SEQUENCE LISTING

<110> Sandoz AG
Boehringer Ingelheim Austria GmbH

<120> Organic Compounds

<130> r47641

<140> PCT/AT2006/000168
<141> 2006-04-25

<150> GB0508435.5
<151> 2005-04-26

<150> GB0508434.8
<151> 2005-04-26

<150> GB0605379.7
<151> 2006-03-16

<160> 56

<170> PatentIn version 3.3

<210> 1
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<213> pestivirus

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Met Glu Leu Asn His Phe Glu Leu Leu Tyr Lys Thr Ser Lys Gln Lys
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Pro Val Gly Val Glu Glu Pro Val Tyr Asp Thr Ala Gly Arg Pro Leu
20 25 30

Phe Gly Asn Pro Ser Glu Val His Pro Gln Ser Thr Leu Lys Leu Pro
35 40 45

His Asp Arg Gly Arg Gly Asp Ile Arg Thr Thr Leu Arg Asp Leu Pro
50 55 60

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

Ile Tyr Ile Lys Pro Gly Pro Val Tyr Tyr Gln Asp Tyr Thr Gly Pro
85 90 95

Val Tyr His Arg Ala Pro Leu Glu Phe Phe Asp Glu Ala Gln Phe Cys
100 105 110

Glu Val Thr Lys Arg Ile Gly Arg Val Thr Gly Ser Asp Gly Lys Leu
115 120 125

Tyr His Ile Tyr Val Cys Val Asp Gly Cys Ile Leu Leu Lys Leu Ala
130 135 140

Lys Arg Gly Thr Pro Arg Thr Leu Lys Trp Ile Arg Asn Phe Thr Asn
145 150 155 160

Cys Pro Leu Trp Val Thr Ser Cys
165

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<213> artificial

<220>
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Met Glu Leu Asn His Phe Glu Leu Leu Tyr Lys Thr Ser Lys Gln Lys
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Pro Val Gly Val Glu Glu Pro Val Tyr Asp Thr Ala Gly Arg Pro Leu
20 25 30

