GNE-0303US
SEQUENCE LISTING

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<120> COMPOSITIONS AND METHODS FOR TREATMENT OF MICROBIAL DISORDERS

<130> GNE-0303US

<140> 12/291,380
<141> 2008-11-07

<150> 60/986,170
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<150> 61/013,620
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Ser Ala Leu Arg Lys Glu Thr Cys Asn Lys Ser Asn Met Cys Glu Ser
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Ser Lys Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala
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Glu Lys Asp Gly Cys Phe Gln Ser Gly Phe Asn Glu Glu Thr Cys Leu
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115 120 125

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Val Glu Leu Asp Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu
35 40 45

Thr Cys Asp Thr Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln
50 55 60

Ser Ser Glu Val Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys
65 70 75 80

Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val
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Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp
100 105 110

Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe
115 120 125

Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp
130 135 140

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145 150 155 160

Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser
165 170 175

Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu
180 185 190

Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile
195 200 205

Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr
210 215 220

Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn
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Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp
245 250 255

Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr
260 265 270

Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg
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Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala
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35 40 45

Arg Asn Leu Asn Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro
50 55 60

Leu Phe Glu Asp Met Thr Asp Ser Asp Cys Arg Asp Asn Ala Pro Arg
65 70 75 80

Thr Ile Phe Ile Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met
85 90 95

Ala Val Thr Ile Ser Val Lys Cys Glu Lys Ile Ser Thr Leu Ser Cys
100 105 110

Glu Asn Lys Ile Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile
115 120 125

Lys Asp Thr Lys Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly
130 135 140

His Asp Asn Lys Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe
145 150 155 160

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35 40 45

Gln Pro Tyr Ile Thr Asn Arg Thr Phe Met Leu Ala Lys Glu Ala Ser
50 55 60

Leu Ala Asp Asn Asn Thr Asp Val Arg Leu Ile Gly Glu Lys Leu Phe
65 70 75 80

His Gly Val Ser Met Ser Glu Arg Cys Tyr Leu Met Lys Gln Val Leu
85 90 95

Asn Phe Thr Leu Glu Glu Val Leu Phe Pro Gln Ser Asp Arg Phe Gln
100 105 110

Pro Tyr Met Gln Glu Val Val Pro Phe Leu Ala Arg Leu Ser Asn Arg
115 120 125

Leu Ser Thr Cys His Ile Glu Gly Asp Asp Leu His Ile Gln Arg Asn
130 135 140

Val Gln Lys Leu Lys Asp Thr Val Lys Lys Leu Gly Glu Ser Gly Glu
145 150 155 160

Ile Lys Ala Ile Gly Glu Leu Asp Leu Leu Phe Met Ser Leu Arg Asn
165 170 175

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Cys Gln Gln Leu Ser Gln Lys Leu Cys Thr Leu Ala Trp Ser Ala His
35 40 45

Pro Leu Val Gly His Met Asp Leu Arg Glu Glu Gly Asp Glu Glu Thr
50 55 60

Thr Asn Asp Val Pro His Ile Gln Cys Gly Asp Gly Cys Asp Pro Gln
65 70 75 80

Gly Leu Arg Asp Asn Ser Gln Phe Cys Leu Gln Arg Ile His Gln Gly
85 90 95

Leu Ile Phe Tyr Glu Lys Leu Leu Gly Ser Asp Ile Phe Thr Gly Glu
100 105 110

Pro Ser Leu Leu Pro Asp Ser Pro Val Gly Gln Leu His Ala Ser Leu
115 120 125

Leu Gly Leu Ser Gln Leu Leu Gln Pro Glu Gly His His Trp Glu Thr
130 135 140

Gln Gln Ile Pro Ser Leu Ser Pro Ser Gln Pro Trp Gln Arg Leu Leu
145 150 155 160

Leu Arg Phe Lys Ile Leu Arg Ser Leu Gln Ala Phe Val Ala Val Ala
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Ala Arg Val Phe Ala His Gly Ala Ala Thr Leu Ser Pro
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Arg Ile Ser Cys Pro Glu Gly Thr Asn Ala Tyr Arg Ser Tyr Cys Tyr
35 40 45

Tyr Phe Asn Glu Asp Arg Glu Thr Trp Val Asp Ala Asp Leu Tyr Cys
50 55 60

Gln Asn Met Asn Ser Gly Asn Leu Val Ser Val Leu Thr Gln Ala Glu
65 70 75 80

Gly Ala Phe Val Ala Ser Leu Ile Lys Glu Ser Gly Thr Asp Asp Phe
85 90 95

Asn Val Trp Ile Gly Leu His Asp Pro Lys Lys Asn Arg Arg Trp His
100 105 110

Trp Ser Ser Gly Ser Leu Val Ser Tyr Lys Ser Trp Gly Ile Gly Ala
115 120 125

Pro Ser Ser Val Asn Pro Gly Tyr Cys Val Ser Leu Thr Ser Ser Thr
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Val Cys Lys Phe Lys Asn
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Tyr Phe Asn Glu Asp Pro Glu Thr Trp Val Asp Ala Asp Leu Tyr Cys
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65 70 75 80

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85 90 95

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115 120 125

Pro Ser Ser Ala Asn Ala Gly Tyr Cys Ala Ser Leu Thr Ser Cys Ser
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Val Cys Lys Phe Lys Asn
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<213> Homo sapiens

<400> 15
aaaccatacc atatcccacc agagagtgac tcctgattgc ctcctcaagt cgcagacact 60

atgctgcctc ccatggccct gcccagtgta tcttggatgc tgctttcctg cctcatgctg 120

ctgtctcagg ttcaaggtga agaaccccag agggaactgc cctctgcacg gatccgctgt 180

cccaaaggct ccaaggccta tggctcccac tgctatgcct tgtttttgtc accaaaatcc 240

tggacagatg cagatctggc ctgccagaag cggccctctg gaaacctggt gtctgtgctc 300

agtggggctg agggatcctt cgtgtcctcc ctggtgaaga gcattggtaa cagctactca 360

tacgtctgga ttgggctcca tgaccccaca cagggcaccg agcccaatgg agaaggttgg 420

gagtggagta gcagtgatgt gatgaattac tttgcatggg agagaaatcc ctccaccatc 480

tcaagccccg gccactgtgc gagcctgtcg agaagcacag catttctgag gtggaaagat 540

tataactgta atgtgaggtt accctatgtc tgcaagttca ctgactagtg caggagggaa 600

gtcagcagcc tgtgtttggt gtgcaactca tcatgggcat gagaccagtg tgaggactca 660

ccctggaaga gaatattcgc ttaattcccc caacctgacc acctcattct tatctttctt 720

ctgtttcttc ctccccgctg tcatttcagt ctcttcattt tgtcatacgg cctaaggctt 780

taaagagcaa taaaattttt agtctgc 807

<210> 16
<211> 175
<212> PRT
<213> Homo sapiens

<400> 16
Met Leu Pro Pro Met Ala Leu Pro Ser Val Ser Trp Met Leu Leu Ser
1 5 10 15

Cys Leu Met Leu Leu Ser Gln Val Gln Gly Glu Glu Pro Gln Arg Glu
20 25 30

Leu Pro Ser Ala Arg Ile Arg Cys Pro Lys Gly Ser Lys Ala Tyr Gly
35 40 45

Ser His Cys Tyr Ala Leu Phe Leu Ser Pro Lys Ser Trp Thr Asp Ala
50 55 60

Asp Leu Ala Cys Gln Lys Arg Pro Ser Gly Asn Leu Val Ser Val Leu
65 70 75 80

Ser Gly Ala Glu Gly Ser Phe Val Ser Ser Leu Val Lys Ser Ile Gly
85 90 95

Asn Ser Tyr Ser Tyr Val Trp Ile Gly Leu His Asp Pro Thr Gln Gly
100 105 110

Thr Glu Pro Asn Gly Glu Gly Trp Glu Trp Ser Ser Ser Asp Val Met
115 120 125

Asn Tyr Phe Ala Trp Glu Arg Asn Pro Ser Thr Ile Ser Ser Pro Gly
130 135 140

His Cys Ala Ser Leu Ser Arg Ser Thr Ala Phe Leu Arg Trp Lys Asp
145 150 155 160

Tyr Asn Cys Asn Val Arg Leu Pro Tyr Val Cys Lys Phe Thr Asp
165 170 175

<210> 17
<211> 784
<212> DNA
<213> Homo sapiens

<400> 17
aaaccatacc atatcccacc agagagtcgc agacactatg ctgcctccca tggccctgcc 60
cagtgtatct tggatgctgc tttcctgcct catgctgctg tctcaggttc aaggtgaaga 120
accccagagg gaactgccct ctgcacggat ccgctgtccc aaaggctcca aggcctatgg 180
ctcccactgc tatgccttgt ttttgtcacc aaaatcctgg acagatgcag atctggcctg 240
ccagaagcgg ccctctggaa acctggtgtc tgtgctcagt ggggctgagg gatccttcgt 300
gtcctccctg gtgaagagca ttggtaacag ctactcatac gtctggattg ggctccatga 360
ccccacacag ggcaccgagc ccaatggaga aggttgggag tggagtagca gtgatgtgat 420
gaattacttt gcatgggaga gaaatccctc caccatctca agccccggcc actgtgcgag 480
cctgtcgaga agcacagcat ttctgaggtg gaaagattat aactgtaatg tgaggttacc 540
ctatgtctgc aagttcactg actagtgcag gagggaagtc agcagcctgt gtttggtgtg 600
caactcatca tgggcatgag accagtgtga ggactcaccc tggaagagaa tattcgctta 660
attcccccaa cctgaccacc tcattcttat ctttcttctg tttcttcctc cccgctgtca 720
tttcagtctc ttcattttgt catacggcct aaggctttaa agagcaataa aatttttagt 780
ctgc 784

