

# SEQUENCE LISTING

<110> CEA  
FISCHER, Judith

<120> METHOD FOR TESTING PSORIASIS SUSCEPTIBILITY

<130> 353480

<150> US 60/973,235

<151> 2007-09-18

<160> 26

<170> PatentIn version 3.3

<210> 1

<211> 3594

<212> DNA

<213> Homo sapiens

<400> 1

gctgcaccgg gcacgggtcg gccgcaatcc agcctgggag gagccggagt tgcgagccgc	60
tgcctagagg ccgaggagct cacagctatg ggctggaggg cccggagagc tcggggggacc	120
ccgttgctgc tgctgctact actgctgctg ctctggccag tgccaggcgc cgggggtgctt	180
caaggacata tccctgggca gccagtcacc ccgcactggg tcctggatgg acaaccctgg	240
cgcaccgtca gcctggagga gccgggtctcg aagccagaca tggggctggt ggccctggag	300
gctgaaggcc aggagctcct gcttgagctg gagaagaacc acaggctgct ggccccagga	360
tacatagaaa cccactacgg cccagatggg cagccagtgg tgctggcccc caaccacag	420
gatcattgcc actaccaagg gcgagtaagg ggcttccccg actcctgggt agtcctctgc	480
acctgctctg ggatgagtgg cctgatcacc ctacgagga atgccagcta ttatctgcgt	540
ccctggccac cccggggctc caaggacttc tcaaccacag agatctttcg gatggagcag	600
ctgctcacct ggaaaggaac ctgtggccac agggatcctg ggaacaaagc gggcatgacc	660
agccttcctg gtggtcccca gagcaggggc aggcgagaag cgcgcaggac ccggaagtac	720
ctggaactgt acattgtggc agaccacacc ctgttcttga ctcggcaccg aaacttgaac	780
cacaccaaac agcgtctcct ggaagtcgcc aactacgtgg accagcttct caggactctg	840
gacattcagg tggcgctgac cggcctggag gtgtggaccg agcgggaccg cagccgcgtc	900
acgcaggacg ccaacgccac gctctggggc ttcttgaggt ggcgcggggg gctgtggggc	960
cagcggcccc acgactccgc gcagctgctc acgggcccgc ccttccaggg cggcacagtg	1020
ggcctggcgc ccgtcgaggg catgtgccgc gccgagagct cgggaggcgt gagcacggac	1080
cactcggagc tccccatcgg cgccgcagcc accatggccc atgagatcgg ccacagcctc	1140
ggcctcagcc acgaccccg cggctgctgc gtggaggctg cggccgagtc cggaggctgc	1200

gtcatggctg	cggccaccgg	gcacccgttt	ccgcgcgtgt	tcagcgctg	cagccgccgc	1260
cagctgcgcg	ccttcttccg	caaggggggc	ggcgcttgcc	tctccaatgc	cccggacccc	1320
ggactcccgg	tgccgccggc	gctctgcggg	aacggcttcg	tggaagcggg	cgaggagtgt	1380
gactgcggcc	ctggccagga	gtgccgcgac	ctctgctgct	ttgctcaca	ctgctcgctg	1440
cggccggggg	cccagtgcgc	ccacggggac	tgctgcgtgc	gctgcctgct	gaagccggct	1500
ggagcgctgt	gccgccaggc	catgggtgac	tgtgacctcc	ctgagttttg	cacgggcacc	1560
tcctcccact	gtccccaga	cgtttacct	ctggacggct	cacctgtgc	caggggcagt	1620
ggctactgct	gggatggcgc	atgtcccacg	ctggagcagc	agtgccagca	gctctggggg	1680
cctggctccc	accagctcc	cgaggcctgt	ttccaggtgg	tgaactctgc	gggagatgct	1740
catggaaact	gcggccagga	cagcgagggc	cacttcctgc	cctgtgcagg	gagggatgcc	1800
ctgtgtggga	agctgcagtg	ccagggtgga	aagcccagcc	tgctcgcacc	gcacatggtg	1860
ccagtggact	ctaccgttca	cctagatggc	caggaagtga	cttgtcgggg	agccttggca	1920
ctccccagtg	cccagctgga	cctgcttggc	ctgggcctgg	tagagccagg	cacccagtgt	1980
ggacctagaa	tggtgtgcca	gagcaggcgc	tgcaggaaga	atgccttcca	ggagcttcag	2040
cgctgcctga	ctgcctgcca	cagccacggg	gtttgcaata	gcaaccataa	ctgccactgt	2100
gctccaggct	gggctccacc	cttctgtgac	aagccaggct	ttggtggcag	catggacagt	2160
ggccctgtgc	aggctgaaaa	ccatgacacc	ttcctgctgg	ccatgctcct	cagcgtcctg	2220
ctgcctctgc	tcccaggggc	cggcctggcc	tggtgttgct	accgactccc	aggagcccat	2280
ctgcagcgat	gcagctgggg	ctgcagaagg	gaccctgcgt	gcagtggccc	caaagatggc	2340
ccacacaggg	accaccccct	gggcggcggt	caccccatgg	agttggggcc	cacagccact	2400
ggacagccct	ggccctgga	ccctgagaac	tctcatgagc	ccagcagcca	ccctgagaag	2460
cctctgccag	cagtctcgcc	tgacccccaa	gcagatcaag	tccagatgcc	aagatcctgc	2520
ctctggtgag	aggtagctcc	taaaatgaac	agattttaaag	acaggtggcc	actgacagcc	2580
actccaggaa	cttgaactgc	aggggcagag	ccagtgaatc	accggacctc	cagcacctgc	2640
aggcagcttg	gaagtttctt	ccccgagtgg	agcttcgacc	caccactccc	aggaacccag	2700
agccacatta	gaagttcctg	agggctggag	aacactgctg	ggcacactct	ccagctcaat	2760
aaaccatcag	tcccagaagc	aaaggtcaca	cagcccctga	cctccctcac	cagtggaggc	2820
tgggtagtgc	tggccatccc	aaaagggctc	tgtcctggga	gtctggtgtg	tctcctacat	2880
gcaatttcca	cggacccagc	tctgtggagg	gcatgactgc	tggccagaag	ctagtgggtcc	2940
tggggcccta	tggttcgact	gagtccacac	tcccctggag	cctggctggc	ctctgcaaac	3000

aaacataatt	ttggggacct	tccttcctgt	ttcttccac	cctgtcttct	cccctaggtg	3060
gttcctgagc	ccccaccccc	aatcccagtg	ctacacctga	ggttctggag	ctcagaatct	3120
gacagcctct	ccccattct	gtgtgtgtcg	gggggacaga	gggaaccatt	taagaaaaga	3180
taccaaagta	gaagtcaaaa	gaaagacatg	ttggctatag	gcgtgggtggc	tcatgcctat	3240
aatcccagca	ctttgggaag	ccggggtagg	aggatcacca	gaggccagca	ggtccacacc	3300
agcctgggca	acacagcaag	acaccgcctc	tacagaaaaa	ttttaaaatt	agctgggcgt	3360
ggtgggtgtg	acctgtaggc	ctagctgctc	aggaggctga	agcaggagga	tcacttgagc	3420
ctgagttcaa	cactgcagtg	agctatggtg	gcaccactgc	actccagcct	gggtgacaga	3480
gcaagaccct	gtctctaaaa	taaattttta	aaagacataa	aaaaaaaaaa	aaaaaaaaaa	3540
aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaa	3594