Phe Gly Asn Pro Ser Glu Val His Pro Gln Ser Thr Leu Lys Leu Pro
35 40 45

His Asp Arg Gly Arg Gly Asp Ile Arg Thr Thr Leu Arg Asp Leu Pro
50 55 60

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

Ile Tyr Ile Lys Pro Gly Pro Val Tyr Tyr Gln Asp Tyr Thr Gly Pro
85 90 95

Val Tyr His Arg Ala Pro Leu Glu Phe Phe Asp Glu Ala Gln Phe Glu
100 105 110

Glu Val Thr Lys Arg Ile Gly Arg Val Thr Gly Ser Asp Gly Lys Leu
115 120 125

Tyr His Ile Tyr Val Glu Val Asp Gly Glu Ile Leu Leu Lys Leu Ala
130 135 140

Lys Arg Gly Thr Pro Arg Thr Leu Lys Trp Ile Arg Asn Phe Thr Asn
145 150 155 160

Cys Pro Leu Trp Val Thr Ser Cys
165

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<213> artificial

<220>
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<400> 3

Met Glu Leu Asn His Phe Glu Leu Leu Tyr Lys Thr Ser Lys Gln Lys
1 5 10 15

Pro Val Gly Val Glu Glu Pro Val Tyr Asp Thr Ala Gly Arg Pro Leu
20 25 30

Phe Gly Asn Pro Ser Glu Val His Pro Gln Ser Thr Leu Lys Leu Pro
35 40 45

His Asp Arg Gly Glu Asp Asp Ile Glu Thr Thr Leu Arg Asp Leu Pro
50 55 60

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

Ile Tyr Ile Lys Pro Gly Pro Val Tyr Tyr Gln Asp Tyr Thr Gly Pro
85 90 95

Val Tyr His Arg Ala Pro Leu Glu Phe Phe Asp Glu Ala Gln Phe Glu
100 105 110

Glu Val Thr Lys Arg Ile Gly Arg Val Thr Gly Ser Asp Gly Lys Leu
115 120 125

Tyr His Ile Tyr Val Glu Val Asp Gly Glu Ile Leu Leu Lys Gln Ala
130 135 140

Lys Arg Gly Thr Pro Arg Thr Leu Lys Trp Ile Arg Asn Phe Thr Asn
145 150 155 160

Cys Pro Leu Trp Val Thr Ser Cys
165

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<400> 4

Met Glu Leu Asn His Phe Glu Leu Leu Tyr Lys Thr Ser Lys Gln Lys
1 5 10 15

Pro Val Gly Val Glu Glu Pro Val Tyr Asp Thr Ala Gly Arg Pro Leu
20 25 30

Phe Gly Asn Pro Ser Glu Val His Pro Gln Ser Thr Leu Lys Leu Pro
35 40 45

His Asp Arg Gly Arg Gly Asp Ile Arg Thr Thr Leu Arg Asp Leu Pro
50 55 60

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

Ile Tyr Ile Lys Pro Gly Pro Val Tyr Tyr Gln Asp Tyr Thr Gly Pro
85 90 95

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

Glu Thr Thr Lys Arg Ile Gly Arg Val Thr Gly Ser Asp Gly Lys Leu
115 120 125

Tyr His Ile Tyr Val Glu Val Asp Gly Glu Ile Leu Leu Lys Leu Ala
130 135 140

Lys Arg Gly Thr Pro Arg Thr Leu Lys Trp Thr Arg Asn Thr Thr Asn
145 150 155 160

Cys Pro Leu Trp Val Thr Ser Cys
165

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<211> 168
<212> PRT
<213> artificial

<220>
<223> derivative of Seq. Id No 1

<400> 5

Met Glu Leu Asn His Phe Glu Leu Leu Tyr Lys Thr Ser Lys Gln Lys
1 5 10 15

Pro Val Gly Val Glu Glu Pro Val Tyr Asp Thr Ala Gly Arg Pro Leu
20 25 30

Phe Gly Asn Pro Ser Glu Val His Pro Gln Ser Thr Leu Lys Leu Pro
35 40 45

His Asp Arg Gly Glu Asp Asp Ile Glu Thr Thr Leu Arg Asp Leu Pro
50 55 60

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

Ile Tyr Ile Lys Pro Gly Pro Val Tyr Tyr Gln Asp Tyr Thr Gly Pro
85 90 95

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

Glu Thr Thr Lys Arg Ile Gly Arg Val Thr Gly Ser Asp Gly Lys Leu
115 120 125

5

Tyr His Ile Tyr Val Glu Val Asp Gly Glu Ile Leu Leu Lys Gln Ala
130 135 140

Lys Arg Gly Thr Pro Arg Thr Leu Lys Trp Thr Arg Asn Thr Thr Asn
145 150 155 160

Cys Pro Leu Trp Val Thr Ser Cys
165

<210> 6
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<212> PRT
<213> pestivirus

<400> 6

Val Ser Ile Phe Glu Trp
1 5

<210> 7
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<400> 7

Ala Val Ser Ile Glu Trp Tyr
1 5

<210> 8
<211> 7
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<400> 8

Ala Val Ser Phe Ile Trp Tyr
1 5

<210> 9
<211> 7
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<400> 9

Val Ser Phe Ile Trp Tyr Lys
1 5

<210> 10
<211> 7
<212> PRT
<213> pestivirus

<400> 10

Ala Ser Arg Phe Trp Tyr Ala
1 5

<210> 11
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<400> 11

Ala Phe Tyr Thr Trp Tyr Ala
1 5

<210> 12
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<400> 12

Ala Phe Tyr Arg Trp Tyr Lys
1 5

<210> 13
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<400> 13

Ala Phe Tyr Arg Trp Tyr
1 5

<210> 14
<211> 7
<212> PRT
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<400> 14