<210> 18
<211> 175
<212> PRT

<213> Homo sapiens

<400> 18

Met Leu Pro Pro Met Ala Leu Pro Ser Val Ser Trp Met Leu Leu Ser
1 5 10 15

Cys Leu Met Leu Leu Ser Gln Val Gln Gly Glu Glu Pro Gln Arg Glu
20 25 30

Leu Pro Ser Ala Arg Ile Arg Cys Pro Lys Gly Ser Lys Ala Tyr Gly
35 40 45

Ser His Cys Tyr Ala Leu Phe Leu Ser Pro Lys Ser Trp Thr Asp Ala
50 55 60

Asp Leu Ala Cys Gln Lys Arg Pro Ser Gly Asn Leu Val Ser Val Leu
65 70 75 80

Ser Gly Ala Glu Gly Ser Phe Val Ser Ser Leu Val Lys Ser Ile Gly
85 90 95

Asn Ser Tyr Ser Tyr Val Trp Ile Gly Leu His Asp Pro Thr Gln Gly
100 105 110

Thr Glu Pro Asn Gly Glu Gly Trp Glu Trp Ser Ser Ser Asp Val Met
115 120 125

Asn Tyr Phe Ala Trp Glu Arg Asn Pro Ser Thr Ile Ser Ser Pro Gly
130 135 140

His Cys Ala Ser Leu Ser Arg Ser Thr Ala Phe Leu Arg Trp Lys Asp
145 150 155 160

Tyr Asn Cys Asn Val Arg Leu Pro Tyr Val Cys Lys Phe Thr Asp
165 170 175

<210> 19
<211> 1002
<212> DNA
<213> Homo sapiens

<400> 19

gggagggtcc cttcctcagg gagcacagga actctgagac tcagcaaggg tgtcctggga 60

gggctcgggg atgggagagt acacagattc acaactcatt cagaactgta gaagatgatg 120

gatgtgacca agatcacttt agtcctaggg gactagagaa ggaaaatgac atgaggcagt 180

ggggtatctg tgtgttctcc cactgaccac gctttcttta gtgactcctg attgcctcct 240

caagtcgcag acactatgct gcctcccatg gccctgccca gtgtatcttg gatgctgctt 300

tcctgcctca tgctgctgtc tcaggttcaa ggtgaagaac cccagaggga actgccctct 360

gcacggatcc gctgtcccaa aggctccaag gcctatggct cccactgcta tgccttgttt 420

ttgtcaccaa aatcctggac agatgcagat ctggcctgcc agaagcggcc ctctggaaac 480

ctggtgtctg tgctcagtgg ggctgaggga tccttcgtgt cctccctggt gaagagcatt 540

ggtaacagct actcatacgt ctggattggg ctccatgacc ccacacaggg caccgagccc 600

aatggagaag gttgggagtg gagtagcagt gatgtgatga attactttgc atgggagaga 660

aatccctcca ccatctcaag ccccggccac tgtgcgagcc tgtcgagaag cacagcattt 720

ctgaggtgga aagattataa ctgtaatgtg aggttaccct atgtctgcaa gttcactgac 780

tagtgcagga gggaagtcag cagcctgtgt ttggtgtgca actcatcatg ggcatgagac 840

cagtgtgagg actcaccctg gaagagaata ttcgcttaat tcccccaacc tgaccacctc 900

attcttatct ttcttctgtt tcttcctccc cgctgtcatt tcagtctctt cattttgtca 960

tacggcctaa ggctttaaag agcaataaaa tttttagtct gc 1002

<210> 20
<211> 175
<212> PRT
<213> Homo sapiens

<400> 20

Met Leu Pro Pro Met Ala Leu Pro Ser Val Ser Trp Met Leu Leu Ser
1 5 10 15

Cys Leu Met Leu Leu Ser Gln Val Gln Gly Glu Glu Pro Gln Arg Glu
20 25 30

Leu Pro Ser Ala Arg Ile Arg Cys Pro Lys Gly Ser Lys Ala Tyr Gly
35 40 45

Ser His Cys Tyr Ala Leu Phe Leu Ser Pro Lys Ser Trp Thr Asp Ala
50 55 60

Asp Leu Ala Cys Gln Lys Arg Pro Ser Gly Asn Leu Val Ser Val Leu
65 70 75 80

Ser Gly Ala Glu Gly Ser Phe Val Ser Ser Leu Val Lys Ser Ile Gly
85 90 95

Asn Ser Tyr Ser Tyr Val Trp Ile Gly Leu His Asp Pro Thr Gln Gly
100 105 110

Thr Glu Pro Asn Gly Glu Gly Trp Glu Trp Ser Ser Ser Asp Val Met
115 120 125

Asn Tyr Phe Ala Trp Glu Arg Asn Pro Ser Thr Ile Ser Ser Pro Gly
130 135 140

His Cys Ala Ser Leu Ser Arg Ser Thr Ala Phe Leu Arg Trp Lys Asp
145 150 155 160

Tyr Asn Cys Asn Val Arg Leu Pro Tyr Val Cys Lys Phe Thr Asp
165 170 175

<210> 21
<211> 847

<212> DNA
<213> Homo sapiens

<400> 21
ccatccctga gatcttttta taaaaaaccc agtctttgct gaccagacaa agcataccag 60
atctcaccag agagtcgcag acactatgct gcctcccatg gccctgccca gtgtgtcctg 120
gatgctgctt tcctgcctca ttctcctgtg tcaggttcaa ggtgaagaaa cccagaagga 180
actgccctct ccacggatca gctgtcccaa aggctccaag gcctatggct ccccctgcta 240
tgccttgttt ttgtcaccaa aatcctggat ggatgcagat ctggcttgcc agaagcggcc 300
ctctggaaaa ctggtgtctg tgctcagtgg ggctgaggga tccttcgtgt cctccctggt 360
gaggagcatt agtaacagct attcatacat ctggattggg ctccatgacc ccacacaggg 420
ctctgagcct gatggagatg gatgggagtg gagtagcact gatgtgatga attactttgc 480
atgggagaaa aatccctcca ccatcttaaa ccctggccac tgtgggagcc tgtcaagaag 540
cacaggattt ctgaagtgga aagattataa ctgtgatgca aagttaccct atgtctgcaa 600
gttcaaggac tagggcaggt gggaagtcag cagcctgagc ttggcgtgca gctcatcatg 660
gacatgagac cagtgtgaag actcaccctg gaagagaata ttctccccaa actgccctac 720
ctgactacct tgtcatgatc ctccttcttt ttccttttttc ttcaccttca tttcaggctt 780
ttctctgtct tccatgtctt gagatctcag agaataataa taaaaatgtt actttatact 840
taaaaaa 847

<210> 22
<211> 175
<212> PRT
<213> Homo sapiens

<400> 22
Met Leu Pro Pro Met Ala Leu Pro Ser Val Ser Trp Met Leu Leu Ser
1 5 10 15

Cys Leu Ile Leu Leu Cys Gln Val Gln Gly Glu Glu Thr Gln Lys Glu
20 25 30

Leu Pro Ser Pro Arg Ile Ser Cys Pro Lys Gly Ser Lys Ala Tyr Gly
35 40 45

Ser Pro Cys Tyr Ala Leu Phe Leu Ser Pro Lys Ser Trp Met Asp Ala
50 55 60

Asp Leu Ala Cys Gln Lys Arg Pro Ser Gly Lys Leu Val Ser Val Leu
65 70 75 80

Ser Gly Ala Glu Gly Ser Phe Val Ser Ser Leu Val Arg Ser Ile Ser
85 90 95

Asn Ser Tyr Ser Tyr Ile Trp Ile Gly Leu His Asp Pro Thr Gln Gly
100 105 110

Ser Glu Pro Asp Gly Asp Gly Trp Glu Trp Ser Ser Thr Asp Val Met

115 120 125

Asn Tyr Phe Ala Trp Glu Lys Asn Pro Ser Thr Ile Leu Asn Pro Gly
130 135 140

His Cys Gly Ser Leu Ser Arg Ser Thr Gly Phe Leu Lys Trp Lys Asp
145 150 155 160

Tyr Asn Cys Asp Ala Lys Leu Pro Tyr Val Cys Lys Phe Lys Asp
165 170 175

<210> 23
<211> 947
<212> DNA
<213> Homo sapiens

<400> 23
ccatccctga gatcttttta taaaaaaccc agtctttgct gaccagacaa agcataccag 60

atctcaccag agagtcctag gggactacag aaggaaaaag acaagaggca gtaggatatc 120

tgtgtgtcct cccgctgacc acacttcctt tagtgacccg attgcctcct caagtcgcag 180

acactatgct gcctcccatg gccctgccca gtgtgtcctg gatgctgctt tcctgcctca 240

ttctcctgtg tcaggttcaa ggtgaagaaa cccagaagga actgccctct ccacggatca 300

gctgtcccaa aggctccaag gcctatggct ccccctgcta tgccttgttt ttgtcaccaa 360

aatcctggat ggatgcagat ctggcttgcc agaagcggcc ctctggaaaa ctggtgtctg 420

tgctcagtgg ggctgaggga tccttcgtgt cctccctggt gaggagcatt agtaacagct 480

attcatacat ctggattggg ctccatgacc ccacacaggg ctctgagcct gatggagatg 540

gatgggagtg gagtagcact gatgtgatga attactttgc atgggagaaa aatccctcca 600

ccatcttaaa ccctggccac tgtgggagcc tgtcaagaag cacaggattt ctgaagtgga 660

aagattataa ctgtgatgca aagttaccct atgtctgcaa gttcaaggac tagggcaggt 720

gggaagtcag cagcctgagc ttggcgtgca gctcatcatg gacatgagac cagtgtgaag 780

actcaccctg gaagagaata ttctccccaa actgccctac ctgactacct tgtcatgatc 840

ctccttcttt ttccttttttc ttcaccttca tttcaggctt ttctctgtct tccatgtctt 900

gagatctcag agaataataa taaaaatgtt actttatacg taaaaaa 947

<210> 24
<211> 175
<212> PRT
<213> Homo sapiens

<400> 24
Met Leu Pro Pro Met Ala Leu Pro Ser Val Ser Trp Met Leu Leu Ser
1 5 10 15