<210> 2  
 <211> 3516  
 <212> DNA  
 <213> Homo sapiens

<400> 2	
gctgcaccgg	gcacgggtcg gccgcaatcc agcctggggcg gagccggagt tgcgagccgc 60
tgcctagagg	ccgaggagct cacagctatg ggctggaggc cccggagagc tcgggggacc 120
ccgttgctgc	tgctgtact actgctgctg ctctggccag tgccaggcgc cgggggtgctt 180
caaggacata	tccttgggca gccagtcacc ccgactggg tcctggatgg acaacctgg 240
cgcaccgtca	gcctggagga gccgggtctcg aagccagaca tggggctggg ggccctggag 300
gctgaaggcc	aggagctcct gcttgagctg gagaagaacc acaggctgct ggccccagga 360
tacatagaaa	cccactacgg cccagatggg cagccagtgg tgctggcccc caaccacacg 420
gatcattgcc	actaccaagg gcgagtaagg ggcttccccg actcctgggt agtcctctgc 480
acctgctctg	ggatgagtgg cctgatcacc ctacgcagga atgccagcta ttatctgcgt 540
ccctggccac	cccggggctc caaggacttc tcaaccacg agatctttcg gatggagcag 600
ctgctcacct	ggaaaggaac ctgtggccac agggatcctg ggaacaaagc gggcatgacc 660
agccttcttg	gtgggtccca gagcaggggc aggcgagaag cgcgcaggac ccggaagtac 720
ctggaactgt	acattgtggc agaccacacc ctgttcttga ctcggcaccg aaacttgaac 780
cacaccaaac	agcgtctcct ggaagtcgcc aactacgtgg accagcttct caggactctg 840
gacattcagg	tggcgctgac cggcctggag gtgtggaccg agcgggaccg cagccgcgtc 900
acgcaggacg	ccaacgccac gctctgggcc ttcttgcagt ggcgcggggg gctgtgggcg 960
cagcggcccc	acgactccgc gcagctgctc acgggcgcgc ccttccaggg cgccacagtg 1020

ggcctggcgc	ccgtcgaggg	catgtgccgc	gccgagagct	cgggagggcgt	gagcacggac	1080
cactcggagc	tccccatcgg	cgccgcagcc	accatggccc	atgagatcgg	ccacagcctc	1140
ggcctcagcc	acgaccccca	cggctgctgc	gtggaggctg	cggccgagtc	cggaggctgc	1200
gtcatggctg	cggccaccgg	gcacccgttt	ccgcgcgtgt	tcagcgcctg	cagccgcgcg	1260
cagctgcgcg	ccttcttccg	caaggggggc	ggcgcttgcc	tctccaatgc	cccggacccc	1320
ggactcccgg	tgccgcgggc	gctctgcggg	aacggcttcg	tggaagcggg	cgaggagtgt	1380
gactgcggcc	ctggccagga	gtgccgcgac	ctctgctgct	ttgctcacia	ctgctcgctg	1440
cggccggggg	cccagtgcgc	ccacggggac	tgctgcgtgc	gctgcctgct	gaagccggct	1500
ggagcgtgt	gccgccaggc	catgggtgac	tgtgacctcc	ctgagttttg	cacgggcacc	1560
tcctcccaact	gtccccaga	cgtttacct	ctggacggct	cacctgtgc	caggggcagt	1620
ggctactgct	gggatggcgc	atgtcccacg	ctggagcagc	agtgccagca	gctctggggg	1680
cctggctccc	accagctcc	cagggcctgt	ttccagggtg	tgaactctgc	gggagatgct	1740
catggaaact	gcggccagga	cagcgagggc	cacttctctg	cctgtgcagg	gagggatgcc	1800
ctgtgtggga	agctgcagt	ccagggtgga	aagcccagcc	tgctcgcacc	gcacatggtg	1860
ccagtggact	ctaccgttca	cctagatggc	caggaagtga	cttgtcgggg	agccttggca	1920
ctccccagt	cccagctgga	cctgcttggc	ctgggcctgg	tagagccagg	caccagtggt	1980
ggacctagaa	tggtttgcaa	tagcaaccat	aactgccact	gtgctccagg	ctgggctcca	2040
cccttctgtg	acaagccagg	ctttggtggc	agcatggaca	gtggccctgt	gcaggctgaa	2100
aacctgaca	ccttctgct	ggccatgctc	ctcagcgtcc	tgctgcctct	gctcccagg	2160
gccggcctgg	cctggtgttg	ctaccgactc	ccaggagccc	atctgcagcg	atgcagctgg	2220
ggctgcagaa	gggaccctgc	gtgcagtggc	cccaaagatg	gccacacacg	ggaccacccc	2280
ctgggcggcg	ttcaccccat	ggagttgggc	cccacagcca	ctggacagcc	ctggccctg	2340
gacctgaga	actctcatga	gccagcagc	cacctgaga	agcctctgcc	agcagtctcg	2400
cctgaccccc	aagcagatca	agtccagatg	ccaagatcct	gcctctggtg	agaggtagct	2460
cctaaaatga	acagatttaa	agacagggtg	ccactgacag	ccactccagg	aacttgaact	2520
gcaggggcag	agccagtgaa	tcaccggacc	tccagcacct	gcaggcagct	tggaagtttc	2580
ttccccgagt	ggagcttcga	cccacccact	ccaggaaccc	agagccacat	tagaagtctc	2640
tgagggtg	agaacactgc	tgggcacact	ctccagctca	ataaaccatc	agtcccagaa	2700
gcaaagggtca	cacagcccct	gacctccctc	accagtggag	gctgggtagt	gctggccatc	2760
ccaaaagggc	tctgtcctgg	gagtctggtg	tgtctcttac	atgcaatttc	cacggaccca	2820
gctctgtgga	gggcatgact	gctggccaga	agctagtggg	cctggggccc	tatggttcga	2880

```

ctgagtccac actcccctgg agcctggctg gcctctgcaa acaaacataa ttttggggac 2940
cttccttcct gtttcttccc accctgtctt ctcccctagg tgggttcctga gccccacccc 3000
ccaatcccag tgctacacct gaggttcttg agctcagaat ctgacagcct ctccccatt 3060
ctgtgtgtgt cggggggaca gagggaacca tttaagaaaa gataccaaag tagaagtcaa 3120
aagaaagaca tggttgctat aggcgtggtg gctcatgcct ataatcccag cactttggga 3180
agccggggta ggaggatcac cagaggccag caggtccaca ccagcctggg caacacagca 3240
agacaccgca tctacagaaa aattttaaaa ttagctgggc gtggtggtgt gtacctgtag 3300
gcctagctgc tcaggaggct gaagcaggag gatcacttga gcctgagttc aacactgcag 3360
tgagctatgg tggcaccact gcactccagc ctgggtgaca gagcaagacc ctgtctctaa 3420
aataaat tttt aaaaagacat aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3480
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 3516

```

```

<210> 3
<211> 813
<212> PRT
<213> Homo sapiens

```

```

<400> 3

```

```

Met Gly Trp Arg Pro Arg Arg Ala Arg Gly Thr Pro Leu Leu Leu Leu
1          5          10          15

```

```

Leu Leu Leu Leu Leu Leu Trp Pro Val Pro Gly Ala Gly Val Leu Gln
20          25          30

```

```

Gly His Ile Pro Gly Gln Pro Val Thr Pro His Trp Val Leu Asp Gly
35          40          45

```

```

Gln Pro Trp Arg Thr Val Ser Leu Glu Glu Pro Val Ser Lys Pro Asp
50          55          60

```

```

Met Gly Leu Val Ala Leu Glu Ala Glu Gly Gln Glu Leu Leu Leu Glu
65          70          75          80

```

```

Leu Glu Lys Asn His Arg Leu Leu Ala Pro Gly Tyr Ile Glu Thr His
85          90          95

```

```

Tyr Gly Pro Asp Gly Gln Pro Val Val Leu Ala Pro Asn His Thr Asp
100          105          110

```

```

His Cys His Tyr Gln Gly Arg Val Arg Gly Phe Pro Asp Ser Trp Val
115          120          125

