Pro Lys Ile  Thr Leu Ser Asp Phe  Thr Glu Pro
   1175                1180                1185

Glu Glu  Leu Leu Asp Lys Glu  Leu Asp Thr Arg Val  Ile Gly Gly
   1190                1195                1200

Ile Ala  Thr Ile Ala Asn Ser  Glu Ser Thr Lys Glu  Ile Pro Asn
   1205                1210                1215
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Cys Thr Ser Val
    1220

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<212> PRT
<213> Homo sapiens

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<223> proSorCS3

<400> 56

Glu Ile Thr Trp Asp Ala Thr Gly Gly Pro Gly Arg Pro Ala Ala Pro
1   5   10   15

Ala Ser Arg Pro Pro Ala Leu Ser Pro Leu Ser Pro Arg Ala Val Ala
            20   25   30

Ser Gln Trp Pro Glu Glu Leu Ala Ser Ala Arg Arg Ala Ala Val Leu
        35   40   45

Gly Arg Arg Ala Gly Pro Glu Leu Leu Pro Gln Gln Gly Gly Gly Arg
    50   55   60

Gly Gly Glu Met Gln Val Glu Ala Gly Gly Thr Ser Pro Ala Gly Glu
65   70   75   80

Arg Arg Gly Arg Gly Ile Pro Ala Pro Ala Lys Leu Gly Gly Ala Arg
                85   90   95

Arg Ser Arg Arg Ala Gln Pro Pro Ile Thr Gln Glu Arg Gly Asp Ala
            100   105   110

Trp Ala Thr Ala Pro Ala Asp Gly Ser Arg Gly Ser Arg Pro Leu Ala
        115   120   125

Lys Gly Ser Arg Glu Glu Val Lys Ala Pro Arg Ala Gly Gly Ser Ala
    130   135   140

Ala Glu Asp Leu Arg Leu Pro Ser Thr Ser Phe Ala Leu Thr Gly Asp
145   150   155   160

Ser Ala His Asn Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser
                165   170   175

Val Ile Leu Ile Leu Thr Lys Leu Tyr Asp Phe Asn Leu Gly Ser Val
            180   185   190

Thr Glu Ser Ser Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu

195 200 205

Lys Leu Asn Asp Lys Val Gly Leu Lys Thr Val Leu Ser Tyr Leu Tyr
210 215 220

Val Asn Pro Thr Asn Lys Arg Lys Ile Met Leu Leu Ser Asp Pro Glu
225 230 235 240

Met Glu Ser Ser Ile Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln
245 250 255

Lys Tyr Arg Leu Thr Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys
260 265 270

Gln Glu Asp Trp Val Leu Ala Tyr Ser Leu Asp Gln Lys Leu Tyr Ser
275 280 285

Ser Met Asp Phe Gly Arg Arg Trp Gln Leu Met His Glu Arg Ile Thr
290 295 300

Pro Asn Arg Phe Tyr Trp Ser Val Ala Gly Leu Asp Lys Glu Ala Asp
305 310 315 320

Leu Val His Met Glu Val Arg Thr Thr Asp Gly Tyr Ala His Tyr Leu
325 330 335

Thr Cys Arg Ile Gln Glu Cys Ala Glu Thr Thr Arg Ser Gly Pro Phe
340 345 350

Ala Arg Ser Ile Asp Ile Ser Ser Leu Val Val Gln Asp Glu Tyr Ile
355 360 365

Phe Ile Gln Val Thr Thr Ser Gly Arg Ala Ser Tyr Tyr Val Ser Tyr
370 375 380

Arg Arg Glu Ala Phe Ala Gln Ile Lys Leu Pro Lys Tyr Ser Leu Pro
385 390 395 400

Lys Asp Met His Ile Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala
405 410 415

Val Gln Glu Trp Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp
420 425 430

Thr Arg Gly Ile Tyr Phe Thr Leu Ala Met Glu Asn Ile Lys Ser Ser
435 440 445

Arg Gly Leu Met Gly Asn Ile Ile Ile Glu Leu Tyr Glu Val Ala Gly
450 455 460

Ile Lys Gly Ile Phe Leu Ala Asn Lys Lys Val Asp Asp Gln Val Lys

```
465                 470                 475                 480

Thr Tyr Ile Thr Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala
                485                 490                 495

Pro Asp Val Asp Leu Arg Gly Ser Pro Val His Cys Leu Leu Pro Phe
            500                 505                 510

Cys Ser Leu His Leu His Leu Gln Leu Ser Glu Asn Pro Tyr Ser Ser
        515                 520                 525

Gly Arg Ile Ser Ser Lys Glu Thr Ala Pro Gly Leu Val Val Ala Thr
    530                 535                 540

Gly Asn Ile Gly Pro Glu Leu Ser Tyr Thr Asp Ile Gly Val Phe Ile
545                 550                 555                 560

Ser Ser Asp Gly Gly Asn Thr Trp Arg Gln Ile Phe Asp Glu Glu Tyr
                565                 570                 575

Asn Val Trp Phe Leu Asp Trp Gly Gly Ala Leu Val Ala Met Lys His
            580                 585                 590

Thr Pro Leu Pro Val Arg His Leu Trp Val Ser Phe Asp Glu Gly His
        595                 600                 605

Ser Trp Asp Lys Tyr Gly Phe Thr Ser Val Pro Leu Phe Val Asp Gly
    610                 615                 620

Ala Leu Val Glu Ala Gly Met Glu Thr His Ile Met Thr Val Phe Gly
625                 630                 635                 640

His Phe Ser Leu Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys
                645                 650                 655

Ser Ile Phe Ser Arg His Cys Thr Lys Glu Asp Tyr Gln Thr Trp His
            660                 665                 670

Leu Leu Asn Gln Gly Glu Pro Cys Val Met Gly Glu Arg Lys Ile Phe
        675                 680                 685

Lys Lys Arg Lys Pro Gly Ala Gln Cys Ala Leu Gly Arg Asp His Ser
    690                 695                 700

Gly Ser Val Val Ser Glu Pro Cys Val Cys Ala Asn Trp Asp Phe Glu
705                 710                 715                 720

Cys Asp Tyr Gly Tyr Glu Arg His Gly Glu Ser Gln Cys Val Pro Ala
                725                 730                 735

Phe Trp Tyr Asn Pro Ala Ser Pro Ser Lys Asp Cys Ser Leu Gly Gln
```