Cys Leu Ile Leu Leu Cys Gln Val Gln Gly Glu Glu Thr Gln Lys Glu
20 25 30

Leu Pro Ser Pro Arg Ile Ser Cys Pro Lys Gly Ser Lys Ala Tyr Gly
35 40 45

Ser Pro Cys Tyr Ala Leu Phe Leu Ser Pro Lys Ser Trp Met Asp Ala
50 55 60

Asp Leu Ala Cys Gln Lys Arg Pro Ser Gly Lys Leu Val Ser Val Leu
65 70 75 80

Ser Gly Ala Glu Gly Ser Phe Val Ser Ser Leu Val Arg Ser Ile Ser
85 90 95

Asn Ser Tyr Ser Tyr Ile Trp Ile Gly Leu His Asp Pro Thr Gln Gly
100 105 110

Ser Glu Pro Asp Gly Asp Gly Trp Glu Trp Ser Ser Thr Asp Val Met
115 120 125

Asn Tyr Phe Ala Trp Glu Lys Asn Pro Ser Thr Ile Leu Asn Pro Gly
130 135 140

His Cys Gly Ser Leu Ser Arg Ser Thr Gly Phe Leu Lys Trp Lys Asp
145 150 155 160

Tyr Asn Cys Asp Ala Lys Leu Pro Tyr Val Cys Lys Phe Lys Asp
165 170 175

<210> 25
<211> 1285
<212> DNA
<213> Homo sapiens

<400> 25
ataagacttt tatggatgga ttgtttttct caaataatat tatcgctttg tgactaaagt 60
aaagattatt aattcctgag gcaagaagat ataaaagctc cagaaacgtt gactgggacc 120
actggagaca ctgaagaagg caggggccct tagagtcttg gttgccaaac agatttgcag 180
atcaaggaga acccaggagt ttcaaagaag cgctagtaag gtctctgaga tccttgcact 240
agctacatcc tcagggtagg aggaagatgg cttccagaag catgcggctg ctcctattgc 300
tgagctgcct ggccaaaaca ggagtcctgg gtgatatcat catgagaccc agctgtgctc 360
ctggatggtt ttaccacaag tccaattgct atggttactt caggaagctg aggaactggt 420
ctgatgccga gctcgagtgt cagtcttacg gaaacggagc ccacctggca tctatcctga 480
gtttaaagga agccagcacc atagcagagt acataagtgg ctatcagaga agccagccga 540
tatggattgg cctgcacgac ccacagaaga ggcagcagtg gcagtggatt gatggggcca 600
tgtatctgta cagatcctgg tctggcaagt ccatgggtgg gaacaagcac tgtgctgaga 660
tgagctccaa taacaacttt ttaacttgga gcagcaacga atgcaacaag cgccaacact 720
tcctgtgcaa gtaccgacca tagagcaaga atcaagattc tgctaactcc tgcacagccc 780
cgtcctcttc ctttctgcta gcctggctaa atctgctcat tatttcagag gggaaaccta 840
gcaaactaag agtgataagg gccctactac actggctttt ttaggcttag agacagaaac 900

tttagcattg gcccagtagt ggcttctagc tctaaatgtt tgccccgcca tccctttcca 960

cagtatcctt cttccctcct cccctgtctc tggctgtctc gagcagtcta gaagagtgca 1020

tctccagcct atgaaacagc tgggtctttg gccataagaa gtaaagattt gaagacagaa 1080

ggaagaaact caggagtaag cttctagacc ccttcagctt ctacaccctt ctgccctctc 1140

tccattgcct gcaccccacc ccagccactc aactcctgct tgtttttcct ttggccatag 1200

gaaggtttac cagtagaatc cttgctaggt tgatgtgggc catacattcc tttaataaac 1260

cattgtgtac ataagaaaaa aaaaa 1285

<210> 26
<211> 158
<212> PRT
<213> Homo sapiens

<400> 26
Met Ala Ser Arg Ser Met Arg Leu Leu Leu Leu Leu Ser Cys Leu Ala
1 5 10 15

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

Gly Trp Phe Tyr His Lys Ser Asn Cys Tyr Gly Tyr Phe Arg Lys Leu
35 40 45

Arg Asn Trp Ser Asp Ala Glu Leu Glu Cys Gln Ser Tyr Gly Asn Gly
50 55 60

Ala His Leu Ala Ser Ile Leu Ser Leu Lys Glu Ala Ser Thr Ile Ala
65 70 75 80

Glu Tyr Ile Ser Gly Tyr Gln Arg Ser Gln Pro Ile Trp Ile Gly Leu
85 90 95

His Asp Pro Gln Lys Arg Gln Gln Trp Gln Trp Ile Asp Gly Ala Met
100 105 110

Tyr Leu Tyr Arg Ser Trp Ser Gly Lys Ser Met Gly Gly Asn Lys His
115 120 125

Cys Ala Glu Met Ser Ser Asn Asn Asn Phe Leu Thr Trp Ser Ser Asn
130 135 140

Glu Cys Asn Lys Arg Gln His Phe Leu Cys Lys Tyr Arg Pro
145 150 155

<210> 27
<211> 1087
<212> DNA
<213> Mus musculus

<400> 27
ccaagaacga tagtcaattc cagaaaccgc tatgaagttc ctctctgcaa gagacttcca 60

tccagttgcc ttcttgggac tgatgctggt gacaaccacg gccttcccta cttcacaagt 120

ccggagagga gacttcacag aggataccac tcccaacaga cctgtctata ccacttcaca 180
agtcggaggc ttaattacac atgttctctg ggaaatcgtg gaaatgagaa aagagttgtg 240
caatggcaat tctgattgta tgaacaacga tgatgcactt gcagaaaaca atctgaaact 300
tccagagata caaagaaatg atggatgcta ccaaactgga tataatcagg aaatttgcct 360
attgaaaatt tcctctggtc ttctggagta ccatagctac ctggagtaca tgaagaacaa 420
cttaaaagat aacaagaaag acaaagccag agtccttcag agagatacag aaactctaat 480
tcatatcttc aaccaagagg taaaagattt acataaaata gtccttccta ccccaatttc 540
caatgctctc ctaacagata agctggagtc acagaaggag tggctaagga ccaagaccat 600
ccaattcatc ttgaaatcac ttgaagaatt tctaaaagtc actttgagat ctactcggca 660
aacctagtgc gttatgccta agcatatcag tttgtggaca ttcctcactg tggtcagaaa 720
atatatcctg ttgtcaggta tctgacttat gttgttctct acgaagaact gacaatatga 780
atgttgggac actattttaa ttatttttaa tttattgata atttaaataa gtaaacttta 840
agttaattta tgattgatat ttattatttt tatgaagtgt cacttgaaat gttatatgtt 900
atagttttga aatgataacc taaaaatcta tttgatataa atattctgtt acctagccag 960
atggtttctt ggaatgtata agtttacctc aatgaattgc taatttaaat atgtttttaa 1020
agaaatcttt gtgatgtatt tttataatgt ttagactgtc ttcaaacaaa taaattatat 1080
tatattt 1087

<210> 28
<211> 211
<212> PRT
<213> Mus musculus

<400> 28
Met Lys Phe Leu Ser Ala Arg Asp Phe His Pro Val Ala Phe Leu Gly
1 5 10 15

Leu Met Leu Val Thr Thr Thr Ala Phe Pro Thr Ser Gln Val Arg Arg
20 25 30

Gly Asp Phe Thr Glu Asp Thr Thr Pro Asn Arg Pro Val Tyr Thr Thr
35 40 45

Ser Gln Val Gly Gly Leu Ile Thr His Val Leu Trp Glu Ile Val Glu
50 55 60

Met Arg Lys Glu Leu Cys Asn Gly Asn Ser Asp Cys Met Asn Asn Asp
65 70 75 80

Asp Ala Leu Ala Glu Asn Asn Leu Lys Leu Pro Glu Ile Gln Arg Asn
85 90 95

Asp Gly Cys Tyr Gln Thr Gly Tyr Asn Gln Glu Ile Cys Leu Leu Lys
100 105 110

Ile Ser Ser Gly Leu Leu Glu Tyr His Ser Tyr Leu Glu Tyr Met Lys
115 120 125

Asn Asn Leu Lys Asp Asn Lys Lys Asp Lys Ala Arg Val Leu Gln Arg
130 135 140

Asp Thr Glu Thr Leu Ile His Ile Phe Asn Gln Glu Val Lys Asp Leu
145 150 155 160

His Lys Ile Val Leu Pro Thr Pro Ile Ser Asn Ala Leu Leu Thr Asp
165 170 175

Lys Leu Glu Ser Gln Lys Glu Trp Leu Arg Thr Lys Thr Ile Gln Phe
180 185 190

Ile Leu Lys Ser Leu Glu Glu Phe Leu Lys Val Thr Leu Arg Ser Thr
195 200 205

Arg Gln Thr
210

<210> 29
<211> 1951
<212> DNA
<213> Mus musculus

<400> 29
agaaggaaca gtgggtgtcc aggcacatca gaccaggcag ctcgcagcaa agcaaggtaa 60
gttctctcct cttccctgtc gctaactccc tgcatctaga ggctgtccag attcagactc 120
caggggacag gctacccctg aaccaggcag cgtgggagtg ggatgtgtcc tcagaagcta 180
accatctcct ggtttgccat cgttttgctg gtgtctccac tcatggccat gtgggagctg 240
gagaaagacg tttatgttgt agaggtggac tggactcccg atgcccctgg agaaacagtg 300
aacctcacct gtgacacgcc tgaagaagat gacatcacct ggacctcaga ccagagacat 360
ggagtcatag gctctggaaa gaccctgacc atcactgtca aagagtttct agatgctggc 420
cagtacacct gccacaaagg aggcgagact ctgagccact cacatctgct gctccacaag 480
aaggaaaatg gaatttggtc cactgaaatt ttaaaaaatt tcaaaaacaa gactttcctg 540
aagtgtgaag caccaaatta ctccggacgg ttcacgtgct catggctggt gcaaagaaac 600
atggacttga agttcaacat caagagcagt agcagttccc ctgactctcg ggcagtgaca 660
tgtggaatgg cgtctctgtc tgcagagaag gtcacactgg accaaaggga ctatgagaag 720
tattcagtgt cctgccagga ggatgtcacc tgcccaactg ccgaggagac cctgcccatt 780
gaactggcgt tggaagcacg gcagcagaat aaatatgaga actacagcac cagcttcttc 840
atcagggaca tcatcaaacc agacccgccc aagaacttgc agatgaagcc tttgaagaac 900
tcacaggtgg aggtcagctg ggagtaccct gactcctgga gcactcccca ttcctacttc 960
tccctcaagt tctttgttcg aatccagcgc aagaaagaaa agatgaagga gacagaggag 1020
gggtgtaacc agaaaggtgc gttcctcgta gagaagacat ctaccgaagt ccaatgcaaa 1080

ggcgggaatg tctgcgtgca agctcaggat cgctattaca attcctcatg cagcaagtgg 1140

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tgcttggttg gctttttcca gttttcctaa gttcatcatg acacctttgc tgatttctac 1320

atgtaaatgt taaatgcccg cagagccagg gagctaatgt atgcatagat attctagcat 1380

tccacttggc cttatgctgt tgaaatattt aagtaattta tgtatttatt aatttatttc 1440

tgcatttcac atttgtatac caagatgtat tgaatatttc atgtgctcgt ggcctgatcc 1500

actgggacca ggccctatta tgcaaattgt gagcttgtta tcttcttcaa cagctcttca 1560

atcagggctg cgtaggtaca ttagcttttg tgacaaccaa taagaacata atattctgac 1620

acaagcagtg ttacatattt gtgaccagta aagacatagg tggtatttgg agacatgaag 1680

aagctgtaaa gttgactctg aagagtttag cactagtttc aacaccaaga aagacttttt 1740

agaagtgata ttgataagaa accagggcct tctttagaag ggtacctaaa tttaaaagaa 1800

ttttgaaagg ctgggtatcg gtggtatatg cttttaattc cagcactcag gagaccaagg 1860

caggcagatc tctgtgagtt tgaggacagc ctggtgtaca gagggagttc cagcacagcc 1920

agtgccacac agaaattctg tctcaaaaac a 1951

<210> 30
<211> 335
<212> PRT
<213> Mus musculus

<400> 30
Met Cys Pro Gln Lys Leu Thr Ile Ser Trp Phe Ala Ile Val Leu Leu
1 5 10 15