```

Val Leu Cys Thr Cys Ser Gly Met Ser Gly Leu Ile Thr Leu Ser Arg  
130 135 140

Asn Ala Ser Tyr Tyr Leu Arg Pro Trp Pro Pro Arg Gly Ser Lys Asp  
145 150 155 160

Phe Ser Thr His Glu Ile Phe Arg Met Glu Gln Leu Leu Thr Trp Lys  
165 170 175

Gly Thr Cys Gly His Arg Asp Pro Gly Asn Lys Ala Gly Met Thr Ser  
180 185 190

Leu Pro Gly Gly Pro Gln Ser Arg Gly Arg Arg Glu Ala Arg Arg Thr  
195 200 205

Arg Lys Tyr Leu Glu Leu Tyr Ile Val Ala Asp His Thr Leu Phe Leu  
210 215 220

Thr Arg His Arg Asn Leu Asn His Thr Lys Gln Arg Leu Leu Glu Val  
225 230 235 240

Ala Asn Tyr Val Asp Gln Leu Leu Arg Thr Leu Asp Ile Gln Val Ala  
245 250 255

Leu Thr Gly Leu Glu Val Trp Thr Glu Arg Asp Arg Ser Arg Val Thr  
260 265 270

Gln Asp Ala Asn Ala Thr Leu Trp Ala Phe Leu Gln Trp Arg Arg Gly  
275 280 285

Leu Trp Ala Gln Arg Pro His Asp Ser Ala Gln Leu Leu Thr Gly Arg  
290 295 300

Ala Phe Gln Gly Ala Thr Val Gly Leu Ala Pro Val Glu Gly Met Cys  
305 310 315 320

Arg Ala Glu Ser Ser Gly Gly Val Ser Thr Asp His Ser Glu Leu Pro  
325 330 335

Ile Gly Ala Ala Ala Thr Met Ala His Glu Ile Gly His Ser Leu Gly  
340 345 350

Leu Ser His Asp Pro Asp Gly Cys Cys Val Glu Ala Ala Ala Glu Ser  
355 360 365

Gly Gly Cys Val Met Ala Ala Ala Thr Gly His Pro Phe Pro Arg Val  
370 375 380

Phe Ser Ala Cys Ser Arg Arg Gln Leu Arg Ala Phe Phe Arg Lys Gly  
385 390 395 400

Gly Gly Ala Cys Leu Ser Asn Ala Pro Asp Pro Gly Leu Pro Val Pro  
405 410 415

Pro Ala Leu Cys Gly Asn Gly Phe Val Glu Ala Gly Glu Glu Cys Asp  
420 425 430

Cys Gly Pro Gly Gln Glu Cys Arg Asp Leu Cys Cys Phe Ala His Asn  
435 440 445

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

Arg Cys Leu Leu Lys Pro Ala Gly Ala Leu Cys Arg Gln Ala Met Gly  
465 470 475 480

Asp Cys Asp Leu Pro Glu Phe Cys Thr Gly Thr Ser Ser His Cys Pro  
485 490 495

Pro Asp Val Tyr Leu Leu Asp Gly Ser Pro Cys Ala Arg Gly Ser Gly  
500 505 510

Tyr Cys Trp Asp Gly Ala Cys Pro Thr Leu Glu Gln Gln Cys Gln Gln  
515 520 525

Leu Trp Gly Pro Gly Ser His Pro Ala Pro Glu Ala Cys Phe Gln Val  
530 535 540

Val Asn Ser Ala Gly Asp Ala His Gly Asn Cys Gly Gln Asp Ser Glu  
545 550 555 560

Gly His Phe Leu Pro Cys Ala Gly Arg Asp Ala Leu Cys Gly Lys Leu  
565 570 575

Gln Cys Gln Gly Gly Lys Pro Ser Leu Leu Ala Pro His Met Val Pro  
580 585 590

Val Asp Ser Thr Val His Leu Asp Gly Gln Glu Val Thr Cys Arg Gly  
595 600 605

Ala Leu Ala Leu Pro Ser Ala Gln Leu Asp Leu Leu Gly Leu Gly Leu  
610 615 620

Val Glu Pro Gly Thr Gln Cys Gly Pro Arg Met Val Cys Gln Ser Arg  
625 630 635 640

Arg Cys Arg Lys Asn Ala Phe Gln Glu Leu Gln Arg Cys Leu Thr Ala  
645 650 655

Cys His Ser His Gly Val Cys Asn Ser Asn His Asn Cys His Cys Ala  
660 665 670

Pro Gly Trp Ala Pro Pro Phe Cys Asp Lys Pro Gly Phe Gly Gly Ser  
675 680 685

Met Asp Ser Gly Pro Val Gln Ala Glu Asn His Asp Thr Phe Leu Leu  
690 695 700

Ala Met Leu Leu Ser Val Leu Leu Pro Leu Leu Pro Gly Ala Gly Leu  
705 710 715 720

Ala Trp Cys Cys Tyr Arg Leu Pro Gly Ala His Leu Gln Arg Cys Ser  
725 730 735

Trp Gly Cys Arg Arg Asp Pro Ala Cys Ser Gly Pro Lys Asp Gly Pro  
740 745 750

His Arg Asp His Pro Leu Gly Gly Val His Pro Met Glu Leu Gly Pro  
755 760 765

Thr Ala Thr Gly Gln Pro Trp Pro Leu Asp Pro Glu Asn Ser His Glu  
770 775 780

Pro Ser Ser His Pro Glu Lys Pro Leu Pro Ala Val Ser Pro Asp Pro  
785 790 795 800

Gln Ala Asp Gln Val Gln Met Pro Arg Ser Cys Leu Trp  
805 810

<210> 4  
<211> 787  
<212> PRT  
<213> Homo sapiens

<400> 4

Met Gly Trp Arg Pro Arg Arg Ala Arg Gly Thr Pro Leu Leu Leu Leu  
1 5 10 15



Leu Leu Leu Leu Leu Leu Trp Pro Val Pro Gly Ala Gly Val Leu Gln  
20 25 30

Gly His Ile Pro Gly Gln Pro Val Thr Pro His Trp Val Leu Asp Gly  
35 40 45

Gln Pro Trp Arg Thr Val Ser Leu Glu Glu Pro Val Ser Lys Pro Asp  
50 55 60

Met Gly Leu Val Ala Leu Glu Ala Glu Gly Gln Glu Leu Leu Leu Glu  
65 70 75 80

Leu Glu Lys Asn His Arg Leu Leu Ala Pro Gly Tyr Ile Glu Thr His  
85 90 95

Tyr Gly Pro Asp Gly Gln Pro Val Val Leu Ala Pro Asn His Thr Asp  
100 105 110

His Cys His Tyr Gln Gly Arg Val Arg Gly Phe Pro Asp Ser Trp Val  
115 120 125

Val Leu Cys Thr Cys Ser Gly Met Ser Gly Leu Ile Thr Leu Ser Arg  
130 135 140

Asn Ala Ser Tyr Tyr Leu Arg Pro Trp Pro Pro Arg Gly Ser Lys Asp  
145 150 155 160

Phe Ser Thr His Glu Ile Phe Arg Met Glu Gln Leu Leu Thr Trp Lys  
165 170 175

Gly Thr Cys Gly His Arg Asp Pro Gly Asn Lys Ala Gly Met Thr Ser  
180 185 190

Leu Pro Gly Gly Pro Gln Ser Arg Gly Arg Arg Glu Ala Arg Arg Thr  
195 200 205

Arg Lys Tyr Leu Glu Leu Tyr Ile Val Ala Asp His Thr Leu Phe Leu  
210 215 220

Thr Arg His Arg Asn Leu Asn His Thr Lys Gln Arg Leu Leu Glu Val  
225 230 235 240

