FIGURE 1

AAB20750 lecithin:cholesterol acyltransferase; LCAT [Homo sapiens] (SEQ ID NO: 1)

AAB34898 lecithin:cholesterol acyltransferase, LCAT [human, plasma, Peptide, 416 aa]

AAA59499 lecithin:cholesterol acyltransferase precursor

AAA59500 lecithin-cholesterol acyltransferase precursor (EC 2.3.1.43)

AAL11035 lecithin-cholesterol acyltransferase Lcat [Mus musculus]

P04180 Phosphatidylcholine-sterol acyltransferase precursor (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

NP_000220 lecithin-cholesterol acyltransferase precursor [Homo sapiens]

NP_032516 lecithin cholesterol acyltransferase [Mus musculus]

NP_058720 lecithin cholesterol acyltransferase [Rattus norvegicus]

P53761 Phosphatidylcholine-sterol acyltransferase precursor (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

NP_001075659 lecithin-cholesterol acyltransferase [Oryctolagus cuniculus]

O35840 Phosphatidylcholine-sterol acyltransferase (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

O35573 Phosphatidylcholine-sterol acyltransferase (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

Q08758 Phosphatidylcholine-sterol acyltransferase precursor (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

P18424 Phosphatidylcholine-sterol acyltransferase precursor (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

P30930_11 [Segment 11 of 11] Phosphatidylcholine-sterol acyltransferase (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

P30930_10 [Segment 10 of 11] Phosphatidylcholine-sterol acyltransferase (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

P30930_9 [Segment 9 of 11] Phosphatidylcholine-sterol acyltransferase (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

P30930_8 [Segment 8 of 11] Phosphatidylcholine-sterol acyltransferase (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

P30930_7 [Segment 7 of 11] Phosphatidylcholine-sterol acyltransferase (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

P30930_6 [Segment 6 of 11] Phosphatidylcholine-sterol acyltransferase (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

P30930_5 [Segment 5 of 11] Phosphatidylcholine-sterol acyltransferase (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

P30930_4 [Segment 4 of 11] Phosphatidylcholine-sterol acyltransferase (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

P30930_3 [Segment 3 of 11] Phosphatidylcholine-sterol acyltransferase (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

P30930_2 [Segment 2 of 11] Phosphatidylcholine-sterol acyltransferase (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

P30930_1 [Segment 1 of 11] Phosphatidylcholine-sterol acyltransferase (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

P30930 Phosphatidylcholine-sterol acyltransferase (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

O35724 Phosphatidylcholine-sterol acyltransferase (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

O35502 Phosphatidylcholine-sterol acyltransferase (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

AAG22588 lecithin:cholesterol acyl-transferase [Cavia porcellus]

AAG22587 lecithin:cholesterol acyl-transferase [Crocidura russula]

AAG22586 lecithin:cholesterol acyl-transferase [Didelphis marsupialis]

AAB58992 lecithin:cholesterol acyl transferase [Microtus nivalis]

AAG21089 lecithin: cholesterol acyl-transferase [Erinaceus europaeus]

AAG21088 lecithin: cholesterol acyl-transferase [Didelphis marsupialis]

AAG21087 lecithin: cholesterol acyl-transferase [Cavia porcellus]

CAB56610 lectin cholesterol acyltransferase [Homo sapiens]

AAD28484 lecithin-cholesterol acyltransferase [Homo sapiens]

AAB88662 lecithin:cholesterol acyl transferase [Akodon torques]

AAB60791 lecithin:cholesterol acyl transferase [Marmota marmota]

AAB59002 lecithin:cholesterol acyl transferase [Octodon lunatus]

AAB59001 lecithin:cholesterol acyl transferase [Sciurus griseus]

AAB59000 lecithin:cholesterol acyl transferase [Myoxus glis]

AAB58999 lecithin:cholesterol acyl transferase [Eliomys quercinus]