Val Ser Pro Leu Met Ala Met Trp Glu Leu Glu Lys Asp Val Tyr Val
20 25 30

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

Thr Cys Asp Thr Pro Glu Glu Asp Asp Ile Thr Trp Thr Ser Asp Gln
50 55 60

Arg His Gly Val Ile Gly Ser Gly Lys Thr Leu Thr Ile Thr Val Lys
65 70 75 80

Glu Phe Leu Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Thr
85 90 95

Leu Ser His Ser His Leu Leu Leu His Lys Lys Glu Asn Gly Ile Trp
100 105 110

Ser Thr Glu Ile Leu Lys Asn Phe Lys Asn Lys Thr Phe Leu Lys Cys
115 120 125

Glu Ala Pro Asn Tyr Ser Gly Arg Phe Thr Cys Ser Trp Leu Val Gln

130 135 140

Arg Asn Met Asp Leu Lys Phe Asn Ile Lys Ser Ser Ser Ser Ser Pro
145 150 155 160

Asp Ser Arg Ala Val Thr Cys Gly Met Ala Ser Leu Ser Ala Glu Lys
165 170 175

Val Thr Leu Asp Gln Arg Asp Tyr Glu Lys Tyr Ser Val Ser Cys Gln
180 185 190

Glu Asp Val Thr Cys Pro Thr Ala Glu Glu Thr Leu Pro Ile Glu Leu
195 200 205

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

Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln
225 230 235 240

Met Lys Pro Leu Lys Asn Ser Gln Val Glu Val Ser Trp Glu Tyr Pro
245 250 255

Asp Ser Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Lys Phe Phe Val
260 265 270

Arg Ile Gln Arg Lys Lys Glu Lys Met Lys Glu Thr Glu Glu Gly Cys
275 280 285

Asn Gln Lys Gly Ala Phe Leu Val Glu Lys Thr Ser Thr Glu Val Gln
290 295 300

Cys Lys Gly Gly Asn Val Cys Val Gln Ala Gln Asp Arg Tyr Tyr Asn
305 310 315 320

Ser Ser Cys Ser Lys Trp Ala Cys Val Pro Cys Arg Val Arg Ser
325 330 335

<210> 31
<211> 866
<212> DNA
<213> Mus musculus

<400> 31
ggcacagctg gacctggtgg gggttctctg tggttccatg ctttctggac tcctgcctgc 60

tggctggagc tgctgacagg cctgacatct tctgcaacct ccagcatcag gacaaagaaa 120

gccgcctcaa accttccaaa tcacttcctc ttggcccagg aacaatggct gccatgtcag 180

aagactcttg cgtcaacttc aaggaaatga tgtttattga caacacgctt tactttatac 240

ctgaagaaaa tggagacctg gaatcagaca actttggccg acttcactgt acaaccgcag 300

taatacggaa tataaatgac caagttctct tcgttgacaa aagacagcct gtgttcgagg 360

atatgactga tattgatcaa agtgccagtg aaccccagac cagactgata atatacatgt 420

acaaagacag tgaagtaaga ggactggctg tgaccctctc tgtgaaggat agtaaaatgt 480

ctaccctctc ctgtaagaac aagatcattt cctttgagga aatggatcca cctgaaaata 540

ttgatgatat acaaagtgat ctcatattct ttcagaaacg tgttccagga cacaacaaga 600

tggagtttga atcttcactg tatgaaggac actttcttgc ttgccaaaag gaagatgatg 660

ctttcaaact cattctgaaa aaaaaggatg aaaatgggga taaatctgta atgttcactc 720

tcactaactt acatcaaagt taggtgggga gggtttgtgt tccagaaaga tgattagcac 780

acatgcgcct tgtgatgacc tcgcctgtat ttccataaca gaatacccga ggctgcatga 840

tttatagagt aaacacgttt atttgt 866

<210> 32
<211> 192
<212> PRT
<213> Mus musculus

<400> 32
Met Ala Ala Met Ser Glu Asp Ser Cys Val Asn Phe Lys Glu Met Met
1 5 10 15

Phe Ile Asp Asn Thr Leu Tyr Phe Ile Pro Glu Glu Asn Gly Asp Leu
20 25 30

Glu Ser Asp Asn Phe Gly Arg Leu His Cys Thr Thr Ala Val Ile Arg
35 40 45

Asn Ile Asn Asp Gln Val Leu Phe Val Asp Lys Arg Gln Pro Val Phe
50 55 60

Glu Asp Met Thr Asp Ile Asp Gln Ser Ala Ser Glu Pro Gln Thr Arg
65 70 75 80

Leu Ile Ile Tyr Met Tyr Lys Asp Ser Glu Val Arg Gly Leu Ala Val
85 90 95

Thr Leu Ser Val Lys Asp Ser Lys Met Ser Thr Leu Ser Cys Lys Asn
100 105 110

Lys Ile Ile Ser Phe Glu Glu Met Asp Pro Pro Glu Asn Ile Asp Asp
115 120 125

Ile Gln Ser Asp Leu Ile Phe Phe Gln Lys Arg Val Pro Gly His Asn
130 135 140

Lys Met Glu Phe Glu Ser Ser Leu Tyr Glu Gly His Phe Leu Ala Cys
145 150 155 160

Gln Lys Glu Asp Asp Ala Phe Lys Leu Ile Leu Lys Lys Lys Asp Glu
165 170 175

Asn Gly Asp Lys Ser Val Met Phe Thr Leu Thr Asn Leu His Gln Ser
180 185 190

<210> 33
<211> 1121
<212> DNA
<213> Mus musculus

<400> 33
cctaaacagg ctctcctctc acttatcaac tgttgacact tgtgcgatct ctgatggctg 60
tcctgcagaa atctatgagt ttttccctta tggggacttt ggccgccagc tgcctgcttc 120
tcattgccct gtgggcccag gaggcaaatg cgctgcccgt caacacccgg tgcaagcttg 180
aggtgtccaa cttccagcag ccgtacatcg tcaaccgcac ctttatgctg gccaaggagg 240
ccagccttgc agataacaac acagacgtcc ggctcatcgg ggagaaactg ttccgaggag 300
tcagtgctaa agatcagtgc tacctgatga agcaggtgct caacttcacc ctggaagacg 360
ttctgctccc ccagtcagac aggttccagc cctacatgca ggaggtggta cctttcctga 420
ccaaactcag caatcagctc agctcctgtc acatcagcgg tgacgaccag aacatccaga 480
agaatgtcag aaggctgaag gagacagtga aaaagcttgg agagagtgga gagatcaagg 540
cgattgggga actggacctg ctgtttatgt ctctgagaaa tgcttgcgtc tgagcgagaa 600
gaagctagaa aacgaagaac tgctccttcc tgccttctaa aaagaacaat aagatccctg 660
aatggacttt tttactaaag gaaagtgaga agctaacgtc catcatcatt agaagatttc 720
acatgaaacc tggctcagtt gaaaaagaaa atagtgtcaa gttgtccatg agaccagagg 780
tagacttgat aaccacaaag attcattgac aatattttat tgtcactgat gatacaacag 840
aaaaataatg tactttaaaa aattgtttga aaggaggtta cctctcattc ctttagaaaa 900
aaagcttatg taacttcatt tccatatcca atattttata tatgtaagtt tatttattat 960
aagtatacat tttatttatg tcagtttatt aatatggatt tatttataga aacattatct 1020
gctattgata tttagtataa ggcaaataat atttatgaca ataactatgg aaacaagata 1080
tcttaggctt taataaacac atggatatca taaaaaaaaa a 1121

<210> 34
<211> 179
<212> PRT
<213> Mus musculus

<400> 34
Met Ala Val Leu Gln Lys Ser Met Ser Phe Ser Leu Met Gly Thr Leu
1 5 10 15

Ala Ala Ser Cys Leu Leu Leu Ile Ala Leu Trp Ala Gln Glu Ala Asn
20 25 30

Ala Leu Pro Val Asn Thr Arg Cys Lys Leu Glu Val Ser Asn Phe Gln
35 40 45

Gln Pro Tyr Ile Val Asn Arg Thr Phe Met Leu Ala Lys Glu Ala Ser
50 55 60

Leu Ala Asp Asn Asn Thr Asp Val Arg Leu Ile Gly Glu Lys Leu Phe

65 70 75 80

Arg Gly Val Ser Ala Lys Asp Gln Cys Tyr Leu Met Lys Gln Val Leu
85 90 95

Asn Phe Thr Leu Glu Asp Val Leu Leu Pro Gln Ser Asp Arg Phe Gln
100 105 110

Pro Tyr Met Gln Glu Val Val Pro Phe Leu Thr Lys Leu Ser Asn Gln
115 120 125

Leu Ser Ser Cys His Ile Ser Gly Asp Asp Gln Asn Ile Gln Lys Asn
130 135 140

Val Arg Arg Leu Lys Glu Thr Val Lys Lys Leu Gly Glu Ser Gly Glu
145 150 155 160

Ile Lys Ala Ile Gly Glu Leu Asp Leu Leu Phe Met Ser Leu Arg Asn
165 170 175

Ala Cys Val

<210> 35
<211> 1359
<212> DNA
<213> Mus musculus

<400> 35
cgcttagaag tcggactaca gagttagact cagaaccaaa ggaggtggat agggggtcca 60
caggcctggt gcagatcaca gagccagcca gatctgagaa gcagggaaca agatgctgga 120
ttgcagagca gtaataatgc tatggctgtt gccctgggtc actcagggcc tggctgtgcc 180
taggagtagc agtcctgact gggctcagtg ccagcagctc tctcggaatc tctgcatgct 240
agcctggaac gcacatgcac cagcgggaca tatgaatcta ctaagagaag aagaggatga 300
agagactaaa aataatgtgc cccgtatcca gtgtgaagat ggttgtgacc cacaaggact 360
caaggacaac agccagttct gcttgcaaag gatccgccaa ggtctggctt tttataagca 420
cctgcttgac tctgacatct tcaaagggga gcctgctcta ctccctgata gccccatgga 480
gcaacttcac acctccctac taggactcag ccaactcctc cagccagagg atcacccccg 540
ggagacccaa cagatgccca gcctgagttc tagtcagcag tggcagcgcc cccttctccg 600
ttccaagatc cttcgaagcc tccaggcctt tttggccata gctgcccggg tctttgccca 660
cggagcagca actctgactg agcccttagt gccaacagct taaggatgcc caggttccca 720
tggctaccat gataagacta atctatcagc ccagacatct accagttaat taacccatta 780
ggacttgtgc tgttcttgtt ttgtttgttt tgcgtgaagg gcaaggacac cattattaaa 840
gagaaaagaa acaaacccca gagcaggcag ctggctagag aaaggagctg gagaagaaga 900
ataaagtctc gagcccttgg ccttggaagc gggcaagcag ctgcgtggcc tgaggggaag 960
ggggcggtgg catcgagaaa ctgtgagaaa acccagagca tcagaaaaag tgagcccagg 1020