Ala Asn Tyr Val Asp Gln Leu Leu Arg Thr Leu Asp Ile Gln Val Ala  
245 250 255

Leu Thr Gly Leu Glu Val Trp Thr Glu Arg Asp Arg Ser Arg Val Thr  
260 265 270

Gln Asp Ala Asn Ala Thr Leu Trp Ala Phe Leu Gln Trp Arg Arg Gly  
275 280 285

Leu Trp Ala Gln Arg Pro His Asp Ser Ala Gln Leu Leu Thr Gly Arg  
290 295 300

Ala Phe Gln Gly Ala Thr Val Gly Leu Ala Pro Val Glu Gly Met Cys  
305 310 315 320

Arg Ala Glu Ser Ser Gly Gly Val Ser Thr Asp His Ser Glu Leu Pro  
325 330 335

Ile Gly Ala Ala Ala Thr Met Ala His Glu Ile Gly His Ser Leu Gly  
340 345 350

Leu Ser His Asp Pro Asp Gly Cys Cys Val Glu Ala Ala Ala Glu Ser  
355 360 365

Gly Gly Cys Val Met Ala Ala Ala Thr Gly His Pro Phe Pro Arg Val  
370 375 380

Phe Ser Ala Cys Ser Arg Arg Gln Leu Arg Ala Phe Phe Arg Lys Gly  
385 390 395 400

Gly Gly Ala Cys Leu Ser Asn Ala Pro Asp Pro Gly Leu Pro Val Pro  
405 410 415

Pro Ala Leu Cys Gly Asn Gly Phe Val Glu Ala Gly Glu Glu Cys Asp  
420 425 430

Cys Gly Pro Gly Gln Glu Cys Arg Asp Leu Cys Cys Phe Ala His Asn  
435 440 445

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

Arg Cys Leu Leu Lys Pro Ala Gly Ala Leu Cys Arg Gln Ala Met Gly  
465 470 475 480

Asp Cys Asp Leu Pro Glu Phe Cys Thr Gly Thr Ser Ser His Cys Pro  
485 490 495

Pro Asp Val Tyr Leu Leu Asp Gly Ser Pro Cys Ala Arg Gly Ser Gly  
500 505 510

Tyr Cys Trp Asp Gly Ala Cys Pro Thr Leu Glu Gln Gln Cys Gln Gln  
515 520 525

Leu Trp Gly Pro Gly Ser His Pro Ala Pro Glu Ala Cys Phe Gln Val  
530 535 540

Val Asn Ser Ala Gly Asp Ala His Gly Asn Cys Gly Gln Asp Ser Glu  
545 550 555 560

Gly His Phe Leu Pro Cys Ala Gly Arg Asp Ala Leu Cys Gly Lys Leu  
565 570 575

Gln Cys Gln Gly Gly Lys Pro Ser Leu Leu Ala Pro His Met Val Pro  
580 585 590

Val Asp Ser Thr Val His Leu Asp Gly Gln Glu Val Thr Cys Arg Gly  
595 600 605

Ala Leu Ala Leu Pro Ser Ala Gln Leu Asp Leu Leu Gly Leu Gly Leu  
610 615 620

Val Glu Pro Gly Thr Gln Cys Gly Pro Arg Met Val Cys Asn Ser Asn  
625 630 635 640

His Asn Cys His Cys Ala Pro Gly Trp Ala Pro Pro Phe Cys Asp Lys  
645 650 655

Pro Gly Phe Gly Gly Ser Met Asp Ser Gly Pro Val Gln Ala Glu Asn  
660 665 670

His Asp Thr Phe Leu Leu Ala Met Leu Leu Ser Val Leu Leu Pro Leu  
675 680 685

Leu Pro Gly Ala Gly Leu Ala Trp Cys Cys Tyr Arg Leu Pro Gly Ala  
690 695 700

His Leu Gln Arg Cys Ser Trp Gly Cys Arg Arg Asp Pro Ala Cys Ser  
705 710 715 720

Gly Pro Lys Asp Gly Pro His Arg Asp His Pro Leu Gly Gly Val His  
725 730 735

Pro Met Glu Leu Gly Pro Thr Ala Thr Gly Gln Pro Trp Pro Leu Asp

740

745

750

Pro Glu Asn Ser His Glu Pro Ser Ser His Pro Glu Lys Pro Leu Pro  
 755 760 765

Ala Val Ser Pro Asp Pro Gln Ala Asp Gln Val Gln Met Pro Arg Ser  
 770 775 780

Cys Leu Trp  
 785

<210> 5  
 <211> 14119  
 <212> DNA  
 <213> Homo sapiens

<400> 5  
 gctgcaccgg gcacgggtcg gccgcaatcc agcctgggcg gagccggagt tgcgagccgc 60  
 tgcctagagg ccgaggagct cacagctatg ggctggaggc cccggagagc tcgggggacc 120  
 ccgttgctgc tgctgctact actgctgctg ctctggccag tgccaggcgc cgggggtgctt 180  
 caaggtgagg acgcgggchg ggtgcgcctt gaggggcagg ctaggcgchg tgggtggtggc 240  
 ggggatgggt tctgctcaga gctcgggtca gcgcgcggag ggtctcacgg ccccggcacc 300  
 atacggccag taggtcaggg cgtggggact ctttgggggg gtctccgtgg gacctgcccc 360  
 gggacgctca agtgtgcttg ggctggcccc gggcccggaac ttgcccacac tgcccggctg 420  
 ccactccgct ggcaaagcag agggcatggc tccctcccc tcgggggagc ccagcccccc 480  
 agcccatagc cgtagcccc tcttcttgga ttctcgctct cacaaccagc ttccatccgc 540  
 aggccaccgt gtgaccgct cctgctcctc cacccttag gactcagcgg ggctccgtcc 600  
 tctaggaagc ccccatgccc aagagtcccc cagagtcctt gctttgctct caggctgcag 660  
 aactagctgt ggctccacc ctgctcacc ctctcctc ctcccagggc agcagggcag 720  
 tgtgtatgtt gtttatattg ttgccttggt tggtagagata gagaagggcc tctccagata 780  
 gaaggtgtct gtttagcagt gctctgggaa gactgcagct gtctcctcgg ggtaaccctt 840  
 ccaaacaaag atgttaagat ggggctggaa caacctctgc aagcgggtgg gaggattagc 900  
 cagtcctgca cagcaagtgc ctggccggga acaggaggga caaccaggga gggggcatgc 960  
 ggggctgggc tgtgctatgc agactgggch gtggcttcca cagcactgtg tggggaccaa 1020  
 acaggtacag gggcctggtc tgttctggcc ccaggggagg gcccaggcg gtccactgct 1080  
 ccctccctc tgagccctat cctgggggtca ggggaggtga tgggaccctt gggagagggg 1140  
 cgtctatgtg cccaatacca gcctgggtcc ctcggttcc accccattc acccggtcac 1200