Ala Phe Tyr Arg Trp Tyr Ala
1 5

<210> 15
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<400> 15

Ala Val Ser Ile Phe Glu Trp Tyr
1 5

<210> 16
<211> 7
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<400> 16

Ala Val Ser Arg Asn Trp Tyr
1 5

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<400> 17

Ala Ser Arg Phe Trp Tyr
1 5

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<400> 18

Ala Phe Tyr Arg Trp Tyr Ala Ala
1 5

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Ala Phe Tyr Arg Trp Tyr
1 5

<210> 20
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<400> 20

Ala Ser Arg Phe Trp Tyr Ala Ala
1 5

<210> 21
<211> 8
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<400> 21

Ala Phe Tyr Arg Trp Tyr Ala Ala
1 5

<210> 22
<211> 8
<212> PRT
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<400> 22

Ala Phe Tyr Ser Trp Tyr Ala Ala
1 5

<210> 23
<211> 415
<212> PRT
<213> pestivirus

<400> 23

Met His His His His His His Glu Leu Asn His Phe Glu Leu Leu Tyr
1 5 10 15

Lys Thr Ser Lys Gln Lys Pro Val Gly Val Glu Glu Pro Val Tyr Asp
20 25 30

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

Ser Thr Leu Lys Leu Pro His Asp Arg Gly Arg Gly Asp Ile Arg Thr
50 55 60

Thr Leu Arg Asp Leu Pro Arg Lys Gly Asp Cys Arg Ser Gly Asn His
65 70 75 80

Leu Gly Pro Val Ser Gly Ile Tyr Ile Lys Pro Gly Pro Val Tyr Tyr
85 90 95

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

Asp Glu Ala Gln Phe Cys Glu Val Thr Lys Arg Ile Gly Arg Val Thr
115 120 125

Gly Ser Asp Gly Lys Leu Tyr His Ile Tyr Val Cys Val Asp Gly Cys
130 135 140

Ile Leu Leu Lys Leu Ala Lys Arg Gly Thr Pro Arg Thr Leu Lys Trp
145 150 155 160

Ile Arg Asn Phe Thr Asn Cys Pro Leu Trp Val Thr Ser Cys Ser Gly
165 170 175

Thr Met Arg Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu
180 185 190

Val Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly
195 200 205

Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile
210 215 220

Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr
225 230 235 240

Phe Gly Tyr Gly Val Gln Cys Phe Ala Arg Tyr Pro Asp His Met Lys
245 250 255

Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu
260 265 270

Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu
275 280 285

Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly
290 295 300

Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr
305 310 315 320

Asn Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn
325 330 335

Gly Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser
340 345 350

Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly
355 360 365

Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu
370 375 380

Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe
385 390 395 400

Val Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys
405 410 415

<210> 24
<211> 24
<212> DNA
<213> artificial

<220>
<223> primer

<400> 24
gaaattaata cgactcacta tagg 24

<210> 25
<211> 30
<212> DNA
<213> artificial

<220>
<223> primer

<400> 25
cggtaccaga gcaactagtt acccataatg 30