740 745 750

Ser Tyr Leu Asn Ser Thr Gly Tyr Arg Arg Ile Val Ser Asn Asn Cys
755 760 765

Thr Asp Gly Leu Arg Glu Lys Tyr Thr Ala Lys Ala Gln Met Cys Pro
770 775 780

Gly Lys Ala Pro Arg Gly Leu His Val Val Thr Thr Asp Gly Arg Leu
785 790 795 800

Val Ala Glu Gln Gly His Asn Ala Thr Phe Ile Ile Leu Met Glu Glu
805 810 815

Gly Asp Leu Gln Arg Thr Asn Ile Gln Leu Asp Phe Gly Asp Gly Ile
820 825 830

Ala Val Ser Tyr Ala Asn Phe Ser Pro Ile Glu Asp Gly Ile Lys His
835 840 845

Val Tyr Lys Ser Ala Gly Ile Phe Gln Val Thr Ala Tyr Ala Glu Asn
850 855 860

Asn Leu Gly Ser Asp Thr Ala Val Leu Phe Leu His Val Val Cys Pro
865 870 875 880

Val Glu His Val His Leu Arg Val Pro Phe Val Ala Ile Arg Asn Lys
885 890 895

Glu Val Asn Ile Ser Ala Val Val Trp Pro Ser Gln Leu Gly Thr Leu
900 905 910

Thr Tyr Phe Trp Trp Phe Gly Asn Ser Thr Lys Pro Leu Ile Thr Leu
915 920 925

Asp Ser Ser Ile Ser Phe Thr Phe Leu Ala Glu Gly Thr Asp Thr Ile
930 935 940

Thr Val Gln Val Ala Ala Gly Asn Ala Leu Ile Gln Asp Thr Lys Glu
945 950 955 960

Ile Ala Val His Glu Tyr Phe Gln Ser Gln Leu Leu Ser Phe Ser Pro
965 970 975

Asn Leu Asp Tyr His Asn Pro Asp Ile Pro Glu Trp Arg Lys Asp Ile
980 985 990

Gly Asn Val Ile Lys Arg Ala Leu Val Lys Val Thr Ser Val Pro Glu
995 1000 1005

Asp Gln Ile Leu Ile Ala Val Phe Pro Gly Leu Pro Thr Ser Ala

1010 1015 1020

Glu Leu Phe Ile Leu Pro Pro Lys Asn Leu Thr Glu Arg Arg Lys
1025 1030 1035

Gly Asn Glu Gly Asp Leu Glu Gln Ile Val Glu Thr Leu Phe Asn
1040 1045 1050

Ala Leu Asn Gln Asn Leu Val Gln Phe Glu Leu Lys Pro Gly Val
1055 1060 1065

Gln Val Ile Val Tyr Val Thr Gln Leu Thr Leu Ala Pro Leu Val
1070 1075 1080

Asp Ser Ser Ala Gly His Ser Ser Ser Ala Met Leu Met Leu Leu
1085 1090 1095

Ser Val Val Phe Val Gly Leu Ala Val Phe Leu Ile Tyr Lys Phe
1100 1105 1110

Lys Arg Lys Ile Pro Trp Ile Asn Ile Tyr Ala Gln Val Gln His
1115 1120 1125

Asp Lys Glu Gln Glu Met Ile Gly Ser Val Ser Gln Ser Glu Asn
1130 1135 1140

Ala Pro Lys Ile Thr Leu Ser Asp Phe Thr Glu Pro Glu Glu Leu
1145 1150 1155

Leu Asp Lys Glu Leu Asp Thr Arg Val Ile Gly Gly Ile Ala Thr
1160 1165 1170

Ile Ala Asn Ser Glu Ser Thr Lys Glu Ile Pro Asn Cys Thr Ser
1175 1180 1185

Val

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<212> PRT
<213> Homo sapiens

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<223> Mature SorCS3

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Ala Gln Pro Pro Ile Thr Gln Glu Arg Gly Asp Ala Trp Ala Thr Ala
1 5 10 15

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Pro Ala Asp Gly Ser Arg Gly Ser Arg Pro Leu Ala Lys Gly Ser Arg
            20                  25                  30

Glu Glu Val Lys Ala Pro Arg Ala Gly Gly Ser Ala Ala Glu Asp Leu
        35                  40                  45

Arg Leu Pro Ser Thr Ser Phe Ala Leu Thr Gly Asp Ser Ala His Asn
    50                  55                  60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65                  70                  75                  80

Leu Thr Lys Leu Tyr Asp Phe Asn Leu Gly Ser Val Thr Glu Ser Ser
                85                  90                  95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
            100                 105                 110

Lys Val Gly Leu Lys Thr Val Leu Ser Tyr Leu Tyr Val Asn Pro Thr
        115                 120                 125

Asn Lys Arg Lys Ile Met Leu Leu Ser Asp Pro Glu Met Glu Ser Ser
    130                 135                 140

Ile Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145                 150                 155                 160

Thr Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
                165                 170                 175

Val Leu Ala Tyr Ser Leu Asp Gln Lys Leu Tyr Ser Ser Met Asp Phe
            180                 185                 190

Gly Arg Arg Trp Gln Leu Met His Glu Arg Ile Thr Pro Asn Arg Phe
        195                 200                 205

Tyr Trp Ser Val Ala Gly Leu Asp Lys Glu Ala Asp Leu Val His Met
    210                 215                 220

Glu Val Arg Thr Thr Asp Gly Tyr Ala His Tyr Leu Thr Cys Arg Ile
225                 230                 235                 240

Gln Glu Cys Ala Glu Thr Thr Arg Ser Gly Pro Phe Ala Arg Ser Ile
                245                 250                 255

Asp Ile Ser Ser Leu Val Val Gln Asp Glu Tyr Ile Phe Ile Gln Val
            260                 265                 270

Thr Thr Ser Gly Arg Ala Ser Tyr Tyr Val Ser Tyr Arg Arg Glu Ala
        275                 280                 285
```

```
Phe Ala Gln Ile Lys Leu Pro Lys Tyr Ser Leu Pro Lys Asp Met His
    290                 295                 300

Ile Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305                 310                 315                 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Ile
                325                 330                 335

Tyr Phe Thr Leu Ala Met Glu Asn Ile Lys Ser Ser Arg Gly Leu Met
            340                 345                 350

Gly Asn Ile Ile Ile Glu Leu Tyr Glu Val Ala Gly Ile Lys Gly Ile
        355                 360                 365

Phe Leu Ala Asn Lys Lys Val Asp Asp Gln Val Lys Thr Tyr Ile Thr
    370                 375                 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Val Asp
385                 390                 395                 400

Leu Arg Gly Ser Pro Val His Cys Leu Leu Pro Phe Cys Ser Leu His
                405                 410                 415

Leu His Leu Gln Leu Ser Glu Asn Pro Tyr Ser Ser Gly Arg Ile Ser
            420                 425                 430

Ser Lys Glu Thr Ala Pro Gly Leu Val Val Ala Thr Gly Asn Ile Gly
        435                 440                 445

Pro Glu Leu Ser Tyr Thr Asp Ile Gly Val Phe Ile Ser Ser Asp Gly
    450                 455                 460

Gly Asn Thr Trp Arg Gln Ile Phe Asp Glu Glu Tyr Asn Val Trp Phe
465                 470                 475                 480

Leu Asp Trp Gly Gly Ala Leu Val Ala Met Lys His Thr Pro Leu Pro
                485                 490                 495

Val Arg His Leu Trp Val Ser Phe Asp Glu Gly His Ser Trp Asp Lys
            500                 505                 510

Tyr Gly Phe Thr Ser Val Pro Leu Phe Val Asp Gly Ala Leu Val Glu
        515                 520                 525

Ala Gly Met Glu Thr His Ile Met Thr Val Phe Gly His Phe Ser Leu
    530                 535                 540

Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Ser
545                 550                 555                 560
```

```
Arg His Cys Thr Lys Glu Asp Tyr Gln Thr Trp His Leu Leu Asn Gln
                565                 570                 575

Gly Glu Pro Cys Val Met Gly Glu Arg Lys Ile Phe Lys Lys Arg Lys
            580                 585                 590

Pro Gly Ala Gln Cys Ala Leu Gly Arg Asp His Ser Gly Ser Val Val
        595                 600                 605

Ser Glu Pro Cys Val Cys Ala Asn Trp Asp Phe Glu Cys Asp Tyr Gly
    610                 615                 620

Tyr Glu Arg His Gly Glu Ser Gln Cys Val Pro Ala Phe Trp Tyr Asn
625                 630                 635                 640

Pro Ala Ser Pro Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn
                645                 650                 655

Ser Thr Gly Tyr Arg Arg Ile Val Ser Asn Asn Cys Thr Asp Gly Leu
            660                 665                 670

Arg Glu Lys Tyr Thr Ala Lys Ala Gln Met Cys Pro Gly Lys Ala Pro
        675                 680                 685

Arg Gly Leu His Val Val Thr Thr Asp Gly Arg Leu Val Ala Glu Gln
    690                 695                 700

Gly His Asn Ala Thr Phe Ile Ile Leu Met Glu Glu Gly Asp Leu Gln
705                 710                 715                 720

Arg Thr Asn Ile Gln Leu Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr
                725                 730                 735

Ala Asn Phe Ser Pro Ile Glu Asp Gly Ile Lys His Val Tyr Lys Ser
            740                 745                 750

Ala Gly Ile Phe Gln Val Thr Ala Tyr Ala Glu Asn Asn Leu Gly Ser
        755                 760                 765

Asp Thr Ala Val Leu Phe Leu His Val Val Cys Pro Val Glu His Val
    770                 775                 780