cggagctcca	gctccagctc	cagctctgcc	cctctctccc	tcattggggg	caggggtgcc	1260
gtggccagca	cgtgcgcgca	aggccatgtg	gacagcacc	acacaccaca	ctgcacccac	1320
accacacctg	tgcccggggc	caccctacct	cttccccaaa	cccttagagg	cctaggagca	1380
gcaaagcttg	gttctctact	ctcagttaag	tgtctctctg	gctgagagac	ctccccctct	1440
tccccctccc	cacatccact	cagagccctc	cctgcactgg	ccccctctag	ctcctttcca	1500
aggtggcaga	ctcctctcgg	ccctcatctg	cctgatggca	attcactcat	ccaatcaagg	1560
agggcttctt	ggaggaaggg	tctttgatgt	ttgtagtctg	ggagagaagg	tggaggagaa	1620
aaaaggagtt	gggggtggcct	agcaggagct	gagtcacttc	cacaggcagc	catcagccca	1680
gcaggactga	ggccagggct	gcgtggaggg	gggaggctgt	ctgttctggg	agctgggact	1740
gggtaccggg	ggaaggaggg	ctgctgcagg	ctctgggtgc	ctggggcctg	gctcctgcag	1800
ggcgggcctg	tgagagtggg	tggggccagt	ggagggctgg	gagcattcca	ggggaacatt	1860
ccaggcgccc	tctgagtaat	gcttggtctt	gggattcctc	ctagagcccc	cttaggcaca	1920
cccggccagg	gagcaccaag	gctccgtcca	gaagcgtccc	ctccccctga	agagatgagg	1980
aggggccttc	tgggccaggg	taccaaaacc	ctgccaccag	gacagagtcc	ccgagggagc	2040
tctgggcaag	gtggacctcg	caaggcaaca	tctggctggt	gtttttctca	gatgatgggg	2100
ggggcacaag	tgtcctctct	tcgtacatct	ctcaccctaa	aggcatctgc	tgcccatcta	2160
aaaatcccta	aggctgccgc	gctctttcct	tccccctctg	actggcgggc	ttggcctctt	2220
ccttgtgatc	gccgagccca	agcctgcccc	ccgacaaagg	tcaggggact	cccgtgtccc	2280
cagctgagct	gtcccccttc	agccttctct	tttcctcctc	cttgatagct	cctcagatcc	2340
aaggatgccc	acgggcgtcc	ctccttctcc	aggctgagcc	cacgcgtggt	gaaggatgaag	2400
tctgccccaa	aaggcctcca	gtgcctccct	ggggatgtcc	tctaccccc	tccctctgct	2460
ttgtcccatg	cccctgtggt	cctcagggtc	ccctcaccct	gtgctctgtc	tttactccag	2520
gacatatccc	tgggcagcca	gtcaccccg	actgggtcct	ggatggacaa	ccctggcgca	2580
ccgtcagcct	ggaggagccg	gtcagtgcc	tgtctccccg	ccctccacag	gggccctgaa	2640
cctcccagcc	cttttgtctc	tccctacatt	acagcttcta	gttttgctgg	ggccccaga	2700
accaccaagt	cactactcct	ataggccct	gcctcccctg	cccctcaagt	gggcagaaga	2760
aggcactggg	gtttggacat	ctggatctcg	tgagcccgca	cacatggaag	tcatttcagc	2820
tttctccacc	ccacctccct	ctttccctcc	ctccctggat	gatctggggc	acccccaccc	2880
ccaccaggca	gaaatgggtc	cagagtttgt	gggtcctgaa	gcttttcagg	agcctctaaa	2940
aaaaaaaaaa	aaaaagcacc	aaaaagaaaa	ccttttgcaa	agttgaccag	aacatgtgac	3000
cctgtggaca	cactgctgtc	cctctcaggg	ccctgccacg	aaggcctgaa	ccttcagcct	3060

cactggctcc	tgtggaatcc	acttctggta	tcgggggggc	agtggtcact	ctcctgatgt	3120
ccccagatg	taagaccacc	ccatgtgctt	cttctgcagg	acgctctgcc	ccagcctctt	3180
cccaatcccc	ctcttcacac	gcttccagaa	taaccatgcc	ccatctgttt	gtgccataat	3240
atctgtgctg	caaactaaga	gggcagtagc	cttgatatgc	tcattttaca	gaggggcaaa	3300
cgaagccca	gagagcttgg	ggaaattgtc	catggtcaca	cagctcttta	ggctgggagc	3360
ctgagacca	ctaaggctctg	aacgatttta	aaccattggc	tacaccctg	cccctcctag	3420
agagccctct	ttgtttggaa	ttttcagccc	tactgtccaa	atccagcaag	agggaaggca	3480
ggggagcatt	gccatgaagg	ctgagaggcc	cccagagacc	cagcagctcc	caaccagggy	3540
ccctcactgg	gatcccttag	gcccataagg	ccccattcc	actggtcaag	cacggcactg	3600
gcctgagctt	tgagattgcc	ctccccatcc	ccaggagggg	aaggctggac	acacactggg	3660
gtcactctgc	ctctgggcct	ccctgtctgt	ctggcctggg	ctgtgaccaa	gaggagagcc	3720
ccaaaggggc	tctgcttccc	ccaccggtgg	gcccctgccc	ccaggaagcc	tgccaagatg	3780
gtacagaaga	aagagtagag	gctaggtgtc	ccctccaaaa	ggcaggaaac	actcacattt	3840
caagatgagg	ggtatatatc	aaggggcagg	gtaccaggag	ggcaagagta	aagatagcag	3900
gggctgcaga	ggaacagggg	cctcgagtat	ggcctttttc	ccggtgcaga	cctttcccca	3960
ataaagcaag	tggcattcca	gcctcatgag	ctcatgctgg	aggccttgtg	gggcctgtgg	4020
ccaggggagg	aaggaccatc	tgctccccac	ttgcgaagga	agaactccct	ccaaagactc	4080
tgagaccctt	ggacagggcc	ccaggccagt	gcattttttg	agaaaaggag	tcgggggtta	4140
aacattccga	aggcgcagca	gcctcccagg	aagctcctgg	gccggctcca	actctgggcc	4200
cccagccagg	ctgagtggac	aagggggaag	tgggggtgtc	ccacaggggtg	ggagacgcca	4260
agaggggtgg	ggaaggagag	agggtctggc	gtccaagcca	gcctcctgac	acctagctga	4320
gagccagtgt	gctctcttgg	ctggaatggc	gtccatgttt	acttcgtggg	tccagtgaag	4380
caggtgtcgg	agccggaggg	acgggggctg	ctggaggccc	aggaaaactt	tggaagaggg	4440
agcagtttgc	caaaattgga	agtggaggag	tcaaatttga	attctatagg	gaatgagcag	4500
cagctcattt	ggaaacaagc	ctcaggtagc	agaggctctg	aggaggccct	gaccatggct	4560
acccgatgcc	cccataatgt	cctcagcacc	cctctgtctt	cccctgcttt	tgatgccctt	4620
tctgggcatg	aaagaagagg	gcggggccagg	ggagggggcac	ctttctggga	cctctggtct	4680
ctagggagga	tgctgggtgtg	cctggcaggc	tgtgccaacg	cccttccaag	tggtgttgt	4740
caggactgca	aacatcctga	gtttgggaac	atctttgtat	gttctcacct	cctccacgcc	4800
ctccatagta	tgtggggggg	cctgctgact	ccccagccca	cgttctcccc	aagaacttcc	4860