AAB58998 lecithin-cholesterol acyl transferase [Rhizomys pruinosus]

AAB58997 lecithin:cholesterol acyl transferase [Nannospalax leucodon]

AAB58996 lecithin:cholesterol acyl transferase [Spalax ehrenbergi]

AAB58994 lecithin:cholesterol acyl transferase [Peromyscus maniculatus]

AAB58993 lecithin:cholesterol acyl transferase [Cricetulus migratorius]

AAB58990 lecithin:cholesterol acyl transferase [Clethrionomys glareolus]

AAB58989 lecithin-cholesterol acyl transferase [Tatera kempi gambiana]

AAB58988 lecithin-cholesterol acyl transferase [Micromys minutus]

EDL92427 lecithin cholesterol acyltransferase, isoform CRA_e [Rattus norvegicus]

EDL92426 lecithin cholesterol acyltransferase, isoform CRA_d [Rattus norvegicus]

EDL92425 lecithin cholesterol acyltransferase, isoform CRA_c [Rattus norvegicus]

EDL92424 lecithin cholesterol acyltransferase, isoform CRA_b [Rattus norvegicus]

EDL92423 lecithin cholesterol acyltransferase, isoform CRA_a [Rattus norvegicus]

P53760 Phosphatidylcholine-sterol acyltransferase precursor (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

P16301 Phosphatidylcholine-sterol acyltransferase precursor (Lecithin-cholesterol acyltransferase) (Phospholipid-cholesterol acyltransferase)

ABN42857 lecithin cholesterol acyltransferase [Peromyscus leucopus]

ABN42856 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42855 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42854 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42853 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42852 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42851 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42850 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42849 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42848 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42847 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42846 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42845 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42844 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42843 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42842 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42841 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42840 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42839 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42838 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42837 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42836 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42835 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42834 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42833 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42832 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42831 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42830 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42829 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42828 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42827 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42826 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42825 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42824 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42823 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42822 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42821 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42820 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42819 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42818 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42817 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42816 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42815 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42814 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42813 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42812 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42811 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42810 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42809 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42808 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42807 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42806 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42805 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42804 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABN42803 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

EDL11335 lecithin cholesterol acyltransferase, isoform CRA_b [Mus musculus]

EDL11334 lecithin cholesterol acyltransferase, isoform CRA_a [Mus musculus]

EAW83190 lecithin-cholesterol acyltransferase [Homo sapiens]

NP_001005715 lecithin-cholesterol acyltransferase [Xenopus tropicalis]

CAD67533 lecithin cholesterol acyl transferase [Myomimus roachi]

CAD67541 lecithin cholesterol acyl transferase [Graphiurus lorraineus]

CAD67540 lecithin cholesterol acyl transferase [Graphiurus parvus]

CAD67539 lecithin cholesterol acyl transferase [Graphiurus ocularis]

CAD67534 lecithin cholesterol acyl transferase [Graphiurus platyops]

CAD67538 lecithin cholesterol acyl transferase [Graphiurus microtis]

CAD67537 lecithin cholesterol acyl transferase [Graphiurus murinus]

CAD67532 lecithin cholesterol acyl transferase [Dryomys laniger]

CAD67536 lecithin cholesterol acyl transferase [Eliomys melanurus]

CAD67535 lecithin cholesterol acyl transferase [Aplodontia rufa]

ABH06074 lecithin cholesterol acyltransferase [Onychomys torridus]

ABH06073 lecithin cholesterol acyltransferase [Onychomys torridus]

ABH06072 lecithin cholesterol acyltransferase [Peromyscus californicus]

ABH06071 lecithin cholesterol acyltransferase [Peromyscus californicus]

ABH06070 lecithin cholesterol acyltransferase [Peromyscus californicus]

ABH06069 lecithin cholesterol acyltransferase [Peromyscus californicus]

ABH06068 lecithin cholesterol acyltransferase [Peromyscus fraterculus]