ctttggccat tatctgtaag aaaaacaaga aaaggggaac attatacttt cctgggtggc 1080

tcagggaaat gtgcagatgc acagtactcc agacagcagc tctgtacctg cctgctctgt 1140

ccctcagttc taacagaatc tagtcactaa gaactaacag gactaccaat acgaactgac 1200

aaatactacc actatgacct gtgacaaagc tgcatattta ttaagtggga agggaacttt 1260

tgatattatt tatccttgta acagtataga tgatggttat ttattctatt tataaggaat 1320

tatgtatttt ttttttcaat aaagatttat ttatgtggc 1359

<210> 36
<211> 196
<212> PRT
<213> Mus musculus

<400> 36

Met Leu Asp Cys Arg Ala Val Ile Met Leu Trp Leu Leu Pro Trp Val
1 5 10 15

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

Cys Gln Gln Leu Ser Arg Asn Leu Cys Met Leu Ala Trp Asn Ala His
35 40 45

Ala Pro Ala Gly His Met Asn Leu Leu Arg Glu Glu Glu Asp Glu Glu
50 55 60

Thr Lys Asn Asn Val Pro Arg Ile Gln Cys Glu Asp Gly Cys Asp Pro
65 70 75 80

Gln Gly Leu Lys Asp Asn Ser Gln Phe Cys Leu Gln Arg Ile Arg Gln
85 90 95

Gly Leu Ala Phe Tyr Lys His Leu Leu Asp Ser Asp Ile Phe Lys Gly
100 105 110

Glu Pro Ala Leu Leu Pro Asp Ser Pro Met Glu Gln Leu His Thr Ser
115 120 125

Leu Leu Gly Leu Ser Gln Leu Leu Gln Pro Glu Asp His Pro Arg Glu
130 135 140

Thr Gln Gln Met Pro Ser Leu Ser Ser Ser Gln Gln Trp Gln Arg Pro
145 150 155 160

Leu Leu Arg Ser Lys Ile Leu Arg Ser Leu Gln Ala Phe Leu Ala Ile
165 170 175

Ala Ala Arg Val Phe Ala His Gly Ala Ala Thr Leu Thr Glu Pro Leu
180 185 190

Val Pro Thr Ala
195

<210> 37
<211> 759
<212> DNA
<213> Mus musculus

<400> 37
acaccatcca gatctctgga agacagacaa gatgctgcct ccaacagcct gctccgtcat 60

gtcctggatg ctgctctcct gcctgatgct cttatctcag gttcaaggtg aagactccct 120

gaagaatata ccctccgcac gcattagttg ccccaagggc tcccaggctt atggctccta 180

ctgctatgcc ttgtttcaga taccacagac ctggtttgat gcagaactgg cctgccaaaa 240

gaggcctgga ggacacctcg tatctgtgct caatagcgct gaggcttcat tcttgtcctc 300

catggtgaag agaacaggaa acagctacca atacacttgg attgggctcc atgaccccac 360

tctgggtgca gaacccaatg gaggtggatg ggaatggagt aacaatgacg tgatgaatta 420

ctttaactgg gagaggaacc catctactgc cttagaccgt gctttctgtg gcagcttgtc 480

aagagcttct ggatttctaa aatggagaga tatgacatgt gaggtgaagt tgccctatgt 540

ctgcaaattt actggttaaa cttatcagac agcaaacatc ccgaatttgt cttgaagagc 600

atcatggaca agggacaaaa tgtgaagact cacctagaaa aagcattttc tatctacagt 660

ccacattaga gccttaatct gctctttcca tatctgtctt tagtcctttt ggtataagtt 720

tgggctcaat tctaaaataa aaataagctt tctgtcaca 759

<210> 38
<211> 175
<212> PRT
<213> Mus musculus

<400> 38
Met Leu Pro Pro Thr Ala Cys Ser Val Met Ser Trp Met Leu Leu Ser
1 5 10 15

Cys Leu Met Leu Leu Ser Gln Val Gln Gly Glu Asp Ser Leu Lys Asn
20 25 30

Ile Pro Ser Ala Arg Ile Ser Cys Pro Lys Gly Ser Gln Ala Tyr Gly
35 40 45

Ser Tyr Cys Tyr Ala Leu Phe Gln Ile Pro Gln Thr Trp Phe Asp Ala
50 55 60

Glu Leu Ala Cys Gln Lys Arg Pro Gly Gly His Leu Val Ser Val Leu
65 70 75 80

Asn Ser Ala Glu Ala Ser Phe Leu Ser Ser Met Val Lys Arg Thr Gly
85 90 95

Asn Ser Tyr Gln Tyr Thr Trp Ile Gly Leu His Asp Pro Thr Leu Gly
100 105 110

Ala Glu Pro Asn Gly Gly Gly Trp Glu Trp Ser Asn Asn Asp Val Met

115 120 125

Asn Tyr Phe Asn Trp Glu Arg Asn Pro Ser Thr Ala Leu Asp Arg Ala
130 135 140

Phe Cys Gly Ser Leu Ser Arg Ala Ser Gly Phe Leu Lys Trp Arg Asp
145 150 155 160

Met Thr Cys Glu Val Lys Leu Pro Tyr Val Cys Lys Phe Thr Gly
165 170 175

<210> 39
<211> 769
<212> DNA
<213> Mus musculus

<400> 39
aagacacctt ggtctcagcc tgcagagatc gttgagttgc atcctaagca aaagactgtc 60

tgctgctcag catggctagg aacgcctact tcatcctgct ctcatgcctg atcgtcctgt 120

ctccaagcca aggccaggaa gctgaagaag acctgccatc tgccaggatc agttgcccag 180

aaggttccaa tgcctacagc tcctattgtt actacttcac tgaagaccgt ttaacttggg 240

ctgatgcaga tctttttttgc cagaacatga attcaggcta cctggtgtca gttctcagtc 300

aggctgaggg caactttgtg gcctctctga ttaaggagag tggcactaca gacgccaatg 360

tctggactgg actccatgat cccaaaagga atcgtcgctg gcactggagc agtgggtctc 420

tgtttctcta caaatcctgg gcaactgggt ctcctaacag ttccaatcgt ggctactgtg 480

tatctctgac ttcaaacaca ggatacaaga aatggaagga tgacaactgt gatgcccaat 540

actcatttgt ctgcaagttc aaaggctgaa gtcacctgaa aaaaaatagt catataaagc 600

aaaattgaaa ttactatagt gtcagaaatt aaattggacc atctatcaaa agcaaattag 660

atcctgtctt cctggagaga cattcttgct tcactgtcct atggtacctg tatctccatt 720

attttctgga aatttgcaca actgaaataa aaacaccttt acaatgttg 769

<210> 40
<211> 165
<212> PRT
<213> Mus musculus

<400> 40
Met Ala Arg Asn Ala Tyr Phe Ile Leu Leu Ser Cys Leu Ile Val Leu
1 5 10 15

Ser Pro Ser Gln Gly Gln Glu Ala Glu Glu Asp Leu Pro Ser Ala Arg
20 25 30

Ile Ser Cys Pro Glu Gly Ser Asn Ala Tyr Ser Ser Tyr Cys Tyr Tyr
35 40 45

Phe Thr Glu Asp Arg Leu Thr Trp Ala Asp Ala Asp Leu Phe Cys Gln
50 55 60

Asn Met Asn Ser Gly Tyr Leu Val Ser Val Leu Ser Gln Ala Glu Gly
65 70 75 80

Asn Phe Val Ala Ser Leu Ile Lys Glu Ser Gly Thr Thr Asp Ala Asn
85 90 95

Val Trp Thr Gly Leu His Asp Pro Lys Arg Asn Arg Arg Trp His Trp
100 105 110

Ser Ser Gly Ser Leu Phe Leu Tyr Lys Ser Trp Ala Thr Gly Ser Pro
115 120 125

Asn Ser Ser Asn Arg Gly Tyr Cys Val Ser Leu Thr Ser Asn Thr Gly
130 135 140

Tyr Lys Lys Trp Lys Asp Asp Asn Cys Asp Ala Gln Tyr Ser Phe Val
145 150 155 160

Cys Lys Phe Lys Gly
165

<210> 41
<211> 692
<212> DNA
<213> Mus musculus

<400> 41
agtattcatt attcctagct gacagaaatt attgatttag aatttaaatc gaagactgtc 60

tgctgatcag catggctcag aacaatgtat accttatcct gttcttatgc ctgatgttcc 120

tgtcatacag ccaaggccag gtagctgaag aagacttccc cttggctgaa aaagaccttc 180

cttctgccaa aatcaactgc ccagagggtg ccaacgccta tggttcctac tgttattatc 240

taattgaaga ccgtttgacc tgggggggagg ctgatctctt ttgccagaac atgaatgcag 300

gtcacctggt gtcaatactc agccaggctg agagcaactt tgtggcctcg ctggttaagg 360

agagtggtac tacagcttcc aatgtctgga ctggacttca tgaccctaaa agtaaccgtc 420

gttggcactg gagcagtggc tccctatttc tcttcaagtc atgggccact ggagctccaa 480

gcactgccaa ccgtggttat tgtgtatcgc tgacttcaaa cacagcatac aaaaaatgga 540

aggacgaaaa ctgtgaggca cagtactcct ttgtctgcaa gttcagagcc taaagtcacc 600

tgaagaacag atgtgcagaa ctctgttact atatattata aatgaaagaa gaccatctat 660

ctgcaaaata aatactcttt cctgtaataa ct 692

<210> 42
<211> 173
<212> PRT
<213> Mus musculus

<400> 42
Met Ala Gln Asn Asn Val Tyr Leu Ile Leu Phe Leu Cys Leu Met Phe
1 5 10 15