tccccagccg	gctccacagg	ccacctactc	cctggcaggg	aggaggcctg	gagggccacca	4920
tctcagctcc	acacattttc	ttgcccaggt	ctcgaagcca	gacatggggc	tggtggccct	4980
ggaggctgaa	ggccaggagc	tcctgcttga	gctggagaag	aaccagtgag	tgccaggctg	5040
gggtagggct	gggaggaggg	gatcagtgtt	ggggggcagg	gactgacaca	gatctgtgcg	5100
ggtggctgga	tgggcagagg	accccagaga	gggtgcagat	gacagggaga	gtcacgcagg	5160
cctgtggttg	gctccctgga	ggctgaagag	gaccgctgag	gctgtcagcc	ccgctgtggg	5220
gcacctccgc	cctcccaacc	ccaggagcgg	cttggttagct	ccctgctggc	gatgagtgag	5280
caccacctag	tggacatttg	caagatatgc	tgagtctaaa	gaaatcctag	agggaaaaga	5340
tgagccggca	ccccaggcta	agggaatggc	agggaccaag	atgcggtggc	tttgggaggg	5400
cgaggcgggc	ggctcacctg	aggtcaggag	tttgagacca	gccttgccaa	catggtgaaa	5460
ccccgtctct	actaaaaata	caaaaaatta	gccaggcgtg	gtggcggcgc	ctgtaatccc	5520
agctacttag	ggggctgaga	cgggagaatc	gcttgaaccc	cggaggtaga	ggttgtggtg	5580
agccaagatc	acaccactgc	accactccgg	cctgggcaaa	gagtgagact	ccgtctcaaa	5640
aaaagagaaa	aaaaagaaaa	agaaaaaaaa	aaagaaagaa	aagaaaaaag	aaaaagatgc	5700
agtggctaca	cttgggggca	gcagtttgtc	tgacctgcct	ggaaggtctc	catctacagg	5760
gaggggagca	ggggggaatg	aatttggaga	gtcccaggag	ggccagatca	cagaaggcca	5820
ttttggtgct	cagtgtcctg	gaccatccag	agccaaagat	tttgagctgg	ggaagggaca	5880
ggcagacctg	tgctcaggaa	ggtgccttgg	gctgggtggg	gtgggtgtcc	gggctggagc	5940
gcaggctctt	aaaaccaccc	agattatggt	atcagtatat	atcacctact	gagtgccttga	6000
ccgcaggcgc	tgttctgagc	acttgacacg	tattttattc	tccctcgtgg	agtcggatgg	6060
acagggaaca	aactctagtt	ccactgtgcc	caaccatatt	ttcccgaagt	ccctaccctt	6120
tcaatggggg	ggtcacatca	cctacctcct	agggtggcgg	gtgtgtgtgg	ggcaggggta	6180
gggggcagag	ctggggcagg	tggtggaatg	cctgggaggg	gggaagcagc	catcattagc	6240
gggtggtctg	gaggtaatga	ggccaagggt	aggttggggt	aaggattttc	tttaaagaag	6300
acagattgac	ttatgattga	tccatccgtg	tgggaaagat	cctgttgaga	tggagcctga	6360
agatggaatc	attaccggag	tgggtgtgga	gaaggcaggg	agggtggaag	cagcgtgggc	6420
agggtggcgt	tctgttttct	ctggaggcag	ggggtgagca	tcaatcactg	aaggacaggt	6480
gggaggtatg	tggggctctg	aagtctgagg	aaaatatattc	aaggatctag	ggcaggtggg	6540
ggcaagaggg	tcgaccagat	gcccacaaaa	ggagggcagc	aggcagggga	actgggggag	6600
gtcacgcgat	ttccccaact	ccaagtccca	ttcttcggca	gtgtctcctg	actcctcccc	6660
tcccgatcct	gtggatcctg	ctgcctgctg	cagggtccct	gggaaccaca	aactcttccc	6720

ctattccac	tctctcccg	cgctctcct	ggtgcttccc	atattcacac	ctcccacaac	6780
taagccatca	ccaaggctcc	tctctctagc	cccaagagtt	tctgatctga	gcaagtcacc	6840
attgctcctg	tcccttccct	aagacacact	gtgagtgtct	cactcataaa	gctgctccat	6900
tagcatttag	ggaggaaggc	tgggagacat	cctggaggag	gcaggaggaa	gctgaattca	6960
gtgttccctg	taacaccccc	tctcagcagg	ctgctggccc	caggatacat	agaaaccac	7020
tacggcccag	atgggcagcc	agtgggtgctg	gcccccaacc	acacggtgag	atgcttccat	7080
gggctctggg	atgcaccgcc	agaggtaccc	ccccaccatt	cctacccta	ctcctccttg	7140
cattcctaag	gggcggttg	agccagcccc	taccacaccc	tccctcttgc	ccctcttget	7200
ccagccctgg	ctgagatttg	gggctggccc	cttctcctc	aggatcattg	ccactacca	7260
gggcgagtaa	ggggcttccc	cgactcctgg	gtagtctct	gcacctgctc	tgggatgagg	7320
tgagctctgg	gagaggaggc	tgggcctggg	atggggaaag	agctccctca	caccgctcc	7380
taccctctg	caccctagt	gcctgatcac	cctcagcagg	aatgccagct	attatctgcg	7440
tccctggcca	ccccggggct	ccaaggactt	ctcaaccac	gagatctttc	ggatggagca	7500
gctgctcacc	tggaaaggaa	cctgtggcca	cagggatcct	gggaacaaag	cgggcatgac	7560
cagccttcct	ggtggtcccc	agagcaggg	caggggcac	gatcggatgg	gagtgggaat	7620
gctgtatcta	tagccctcca	aatcagaaga	gacgggaatt	cacaggcctc	gagtcccagt	7680
atttttattg	aagtctgaag	aaacaagttc	cagaaaacat	gttaaacttc	cttctgggag	7740
ctgggattgg	tggtcagggc	tcaagcccag	cagcttccac	tcagggctcc	catttgcacc	7800
tccgcagggc	aggcgagaag	cgcgcaggac	ccggaagtac	ctggaactgt	acattgtggc	7860
agaccacacc	ctggtgagga	gagaccccag	gggttggcgg	ggtcagggat	ggggccagct	7920
cagccccctca	agccaccggg	atttctgcct	tcccagttct	tgactcggca	ccgaaacttg	7980
aaccacacca	aacagcgtct	cctggaagtc	gccaaactac	tggaccaggt	tgggggcggc	8040
ggggagagag	cggtgatggg	ggtggcggcg	gcaggacagg	caggtgctgg	tggggtttgg	8100
ggaagaggaa	gggcgcccc	cgaaggacca	ccggcgcgat	ggggcgcct	gtcccggctt	8160
cagccccgcc	tcgccctcag	cttctcagga	ctctggacat	tcaggtggcg	ctgaccggcc	8220
tggaggtgtg	gaccgagcgg	gaccgcagcc	gcgtcacgca	ggacgccaac	gccacgctct	8280
gggccttcct	gcagtggcgc	cgggggctgt	gggcgcagcg	gccccacgac	tccgcgcagc	8340
tgctcacgtg	ggtgcctctg	acccggacgc	gggtcccggg	tggggcgggc	tcacctcccg	8400
gccccgcctg	gtcacgcgc	gctccgcccc	caggggcgc	gccttccagg	gcgccacagt	8460
gggcctggcg	cccgctcagg	gcatgtgccg	cgccgagagc	tcgggaggcg	tgagcacggt	8520