ABH06067 lecithin cholesterol acyltransferase [Peromyscus eva]

ABH06066 lecithin cholesterol acyltransferase [Peromyscus eva]

ABH06065 lecithin cholesterol acyltransferase [Peromyscus melanophrys]

ABH06064 lecithin cholesterol acyltransferase [Peromyscus melanophrys]

ABH06063 lecithin cholesterol acyltransferase [Peromyscus melanophrys]

ABH06062 lecithin cholesterol acyltransferase [Peromyscus aztecus]

ABH06061 lecithin cholesterol acyltransferase [Peromyscus aztecus]

ABH06060 lecithin cholesterol acyltransferase [Peromyscus aztecus]

ABH06059 lecithin cholesterol acyltransferase [Peromyscus mexicanus]

ABH06058 lecithin cholesterol acyltransferase [Peromyscus mexicanus]

ABH06057 lecithin cholesterol acyltransferase [Peromyscus mexicanus]

ABH06056 lecithin cholesterol acyltransferase [Peromyscus mexicanus]

ABH06055 lecithin cholesterol acyltransferase [Peromyscus truei]

ABH06054 lecithin cholesterol acyltransferase [Peromyscus truei]

ABH06053 lecithin cholesterol acyltransferase [Peromyscus truei]

ABH06052 lecithin cholesterol acyltransferase [Peromyscus boylii]

ABH06051 lecithin cholesterol acyltransferase [Peromyscus boylii]

ABH06050 lecithin cholesterol acyltransferase [Peromyscus boylii]

ABH06049 lecithin cholesterol acyltransferase [Peromyscus boylii]

ABH06048 lecithin cholesterol acyltransferase [Peromyscus gossypinus]

ABH06047 lecithin cholesterol acyltransferase [Peromyscus gossypinus]

ABH06046 lecithin cholesterol acyltransferase [Peromyscus gossypinus]

ABH06045 lecithin cholesterol acyltransferase [Peromyscus leucopus]

ABH06044 lecithin cholesterol acyltransferase [Peromyscus leucopus]

ABH06043 lecithin cholesterol acyltransferase [Peromyscus leucopus]

ABH06042 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABH06041 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABH06040 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABH06039 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABH06038 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABH06037 lecithin cholesterol acyltransferase [Peromyscus maniculatus]

ABH06036 lecithin cholesterol acyltransferase [Peromyscus difficilis]

ABH06035 lecithin cholesterol acyltransferase [Peromyscus difficilis]

ABH06034 lecithin cholesterol acyltransferase [Peromyscus difficilis]

ABH06033 lecithin cholesterol acyltransferase [Peromyscus difficilis]

ABH06032 lecithin cholesterol acyltransferase [Peromyscus eremicus]

ABH06031 lecithin cholesterol acyltransferase [Peromyscus eremicus]

ABH06030 lecithin cholesterol acyltransferase [Peromyscus eremicus]

ABH06029 lecithin cholesterol acyltransferase [Peromyscus crinitus]

ABH06028 lecithin cholesterol acyltransferase [Peromyscus crinitus]

ABH06027 lecithin cholesterol acyltransferase [Peromyscus crinitus]

ABH06026 lecithin cholesterol acyltransferase [Peromyscus crinitus]

ABH06025 lecithin cholesterol acyltransferase [Peromyscus polionotus]

ABH06024 lecithin cholesterol acyltransferase [Peromyscus polionotus]

ABH06023 lecithin cholesterol acyltransferase [Peromyscus polionotus]

ABH06022 lecithin cholesterol acyltransferase [Peromyscus polionotus]

ABH06021 lecithin cholesterol acyltransferase [Peromyscus polionotus]

ABH06020 lecithin cholesterol acyltransferase [Peromyscus polionotus]

AAH91155 Lecithin cholesterol acyltransferase [Rattus norvegicus]

AAH75304 Lecithin-cholesterol acyltransferase [Xenopus tropicalis]