His Leu Arg Val Pro Phe Val Ala Ile Arg Asn Lys Glu Val Asn Ile
785                 790                 795                 800

Ser Ala Val Val Trp Pro Ser Gln Leu Gly Thr Leu Thr Tyr Phe Trp
                805                 810                 815

Trp Phe Gly Asn Ser Thr Lys Pro Leu Ile Thr Leu Asp Ser Ser Ile
            820                 825                 830
```

```
Ser Phe Thr Phe Leu Ala Glu Gly Thr Asp Thr Ile Thr Val Gln Val
        835                 840                 845

Ala Ala Gly Asn Ala Leu Ile Gln Asp Thr Lys Glu Ile Ala Val His
    850                 855                 860

Glu Tyr Phe Gln Ser Gln Leu Leu Ser Phe Ser Pro Asn Leu Asp Tyr
865                 870                 875                 880

His Asn Pro Asp Ile Pro Glu Trp Arg Lys Asp Ile Gly Asn Val Ile
                885                 890                 895

Lys Arg Ala Leu Val Lys Val Thr Ser Val Pro Glu Asp Gln Ile Leu
            900                 905                 910

Ile Ala Val Phe Pro Gly Leu Pro Thr Ser Ala Glu Leu Phe Ile Leu
        915                 920                 925

Pro Pro Lys Asn Leu Thr Glu Arg Arg Lys Gly Asn Glu Gly Asp Leu
    930                 935                 940

Glu Gln Ile Val Glu Thr Leu Phe Asn Ala Leu Asn Gln Asn Leu Val
945                 950                 955                 960

Gln Phe Glu Leu Lys Pro Gly Val Gln Val Ile Val Tyr Val Thr Gln
                965                 970                 975

Leu Thr Leu Ala Pro Leu Val Asp Ser Ser Ala Gly His Ser Ser Ser
            980                 985                 990

Ala Met Leu Met Leu Leu Ser Val  Val Phe Val Gly Leu  Ala Val Phe
        995                 1000                1005

Leu Ile  Tyr Lys Phe Lys Arg  Lys Ile Pro Trp Ile  Asn Ile Tyr
    1010                1015                1020

Ala Gln  Val Gln His Asp Lys  Glu Gln Glu Met Ile  Gly Ser Val
    1025                1030                1035

Ser Gln  Ser Glu Asn Ala Pro  Lys Ile Thr Leu Ser  Asp Phe Thr
    1040                1045                1050

Glu Pro  Glu Glu Leu Leu Asp  Lys Glu Leu Asp Thr  Arg Val Ile
    1055                1060                1065

Gly Gly  Ile Ala Thr Ile Ala  Asn Ser Glu Ser Thr  Lys Glu Ile
    1070                1075                1080