<210> 26
<211> 26
<212> DNA
<213> artificial

<220>
<223> primer

<400> 26
gaaaggtacc atgcgtaaag gagaag 26

<210> 27
<211> 33
<212> DNA
<213> artificial

<220>
<223> primer

<400> 27
taagtcgact tatttgtata gttcatccat gcc 33

<210> 28
<211> 768
<212> DNA
<213> artificial

<220>
<223> plasmid

<400> 28
atggaactca atcatttcga actgctctac aaaactagca agcaaaaacc tgttggcgtt 60

gaagagccgg tctacgatac tgcaggtcgt cctctttttg ggaatccgtc cgaagtgcac 120

ccccagtcaa ccctcaagct tccccatgac cgcggacgcg gtgacattcg tacaacgctg 180

cgcgatctgc ctcgtaaagg cgattgtcgc tctggaaacc acctaggtcc ggtgtcgggc 240

atttacatta aaccaggtcc cgtctattac caagactaca ctggtccggt ttaccatcgt 300

gcacctctgg aattctttga tgaagctcaa ttttgcgaag tgactaaacg tattggccgt 360

gtaaccggtt cggacgggaa actgtaccac atctacgtgt gcgttgatgg ctgtatcctg 420

ctgaaactcg cgaagcgcgg aacccctcgc accctgaaat ggatccgtaa cttcactaac 480

tgtccactgt gggtcactag ttgcttcgtt aaccaacatc tgtgcggttc acaccttgtg 540

gaagccctgt atctggtgtg tggcgaacgc ggattctttt ataccccgaa aacgcggcgc 600

gaagccgaag atcttcaggt tggtcaagtg gaactgggcg gaggtccggg agccgggagc 660

ctgcaaccgc tggcgcttga agggtcgctg caaaaacgcg gtattgttga acagtgctgt 720

acctccatct gctctctgta tcagctggaa aactactgca attaataa 768

<210> 29
<211> 52
<212> DNA
<213> artificial

<220>
<223> primer

<400> 29
ctctcatatg catcaccatc atcatcacga actcaatcat ttcgaactgc tc 52

<210> 30
<211> 32
<212> DNA
<213> artificial

<220>
<223> primer

<400> 30
ctttcgtcga cttattaatt gcagtagttt tc 32

<210> 31
<211> 30

<212> DNA
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<220>
<223> primer

<400> 31
cgcgacatat ggaactcaat catttcgaac 30

<210> 32
<211> 32
<212> DNA
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<220>
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<400> 32
cgcagagatg ttggtcgacg ctgcaactag tg 32

<210> 33
<211> 52
<212> DNA
<213> artificial

<220>
<223> primer

<400> 33
gcaactagtg acccacagtg gacagttagt ggtgttacgg gtccatttca gg 52

<210> 34
<211> 26
<212> DNA
<213> artificial

<220>
<223> plasmid

<400> 34
gctcaatttg aggaagtgac taaacg 26

<210> 35
<211> 26
<212> DNA
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<220>
<223> plasmid

<400> 35
cgtttagtca cttcctcaaa ttgagc 26

<210> 36
<211> 22
<212> DNA
<213> artificial

<220>
<223> plasmid

<400> 36
catctacgtg gaggttgatg gc 22

<210> 37
<211> 22
<212> DNA
<213> artificial

<220>
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<400> 37
gccatcaacc tccacgtaga tg 22

<210> 38
<211> 21
<212> DNA
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<220>
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<400> 38
gttgatggcg agatcctgct g 21

<210> 39
<211> 21
<212> DNA
<213> artificial

<220>
<223> plasmid

<400> 39
cagcaggatc tcgccatcaa c 21

<210> 40
<211> 50
<212> DNA
<213> artificial

<220>
<223> plasmid

<400> 40
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<210> 41
<211> 50
<212> DNA
<213> artificial

<220>
<223> plasmid

<400> 41
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<210> 42
<211> 37
<212> DNA
<213> artificial