AAH28861 Lecithin cholesterol acyltransferase [Mus musculus]

AAH14781 Lecithin-cholesterol acyltransferase [Homo sapiens]

AAR03499 lecithin-cholesterol acyltransferase [Homo sapiens]

AAF00979 lecithin cholesterol acyltransferase [Mus musculus]

AAD40188 lecithin-cholesterol acyltransferase [Rattus norvegicus]

AAB86630 lecithin:cholesterol acyltransferase [Canis familiaris]

AAA59498 lecithin-cholesterol acyltransferase precursor (EC 2.3.1.43)

CAA28651 lecithin-cholesterol acyltransferase (LCAT) [Homo sapiens]

CAA38029 Lecithin cholesterol acyl transferase (LCAT); phosphatidylcholine--sterol acyltransferase [Mus musculus]

BAA02839 lecithin-cholesterol acyltransferase precursor [Oryctolagus cuniculus]

AAB65771 lecithin:cholesterol acyltransferase [Rattus norvegicus]

CAC18111 lecithin cholesterol acyl transferase [Acomys cahirinus]

CAC18236 lecithin cholesterol acyl transferase [Uranomys ruddi]

CAC18121 lecithin cholesterol acyl transferase [Mesocricetus auratus]

CAC18122 lecithin cholesterol acyl transferase [Macrotarsomys ingens]

CAC18114 lecithin cholesterol acyl transferase [Deomys ferrugineus]

CAC18130 lecithin cholesterol acyl transferase [Steatomys sp.]

CAC18118 lecithin cholesterol acyl transferase [Jaculus jaculus]

CAC18129 lecithin cholesterol acyl transferase [Sicista kazbegica]

CAC18124 lecithin cholesterol acyl transferase [Neotoma fuscipes]

CAC18127 lecithin cholesterol acyl transferase [Otomys angoniensis]

CAC18119 lecithin cholesterol acyl transferase [Lophuromys sikapusi]

CAC18123 lecithin cholesterol acyl transferase [Myospalax sp.]

CAC18128 lecithin cholesterol acyl transferase [Phodopus roborovskii]

CAC18126 lecithin cholesterol acyl transferase [Nesomys rufus]

CAC18120 lecithin cholesterol acyl transferase [Mystromys albicaudatus]

CAC18125 lecithin cholesterol acyl transferase [Napaeozapus insignis]

CAC18117 lecithin cholesterol acyl transferase [Dicrostonyx torquatus]

CAC18115 lecithin cholesterol acyl transferase [Dendromus mystacalis]

CAC18116 lecithin cholesterol acyl transferase [Dipus sagitta]

CAC18113 lecithin cholesterol acyl transferase [Calomyscus mystax]

CAC18112 Lecithin-cholesterol acyl transferase [Allactaga elater]

AAQ10316 lecithine cholesterol acyltransferase-like protein [Medicago truncatula]

AAQ24609 lecithin-cholesterol acyltransferase [Sus scrofa domestica]

AAB58991 lecithin:cholesterol acyl transferase [Microtus nivalis]

AAB60792 lecithin:cholesterol acyl transferase [Myocastor coypus]

AAB60790 lecithin:cholesterol acyl transferase [Gerbillus henleyi]

AAB59003 lecithin:cholesterol acyl transferase [Octodon lunatus]

AAB58995 lecithin:cholesterol acyl transferase [Peromyscus maniculatus]

AAA35388 lecithin cholesterol acyltransferase

SEQUENCE LISTING

<110> Amgen Inc.

