

SEQUENCE LISTING

<110> Katholieke Universiteit Leuven
Lysando Holding Est.

<120> ANTIMICROBIAL AGENTS

<130> LYS-002 PCT

<140> unknown

<141> 2010-06-28

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<151> 2009-06-26

<160> 100

<170> PatentIn version 3.3

<210> 1

<211> 260

<212> PRT

<213> unknown

<220>

<223> phiKZgp144

<400> 1

Met Lys Val Leu Arg Lys Gly Asp Arg Gly Asp Glu Val Cys Gln Leu
1 5 10 15

Gln Thr Leu Leu Asn Leu Cys Gly Tyr Asp Val Gly Lys Pro Asp Gly
20 25 30

Ile Phe Gly Asn Asn Thr Phe Asn Gln Val Val Lys Phe Gln Lys Asp
35 40 45

Asn Cys Leu Asp Ser Asp Gly Ile Val Gly Lys Asn Thr Trp Ala Glu
50 55 60

Leu Phe Ser Lys Tyr Ser Pro Pro Ile Pro Tyr Lys Thr Ile Pro Met
65 70 75 80

Pro Thr Ala Asn Lys Ser Arg Ala Ala Ala Thr Pro Val Met Asn Ala
85 90 95

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

Ser Ile Glu Ser Ala Phe Asp Tyr Glu Ile Lys Ala Lys Thr Ser Ser

Thr Leu Tyr Thr Thr Tyr Tyr Lys Gly Leu Leu Pro Glu Asn Arg His
 275 280 285

Val Ile Ser Tyr
 290

<210> 3
 <211> 181
 <212> PRT
 <213> unknown

<220>
 <223> Salmonella endolysin

<400> 3

Met Lys Pro Lys Asp Glu Ile Phe Asp Glu Ile Leu Gly Lys Glu Gly
 1 5 10 15

Gly Tyr Val Asn His Pro Asp Asp Lys Gly Gly Pro Thr Lys Trp Gly
 20 25 30

Ile Thr Glu Lys Val Ala Arg Ala His Gly Tyr Arg Gly Asp Met Arg
 35 40 45

Asn Leu Thr Arg Gly Gln Ala Leu Glu Ile Leu Glu Thr Asp Tyr Trp
 50 55 60

Tyr Gly Pro Arg Phe Asp Arg Val Ala Lys Ala Ser Pro Asp Val Ala
 65 70 75 80

Ala Glu Leu Cys Asp Thr Gly Val Asn Met Gly Pro Ser Val Ala Ala
 85 90 95

Lys Met Leu Gln Arg Trp Leu Asn Val Phe Asn Gln Gly Gly Arg Leu
 100 105 110

Tyr Pro Asp Met Asp Thr Asp Gly Arg Ile Gly Pro Arg Thr Leu Asn
 115 120 125

Ala Leu Arg Val Tyr Leu Glu Lys Arg Gly Lys Asp Gly Glu Arg Val
 130 135 140

Leu Leu Val Ala Leu Asn Cys Thr Gln Gly Glu Arg Tyr Leu Glu Leu
 145 150 155 160

Ala Glu Lys Arg Glu Ala Asp Glu Ser Phe Val Tyr Gly Trp Met Lys
165 170 175

Glu Arg Val Leu Ile
180

<210> 4
<211> 163
<212> PRT
<213> unknown

<220>
<223> Enterobacteria phage T4 endolysin

<400> 4

Met Asn Ile Phe Glu Met Leu Arg Ile Asp Glu Gly Leu Arg Leu Lys
1 5 10 15

Ile Tyr Lys Asp Thr Glu Gly Tyr Tyr Thr Ile Gly Ile Gly His Leu
20 25 30

Leu Thr Lys Ser Pro Ser Leu Asn Ala Ala Lys Ser Glu Leu Asp Lys
35 40 45

Ala Ile Gly Arg Asn Cys Asn Gly Val Ile Thr Lys Asp Glu Ala Glu
50 55 60

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

Asn Ala Lys Leu Lys Pro Val Tyr Asp Ser Leu Asp Ala Val Arg Arg
85 90 95

Cys Ala Leu Ile Asn Met Val Phe Gln Met Gly Glu Thr Gly Val Ala
100 105 110

Gly Phe Thr Asn Ser Leu Arg Met Leu Gln Gln Lys Arg Trp Asp Glu