Leu Ser Tyr Ser Gln Gly Gln Val Ala Glu Glu Asp Phe Pro Leu Ala

20 25 30

Glu Lys Asp Leu Pro Ser Ala Lys Ile Asn Cys Pro Glu Gly Ala Asn
35 40 45

Ala Tyr Gly Ser Tyr Cys Tyr Tyr Leu Ile Glu Asp Arg Leu Thr Trp
50 55 60

Gly Glu Ala Asp Leu Phe Cys Gln Asn Met Asn Ala Gly His Leu Val
65 70 75 80

Ser Ile Leu Ser Gln Ala Glu Ser Asn Phe Val Ala Ser Leu Val Lys
85 90 95

Glu Ser Gly Thr Thr Ala Ser Asn Val Trp Thr Gly Leu His Asp Pro
100 105 110

Lys Ser Asn Arg Arg Trp His Trp Ser Ser Gly Ser Leu Phe Leu Phe
115 120 125

Lys Ser Trp Ala Thr Gly Ala Pro Ser Thr Ala Asn Arg Gly Tyr Cys
130 135 140

Val Ser Leu Thr Ser Asn Thr Ala Tyr Lys Lys Trp Lys Asp Glu Asn
145 150 155 160

Cys Glu Ala Gln Tyr Ser Phe Val Cys Lys Phe Arg Ala
165 170

<210> 43
<211> 837
<212> DNA
<213> Mus musculus

<400> 43
gcccttcctt caaatcctat cataaagcag tcacctttgt cctgacaaac catctcagat 60
ctctacaaga gagacaagat gctgcctcac ctggtcctca acagtatttc ctggatgctg 120
ctctcctgcc tgttgtttgt atttcaggta caaggtgaag acttccagaa ggaagtgccc 180
tctccacgta ccagctgccc catgggttac aaggcttatc gctcccactg ctatgcctta 240
gttatgacac ctaaatcctg gtttcaagca gatctggtct gccagaagag accctcagga 300
catctcgtgt ctattcttag tggaggtgag gcttcctttg tgtcctcctt ggtgaacggc 360
agagtggaca actaccaaga catctggatt gggctccatg atccaacaat gggtcaacaa 420
cccaatggag gtggatggga gtggagtaac tccgatgtgc tgaattatct taactgggat 480
ggggatcctt cctctactgt caaccgtggt cactgtggga gtctgacagc aagttcaggg 540
tttctgaagt ggggagacta ttactgcgat gggacattac catttgtctg caagttcaag 600
cagtagacaa gcagcatcca gcatttatca tgaagctccc catgacaagg gatgaaatac 660
aagaattcac ccggcaaggc tgtacttgct ttacagttgt gcatcagact tattctggtt 720
ttctgtcctc tttcatccat ctccttcccc ttacttcagg cttttcaata tagttcctgc 780

tttgcaatct tgcagataaa taataaatac aacattttgg ttttactttt gtgtttt 837

<210> 44
<211> 175
<212> PRT
<213> Mus musculus

<400> 44
Met Leu Pro His Leu Val Leu Asn Ser Ile Ser Trp Met Leu Leu Ser
1 5 10 15

Cys Leu Leu Phe Val Phe Gln Val Gln Gly Glu Asp Phe Gln Lys Glu
20 25 30

Val Pro Ser Pro Arg Thr Ser Cys Pro Met Gly Tyr Lys Ala Tyr Arg
35 40 45

Ser His Cys Tyr Ala Leu Val Met Thr Pro Lys Ser Trp Phe Gln Ala
50 55 60

Asp Leu Val Cys Gln Lys Arg Pro Ser Gly His Leu Val Ser Ile Leu
65 70 75 80

Ser Gly Gly Glu Ala Ser Phe Val Ser Ser Leu Val Asn Gly Arg Val
85 90 95

Asp Asn Tyr Gln Asp Ile Trp Ile Gly Leu His Asp Pro Thr Met Gly
100 105 110

Gln Gln Pro Asn Gly Gly Gly Trp Glu Trp Ser Asn Ser Asp Val Leu
115 120 125

Asn Tyr Leu Asn Trp Asp Gly Asp Pro Ser Ser Thr Val Asn Arg Gly
130 135 140

His Cys Gly Ser Leu Thr Ala Ser Ser Gly Phe Leu Lys Trp Gly Asp
145 150 155 160

Tyr Tyr Cys Asp Gly Thr Leu Pro Phe Val Cys Lys Phe Lys Gln
165 170 175

<210> 45
<211> 788
<212> DNA
<213> Mus musculus

<400> 45
cccggggcga aatcacctct gagctgtcaa agcattgcag acctctgtat agacagatat 60

accatggtgt ctcacaagac ccttcatagc atgtcctgga tgctactgtg ttgcctgatg 120

tccctttctt gggtacaagg ggaacaatcc cagaaaaaac tgtcttctcc acgcatcagc 180

tgtccccaag aagcccaagc ttatggctcc tattgctatt tactgattct ggaaccacag 240

acctgggcta atgcagagat ccactgccag aagcatttct caggacacct ggcatttctg 300

ctcacttatg gggaaattat ctttgtgtcc tctctggtga aaaacagttt gaccacattc 360

ccatacatct ggattggact ccatgatctg tcacttggga gtttgcccaa tgaaaatgga 420

tggaagtgga gcagctctga ccctctgacc ttctataact gggagatccc accctccatg 480

tctgcacacc acggttactg cgcagctttg tctcaggcct caggttatca gaagtggaga 540

gattattatt gtgacccaac atttccctat gtctgcaaat tcaagggtta ggccagttct 600

gatttcaact gcctgaaagt atcctgaaga tcacatagac aaaggagcga gcatgatggc 660

tcaccaagaa agtccttctc acaccccgac accgaattcc tcatctcatc tctgctgttc 720

ttccataagt gtattctctg gggactctgg cctaaggatt cggagaacta taataaaatt 780

tagtcaat 788

<210> 46
<211> 175
<212> PRT
<213> Mus musculus

<400> 46

Met Val Ser His Lys Thr Leu His Ser Met Ser Trp Met Leu Leu Cys
1 5 10 15

Cys Leu Met Ser Leu Ser Trp Val Gln Gly Glu Gln Ser Gln Lys Lys
20 25 30

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

Ser Tyr Cys Tyr Leu Leu Ile Leu Glu Pro Gln Thr Trp Ala Asn Ala
50 55 60

Glu Ile His Cys Gln Lys His Phe Ser Gly His Leu Ala Phe Leu Leu
65 70 75 80

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

Thr Thr Phe Pro Tyr Ile Trp Ile Gly Leu His Asp Leu Ser Leu Gly
100 105 110

Ser Leu Pro Asn Glu Asn Gly Trp Lys Trp Ser Ser Ser Asp Pro Leu
115 120 125

Thr Phe Tyr Asn Trp Glu Ile Pro Pro Ser Met Ser Ala His His Gly
130 135 140

Tyr Cys Ala Ala Leu Ser Gln Ala Ser Gly Tyr Gln Lys Trp Arg Asp
145 150 155 160

Tyr Tyr Cys Asp Pro Thr Phe Pro Tyr Val Cys Lys Phe Lys Gly
165 170 175

<210> 47

<211> 1024
<212> DNA
<213> Mus musculus

<400> 47
ccgactcaag ctgaaaaagg cagggttctc ggagtgttgc ttccaatcag attgcaggtc 60

taggagaatc cacaaaaaag agaagaaaag aaaagaaaaa aactggaacg ggctctgagg 120

gccttgaaat caaagcattg aagtatcatc tccatcgaaa gaggaagatg gcttacaaag 180

gcgtgcggct actcttactg ctgagctggg tagctggccc cgaagtcctg agcgatatct 240

tgagacccag ctgtgcccca ggatggtttt actataggtc ccactgctat ggatacttcc 300

ggaagctaag aaactggtct catgctgagc tggagtgtca gtcatatgga aatggatccc 360

atctggcatc tgtcttgaat caaaaggaag ccagtgtcat atcaaagtac ataactggct 420

atcagagaaa cctgcctgtg tggattggcc tgcatgaccc acaaaagaag caattatggc 480

agtggactga tgggtctaca aacctgtaca gacgctggaa tcccaggaca aagagtgaag 540

ccaggcattg cgctgagatg aaccccaagg ataaattctt aacttggaac aaaaatggat 600

gtgccaaccg ccaacacttc ctgtgcaagt ataagacata gagcaaaaat caagcgtcta 660

ccagccttgc acaaactctt cccacttccc tctcacctgg tggctgatct aatcattatc 720

ccagagtaaa cactgtagca aacattgagg aggcctccag ggcactggct atcaagccct 780

gcttagcatg gtgggacagt ggcttccggt ctcagagttt agcatggtgg gacggtgact 840

tccggtctca gagattagca tggtgggaca agggcttctg gtctccgtgt tcactctaca 900

atcctttctg gtactccccc tccctctcat tgtcttaaac agcaatgctt aacaagctag 960

aaatgtgctt tcttgactac tgcgtctctg tcaaaccagt aaagttttgg agccaagaaa 1020

cagc 1024

<210> 48
<211> 157
<212> PRT
<213> Mus musculus

<400> 48
Met Ala Tyr Lys Gly Val Arg Leu Leu Leu Leu Leu Ser Trp Val Ala
1 5 10 15

Gly Pro Glu Val Leu Ser Asp Ile Leu Arg Pro Ser Cys Ala Pro Gly
20 25 30

Trp Phe Tyr Tyr Arg Ser His Cys Tyr Gly Tyr Phe Arg Lys Leu Arg
35 40 45

Asn Trp Ser His Ala Glu Leu Glu Cys Gln Ser Tyr Gly Asn Gly Ser
50 55 60

His Leu Ala Ser Val Leu Asn Gln Lys Glu Ala Ser Val Ile Ser Lys
65 70 75 80

Tyr Ile Thr Gly Tyr Gln Arg Asn Leu Pro Val Trp Ile Gly Leu His
85 90 95

Asp Pro Gln Lys Lys Gln Leu Trp Gln Trp Thr Asp Gly Ser Thr Asn
100 105 110

Leu Tyr Arg Arg Trp Asn Pro Arg Thr Lys Ser Glu Ala Arg His Cys
115 120 125

Ala Glu Met Asn Pro Lys Asp Lys Phe Leu Thr Trp Asn Lys Asn Gly
130 135 140

Cys Ala Asn Arg Gln His Phe Leu Cys Lys Tyr Lys Thr
145 150 155

<210> 49
<211> 618
<212> DNA
<213> Homo sapiens

<400> 49
atgacaccac ctgaacgtct cttcctccca agggtgtgtg gcaccaccct acacctcctc 60
cttctggggc tgctgctggt tctgctgcct ggggcccagg ggctccctgg tgttggcctc 120
acaccttcag ctgcccagac tgcccgtcag caccccaaga tgcatcttgc ccacagcacc 180
ctcaaacctg ctgctcacct cattggagac cccagcaagc agaactcact gctctggaga 240
gcaaacacgg accgtgcctt cctccaggat ggtttctcct tgagcaacaa ttctctcctg 300
gtccccacca gtggcatcta cttcgtctac tcccaggtgg tcttctctgg gaaagcctac 360
tctcccaagg ccacctcctc cccactctac ctggcccatg aggtccagct cttctcctcc 420
cagtaccccc tccatgtgcc tctcctcagc tcccagaaga tggtgtatcc agggctgcag 480
gaaccctggc tgcactcgat gtaccacggg gctgcgttcc agctcaccca gggagaccag 540
ctatccaccc acacagatgg catcccccac ctagtcctca gccctagtac tgtcttcttt 600
ggagccttcg ctctgtag 618