<120> MODIFIED LECITHIN-CHOLESTEROL ACYLTRANSFERASE ENZYMES

<130> SG1573A

<140> 12/179,815
<141> 2008-07-25

<150> 60/952,007
<151> 2007-07-26

<150> PCT/US2008/071119
<151> 2008-07-24

<160> 2

<170> PatentIn version 3.5

<210> 1
<211> 416
<212> PRT
<213> Homo sapiens

<400> 1

```
Phe Trp Leu Leu Asn Val Leu Phe Pro Pro His Thr Thr Pro Lys Ala
1               5                  10                  15

Glu Leu Ser Asn His Thr Arg Pro Val Ile Leu Val Pro Gly Cys Leu
            20                  25                  30

Gly Asn Gln Leu Glu Ala Lys Leu Asp Lys Pro Asp Val Val Asn Trp
        35                  40                  45

Met Cys Tyr Arg Lys Thr Glu Asp Phe Phe Thr Ile Trp Leu Asp Leu
    50                  55                  60

Asn Met Phe Leu Cys Leu Gly Val Asp Cys Trp Ile Asp Asn Thr Arg
65                  70                  75                  80

Val Val Tyr Asn Arg Ser Ser Gly Leu Val Ser Asn Ala Pro Gly Val
                85                  90                  95

Gln Ile Arg Val Pro Gly Phe Gly Lys Thr Tyr Ser Val Glu Tyr Leu
            100                 105                 110

Asp Ser Ser Lys Leu Ala Gly Tyr Leu His Thr Leu Val Gln Asn Leu
        115                 120                 125
```

```
Val Asn Asn Gly Tyr Val Arg Asp Glu Thr Val Arg Ala Ala Pro Tyr
    130                 135                 140

Asp Trp Arg Leu Glu Pro Gly Gln Gln Glu Glu Tyr Tyr Arg Lys Leu
145                 150                 155                 160

Ala Gly Leu Val Glu Glu Met His Ala Ala Tyr Gly Lys Pro Val Phe
                165                 170                 175

Leu Ile Gly His Ser Leu Gly Cys Leu His Leu Leu Tyr Phe Leu Leu
            180                 185                 190

Arg Gln Pro Gln Ala Trp Lys Asp Arg Phe Ile Asp Gly Phe Ile Ser
        195                 200                 205

Leu Gly Ala Pro Trp Gly Gly Ser Ile Lys Pro Met Leu Val Leu Ala
    210                 215                 220

Ser Gly Asp Asn Gln Gly Ile Pro Ile Met Ser Ser Ile Lys Leu Lys
225                 230                 235                 240

Glu Glu Gln Arg Ile Thr Thr Thr Ser Pro Trp Met Phe Pro Ser Arg
                245                 250                 255

Met Ala Trp Pro Glu Asp His Val Phe Ile Ser Thr Pro Ser Phe Asn
            260                 265                 270

Tyr Thr Gly Arg Asp Phe Gln Arg Phe Phe Ala Asp Leu His Phe Glu
        275                 280                 285

Glu Gly Trp Tyr Met Trp Leu Gln Ser Arg Asp Leu Leu Ala Gly Leu
    290                 295                 300

Pro Ala Pro Gly Val Glu Val Tyr Cys Leu Tyr Gly Val Gly Leu Pro
305                 310                 315                 320

Thr Pro Arg Thr Tyr Ile Tyr Asp His Gly Phe Pro Tyr Thr Asp Pro
                325                 330                 335

Val Gly Val Leu Tyr Glu Asp Gly Asp Asp Thr Val Ala Thr Arg Ser
            340                 345                 350

Thr Glu Leu Cys Gly Leu Trp Gln Gly Arg Gln Pro Gln Pro Val His
        355                 360                 365
```

```
Leu Leu Pro Leu His Gly Ile Gln His Leu Asn Met Val Phe Ser Asn
    370                 375                 380

Leu Thr Leu Glu His Ile Asn Ala Ile Leu Leu Gly Ala Tyr Arg Gln
385                 390                 395                 400

Gly Pro Pro Ala Ser Pro Thr Ala Ser Pro Glu Pro Pro Pro Pro Glu
                405                 410                 415
```

<210> 2
<211> 424
<212> PRT
<213> Homo sapiens

<220>
<221> mat_peptide
<222> (9)..(424)