<220>
<223> plasmid

<400> 42
catgaccgcg gagaagatga cattgaaaca acgctgc 37

<210> 43
<211> 38
<212> DNA
<213> artificial

<220>
<223> plasmid

<400> 43
gcagcgttgt ttcaatgttc accttctccg cggtcatg 38

<210> 44
<211> 30
<212> DNA
<213> artificial

<220>
<223> plasmid

<400> 44
gatcctgctg aaacaggcga agcgcggaac 30

<210> 45
<211> 30
<212> DNA
<213> artificial

<220>
<223> plasmid

<400> 45
gttccgcgct tcgcctgttt cagcaggatc 30

<210> 46
<211> 720
<212> DNA
<213> artificial

<220>
<223> plasmid

<400> 46
tgcagcaaag gcgaagaact gtttaccggt gtggtgccga ttctggtgga actggatggc 60

gatgtgaacg gtcataaatt tagcgtgagc ggcgaaggtg aaggcgatgc gacctatggt 120

aaactgaccc tgaaatttat ttgcaccacc ggcaaactgc cggtgccgtg gccgaccctg 180

gtgaccacct ttggttatgg cgtgcagtgc tttgcgcgct atccggatca catgaaacag 240

catgattttt ttaaaagcgc gatgccggaa ggttatgtgc aggaacgcac catttttttt 300

aaagatgatg gcaactataa aacccgcgcg gaagtgaaat ttgaaggtga taccctggtg 360

aaccgcattg aactgaaagg cattgatttt aaagaagatg gtaacattct gggccataaa 420

ctggaatata actataacag ccataacgtg tatattatgg cggataaaca gaaaaacggt 480

attaaagtga actttaaaat tcgccataac attgaagatg gcagcgtgca gctggcggat 540

cattatcagc agaacacccc gattggtgat ggcccggtgc tgctgccgga taaccattat 600

ctgagcaccc agagcgcgct gagcaaagat ccgaacgaaa aacgcgatca catggtgctg 660

ctggaatttg tgaccgcggc gggtattacg catggcatgg atgaactgta taaataataa 720

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<211> 28
<212> DNA
<213> artificial

<220>
<223> primer

<400> 47
ggatccacta gttgcagcaa aggcgaag 28

<210> 48
<211> 31
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<220>
<223> primer

<400> 48
cgaggtcgac ttattattta tacagttcat c 31

<210> 49
<211> 411
<212> PRT
<213> artificial

<220>
<223> autoprotease

<400> 49

Met His His His His His His Glu Leu Asn His Phe Glu Leu Leu Tyr
1 5 10 15

Lys Thr Ser Lys Gln Lys Pro Val Gly Val Glu Glu Pro Val Tyr Asp
20 25 30

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

Ser Thr Leu Lys Leu Pro His Asp Arg Gly Glu Asp Asp Ile Glu Thr
50 55 60

Thr Leu Arg Asp Leu Pro Arg Lys Gly Asp Cys Arg Ser Gly Asn His
65 70 75 80

Leu Gly Pro Val Ser Gly Ile Tyr Ile Lys Pro Gly Pro Val Tyr Tyr
85 90 95

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

Asp Glu Thr Gln Phe Glu Glu Thr Thr Lys Arg Ile Gly Arg Val Thr
115 120 125

Gly Ser Asp Gly Lys Leu Tyr His Ile Tyr Val Glu Val Asp Gly Glu
130 135 140

Ile Leu Leu Lys Gln Ala Lys Arg Gly Thr Pro Arg Thr Leu Lys Trp
145 150 155 160

Thr Arg Asn Thr Thr Asn Cys Pro Leu Trp Val Thr Ser Cys Ser Lys
165 170 175

Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val Glu Leu Asp
180 185 190

Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu Gly Glu Gly
195 200 205

Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys Thr Thr Gly
210 215 220

Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Phe Gly Tyr Gly
225 230 235 240

Val Gln Cys Phe Ala Arg Tyr Pro Asp His Met Lys Gln His Asp Phe
245 250 255

Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg Thr Ile Phe
260 265 270

Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val Lys Phe Glu
275 280 285

Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile Asp Phe Lys
290 295 300

Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn Tyr Asn Ser
305 310 315 320

His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly Ile Lys Val
325 330 335

Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser Val Gln Leu Ala
340 345 350

Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro Val Leu Leu
355 360 365

Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser Lys Asp Pro
370 375 380

Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe Val Thr Ala Ala
385 390 395 400

Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys
405 410

<210> 50
<211> 168
<212> PRT
<213> artificial

<220>
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<400> 50

Met Glu Leu Asn His Phe Glu Leu Leu Tyr Lys Thr Ser Lys Gln Lys
1 5 10 15

Pro Val Gly Val Glu Glu Pro Val Tyr Asp Thr Ala Gly Arg Pro Leu
20 25 30

Phe Gly Thr Pro Ser Glu Val His Pro Gln Ser Thr Leu Lys Leu Pro
35 40 45

His Asp Arg Gly Glu Asp Asp Ile Glu Thr Thr Leu Arg Asp Leu Pro
50 55 60

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

Ile Tyr Ile Lys Pro Gly Pro Val Tyr Tyr Gln Asp Tyr Thr Gly Pro
85 90 95

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

Glu Thr Thr Lys Arg Ile Gly Arg Val Thr Gly Ser Asp Gly Lys Leu
115 120 125

Tyr His Ile Tyr Val Glu Val Asp Gly Glu Ile Leu Leu Lys Gln Ala
130 135 140

Lys Arg Gly Thr Pro Arg Thr Leu Lys Trp Thr Arg Asn Ser Thr Asn
145 150 155 160

Cys Pro Leu Trp Val Thr Ser Cys
165

<210> 51
<211> 168
<212> PRT
<213> artificial

<220>
<223> derivative of seq id no 1

<400> 51

Met Glu Leu Asn His Phe Glu Leu Leu Tyr Lys Thr Ser Lys Gln Lys
1 5 10 15

Pro Val Gly Val Glu Glu Pro Val Tyr Asp Thr Glu Gly Arg Pro Leu
20 25 30

Phe Gly Thr Pro Ser Glu Val His Pro Gln Ser Thr Leu Lys Leu Pro
35 40 45

His Asp Arg Gly Glu Asp Asp Ile Glu Thr Thr Leu Arg Asp Leu Pro
50 55 60

Arg Lys Gly Asp Cys Arg Phe Gly Asn His Leu Gly Pro Val Ser Gly
65 70 75 80

Ile Tyr Ile Lys Pro Gly Pro Val Tyr Tyr Gln Asp Tyr Thr Gly Pro
85 90 95

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

Glu Thr Thr Lys Arg Ile Gly Arg Val Thr Gly Ser Asp Gly Lys Leu
115 120 125

Tyr His Ile Tyr Val Glu Val Asp Gly Glu Ile Leu Leu Lys Gln Ala
130 135 140

Lys Arg Gly Thr Pro His Thr Leu Lys Trp Thr Arg Asn Ser Thr Asn
145 150 155 160

Cys Pro Leu Trp Val Thr Ser Cys
165

<210> 52
<211> 168
<212> PRT
<213> artificial

<220>
<223> derivative of seq id no 1

<400> 52

Met Glu Leu Asn His Phe Glu Leu Leu Tyr Lys Thr Ser Lys Gln Lys
1 5 10 15

Pro Val Gly Val Glu Glu Pro Val Tyr Asp Thr Ala Gly Arg Pro Leu
20 25 30

Phe Gly Asn Pro Ser Glu Val His Pro Gln Ser Thr Leu Lys Leu Pro
35 40 45

His Asp Arg Gly Glu Asp Asp Ile Glu Thr Thr Leu Arg Asp Leu Pro
50 55 60

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

Ile Tyr Ile Lys Pro Gly Pro Val Tyr Tyr Gln Asp Tyr Thr Gly Pro
85 90 95

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

Glu Ser Thr Lys Arg Ile Gly Arg Val Thr Gly Ser Asp Gly Lys Leu
115 120 125

Tyr His Ile Tyr Val Glu Val Asp Gly Glu Ile Leu Leu Lys Ser Ala
130 135 140

Lys Arg Gly Thr Pro Arg Thr Leu Lys Trp Ser Arg Asn Ser Thr Asn
145 150 155 160

Cys Pro Leu Trp Val Thr Ser Cys
165

<210> 53
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<220>
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<400> 53