<210> 50
<211> 205
<212> PRT
<213> Homo sapiens

<400> 50
Met Thr Pro Pro Glu Arg Leu Phe Leu Pro Arg Val Cys Gly Thr Thr
1 5 10 15

Leu His Leu Leu Leu Leu Gly Leu Leu Val Leu Leu Pro Gly Ala
20 25 30

Gln Gly Leu Pro Gly Val Gly Leu Thr Pro Ser Ala Ala Gln Thr Ala
35 40 45

Arg Gln His Pro Lys Met His Leu Ala His Ser Thr Leu Lys Pro Ala
50 55 60

Ala His Leu Ile Gly Asp Pro Ser Lys Gln Asn Ser Leu Leu Trp Arg

65 70 75 80

Ala Asn Thr Asp Arg Ala Phe Leu Gln Asp Gly Phe Ser Leu Ser Asn
85 90 95

Asn Ser Leu Leu Val Pro Thr Ser Gly Ile Tyr Phe Val Tyr Ser Gln
100 105 110

Val Val Phe Ser Gly Lys Ala Tyr Ser Pro Lys Ala Thr Ser Ser Pro
115 120 125

Leu Tyr Leu Ala His Glu Val Gln Leu Phe Ser Ser Gln Tyr Pro Phe
130 135 140

His Val Pro Leu Leu Ser Ser Gln Lys Met Val Tyr Pro Gly Leu Gln
145 150 155 160

Glu Pro Trp Leu His Ser Met Tyr His Gly Ala Ala Phe Gln Leu Thr
165 170 175

Gln Gly Asp Gln Leu Ser Thr His Thr Asp Gly Ile Pro His Leu Val
180 185 190

Leu Ser Pro Ser Thr Val Phe Phe Gly Ala Phe Ala Leu
195 200 205

<210> 51
<211> 735
<212> DNA
<213> Homo sapiens

<400> 51
atgggggcac tggggctgga gggcaggggt gggaggctcc aggggagggg ttccctcctg 60
ctagctgtgg caggagccac ttctctggtg accttgttgc tggcggtgcc tatcactgtc 120
ctggctgtgc tggccttagt gccccaggat cagggaggac tggtaacgga gacggccgac 180
cccgggcac aggcccagca aggactgggg tttcagaagc tgccagagga ggagccagaa 240
acagatctca gccccgggct cccagctgcc cacctcatag gcgctccgct gaaggggcag 300
gggctaggct gggagacgac gaaggaacag gcgtttctga cgagcgggac gcagttctcg 360
gacgccgagg ggctggcgct cccgcaggac ggcctctatt acctctactg tctcgtcggc 420
taccggggcc gggcgccccc tggcggcggg gacccccagg gccgctcggt cacgctgcgc 480
agctctctgt accgggcggg gggcgcctac gggccgggca ctcccgagct gctgctcgag 540
ggcgccgaga cggtgactcc agtgctggac ccggccagga gacaagggta cgggcctctc 600
tggtacacga gcgtggggtt cggcggcctg gtgcagctcc ggaggggcga gagggtgtac 660
gtcaacatca gtcaccccga tatggtggac ttcgcgagag ggaagacctt ctttggggcc 720
gtgatggtgg ggtga 735

<210> 52
<211> 240

<212> PRT
<213> Homo sapiens

<400> 52
Met Gly Ala Leu Gly Leu Glu Gly Arg Gly Gly Arg Leu Gln Gly Arg
1 5 10 15

Gly Ser Leu Leu Leu Ala Val Ala Gly Ala Thr Ser Leu Val Thr Leu
20 25 30

Leu Leu Ala Val Pro Ile Thr Val Leu Ala Val Leu Ala Leu Val Pro
35 40 45

Gln Asp Gln Gly Gly Leu Val Thr Glu Thr Ala Asp Pro Gly Ala Gln
50 55 60

Ala Gln Gln Gly Leu Gly Phe Gln Lys Leu Pro Glu Glu Glu Pro Glu
65 70 75 80

Thr Asp Leu Ser Pro Gly Leu Pro Ala Ala His Leu Ile Gly Ala Pro
85 90 95

Leu Lys Gly Gln Gly Leu Gly Trp Glu Thr Thr Lys Glu Gln Ala Phe
100 105 110

Leu Thr Ser Gly Thr Gln Phe Ser Asp Ala Glu Gly Leu Ala Leu Pro
115 120 125

Gln Asp Gly Tyr Leu Tyr Cys Leu Val Gly Tyr Arg Gly Arg Ala Pro
130 135 140

Pro Gly Gly Gly Asp Pro Gln Gly Arg Ser Val Thr Leu Arg Ser Ser
145 150 155 160

Leu Tyr Arg Ala Gly Gly Ala Tyr Gly Pro Gly Thr Pro Glu Leu Leu
165 170 175

Leu Glu Gly Ala Glu Thr Val Thr Pro Val Leu Asp Pro Ala Arg Arg
180 185 190

Gln Gly Tyr Gly Pro Leu Trp Tyr Thr Ser Val Gly Phe Gly Gly Leu
195 200 205

Val Gln Leu Arg Arg Gly Glu Arg Val Tyr Val Asn Ile Ser His Pro
210 215 220

Asp Met Val Asp Phe Arg Lys Thr Phe Phe Gly Ala Val Met Val Gly
225 230 235 240

<210> 53
<211> 609
<212> DNA
<213> Mus musculus

<400> 53

atgacactgc tcggccgtct ccacctcttg agggtgcttg gcacccctcc tgtcttcctc 60

ctggggctgc tgctggccct gcctctaggg gcccagggac tctctggtgt ccgcttctcc 120

gctgccagga cagcccatcc actccctcag aagcacttga cccatggcat cctgaaacct 180

gctgctcacc ttgttgggta ccccagcaag cagaactcac tgctctggag agcaagcacg 240

gatcgtgcct ttctccgaca tggcttctct ttgagcaaca actccctcct gatccccacc 300

agtggcctct actttgtcta ctcccaggtg gttttctctg gagaaagctg ctcccccagg 360

gccattccca ctcccatcta cctggcacac gaggtccagc tcttttcctc ccaatacccc 420

ttccatgtgc ctctcctcag tgcgcagaag tctgtgtatc cgggacttca aggaccgtgg 480

gtgcgctcaa tgtaccaggg ggctgtgttc ctgctcagta agggagacca gctgtccacc 540

cacaccgacg gcatctccca tctacacttc agccccagca gtgtattctt tggagccttt 600

gcactgtag 609

<210> 54
<211> 200
<212> PRT
<213> Mus musculus

<400> 54
Met Thr Leu Leu Gly Arg Leu His Leu Leu Arg Val Leu Gly Thr Pro
1 5 10 15

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

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

Pro Gln Lys His Leu Thr His Gly Ile Leu Lys Pro Ala Ala His Leu
50 55 60

Val Gly Tyr Pro Ser Lys Gln Asn Ser Leu Leu Trp Arg Ala Ser Thr
65 70 75 80

Asp Arg Ala Phe Leu Arg His Gly Phe Ser Leu Ser Asn Asn Ser Leu
85 90 95

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

Glu Ser Cys Ser Pro Arg Ala Ile Pro Thr Pro Ile Tyr Leu Ala His
115 120 125

Glu Val Gln Leu Phe Ser Ser Gln Tyr Pro Phe His Val Pro Leu Leu
130 135 140

Ser Ala Gln Lys Ser Val Tyr Pro Gly Leu Gln Gly Pro Trp Val Arg
145 150 155 160

Ser Met Tyr Gln Gly Ala Val Phe Leu Leu Ser Lys Gly Asp Gln Leu

165 170 175

Ser Thr His Thr Asp Gly Ile Ser His Leu His Phe Ser Pro Ser Ser
180 185 190

Val Phe Phe Gly Ala Phe Ala Leu
195 200

<210> 55
<211> 609
<212> DNA
<213> Mus musculus

<400> 55
atgacactgc tcggccgtct ccacctcttg agggtgcttg gcacccctcc tgtcttcctc 60
ctggggctgc tgctggccct gcctctaggg gcccagggac tctctggtgt ccgcttctcc 120
gctgccagga cagcccatcc actccctcag aagcacttga cccatggcat cctgaaacct 180
gctgctcacc ttgttgggta ccccagcaag cagaactcac tgctctggag agcaagcacg 240
gatcgtgcct ttctccgaca tggcttctct ttgagcaaca actccctcct gatccccacc 300
agtggcctct actttgtcta ctcccaggtg gttttctctg gagaaagctg ctcccccagg 360
gccattccca ctcccatcta cctggcacac gaggtccagc tcttttcctc ccaatacccc 420
ttccatgtgc ctctcctcag tgcgcagaag tctgtgtatc cgggacttca aggaccgtgg 480
gtgcgctcaa tgtaccaggg ggctgtgttc ctgctcagta agggagacca gctgtccacc 540
cacaccgacg gcatctccca tctacacttc agccccagca gtgtattctt tggagccttt 600
gcactgtag 609

<210> 56
<211> 306
<212> PRT
<213> Mus musculus

<400> 56
Met Gly Thr Arg Gly Leu Gln Gly Leu Gly Gly Arg Pro Gln Gly Arg
1 5 10 15