<400> 2

```
Leu Leu Leu Pro Pro Ala Ala Pro Phe Trp Leu Leu Asn Val Leu Phe
            -5              -1  1               5

Pro Pro His Thr Thr Pro Lys Ala Glu Leu Ser Asn His Thr Arg Pro
    10                  15                  20

Val Ile Leu Val Pro Gly Cys Leu Gly Asn Gln Leu Glu Ala Lys Leu
25                  30                  35                  40

Asp Lys Pro Asp Val Val Asn Trp Met Cys Tyr Arg Lys Thr Glu Asp
                45                  50                  55

Phe Phe Thr Ile Trp Leu Asp Leu Asn Met Phe Leu Pro Leu Gly Val
            60                  65                  70

Asp Cys Trp Ile Asp Asn Thr Arg Val Val Tyr Asn Arg Ser Ser Gly
        75                  80                  85

Leu Val Ser Asn Ala Pro Gly Val Gln Ile Arg Val Pro Gly Phe Gly
    90                  95                  100

Lys Thr Tyr Ser Val Glu Tyr Leu Asp Ser Ser Lys Leu Ala Gly Tyr
105                 110                 115                 120

Leu His Thr Leu Val Gln Asn Leu Val Asn Asn Gly Tyr Val Arg Asp
                125                 130                 135
```

```
Glu Thr Val Arg Ala Ala Pro Tyr Asp Trp Arg Leu Glu Pro Gly Gln
            140                 145                 150

Gln Glu Glu Tyr Tyr Arg Lys Leu Ala Gly Leu Val Glu Glu Met His
        155                 160                 165

Ala Ala Tyr Gly Lys Pro Val Phe Leu Ile Gly His Ser Leu Gly Cys
    170                 175                 180

Leu His Leu Leu Tyr Phe Leu Leu Arg Gln Pro Gln Ala Trp Lys Asp
185                 190                 195                 200

Arg Phe Ile Asp Gly Phe Ile Ser Leu Gly Ala Pro Trp Gly Gly Ser
                205                 210                 215

Ile Lys Pro Met Leu Val Leu Ala Ser Gly Asp Asn Gln Gly Ile Pro
            220                 225                 230

His Met Ser Ser Ile Lys Leu Lys Glu Glu Gln Arg Ile Thr Thr Thr
        235                 240                 245

Ser Pro Trp Met Phe Pro Ser Arg Met Ala Trp Pro Glu Asp His Val
    250                 255                 260

Phe Ile Ser Thr Pro Ser Phe Asn Tyr Thr Gly Arg Asp Phe Gln Arg
265                 270                 275                 280

Phe Phe Ala Asp Leu His Phe Glu Glu Gly Trp Tyr Met Trp Leu Gln
                285                 290                 295

Ser Arg Asp Leu Leu Ala Gly Leu Pro Ala Pro Gly Val Glu Val Tyr
            300                 305                 310

Cys Leu Tyr Gly Val Gly Leu Pro Thr Pro Arg Thr Tyr Ile Tyr Asp
        315                 320                 325

His Gly Phe Pro Tyr Thr Asp Pro Val Gly Val Leu Tyr Glu Asp Gly
    330                 335                 340

Asp Asp Thr Val Ala Thr Arg Ser Thr Glu Leu Cys Gly Leu Trp Gln
345                 350                 355                 360

Gly Arg Gln Pro Gln Pro Val His Leu Leu Pro Leu His Gly Ile Gln
                365                 370                 375
```

```
His Leu Asn Met Val Phe Ser Asn Leu Thr Leu Glu His Ile Asn Ala
            380                 385                 390

Ile Leu Leu Gly Ala Tyr Arg Gln Gly Pro Pro Ala Ser Pro Thr Ala
        395                 400                 405

Ser Pro Glu Pro Pro Pro Pro Glu
    410                 415
```