Pro Asn  Cys Thr Ser Val
    1085
```

<210> 58
<211> 1089
<212> PRT
<213> Homo sapiens

<220>
<221> MISC_FEATURE
<222> (1)..(1089)
<223> soluble preproSorCS3

<400> 58

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Ala Gln Pro Pro Ile Thr Gln Glu Arg Gly Asp Ala Trp Ala Thr Ala
1               5                   10                  15

Pro Ala Asp Gly Ser Arg Gly Ser Arg Pro Leu Ala Lys Gly Ser Arg
            20                  25                  30

Glu Glu Val Lys Ala Pro Arg Ala Gly Gly Ser Ala Ala Glu Asp Leu
        35                  40                  45

Arg Leu Pro Ser Thr Ser Phe Ala Leu Thr Gly Asp Ser Ala His Asn
    50                  55                  60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65                  70                  75                  80

Leu Thr Lys Leu Tyr Asp Phe Asn Leu Gly Ser Val Thr Glu Ser Ser
                85                  90                  95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
            100                 105                 110

Lys Val Gly Leu Lys Thr Val Leu Ser Tyr Leu Tyr Val Asn Pro Thr
        115                 120                 125

Asn Lys Arg Lys Ile Met Leu Leu Ser Asp Pro Glu Met Glu Ser Ser
    130                 135                 140

Ile Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145                 150                 155                 160

Thr Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
                165                 170                 175

Val Leu Ala Tyr Ser Leu Asp Gln Lys Leu Tyr Ser Ser Met Asp Phe
            180                 185                 190

Gly Arg Arg Trp Gln Leu Met His Glu Arg Ile Thr Pro Asn Arg Phe
        195                 200                 205

Tyr Trp Ser Val Ala Gly Leu Asp Lys Glu Ala Asp Leu Val His Met
    210                 215                 220
```

```
Glu Val Arg Thr Thr Asp Gly Tyr Ala His Tyr Leu Thr Cys Arg Ile
225                 230                 235                 240

Gln Glu Cys Ala Glu Thr Thr Arg Ser Gly Pro Phe Ala Arg Ser Ile
                245                 250                 255

Asp Ile Ser Ser Leu Val Val Gln Asp Glu Tyr Ile Phe Ile Gln Val
            260                 265                 270

Thr Thr Ser Gly Arg Ala Ser Tyr Tyr Val Ser Tyr Arg Arg Glu Ala
        275                 280                 285

Phe Ala Gln Ile Lys Leu Pro Lys Tyr Ser Leu Pro Lys Asp Met His
    290                 295                 300

Ile Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305                 310                 315                 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Ile
                325                 330                 335

Tyr Phe Thr Leu Ala Met Glu Asn Ile Lys Ser Ser Arg Gly Leu Met
            340                 345                 350

Gly Asn Ile Ile Ile Glu Leu Tyr Glu Val Ala Gly Ile Lys Gly Ile
        355                 360                 365

Phe Leu Ala Asn Lys Lys Val Asp Asp Gln Val Lys Thr Tyr Ile Thr
    370                 375                 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Val Asp
385                 390                 395                 400

Leu Arg Gly Ser Pro Val His Cys Leu Leu Pro Phe Cys Ser Leu His
                405                 410                 415

Leu His Leu Gln Leu Ser Glu Asn Pro Tyr Ser Ser Gly Arg Ile Ser
            420                 425                 430

Ser Lys Glu Thr Ala Pro Gly Leu Val Val Ala Thr Gly Asn Ile Gly
        435                 440                 445

Pro Glu Leu Ser Tyr Thr Asp Ile Gly Val Phe Ile Ser Ser Asp Gly
    450                 455                 460

Gly Asn Thr Trp Arg Gln Ile Phe Asp Glu Glu Tyr Asn Val Trp Phe
465                 470                 475                 480

Leu Asp Trp Gly Gly Ala Leu Val Ala Met Lys His Thr Pro Leu Pro
                485                 490                 495
```

```
Val Arg His Leu Trp Val Ser Phe Asp Glu Gly His Ser Trp Asp Lys
            500                 505                 510

Tyr Gly Phe Thr Ser Val Pro Leu Phe Val Asp Gly Ala Leu Val Glu
        515                 520                 525

Ala Gly Met Glu Thr His Ile Met Thr Val Phe Gly His Phe Ser Leu
    530                 535                 540

Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Ser
545                 550                 555                 560

Arg His Cys Thr Lys Glu Asp Tyr Gln Thr Trp His Leu Leu Asn Gln
                565                 570                 575

Gly Glu Pro Cys Val Met Gly Glu Arg Lys Ile Phe Lys Lys Arg Lys
            580                 585                 590

Pro Gly Ala Gln Cys Ala Leu Gly Arg Asp His Ser Gly Ser Val Val
        595                 600                 605

Ser Glu Pro Cys Val Cys Ala Asn Trp Asp Phe Glu Cys Asp Tyr Gly
    610                 615                 620

Tyr Glu Arg His Gly Glu Ser Gln Cys Val Pro Ala Phe Trp Tyr Asn
625                 630                 635                 640

Pro Ala Ser Pro Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn
                645                 650                 655

Ser Thr Gly Tyr Arg Arg Ile Val Ser Asn Asn Cys Thr Asp Gly Leu
            660                 665                 670

Arg Glu Lys Tyr Thr Ala Lys Ala Gln Met Cys Pro Gly Lys Ala Pro
        675                 680                 685

Arg Gly Leu His Val Val Thr Thr Asp Gly Arg Leu Val Ala Glu Gln
    690                 695                 700

Gly His Asn Ala Thr Phe Ile Ile Leu Met Glu Glu Gly Asp Leu Gln
705                 710                 715                 720

Arg Thr Asn Ile Gln Leu Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr
                725                 730                 735

Ala Asn Phe Ser Pro Ile Glu Asp Gly Ile Lys His Val Tyr Lys Ser
            740                 745                 750

Ala Gly Ile Phe Gln Val Thr Ala Tyr Ala Glu Asn Asn Leu Gly Ser
        755                 760                 765
```

```
Asp Thr Ala Val Leu Phe Leu His Val Val Cys Pro Val Glu His Val
    770                 775                 780

His Leu Arg Val Pro Phe Val Ala Ile Arg Asn Lys Glu Val Asn Ile
785                 790                 795                 800

Ser Ala Val Val Trp Pro Ser Gln Leu Gly Thr Leu Thr Tyr Phe Trp
                805                 810                 815

Trp Phe Gly Asn Ser Thr Lys Pro Leu Ile Thr Leu Asp Ser Ser Ile
            820                 825                 830

Ser Phe Thr Phe Leu Ala Glu Gly Thr Asp Thr Ile Thr Val Gln Val
        835                 840                 845

Ala Ala Gly Asn Ala Leu Ile Gln Asp Thr Lys Glu Ile Ala Val His
    850                 855                 860

Glu Tyr Phe Gln Ser Gln Leu Leu Ser Phe Ser Pro Asn Leu Asp Tyr
865                 870                 875                 880

His Asn Pro Asp Ile Pro Glu Trp Arg Lys Asp Ile Gly Asn Val Ile
                885                 890                 895

Lys Arg Ala Leu Val Lys Val Thr Ser Val Pro Glu Asp Gln Ile Leu
            900                 905                 910

Ile Ala Val Phe Pro Gly Leu Pro Thr Ser Ala Glu Leu Phe Ile Leu
        915                 920                 925

Pro Pro Lys Asn Leu Thr Glu Arg Arg Lys Gly Asn Glu Gly Asp Leu
    930                 935                 940

Glu Gln Ile Val Glu Thr Leu Phe Asn Ala Leu Asn Gln Asn Leu Val
945                 950                 955                 960

Gln Phe Glu Leu Lys Pro Gly Val Gln Val Ile Val Tyr Val Thr Gln
                965                 970                 975

Leu Thr Leu Ala Pro Leu Val Asp Ser Ser Ala Gly His Ser Ser Ser
            980                 985                 990

Ala Met Leu Met Leu Leu Ser Val  Val Phe Val Gly Leu  Ala Val Phe
        995                 1000                1005

Leu Ile  Tyr Lys Phe Lys Arg  Lys Ile Pro Trp Ile  Asn Ile Tyr
    1010                1015                1020

Ala Gln  Val Gln His Asp Lys  Glu Gln Glu Met Ile  Gly Ser Val
    1025                1030                1035
```

```
Ser Gln  Ser Glu Asn Ala Pro  Lys Ile Thr Leu Ser  Asp Phe Thr
    1040                1045                1050


Glu Pro  Glu Glu Leu Leu Asp  Lys Glu Leu Asp Thr  Arg Val Ile
    1055                1060                1065


Gly Gly  Ile Ala Thr Ile Ala  Asn Ser Glu Ser Thr  Lys Glu Ile
    1070                1075                1080


Pro Asn  Cys Thr Ser Val
    1085


<210>  59
<211>  1091
<212>  PRT
<213>  Homo sapiens


<220>
<221>  MISC_FEATURE
<222>  (1)..(1091)
<223>  soluble proSorCS3

<400>  59

Glu Ile Thr Trp Asp Ala Thr Gly Gly Pro Gly Arg Pro Ala Ala Pro
1               5                   10                  15


Ala Ser Arg Pro Pro Ala Leu Ser Pro Leu Ser Pro Arg Ala Val Ala
            20                  25                  30


Ser Gln Trp Pro Glu Glu Leu Ala Ser Ala Arg Arg Ala Ala Val Leu
        35                  40                  45


Gly Arg Arg Ala Gly Pro Glu Leu Leu Pro Gln Gln Gly Gly Gly Arg
    50                  55                  60


Gly Gly Glu Met Gln Val Glu Ala Gly Gly Thr Ser Pro Ala Gly Glu
65                  70                  75                  80


Arg Arg Gly Arg Gly Ile Pro Ala Pro Ala Lys Leu Gly Gly Ala Arg
                85                  90                  95


Arg Ser Arg Arg Ala Gln Pro Pro Ile Thr Gln Glu Arg Gly Asp Ala
            100                 105                 110


Trp Ala Thr Ala Pro Ala Asp Gly Ser Arg Gly Ser Arg Pro Leu Ala
        115                 120                 125


Lys Gly Ser Arg Glu Glu Val Lys Ala Pro Arg Ala Gly Gly Ser Ala
    130                 135                 140


Ala Glu Asp Leu Arg Leu Pro Ser Thr Ser Phe Ala Leu Thr Gly Asp
145                 150                 155                 160
```

```
Ser Ala His Asn Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser
                165                 170                 175

Val Ile Leu Ile Leu Thr Lys Leu Tyr Asp Phe Asn Leu Gly Ser Val
            180                 185                 190

Thr Glu Ser Ser Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu
        195                 200                 205

Lys Leu Asn Asp Lys Val Gly Leu Lys Thr Val Leu Ser Tyr Leu Tyr
    210                 215                 220

Val Asn Pro Thr Asn Lys Arg Lys Ile Met Leu Leu Ser Asp Pro Glu
225                 230                 235                 240

Met Glu Ser Ser Ile Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln
                245                 250                 255

Lys Tyr Arg Leu Thr Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys
            260                 265                 270

Gln Glu Asp Trp Val Leu Ala Tyr Ser Leu Asp Gln Lys Leu Tyr Ser
        275                 280                 285

Ser Met Asp Phe Gly Arg Arg Trp Gln Leu Met His Glu Arg Ile Thr
    290                 295                 300

Pro Asn Arg Phe Tyr Trp Ser Val Ala Gly Leu Asp Lys Glu Ala Asp
305                 310                 315                 320

Leu Val His Met Glu Val Arg Thr Thr Asp Gly Tyr Ala His Tyr Leu
                325                 330                 335

Thr Cys Arg Ile Gln Glu Cys Ala Glu Thr Thr Arg Ser Gly Pro Phe
            340                 345                 350

Ala Arg Ser Ile Asp Ile Ser Ser Leu Val Val Gln Asp Glu Tyr Ile
        355                 360                 365

Phe Ile Gln Val Thr Thr Ser Gly Arg Ala Ser Tyr Tyr Val Ser Tyr
    370                 375                 380

Arg Arg Glu Ala Phe Ala Gln Ile Lys Leu Pro Lys Tyr Ser Leu Pro
385                 390                 395                 400

Lys Asp Met His Ile Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala
                405                 410                 415

Val Gln Glu Trp Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp
            420                 425                 430
```

```
Thr Arg Gly Ile Tyr Phe Thr Leu Ala Met Glu Asn Ile Lys Ser Ser
        435                 440                 445

Arg Gly Leu Met Gly Asn Ile Ile Ile Glu Leu Tyr Glu Val Ala Gly
    450                 455                 460

Ile Lys Gly Ile Phe Leu Ala Asn Lys Lys Val Asp Asp Gln Val Lys
465                 470                 475                 480

Thr Tyr Ile Thr Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala
                485                 490                 495

Pro Asp Val Asp Leu Arg Gly Ser Pro Val His Cys Leu Leu Pro Phe
            500                 505                 510

Cys Ser Leu His Leu His Leu Gln Leu Ser Glu Asn Pro Tyr Ser Ser
        515                 520                 525

Gly Arg Ile Ser Ser Lys Glu Thr Ala Pro Gly Leu Val Val Ala Thr
    530                 535                 540

Gly Asn Ile Gly Pro Glu Leu Ser Tyr Thr Asp Ile Gly Val Phe Ile
545                 550                 555                 560

Ser Ser Asp Gly Gly Asn Thr Trp Arg Gln Ile Phe Asp Glu Glu Tyr
                565                 570                 575

Asn Val Trp Phe Leu Asp Trp Gly Gly Ala Leu Val Ala Met Lys His
            580                 585                 590

Thr Pro Leu Pro Val Arg His Leu Trp Val Ser Phe Asp Glu Gly His
        595                 600                 605

Ser Trp Asp Lys Tyr Gly Phe Thr Ser Val Pro Leu Phe Val Asp Gly
    610                 615                 620

Ala Leu Val Glu Ala Gly Met Glu Thr His Ile Met Thr Val Phe Gly
625                 630                 635                 640

His Phe Ser Leu Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys
                645                 650                 655

Ser Ile Phe Ser Arg His Cys Thr Lys Glu Asp Tyr Gln Thr Trp His
            660                 665                 670

Leu Leu Asn Gln Gly Glu Pro Cys Val Met Gly Glu Arg Lys Ile Phe
        675                 680                 685

Lys Lys Arg Lys Pro Gly Ala Gln Cys Ala Leu Gly Arg Asp His Ser
    690                 695                 700
```

```
Gly Ser Val Val Ser Glu Pro Cys Val Cys Ala Asn Trp Asp Phe Glu
705                 710                 715                 720

Cys Asp Tyr Gly Tyr Glu Arg His Gly Glu Ser Gln Cys Val Pro Ala
                725                 730                 735

Phe Trp Tyr Asn Pro Ala Ser Pro Ser Lys Asp Cys Ser Leu Gly Gln
            740                 745                 750

Ser Tyr Leu Asn Ser Thr Gly Tyr Arg Arg Ile Val Ser Asn Asn Cys
        755                 760                 765

Thr Asp Gly Leu Arg Glu Lys Tyr Thr Ala Lys Ala Gln Met Cys Pro
    770                 775                 780

Gly Lys Ala Pro Arg Gly Leu His Val Val Thr Thr Asp Gly Arg Leu
785                 790                 795                 800

Val Ala Glu Gln Gly His Asn Ala Thr Phe Ile Ile Leu Met Glu Glu
                805                 810                 815

Gly Asp Leu Gln Arg Thr Asn Ile Gln Leu Asp Phe Gly Asp Gly Ile
            820                 825                 830

Ala Val Ser Tyr Ala Asn Phe Ser Pro Ile Glu Asp Gly Ile Lys His
        835                 840                 845

Val Tyr Lys Ser Ala Gly Ile Phe Gln Val Thr Ala Tyr Ala Glu Asn
    850                 855                 860

Asn Leu Gly Ser Asp Thr Ala Val Leu Phe Leu His Val Val Cys Pro
865                 870                 875                 880

Val Glu His Val His Leu Arg Val Pro Phe Val Ala Ile Arg Asn Lys
                885                 890                 895

Glu Val Asn Ile Ser Ala Val Val Trp Pro Ser Gln Leu Gly Thr Leu
            900                 905                 910

Thr Tyr Phe Trp Trp Phe Gly Asn Ser Thr Lys Pro Leu Ile Thr Leu
        915                 920                 925

Asp Ser Ser Ile Ser Phe Thr Phe Leu Ala Glu Gly Thr Asp Thr Ile
    930                 935                 940

Thr Val Gln Val Ala Ala Gly Asn Ala Leu Ile Gln Asp Thr Lys Glu
945                 950                 955                 960

Ile Ala Val His Glu Tyr Phe Gln Ser Gln Leu Leu Ser Phe Ser Pro
                965                 970                 975
```