Met Glu Leu Asn His Phe Glu Leu Leu Tyr Lys Thr Ser Lys Gln Lys
1 5 10 15

Pro Val Gly Val Glu Glu Pro Val Tyr Asp Thr Ala Gly Arg Pro Leu
20 25 30

Phe Gly Asn Pro Ser Glu Val His Pro Gln Ser Thr Leu Lys Leu Pro
35 40 45

His Asp Arg Gly Glu Asp Asp Ile Glu Thr Thr Leu Arg Asp Leu Pro
50 55 60

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

Ile Tyr Ile Lys Pro Gly Pro Val Tyr Tyr Gln Asp Tyr Thr Gly Pro
85 90 95

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

Glu Ser Thr Lys Arg Ile Gly Arg Val Thr Gly Ser Asp Gly Lys Leu
115 120 125

Tyr His Ile Tyr Val Glu Val Asp Gly Glu Ile Leu Leu Lys Asn Ala
130 135 140

Lys Arg Gly Thr Pro Arg Thr Leu Lys Trp Ser Arg Asn Ser Thr Asn
145 150 155 160

Cys Pro Leu Trp Val Thr Ser Cys
165

<210> 54
<211> 168
<212> PRT
<213> artificial

<220>
<223> derivative of seq id no 1

<400> 54

Met Glu Leu Asn His Phe Glu Leu Leu Tyr Lys Thr Ser Lys Gln Lys
1 5 10 15

Pro Val Gly Val Glu Glu Pro Val Tyr Asp Thr Ala Gly Arg Pro Leu
20 25 30

Phe Gly Asn Pro Ser Glu Val His Pro Gln Ser Thr Leu Lys Leu Pro
35 40 45

His Asp Arg Gly Glu Asp Asp Ile Glu Thr Thr Leu Arg Asp Leu Pro
50 55 60

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

Ile Tyr Ile Lys Pro Gly Pro Val Tyr Tyr Gln Asp Tyr Thr Gly Pro
85 90 95

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

Glu Ser Thr Lys Arg Ile Gly Arg Val Thr Gly Ser Asp Gly Lys Leu
115 120 125

Tyr His Ile Tyr Val Glu Val Asp Gly Glu Ile Leu Leu Lys Asp Ala
130 135 140

Lys Arg Gly Thr Pro Arg Thr Leu Lys Trp Ser Arg Asn Ser Thr Asn
145 150 155 160

Cys Pro Leu Trp Val Thr Ser Cys
165

<210> 55
<211> 168
<212> PRT
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Met Glu Leu Asn His Phe Glu Leu Leu Tyr Lys Thr Ser Lys Gln Lys
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Pro Val Gly Val Glu Glu Pro Val Tyr Asp Thr Ala Gly Arg Pro Leu
20 25 30

Phe Gly Asn Pro Ser Glu Val His Pro Gln Ser Thr Leu Lys Leu Pro
35 40 45

His Asp Arg Gly Glu Asp Asp Ile Glu Thr Thr Leu Arg Asp Leu Pro
50 55 60

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

Ile Tyr Ile Lys Pro Gly Pro Val Tyr Tyr Gln Asp Tyr Thr Gly Pro
85 90 95

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

Glu Ser Thr Lys Arg Ile Gly Arg Val Thr Gly Ser Asp Gly Lys Leu
115 120 125

Tyr His Ile Tyr Val Glu Val Asp Gly Glu Ile Leu Leu Lys His Ala
130 135 140

Lys Arg Gly Thr Pro Arg Thr Leu Lys Trp Ser Arg Asn Ser Thr Asn
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Cys Pro Leu Trp Val Thr Ser Cys
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Met Glu Leu Asn His Phe Glu Leu Leu Tyr Lys Thr Ser Lys Gln Lys
1 5 10 15

Pro Val Gly Val Glu Glu Pro Val Tyr Asp Thr Ala Gly Arg Pro Leu
20 25 30

Phe Gly Asn Pro Ser Glu Val His Pro Gln Ser Thr Leu Lys Leu Pro
35 40 45

His Asp Arg Gly Glu Asp Asp Ile Glu Thr Thr Leu Arg Asp Leu Pro
50 55 60

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

Ile Tyr Ile Lys Pro Gly Pro Val Tyr Tyr Gln Asp Tyr Thr Gly Pro
85 90 95

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

Glu Ser Thr Lys Arg Ile Gly Cys Val Thr Gly Ser Asp Gly Lys Leu
115 120 125

Tyr His Ile Tyr Val Glu Val Asp Gly Glu Ile Leu Leu Lys Gln Ala
130 135 140

Lys Arg Gly Thr Pro Arg Thr Leu Lys Trp Ser Arg Asn Ser Thr Asn
145 150 155 160

Cys Pro Leu Trp Val Thr Ser Cys
165