gagccccgcg	ggcggggggcg	agggagagac	aggaggctct	acggccgcag	tgaccgccct	8580
cccacggccc	cccaggacca	ctcggagctc	cccatcggcg	ccgcagccac	catggcccat	8640
gagatcggcc	acagcctcgg	cctcagccac	gaccccgacg	gctgctgcgt	ggaggctgcg	8700
gccgagtccg	gaggctgcgt	catggctgcg	gccaccgggt	acgcgggtgg	ggggtcgggg	8760
ctgcggcggg	gcggctagtc	ctggggactt	cctccgctgc	gtttctttgg	tcgtccctca	8820
gtttcctctt	ctgtaaaatg	gggataatga	tcatagtgtc	cgcttcaggg	tggtttatga	8880
ggcttaaagg	gaagaagctc	aggcaaagtg	gattctcaac	ggtatgaaga	ttattttccg	8940
agtaacctgg	cgaggttact	cctacaccgg	gaggagcacc	gtcgggtcgc	gattccacct	9000
tgggtcccgg	gctgctcact	attggggccg	catcgtcccc	tgtcccgttt	gttgtgtgac	9060
tttgcgcggg	ttacttcccc	tctctgggct	ctgcgcgtct	ggcggctgta	gccaagccca	9120
ggggtgggga	tcagagaagc	gcggggggtt	ggggactgtc	cctccatgcc	caatgccctc	9180
cccgtgccgg	taggcacccg	tttcgcgcg	tgttcagcgc	ctgcagccgc	cgccagctgc	9240
gcgccttctt	ccgcaagggg	ggcggcgctt	gcctctccaa	tgccccggac	cccggactcc	9300
cggtgccgcc	ggcgtctctg	gggaacggct	tcgtggaagc	gggcgaggag	tgtgactgcg	9360
gccctggcca	ggttaagtcg	gctcgccccg	ccccacttg	ccctctccgc	tcaggtctgg	9420
ggcgtgcgc	cctcacctgg	gcccttcttg	cctttctggt	cccaggagtg	ccgcgacctc	9480
tgctgctttg	ctcacaactg	ctcgtgcgc	ccggggggcc	agtgcgcca	cggggactgc	9540
tgcgtgcgct	gcctggtgag	ggcatggaag	gttcagggtg	agggtttcgg	ggagcttggg	9600
agccggcctg	ttggccttag	ttaattggtg	ccctcaggtt	cccccgttgg	gtgctgggct	9660
tgggtaggcc	tggctcccc	agctccgagc	cgcgctctcg	gcatggacct	ctcactgcac	9720
gtggcctctc	tctgccttcc	ccaccacccg	tcacctgcgc	agctgaagcc	ggctggagcg	9780
ctgtgccgcc	aggccatggg	tgactgtgac	ctccctgagt	tttgcaagg	cacctcctcc	9840
cactgtcccc	cagacgttta	cctactggac	ggctcacctt	gtgccagggg	cagtggctac	9900
tgctgggatg	gcgcatgtcc	cacgctggag	cagcagtgcc	agcagctctg	ggggcctggt	9960
gagaggacac	gagcacccctt	gcaccctgcc	ccccatcctc	tgggtggggcc	agttttctac	10020
tgtggggaag	atgggcaggg	gaaactgagg	cccgtgagc	gcagccctc	tccgagctgc	10080
ccccagcctg	gcccattgctt	cctcaggctc	ccaccagct	cccaggcct	gtttccagg	10140
ggtgaactct	gcgggagatg	ctcatggaaa	ctgcggccag	gacagcgagg	gccacttcct	10200
gccctgtgca	gggaggtagg	gagtggagct	gagtggagg	agcagaagct	atggagtggg	10260
tttggggaag	gggggtactg	cagctgttga	ccccctcta	cttcctcccc	agggatgccc	10320
tgtgtgggaa	gctgcagtgc	caggggtgaa	agcccagcct	gctcgcaccg	cacatggtgc	10380

cagtggactc	taccgttcac	ctagatggcc	aggaagtgac	ttgtcgggga	gccttggcac	10440
tccccagtg	ccagctggac	ctgcttggcc	tgggcctggt	agagccaggc	accagtggtg	10500
gacctagaat	ggtgagctct	gccacccga	cccctccttg	ccgtttgaat	cccgcaggcc	10560
agtgtcccc	tactgcctg	gtgcactgcc	cgtaggtgtg	ccagagcagg	cgctgcagga	10620
agaatgcctt	ccaggagctt	cagcgctgcc	tgactgcctg	ccacagccac	ggggtgagag	10680
cccgaggagt	gggggtgacc	ttggggttcc	taatcctacg	tgaccctcct	cttctcttct	10740
ctgcaggttt	gcaatagcaa	ccataactgc	cactgtgctc	caggctgggc	tccaccttc	10800
tgtgacaagc	caggcttttg	tggcagcatg	gacagtggcc	ctgtgcaggc	tgaagtatg	10860
ccagtggggg	gcatgtgggc	aggagctggg	gtggtgcacc	tgctcaggac	tcagcgcccc	10920
ttccccaat	ccccgcagac	catgacacct	tctgtctggc	catgctctc	agcgtcctgc	10980
tgcctctgct	cccaggggcc	ggcctggcct	ggtgttgcta	ccgactccca	ggagcccatc	11040
tgcagcgatg	cagctggggc	tgcagaaggg	accctgcgtg	cagtgggtag	gctccgagcg	11100
cctgcttct	gagcctactc	ctgcggttcc	cctcctcaga	gctctgctgg	ggctgtggga	11160
gctggggcag	gccctcagcc	ttgccccag	gtgcagagag	cagccccaga	ggccatggaa	11220
agaagtagct	ttgaacagga	ggttccagtg	gcctcccagt	caagcgaggg	ggtggatccc	11280
tgccccacca	ccagcaccgc	aaggcatggc	cctctacctc	ccagtacagc	tcctcttgct	11340
cactctcctg	cttctccac	cagctggctg	cctcaccctt	gacttcgccc	tgtttttccc	11400
tggctcagat	tgcagtcctt	gtaccatgct	gccccggag	gcctgtccag	cctctgtctc	11460
accagttttc	ggccctttgc	cacttcctct	gcacaaatca	cctctgtcac	ccccttgaag	11520
ttcccaaata	ctgggcccag	cacatctttt	cactccatac	cactggtcag	ctgcggtgct	11580
ggctgcccc	gtgccagggc	cctgccttaa	cccagttctc	tgtgacctgg	gtggtggcgg	11640
agtggggagt	cacataatac	taagcatggc	tgtcctagga	ctcaccctgc	accagggccc	11700
taggcagggc	aggcactctg	tggccatgtc	tgacatagcc	tggctcttggg	agtgtccgg	11760
gcaagccaag	ggagatggca	tgatttgggc	cagagatggg	ggcagagggc	ataacagaca	11820
ggggcagggc	accacctggg	ccccgggtgg	cagctaagag	gacctgaca	aagcgagttg	11880
tgattgaggg	tctgtgggca	gaggagcaag	gtggccagag	cctggcgtgt	cagcacggag	11940
ggggcgctgc	agagggtggc	ggctgcttct	catccccagg	cgggagtctc	agggcagggg	12000
agaatgtttt	gaaggaacat	cacaggaaat	gacaaggcct	tgggggatgg	gatggggaca	12060
gtcaaagatg	gcttggaatc	atcaagggca	gcagggcacc	caggggcaag	gagagcagac	12120
atagctgccg	aaggggcgga	catccaaggt	tctttggaag	ctgagcgatg	ccagcatctg	12180