Asn Leu Asp Tyr His Asn Pro Asp Ile Pro Glu Trp Arg Lys Asp Ile
980 985 990

Gly Asn Val Ile Lys Arg Ala Leu Val Lys Val Thr Ser Val Pro Glu
995 1000 1005

Asp Gln Ile Leu Ile Ala Val Phe Pro Gly Leu Pro Thr Ser Ala
1010 1015 1020

Glu Leu Phe Ile Leu Pro Pro Lys Asn Leu Thr Glu Arg Arg Lys
1025 1030 1035

Gly Asn Glu Gly Asp Leu Glu Gln Ile Val Glu Thr Leu Phe Asn
1040 1045 1050

Ala Leu Asn Gln Asn Leu Val Gln Phe Glu Leu Lys Pro Gly Val
1055 1060 1065

Gln Val Ile Val Tyr Val Thr Gln Leu Thr Leu Ala Pro Leu Val
1070 1075 1080

Asp Ser Ser Ala Gly His Ser Ser
1085 1090

<210> 60
<211> 991
<212> PRT
<213> Homo sapiens

<220>
<221> MISC_FEATURE
<222> (1)..(991)
<223> Soluble mature SorCS3

<400> 60

Ala Gln Pro Pro Ile Thr Gln Glu Arg Gly Asp Ala Trp Ala Thr Ala
1 5 10 15

Pro Ala Asp Gly Ser Arg Gly Ser Arg Pro Leu Ala Lys Gly Ser Arg
20 25 30

Glu Glu Val Lys Ala Pro Arg Ala Gly Gly Ser Ala Ala Glu Asp Leu
35 40 45

Arg Leu Pro Ser Thr Ser Phe Ala Leu Thr Gly Asp Ser Ala His Asn
50 55 60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65 70 75 80

Leu Thr Lys Leu Tyr Asp Phe Asn Leu Gly Ser Val Thr Glu Ser Ser

85 90 95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
100 105 110

Lys Val Gly Leu Lys Thr Val Leu Ser Tyr Leu Tyr Val Asn Pro Thr
115 120 125

Asn Lys Arg Lys Ile Met Leu Leu Ser Asp Pro Glu Met Glu Ser Ser
130 135 140

Ile Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145 150 155 160

Thr Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
165 170 175

Val Leu Ala Tyr Ser Leu Asp Gln Lys Leu Tyr Ser Ser Met Asp Phe
180 185 190

Gly Arg Arg Trp Gln Leu Met His Glu Arg Ile Thr Pro Asn Arg Phe
195 200 205

Tyr Trp Ser Val Ala Gly Leu Asp Lys Glu Ala Asp Leu Val His Met
210 215 220

Glu Val Arg Thr Thr Asp Gly Tyr Ala His Tyr Leu Thr Cys Arg Ile
225 230 235 240

Gln Glu Cys Ala Glu Thr Thr Arg Ser Gly Pro Phe Ala Arg Ser Ile
245 250 255

Asp Ile Ser Ser Leu Val Val Gln Asp Glu Tyr Ile Phe Ile Gln Val
260 265 270

Thr Thr Ser Gly Arg Ala Ser Tyr Tyr Val Ser Tyr Arg Arg Glu Ala
275 280 285

Phe Ala Gln Ile Lys Leu Pro Lys Tyr Ser Leu Pro Lys Asp Met His
290 295 300

Ile Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305 310 315 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Ile
325 330 335