Gly Cys Leu Leu Leu Ala Val Ala Gly Ala Thr Ser Leu Val Thr Leu
20 25 30

Leu Leu Ala Val Pro Ile Thr Val Leu Ala Val Leu Ala Leu Val Pro
35 40 45

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

Ala Gln Lys Arg Leu Asp Asp Ser Lys Pro Ser Cys Ile Leu Pro Ser
65 70 75 80

Pro Ser Ser Leu Ser Glu Thr Pro Asp Pro Arg Leu His Pro Gln Arg
85 90 95

Ser Asn Ala Ser Arg Asn Leu Ala Ser Thr Ser Gln Gly Pro Val Ala
100 105 110

Gln Ser Ser Arg Glu Ala Ser Ala Trp Met Thr Ile Leu Ser Pro Ala
115 120 125

Ala Asp Ser Thr Pro Asp Pro Gly Val Gln Gln Leu Pro Lys Gly Glu
130 135 140

Pro Glu Thr Asp Leu Asn Pro Glu Leu Pro Ala Ala His Leu Ile Gly
145 150 155 160

Ala Trp Met Ser Gly Gln Gly Leu Ser Trp Glu Ala Ser Gln Glu Glu
165 170 175

Ala Phe Leu Arg Ser Gly Ala Gln Phe Ser Pro Thr His Gly Leu Ala
180 185 190

Leu Pro Gln Asp Gly Val Tyr Tyr Leu Tyr Cys His Val Gly Tyr Arg
195 200 205

Gly Arg Thr Pro Pro Ala Gly Arg Ser Arg Ala Arg Ser Leu Thr Leu
210 215 220

Arg Ser Ala Leu Tyr Arg Ala Gly Gly Ala Tyr Gly Arg Gly Ser Pro
225 230 235 240

Glu Leu Leu Leu Glu Gly Ala Glu Thr Val Thr Pro Val Val Asp Pro
245 250 255

Ile Gly Tyr Gly Ser Leu Trp Tyr Thr Ser Val Gly Phe Gly Gly Leu
260 265 270

Ala Gln Leu Arg Ser Gly Glu Arg Val Tyr Val Asn Ile Ser His Pro
275 280 285

Asp Met Val Asp Tyr Arg Arg Gly Lys Thr Phe Phe Gly Ala Val Met
290 295 300

Val Gly
305

<210> 57
<211> 672
<212> DNA
<213> Homo sapiens

<400> 57
atgctcctgc cttgggccac ctctgccccc ggcctggcct gggggcctct ggtgctgggc 60

ctcttcgggc tcctggcagc atcgcagccc caggcggtgc ctccatatgc gtcggagaac 120

cagacctgca gggaccagga aaaggaatac tatgagcccc agcaccgcat ctgctgctcc 180

cgctgcccgc caggcaccta tgtctcagct aaatgtagcc gcatccggga cacagtttgt 240

gccacatgtg ccgagaattc ctacaacgag cactggaact acctgaccat ctgccagctg 300

tgccgcccct gtgacccagt gatgggcctc gaggagattg ccccctgcac aagcaaacgg 360

aagacccagt gccgctgcca gccgggaatg ttctgtgctg cctgggccct cgagtgtaca 420

cactgcgagc tactttctga ctgcccgcct ggcactgaag ccgagctcaa agatgaagtt 480

gggaagggta acaaccactg cgtcccctgc aaggcagggc acttccagaa tacctcctcc 540

cccagcgccc gctgccagcc ccacaccagg tgtgagaacc aaggtctggt ggaggcagct 600

ccaggcactg cccagtccga cacaacctgc aaaaatccat tagagccact gcccccagag 660

atgtcaggag gg 672

<210> 58
<211> 706
<212> DNA
<213> Homo sapiens

<400> 58
cgcgcccagg tcaccgacaa agctgcgcac tatactctgt gcccaccgtg cccagcacct 60

gaactcctgg ggggaccgtc agtcttcctc ttcccccaa aacccaagga caccctcatg 120

atctcccgga cccctgaggt cacatgcgtg gtggtggacg tgagccacga agaccctgag 180

gtcaagttca actggtacgt ggacggcgtg gaggtgcata atgccaagac aaagccgcgg 240

gaggagcagt acaacagcac gtaccgtgtg gtcagcgtcc tcaccgtcct gcaccaggac 300

tggctgaatg gcaaggagta caagtgcaag gtctccaaca aagccctccc agccccatc 360

gagaaaacca tctccaaagc caaagggcag ccccgagaac cacaggtgta caccctgccc 420

ccatcccggg aagagatgac caagaaccag gtcagcctga cctgcctggt caaaggcttc 480

tatcccagcg acatcgccgt ggagtgggag agcaatgggc agccggagaa caactacaag 540

accacgcctc ccgtgctgga ctccgacggc tccttcttcc tctacagcaa gctcaccgtg 600

gacaagagca ggtggcagca ggggaacgtc ttctcatgct ccgtgatgca tgaggctctg 660

cacaaccact acacgcagaa gagcctctcc ctgtctccgg gtaaat 706

<210> 59
<211> 640
<212> DNA
<213> Mus musculus

<400> 59
atgcgcctgc cccgggcctc ctctccctgc ggcctggcct gggggccact cctgctggga 60

ctcagcgggc ttctggtggc ctctcagccc cagctggtgc ccccttatcg catagaaaac 120

cagacttgct gggaccagga caaggaatac tacgagccca tgcacgacgt ctgctgctcc 180

cgctgtcccc caggcgagtt tgtctttgcg gtatgcagcc gcagccaaga cacggtttgc 240

aagacttgcc cccataattc ctataatgaa cactggaacc atctctccac ctgccagctg 300

tgccgcccct gtgacattgt gctgggcttt gaggaggttg cccccttgcac cagcgatcgg 360

aaagccgagt gccgctgtca gccggggatg tcctgtgtgt atctggacaa tgagtgtgtg 420

cactgtgagg aggagcggct tgtactctgc cagcctggca cagaagccga ggtcacagat 480

gaaattatgg atactgacgt caactgtgtc ccctgtaagc cgggacactt ccagaacact 540

tcctcccctc gagcccgctg tcaaccccat accagatgtg agatccaggg cctggtggag 600

gcagctccag gtacctccta ctcggatacc atctgtaaaa 640

<210> 60
<211> 718
<212> DNA
<213> Mus musculus

<400> 60
ctcgaggacc cacaatcaag ccctgtcctc catgcaaatg cccagcacct aacctcttgg 60

gtggaccatc cgtcttcatc ttccctccaa agatcaagga tgtactcatg atctccctga 120

gccccatagt cacatgtgtg gtggtggatg tgagcgagga tgacccagat gtccagatca 180

gctggtttgt gaacaacgtg gaagtacaca cagctcagac acaaacccat agagaggatt 240

acgacagtac tctacgcgtg gtcagtgccc tccccatcca gcaccaggac tggatgagtg 300

gcaaggagtt caaatgcaag gtcaacaaca aagacctccc agcgcccatc gagagaacca 360

tctcaaaacc caaagggtca gtaagagctc cacaggtata tgtcttgcct ccaccagaag 420

aagagatgac taagaaacag gtcactctga cctgcatggt cacagacttc atgcctgaag 480

acatttacgt ggagtggacc aacaacggga aaacagagct aaactacaag aacactgaac 540

cagtcctgga ctctgatggt tcttacttca tgtacagcaa gctgagagtg gaaaagaaga 600

actgggtgga aagaaatagc tactcctgtt cagtggtcca cgagggtctg cacaatcacc 660

acacgactaa gagcttctcc cggactccgg gtaaatgaaa gcttggccgc catggccc 718

<210> 61
<211> 178
<212> PRT
<213> Homo sapiens

<400> 61
Met Lys His Gln His Gln His Gln His Gln His Gln His Gln Met His
1 5 10 15

Gln Ala Gln Thr Ala Arg Gln His Pro Lys Met His Leu Ala His Ser
20 25 30

Thr Leu Lys Pro Ala Ala His Leu Ile Gly Asp Pro Ser Lys Gln Asn
35 40 45

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

Phe Ser Leu Ser Asn Asn Ser Leu Leu Val Pro Thr Ser Gly Ile Tyr
65 70 75 80

Phe Val Tyr Ser Gln Val Val Phe Ser Gly Lys Ala Tyr Ser Pro Lys
85 90 95

Ala Thr Ser Ser Pro Leu Tyr Leu Ala His Glu Val Gln Leu Phe Ser
100 105 110

Ser Gln Tyr Pro Phe His Val Pro Leu Leu Ser Ser Gln Lys Met Val
115 120 125

Tyr Pro Gly Leu Gln Glu Pro Trp Leu His Ser Met Tyr His Gly Ala
130 135 140

Ala Phe Gln Leu Thr Gln Gly Asp Gln Leu Ser Thr His Thr Asp Gly
145 150 155 160

Ile Pro His Leu Val Leu Ser Pro Ser Thr Val Phe Phe Gly Ala Phe
165 170 175

Ala Leu

<210> 62
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 62
gtggaagcta cttgatgagt aggg 24

<210> 63
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 63
agatgcgaaa atggagatta aaag 24

<210> 64
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 64
ctacccgtga tattgctgaa gag 23

<210> 65
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 65 20
gagcctgaag aagctggaaa

<210> 66
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 66 20
caagtgttgg cagagatgga

<210> 67
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 67 20
tcgccttctt gacgagttct

<210> 68
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 68 20
tccgaggagt cagtgctaaa

<210> 69
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 69 20
agaacgtctt ccagggtgaa

<210> 70
<211> 25
<212> DNA
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic probe"

<400> 70 25
tgagcacctg cttcatcagg tagca

<210> 71
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 71 19
gctccagaag gccctcaga

<210> 72
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 72 19
ctttccctcc gcattgaca

<210> 73
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic probe"

<400> 73 21
acctcaaccg ttccacgtca c

<210> 74
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 74 19
gcatcctcat ggagcacat

<210> 75
<211> 18
<212> DNA
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 75
ctggtcagcc aggagctt 18

<210> 76
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic probe"

<400> 76
cttgcgggcc ttgtctgcct t 21

<210> 77
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 77
agcctggatt gacaggaatc 20

<210> 78
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 78
gataatcaga cgaggcgttt c 21

<210> 79
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic probe"

<400> 79
tctggaaact cctgcagcct gacac 25

<210> 80
<211> 22
<212> DNA
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 90
tcaccatcgc aaggaactcc 20

<210> 91
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic probe"

<400> 91
cgaaaacttg ttcagagaat tggacatcaa tagtga 36

<210> 92
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 92
ggtggaagca cagttggca 19

<210> 93
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 93
gtgtccaggt cctccatgat g 21

<210> 94
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic probe"

<400> 94
tgaagaaaga gaagagaaat gaagccctca taaatg 36

<210> 95
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 95
atggctccta ttgctatgcc 20

<210> 96
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 96
gatgtcctga gggcctctt 19

<210> 97
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic probe"

<400> 97
tggcaggcca tatctgcatc atacc 25

<210> 98
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 98
atggctccta ctgctatgcc 20

<210> 99
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 99
gtgtcctcca ggcctcttt 19

<210> 100
<211> 21
<212> DNA
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic probe"

<400> 100
tgatgcagaa ctggcctgcc a 21

<210> 101
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 101
acatctaccg aagtccaatg ca 22

<210> 102
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic primer"

<400> 102
ggaattgtaa tagcgatcct gagc 24

<210> 103
<211> 21
<212> DNA
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