gagagtgcc	ggctgctgtc	agagcctgga	ggaaatgtta	ggactagaga	gaggaggtgc	12240
cagccgaggg	catgaggctc	acttgagacc	tggatcccaa	ggctcccctg	aagaggggagc	12300
aggaagggag	ctgagaggg	gacttgagc	agatgggtgc	ccaagaaac	tcagtaaacg	12360
cagaactccc	tgggctggac	accatgctgc	ggggaggcaa	taaccactc	aggatcactg	12420
tgccaacctc	ctggactctt	atcacgttgc	tcagccccaa	agatggccca	cacagggacc	12480
accccctggg	cggcgttcac	cccatggagt	tgggccccac	agccactgga	cagccctggc	12540
ccctgggtga	gtgaggcacc	agggggaggt	ggagagggaa	gggagaaggg	aagggtcat	12600
gcctcctgcc	tccttcaga	tgggcagcac	ccagtcacct	tgagtcccct	atgcccctcc	12660
ccagccccag	gggctcctgc	tgaccatatt	cacaacattt	accctccacc	atttctccca	12720
gaccctgaga	actctcatga	gccagcagc	caccctgaga	agcctctgcc	agcagtctcg	12780
cctgaccccc	aaggtaggca	gggacctgga	ttcaaagcct	ccccctctca	tcgcccaccc	12840
tcccacctct	cccaccctc	agtttgctgc	cccctaata	ggtttctggg	ctcaggttat	12900
tatggaaatg	agtttatgac	ctcttggtta	tcatgcagac	caggatgctg	gaagcccctg	12960
ggctggggag	ggagaagctg	tggcttttcc	tggatcactg	gtcctcactg	agtgaggatg	13020
ggctctctgc	cacacagctt	gcagcctggg	gccccagtc	ttaggggaca	acatatcctc	13080
ctcattctca	gcagatcaag	tccagatgcc	aagatcctgc	ctctggtgag	aggtagctcc	13140
taaaatgaac	agattttaaag	acaggtggcc	actgacagcc	actccaggaa	cttgaactgc	13200
aggggcagag	ccagtgaatc	accggacctc	cagcacctgc	aggcagcttg	gaagtttctt	13260
ccccgagtgg	agcttcgacc	caccactcc	aggaaccag	agccacatta	gaagttcctg	13320
agggctggag	aacactgctg	ggcacactct	ccagctcaat	aaaccatcag	tcccagaagc	13380
aaaggtcaca	cagcccctga	cctccctcac	cagtggaggc	tgggtagtgc	tggccatccc	13440
aaaagggctc	tgtcctggga	gtctggtgtg	tctcctacat	gcaatttcca	cggacccagc	13500
tctgtggagg	gcatgactgc	tggccagaag	ctagtggctc	tggggcccta	tggttcgact	13560
gagtccacac	tcccctggag	cctggctggc	ctctgcaaac	aaacataatt	ttggggacct	13620
tccttcctgt	ttcttccac	cctgtcttct	cccctaggtg	gttcctgagc	ccccaccccc	13680
aatcccagtg	ctacacctga	ggttctggag	ctcagaatct	gacagcctct	ccccattct	13740
gtgtgtgtcg	gggggacaga	gggaaccatt	taagaaaaga	taccaaagta	gaagtcaaaa	13800
gaaagacatg	ttggctatag	gcgtgggtggc	tcatgcctat	aatcccagca	ctttgggaag	13860
ccggggtagg	aggatcacca	gaggccagca	ggtccacacc	agcctgggca	acacagcaag	13920
acaccgcctc	tacagaaaaa	ttttaaaatt	agctgggcgt	ggtggtgtgt	acctgtaggc	13980
ctagctgctc	aggaggctga	agcaggagga	tcacttgagc	ctgagttcaa	cactgcagtg	14040

agctatggtg gcaccactgc actccagcct gggtagacaga gcaagaccct gtctctaaaa 14100  
taaatttttaaa aaagacata 14119

<210> 6  
<211> 61  
<212> DNA  
<213> Artificial

<220>  
<223> SNP

<220>  
<221> misc\_feature  
<222> (31)..(31)  
<223> N= G or A

<400> 6  
agcaatggga gaatgtgaac gcccaaggga ngcaggagtg acagagcaaa gaggggtgttc 60  
a 61

<210> 7  
<211> 61  
<212> DNA  
<213> Artificial

<220>  
<223> SNP

<220>  
<221> misc\_feature  
<222> (31)..(31)  
<223> n= A or G

<400> 7  
gcagtgttct ccagccctca ggaacttcta ntgtggctct gggttcctgg agtgggtggg 60  
t 61

<210> 8  
<211> 61  
<212> DNA  
<213> Artificial

<220>  
<223> SNP

<220>  
<221> misc\_feature  
<222> (31)..(31)  
<223> N= C or T

<400> 8

atcttttcac tccataccac tggtcagctg nggtgctggc tgccccctgtg ccagggccct	60
g	61

<210> 9  
 <211> 61  
 <212> DNA  
 <213> Artificial

<220>  
 <223> SNP

<220>  
 <221> misc\_feature  
 <222> (31)..(31)  
 <223> N= A or C

<400> 9	
cttcctctgc acaaatcacc tctgtcaccc ncttgaagtt cccaaatgct gggcccagca	60
c	61

<210> 10  
 <211> 19  
 <212> RNA  
 <213> Artificial

<220>  
 <223> ADAM33 si RNA

<400> 10	
gguucuggag cucagaauc	19

<210> 11  
 <211> 19  
 <212> RNA  
 <213> Artificial

<220>  
 <223> ADAM33 siRNA

<400> 11	
gcagaucaag uccagaugc	19

<210> 12  
 <211> 19  
 <212> RNA  
 <213> Artificial

<220>  
 <223> ADAM33 siRNA

<400> 12	
guucaacacu gcagugagc	19

<210>	13	
<211>	19	
<212>	RNA	
<213>	Artificial	
<220>		
<223>	ADAM33 siRNA	
<400>	13	
	agacauguug gcuauaggc	19
<210>	14	
<211>	19	
<212>	RNA	
<213>	Artificial	
<220>		
<223>	ADAM33 siRNA	
<400>	14	
	gagccacauu agaaguucc	19
<210>	15	
<211>	19	
<212>	RNA	
<213>	Artificial	
<220>		
<223>	ADAM33 siRNA	
<400>	15	
	uagcaaccau aacugccac	19
<210>	16	
<211>	19	
<212>	RNA	
<213>	Artificial	
<220>		
<223>	ADAM33 siRNA	
<400>	16	
	aaccaugaca ccuuccugc	19
<210>	17	
<211>	19	
<212>	RNA	
<213>	Artificial	
<220>		
<223>	ADAM33 siRNA	
<400>	17	
	gacauguugg cuauaggcg	19
<210>	18	

<211>	19	
<212>	RNA	
<213>	Artificial	
<220>		
<223>	ADAM33 siRNA	
<400>	18	
	accauaacug ccacugugc	19
<210>	19	
<211>	19	
<212>	RNA	
<213>	Artificial	
<220>		
<223>	ADAM33 siRNA	
<400>	19	
	aguccagaug ccaagauc	19
<210>	20	
<211>	19	
<212>	RNA	
<213>	Artificial	
<220>		
<223>	ADAM33 siRNA	
<400>	20	
	acuguacauu guggcagac	19
<210>	21	
<211>	61	
<212>	DNA	
<213>	artificial	
<220>		
<223>	SNP rs628977	
<220>		
<221>	misc_feature	
<222>	(31)..(31)	
<223>	N= C or T	
<400>	21	
	caggctgcaa gctgtgtggc agggagccca ncctcactca gtgaggacca gtgatccagg	60
	a	61
<210>	22	
<211>	52	
<212>	DNA	
<213>	Artificial	
<220>		

<223> SNP rs598418

<220>

<221> misc\_feature

<222> (27)..(27)

<223> N= T or C

<400> 22

tgtccagcct ctgtctcacc agttttnggc cctttgccac ttcctctgca ca

52

<210> 23

<211> 52

<212> DNA

<213> Artificial

<220>

<223> SNP rs2853209

<220>

<221> misc\_feature

<222> (27)..(27)

<223> N= T or A

<400> 23

tggtggtggg gcagggatcc acccccnngc ttgactggga ggccactgga ac

52

<210> 24

<211> 52

<212> DNA

<213> Artificial

<220>

<223> SNP rs2787095

<220>

<221> misc\_feature

<222> (27)..(27)

<223> N= G or C

<400> 24

gaaactcttg gggctagagg aaggagnctt ggtgatggct tagttgtggg ag

52

<210> 25

<211> 52

<212> DNA

<213> Artificial

<220>

<223> SNP rs2853213

<220>

<221> misc\_feature

<222> (27)..(27)

<223> N= C or G



<400> 25  
gccaggcact tgctgtgcag gactggntaa tcctcccacc cgcttgcaga gg 52

<210> 26  
<211> 52  
<212> DNA  
<213> Artificial

<220>  
<223> SNP rs1046919

<220>  
<221> misc\_feature  
<222> (27)..(27)  
<223> N= T or C

<400> 26  
tgtgaggagc gaagagccct ctgctcnagg atttgggttg aaaaacagag ag 52