Tyr Phe Thr Leu Ala Met Glu Asn Ile Lys Ser Ser Arg Gly Leu Met
340 345 350

Gly Asn Ile Ile Ile Glu Leu Tyr Glu Val Ala Gly Ile Lys Gly Ile

```
        355                 360                 365

Phe Leu Ala Asn Lys Lys Val Asp Asp Gln Val Lys Thr Tyr Ile Thr
    370                 375                 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Val Asp
385                 390                 395                 400

Leu Arg Gly Ser Pro Val His Cys Leu Leu Pro Phe Cys Ser Leu His
                405                 410                 415

Leu His Leu Gln Leu Ser Glu Asn Pro Tyr Ser Ser Gly Arg Ile Ser
            420                 425                 430

Ser Lys Glu Thr Ala Pro Gly Leu Val Val Ala Thr Gly Asn Ile Gly
        435                 440                 445

Pro Glu Leu Ser Tyr Thr Asp Ile Gly Val Phe Ile Ser Ser Asp Gly
    450                 455                 460

Gly Asn Thr Trp Arg Gln Ile Phe Asp Glu Glu Tyr Asn Val Trp Phe
465                 470                 475                 480

Leu Asp Trp Gly Gly Ala Leu Val Ala Met Lys His Thr Pro Leu Pro
                485                 490                 495

Val Arg His Leu Trp Val Ser Phe Asp Glu Gly His Ser Trp Asp Lys
            500                 505                 510

Tyr Gly Phe Thr Ser Val Pro Leu Phe Val Asp Gly Ala Leu Val Glu
        515                 520                 525

Ala Gly Met Glu Thr His Ile Met Thr Val Phe Gly His Phe Ser Leu
    530                 535                 540

Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Ser
545                 550                 555                 560

Arg His Cys Thr Lys Glu Asp Tyr Gln Thr Trp His Leu Leu Asn Gln
                565                 570                 575

Gly Glu Pro Cys Val Met Gly Glu Arg Lys Ile Phe Lys Lys Arg Lys
            580                 585                 590

Pro Gly Ala Gln Cys Ala Leu Gly Arg Asp His Ser Gly Ser Val Val
        595                 600                 605

Ser Glu Pro Cys Val Cys Ala Asn Trp Asp Phe Glu Cys Asp Tyr Gly
    610                 615                 620

Tyr Glu Arg His Gly Glu Ser Gln Cys Val Pro Ala Phe Trp Tyr Asn
```

625 630 635 640

Pro Ala Ser Pro Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn
645 650 655

Ser Thr Gly Tyr Arg Arg Ile Val Ser Asn Asn Cys Thr Asp Gly Leu
660 665 670

Arg Glu Lys Tyr Thr Ala Lys Ala Gln Met Cys Pro Gly Lys Ala Pro
675 680 685

Arg Gly Leu His Val Val Thr Thr Asp Gly Arg Leu Val Ala Glu Gln
690 695 700

Gly His Asn Ala Thr Phe Ile Ile Leu Met Glu Glu Gly Asp Leu Gln
705 710 715 720

Arg Thr Asn Ile Gln Leu Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr
725 730 735

Ala Asn Phe Ser Pro Ile Glu Asp Gly Ile Lys His Val Tyr Lys Ser
740 745 750

Ala Gly Ile Phe Gln Val Thr Ala Tyr Ala Glu Asn Asn Leu Gly Ser
755 760 765

Asp Thr Ala Val Leu Phe Leu His Val Val Cys Pro Val Glu His Val
770 775 780

His Leu Arg Val Pro Phe Val Ala Ile Arg Asn Lys Glu Val Asn Ile
785 790 795 800

Ser Ala Val Val Trp Pro Ser Gln Leu Gly Thr Leu Thr Tyr Phe Trp
805 810 815

Trp Phe Gly Asn Ser Thr Lys Pro Leu Ile Thr Leu Asp Ser Ser Ile
820 825 830

Ser Phe Thr Phe Leu Ala Glu Gly Thr Asp Thr Ile Thr Val Gln Val
835 840 845

Ala Ala Gly Asn Ala Leu Ile Gln Asp Thr Lys Glu Ile Ala Val His
850 855 860

Glu Tyr Phe Gln Ser Gln Leu Leu Ser Phe Ser Pro Asn Leu Asp Tyr
865 870 875 880

His Asn Pro Asp Ile Pro Glu Trp Arg Lys Asp Ile Gly Asn Val Ile
885 890 895

Lys Arg Ala Leu Val Lys Val Thr Ser Val Pro Glu Asp Gln Ile Leu

900 905 910

Ile Ala Val Phe Pro Gly Leu Pro Thr Ser Ala Glu Leu Phe Ile Leu
915 920 925

Pro Pro Lys Asn Leu Thr Glu Arg Arg Lys Gly Asn Glu Gly Asp Leu
930 935 940

Glu Gln Ile Val Glu Thr Leu Phe Asn Ala Leu Asn Gln Asn Leu Val
945 950 955 960

Gln Phe Glu Leu Lys Pro Gly Val Gln Val Ile Val Tyr Val Thr Gln
965 970 975

Leu Thr Leu Ala Pro Leu Val Asp Ser Ser Ala Gly His Ser Ser
980 985 990

<210> 61
<211> 1088
<212> PRT
<213> Homo sapiens

<220>
<221> MISC_FEATURE
<222> (1)..(1088)
<223> proSorCS1B (variant)

<400> 61

Ser Gly Ala Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg
1 5 10 15

Ser Pro Arg Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr
20 25 30

Arg Glu Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu
35 40 45

Arg Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
50 55 60

Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65 70 75 80

Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
85 90 95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
100 105 110

Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
115 120 125

```
Asn Lys Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
    130                 135                 140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145                 150                 155                 160

Asn Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
                165                 170                 175

Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe
            180                 185                 190

Gly Arg Arg Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe
        195                 200                 205

Tyr Trp Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu
    210                 215                 220

Glu Ala Arg Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met
225                 230                 235                 240

Gln Asn Cys Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr Ile
                245                 250                 255

Asp Pro Asp Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu
            260                 265                 270

Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala
        275                 280                 285

Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His
    290                 295                 300

Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305                 310                 315                 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val
                325                 330                 335

Tyr Phe Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu
            340                 345                 350

Gly Asn Ile Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met
        355                 360                 365

Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr
    370                 375                 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp
385                 390                 395                 400
```

```
Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His
                405                 410                 415

Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala
            420                 425                 430

Ser Lys Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly
        435                 440                 445

Ser Glu Leu Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala
    450                 455                 460

Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr
465                 470                 475                 480

Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro
                485                 490                 495

Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys
            500                 505                 510

Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu
        515                 520                 525

Pro Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His
    530                 535                 540

Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp
545                 550                 555                 560

Arg Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln
                565                 570                 575

Gly Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys
            580                 585                 590

Ser Glu Arg Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser
        595                 600                 605

Glu Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr
    610                 615                 620

Glu Arg His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro
625                 630                 635                 640

Ser Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser
                645                 650                 655

Thr Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg
            660                 665                 670
```

```
Glu Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg
        675                 680                 685

Gly Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly
    690                 695                 700

His Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg
705                 710                 715                 720

Thr Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val
                725                 730                 735

Asn Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val
            740                 745                 750

Gly Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp
        755                 760                 765

Ser Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His
    770                 775                 780

Leu Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr
785                 790                 795                 800

Ala Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp
                805                 810                 815

Tyr Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser
            820                 825                 830

Phe Arg Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser
        835                 840                 845

Ala Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu
    850                 855                 860

Glu Phe Arg Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr
865                 870                 875                 880

Asn Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Gly Arg Val Ile Lys
                885                 890                 895

Lys Ser Leu Val Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val
            900                 905                 910

Ala Val Leu Pro Gly Leu Pro Thr Thr Ala Glu Leu Phe Val Leu Pro
        915                 920                 925

Tyr Gln Asp Pro Ala Gly Glu Asn Lys Arg Ser Thr Asp Asp Leu Glu
    930                 935                 940
```

```
Gln Ile Ser Glu Leu Leu Ile His Thr Leu Asn Gln Asn Ser Val His
945                 950                 955                 960


Phe Glu Leu Lys Pro Gly Val Arg Val Leu Val His Ala Ala His Leu
                965                 970                 975


Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly Ser Ala
            980                 985                 990


Met Leu Met Leu Leu Ser Val Val  Phe Val Gly Leu Ala  Val Phe Val
        995                 1000                1005


Ile Tyr  Lys Phe Lys Arg Lys  Ile Pro Gly Ile Asn  Val Tyr Ala
    1010                1015                1020


Gln Met  Gln Asn Glu Lys Glu  Gln Glu Met Ile Ser  Pro Val Ser
    1025                1030                1035


His Ser  Glu Ser Arg Pro Asn  Val Pro Gln Thr Glu  Leu Arg Arg
    1040                1045                1050


Pro Gly  Gln Leu Ile Asp Glu  Lys Val Glu Ser Gln  Leu Ile Gly
    1055                1060                1065


Ser Ile  Ser Ile Val Ala Glu  Asn Gln Ser Thr Lys  Glu Ile Pro
    1070                1075                1080


Thr Tyr  Val Asn Val
    1085


<210>  62
<211>  990
<212>  PRT
<213>  Homo sapiens


<220>
<221>  MISC_FEATURE
<222>  (1)..(990)
<223>  soluble proSorCS1B (variant)

<400>  62

Ser Gly Ala Asp Gln Glu Lys Ala Glu Arg Gly Glu Gly Ala Ser Arg
1               5                   10                  15


Ser Pro Arg Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr
            20                  25                  30


Arg Glu Arg Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu
        35                  40                  45


Arg Leu Thr Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn
    50                  55                  60
```

```
Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
65                  70                  75                  80

Leu Thr Lys Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser
                85                  90                  95

Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
            100                 105                 110

Lys Val Gly Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr
        115                 120                 125

Asn Lys Arg Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser
    130                 135                 140

Leu Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
145                 150                 155                 160

Asn Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
                165                 170                 175

Ile Leu Ala Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe
            180                 185                 190

Gly Arg Arg Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe
        195                 200                 205

Tyr Trp Ser Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu
    210                 215                 220

Glu Ala Arg Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met
225                 230                 235                 240

Gln Asn Cys Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr Ile
                245                 250                 255

Asp Pro Asp Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu
            260                 265                 270

Thr Ser Gly Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala
        275                 280                 285

Phe Ala Gln Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His
    290                 295                 300

Val Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
305                 310                 315                 320

Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val
                325                 330                 335
```

```
Tyr Phe Thr Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu
            340                 345                 350

Gly Asn Ile Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met
        355                 360                 365

Phe Leu Ala Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr
    370                 375                 380

Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp
385                 390                 395                 400

Leu Arg Gly Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His
                405                 410                 415

Leu His Leu Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala
            420                 425                 430

Ser Lys Asp Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly
        435                 440                 445

Ser Glu Leu Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala
    450                 455                 460

Gly Asn Thr Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr
465                 470                 475                 480

Leu Asp Gln Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro
                485                 490                 495

Ile Arg His Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys
            500                 505                 510

Tyr Ser Phe Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu
        515                 520                 525

Pro Gly Glu Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His
    530                 535                 540

Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp
545                 550                 555                 560

Arg Arg Cys Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln
                565                 570                 575

Gly Glu Ala Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys
            580                 585                 590

Ser Glu Arg Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser
        595                 600                 605
```

```
Glu Pro Cys Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr
    610                 615                 620

Glu Arg His Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro
625                 630                 635                 640

Ser Ser Leu Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser
                645                 650                 655

Thr Gly Tyr Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg
            660                 665                 670

Glu Gln Tyr Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg
        675                 680                 685

Gly Leu Arg Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly
    690                 695                 700

His Asn Val Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg
705                 710                 715                 720

Thr Leu Ile Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val
                725                 730                 735

Asn Leu Ser Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val
            740                 745                 750

Gly Ile Phe Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp
        755                 760                 765

Ser Ala Val Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His
    770                 775                 780

Leu Ser Leu Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr
785                 790                 795                 800

Ala Val Leu Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp
                805                 810                 815

Tyr Gly Asn Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser
            820                 825                 830

Phe Arg Phe Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser
        835                 840                 845

Ala Gly Asn Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu
    850                 855                 860

Glu Phe Arg Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr
865                 870                 875                 880
```

Asn Pro Asp Ile Pro Glu Trp Arg Arg Asp Ile Gly Arg Val Ile Lys
885 890 895

Lys Ser Leu Val Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val
900 905 910

Ala Val Leu Pro Gly Leu Pro Thr Thr Ala Glu Leu Phe Val Leu Pro
915 920 925

Tyr Gln Asp Pro Ala Gly Glu Asn Lys Arg Ser Thr Asp Asp Leu Glu
930 935 940

Gln Ile Ser Glu Leu Leu Ile His Thr Leu Asn Gln Asn Ser Val His
945 950 955 960

Phe Glu Leu Lys Pro Gly Val Arg Val Leu Val His Ala Ala His Leu
965 970 975

Thr Ala Ala Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly
980 985 990

<210> 63
<211> 1069
<212> PRT
<213> Homo sapiens

<220>
<221> MISC_FEATURE
<222> (1)..(1069)
<223> mature SorCS1B (variant)

<400> 63

Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr Arg Glu Arg
1 5 10 15

Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu Thr
20 25 30

Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met
35 40 45

Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr Lys
50 55 60

Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg
65 70 75 80

Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val Gly
85 90 95

Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Arg
100 105 110

```
Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu Ile
        115                 120                 125

Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr
    130                 135                 140

Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala
145                 150                 155                 160

Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg Arg
                165                 170                 175

Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe Tyr Trp Ser
            180                 185                 190

Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu Glu Ala Arg
        195                 200                 205

Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met Gln Asn Cys
    210                 215                 220

Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr Ile Asp Pro Asp
225                 230                 235                 240

Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu Thr Ser Gly
                245                 250                 255

Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala Phe Ala Gln
            260                 265                 270

Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile Ser
        275                 280                 285

Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn
    290                 295                 300

Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr
305                 310                 315                 320

Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu Gly Asn Ile
                325                 330                 335

Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala
            340                 345                 350

Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys
        355                 360                 365

Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp Leu Arg Gly
    370                 375                 380
```

```
Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu
385                 390                 395                 400

Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Lys Asp
                405                 410                 415

Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu Leu
            420                 425                 430

Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr
        435                 440                 445

Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu Asp Gln
    450                 455                 460

Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg His
465                 470                 475                 480

Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser Phe
                485                 490                 495

Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly Glu
            500                 505                 510

Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu
        515                 520                 525

Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys
    530                 535                 540

Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu Ala
545                 550                 555                 560

Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg
                565                 570                 575

Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys
            580                 585                 590

Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His
        595                 600                 605

Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu
    610                 615                 620

Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly Tyr
625                 630                 635                 640

Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr
                645                 650                 655
```

```
Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg
            660                 665                 670

Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val
        675                 680                 685

Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile
    690                 695                 700

Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser
705                 710                 715                 720

Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe
                725                 730                 735

Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val
            740                 745                 750

Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu
        755                 760                 765

Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu
    770                 775                 780

Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn
785                 790                 795                 800

Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Arg Phe
                805                 810                 815

Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn
            820                 825                 830

Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg
        835                 840                 845

Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp
    850                 855                 860

Ile Pro Glu Trp Arg Arg Asp Ile Gly Arg Val Ile Lys Lys Ser Leu
865                 870                 875                 880

Val Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val Ala Val Leu
                885                 890                 895

Pro Gly Leu Pro Thr Thr Ala Glu Leu Phe Val Leu Pro Tyr Gln Asp
            900                 905                 910

Pro Ala Gly Glu Asn Lys Arg Ser Thr Asp Asp Leu Glu Gln Ile Ser
        915                 920                 925
```

```
Glu Leu Leu Ile His Thr Leu Asn Gln Asn Ser Val His Phe Glu Leu
    930                 935                 940

Lys Pro Gly Val Arg Val Leu Val His Ala Ala His Leu Thr Ala Ala
945                 950                 955                 960

Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly Ser Ala Met Leu Met
                965                 970                 975

Leu Leu Ser Val Val Phe Val Gly Leu Ala Val Phe Val Ile Tyr Lys
            980                 985                 990

Phe Lys Arg Lys Ile Pro Gly Ile  Asn Val Tyr Ala Gln  Met Gln Asn
        995                 1000                1005

Glu Lys  Glu Gln Glu Met Ile  Ser Pro Val Ser His  Ser Glu Ser
    1010                1015                1020

Arg Pro  Asn Val Pro Gln Thr  Glu Leu Arg Arg Pro  Gly Gln Leu
    1025                1030                1035

Ile Asp  Glu Lys Val Glu Ser  Gln Leu Ile Gly Ser  Ile Ser Ile
    1040                1045                1050

Val Ala  Glu Asn Gln Ser Thr  Lys Glu Ile Pro Thr  Tyr Val Asn
    1055                1060                1065

Val
```

<210> 64
<211> 971
<212> PRT
<213> Homo sapiens

<220>
<221> MISC_FEATURE
<222> (1)..(971)
<223> soluble mature SorCS1B (variant)

<400> 64

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Gly Val Leu Arg Asp Gly Gly Gln Gln Glu Pro Gly Thr Arg Glu Arg
1               5                   10                  15

Asp Pro Asp Lys Ala Thr Arg Phe Arg Met Glu Glu Leu Arg Leu Thr
            20                  25                  30

Ser Thr Thr Phe Ala Leu Thr Gly Asp Ser Ala His Asn Gln Ala Met
        35                  40                  45

Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile Leu Thr Lys
```

50 55 60

Leu Tyr Asp Tyr Asn Leu Gly Ser Ile Thr Glu Ser Ser Leu Trp Arg
65 70 75 80

Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp Lys Val Gly
85 90 95

Leu Lys Thr Ile Leu Ser Tyr Leu Tyr Val Cys Pro Thr Asn Lys Arg
100 105 110

Lys Ile Met Leu Leu Thr Asp Pro Glu Ile Glu Ser Ser Leu Leu Ile
115 120 125

Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu Asn Phe Tyr
130 135 140

Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp Ile Leu Ala
145 150 155 160

Tyr Ser Gln Asp Gln Lys Leu Tyr Ser Ser Ala Glu Phe Gly Arg Arg
165 170 175

Trp Gln Leu Ile Gln Glu Gly Val Val Pro Asn Arg Phe Tyr Trp Ser
180 185 190

Val Met Gly Ser Asn Lys Glu Pro Asp Leu Val His Leu Glu Ala Arg
195 200 205

Thr Val Asp Gly His Ser His Tyr Leu Thr Cys Arg Met Gln Asn Cys
210 215 220

Thr Glu Ala Asn Arg Asn Gln Pro Phe Pro Gly Tyr Ile Asp Pro Asp
225 230 235 240

Ser Leu Ile Val Gln Asp His Tyr Val Phe Val Gln Leu Thr Ser Gly
245 250 255

Gly Arg Pro His Tyr Tyr Val Ser Tyr Arg Arg Asn Ala Phe Ala Gln
260 265 270

Met Lys Leu Pro Lys Tyr Ala Leu Pro Lys Asp Met His Val Ile Ser
275 280 285

Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp Asn Gln Asn
290 295 300

Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Val Tyr Phe Thr
305 310 315 320

Leu Ala Leu Glu Asn Val Gln Ser Ser Arg Gly Pro Glu Gly Asn Ile

325 330 335

Met Ile Asp Leu Tyr Glu Val Ala Gly Ile Lys Gly Met Phe Leu Ala
340 345 350

Asn Lys Lys Ile Asp Asn Gln Val Lys Thr Phe Ile Thr Tyr Asn Lys
355 360 365

Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Thr Asp Leu Arg Gly
370 375 380

Asp Pro Val His Cys Leu Leu Pro Tyr Cys Ser Leu His Leu His Leu
385 390 395 400

Lys Val Ser Glu Asn Pro Tyr Thr Ser Gly Ile Ile Ala Ser Lys Asp
405 410 415

Thr Ala Pro Ser Ile Ile Val Ala Ser Gly Asn Ile Gly Ser Glu Leu
420 425 430

Ser Asp Thr Asp Ile Ser Met Phe Val Ser Ser Asp Ala Gly Asn Thr
435 440 445

Trp Arg Gln Ile Phe Glu Glu Glu His Ser Val Leu Tyr Leu Asp Gln
450 455 460

Gly Gly Val Leu Val Ala Met Lys His Thr Ser Leu Pro Ile Arg His
465 470 475 480

Leu Trp Leu Ser Phe Asp Glu Gly Arg Ser Trp Ser Lys Tyr Ser Phe
485 490 495

Thr Ser Ile Pro Leu Phe Val Asp Gly Val Leu Gly Glu Pro Gly Glu
500 505 510

Glu Thr Leu Ile Met Thr Val Phe Gly His Phe Ser His Arg Ser Glu
515 520 525

Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Asp Arg Arg Cys
530 535 540

Ala Glu Glu Asp Tyr Arg Pro Trp Gln Leu His Ser Gln Gly Glu Ala
545 550 555 560

Cys Ile Met Gly Ala Lys Arg Ile Tyr Lys Lys Arg Lys Ser Glu Arg
565 570 575

Lys Cys Met Gln Gly Lys Tyr Ala Gly Ala Met Glu Ser Glu Pro Cys
580 585 590

Val Cys Thr Glu Ala Asp Phe Asp Cys Asp Tyr Gly Tyr Glu Arg His

595 600 605

Ser Asn Gly Gln Cys Leu Pro Ala Phe Trp Phe Asn Pro Ser Ser Leu
610 615 620

Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn Ser Thr Gly Tyr
625 630 635 640

Arg Lys Val Val Ser Asn Asn Cys Thr Asp Gly Val Arg Glu Gln Tyr
645 650 655

Thr Ala Lys Pro Gln Lys Cys Pro Gly Lys Ala Pro Arg Gly Leu Arg
660 665 670

Ile Val Thr Ala Asp Gly Lys Leu Thr Ala Glu Gln Gly His Asn Val
675 680 685

Thr Leu Met Val Gln Leu Glu Glu Gly Asp Val Gln Arg Thr Leu Ile
690 695 700

Gln Val Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr Val Asn Leu Ser
705 710 715 720

Ser Met Glu Asp Gly Ile Lys His Val Tyr Gln Asn Val Gly Ile Phe
725 730 735

Arg Val Thr Val Gln Val Asp Asn Ser Leu Gly Ser Asp Ser Ala Val
740 745 750

Leu Tyr Leu His Val Thr Cys Pro Leu Glu His Val His Leu Ser Leu
755 760 765

Pro Phe Val Thr Thr Lys Asn Lys Glu Val Asn Ala Thr Ala Val Leu
770 775 780

Trp Pro Ser Gln Val Gly Thr Leu Thr Tyr Val Trp Trp Tyr Gly Asn
785 790 795 800

Asn Thr Glu Pro Leu Ile Thr Leu Glu Gly Ser Ile Ser Phe Arg Phe
805 810 815

Thr Ser Glu Gly Met Asn Thr Ile Thr Val Gln Val Ser Ala Gly Asn
820 825 830

Ala Ile Leu Gln Asp Thr Lys Thr Ile Ala Val Tyr Glu Glu Phe Arg
835 840 845

Ser Leu Arg Leu Ser Phe Ser Pro Asn Leu Asp Asp Tyr Asn Pro Asp
850 855 860

Ile Pro Glu Trp Arg Arg Asp Ile Gly Arg Val Ile Lys Lys Ser Leu

865 870 875 880

Val Glu Ala Thr Gly Val Pro Gly Gln His Ile Leu Val Ala Val Leu
885 890 895

Pro Gly Leu Pro Thr Thr Ala Glu Leu Phe Val Leu Pro Tyr Gln Asp
900 905 910

Pro Ala Gly Glu Asn Lys Arg Ser Thr Asp Asp Leu Glu Gln Ile Ser
915 920 925

Glu Leu Leu Ile His Thr Leu Asn Gln Asn Ser Val His Phe Glu Leu
930 935 940

Lys Pro Gly Val Arg Val Leu Val His Ala Ala His Leu Thr Ala Ala
945 950 955 960

Pro Leu Val Asp Leu Thr Pro Thr His Ser Gly
965 970

<210> 65
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic linker

<400> 65

Ser Gly Gly Ser Gly Gly Ser
1 5

<210> 66
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic linker

<400> 66

Gly Gly Ser Gly Gly Ser Gly Gly Ser Gly Gly Ser Gly Gly Gly
1 5 10 15

<210> 67
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic linker

<400> 67

Gly Gly Ser Gly Gly Ser Gly Gly Ser Gly Gly Ser Gly Gly Ser Gly
1 5 10 15

Gly Ser

<210> 68
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic linker

<400> 68

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 69
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic linker

<400> 69

Glu Phe Ala Gly Ala Ala Ala Val
1 5