115 120 125

Ala Ala Val Asn Leu Ala Lys Ser Arg Trp Tyr Asn Gln Thr Pro Asn
130 135 140

Arg Ala Lys Arg Val Ile Thr Thr Phe Arg Thr Gly Thr Trp Asp Ala
145 150 155 160

Tyr Lys Asn

<210> 5
<211> 280
<212> PRT
<213> unknown

<220>
<223> Acinetobacter baumannii endolysin

<400> 5

Met Glu Tyr Asp Met Ile Leu Lys Phe Gly Ser Lys Gly Asp Ala Val
1 5 10 15

Ala Thr Leu Gln Lys Gln Leu Ala Lys Met Gly Tyr Lys Gly Val Lys
20 25 30

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

Ala Val Ile Gln Leu Gln Arg Lys Phe Gly Leu Val Ala Asp Gly Lys
50 55 60

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

Phe Leu Lys Asp Glu Asp Tyr Lys Lys Ala Ala Ile Arg Leu Lys Val
85 90 95

Pro Glu Leu Val Ile Arg Val Phe Gly Ala Val Glu Gly Leu Gly Val
100 105 110

Gly Phe Leu Pro Asn Gly Lys Ala Lys Ile Leu Phe Glu Arg His Arg
115 120 125

Met Tyr Phe Tyr Leu Cys Gln Ala Leu Gly Lys Thr Phe Ala Asn Ser
130 135 140

Gln Val Lys Ile Thr Pro Asn Ile Val Asn Thr Leu Thr Gly Gly Tyr
145 150 155 160

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

His Lys Glu Ser Ala Leu Met Ser Thr Ser Trp Gly Gln Phe Gln Ile
180 185 190

Met Gly Glu Asn Trp Lys Asp Leu Gly Tyr Ser Ser Val Gln Glu Phe
195 200 205

Val Asp Gln Gln Gln Leu Asn Glu Gly Asn Gln Leu Glu Ala Phe Ile
210 215 220

Arg Phe Ile Glu Trp Lys Pro Gly Leu Leu Glu Ala Leu Arg Lys Gln
225 230 235 240

Asp Trp Asp Thr Val Phe Thr Leu Tyr Asn Gly Lys Asn Tyr Lys Lys
245 250 255

Leu Gly Tyr Gln Ala Lys Phe Gln Lys Glu Trp Asp His Leu Glu Pro
260 265 270

Ile Tyr Arg Glu Lys Thr Ala Ala
275 280

<210> 6
<211> 25
<212> PRT
<213> unknown

<220>
<223> amhipatic peptide Pleurocidin

<400> 6

Gly Trp Gly Ser Phe Phe Lys Lys Ala Ala His Val Gly Lys His Val
1 5 10 15

Gly Lys Ala Ala Leu Thr His Tyr Leu
20 25

<210> 7
<211> 31
<212> PRT
<213> unknown

<220>
<223> amhipatic peptide Cecropin P1

<400> 7

Ser Trp Leu Ser Lys Thr Ala Lys Lys Leu Glu Asn Ser Ala Lys Lys
 1 5 10 15

Arg Ile Ser Glu Gly Ile Ala Ile Ala Ile Gln Gly Gly Pro Arg
 20 25 30

<210> 8
 <211> 21
 <212> PRT
 <213> unknown

<220>
 <223> amphipatic peptide Buforin II

<400> 8

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

Arg Leu Leu Arg Lys
 20

<210> 9
 <211> 23
 <212> PRT
 <213> unknown

<220>
 <223> amphipatic peptide Magainin

<400> 9

Gly Ile Gly Lys Phe Leu His Ser Ala Lys Lys Phe Gly Lys Ala Phe
 1 5 10 15

Val Gly Glu Ile Met Asn Ser
 20

<210> 10
 <211> 37
 <212> PRT
 <213> unknown

<220>
 <223> amphipatic peptides Cathelidicine LL-37

<400> 10

Leu Leu Gly Asp Phe Phe Arg Lys Ser Lys Glu Lys Ile Gly Lys Glu
 1 5 10 15

Phe Lys Arg Ile Val Gln Arg Ile Lys Asp Phe Leu Arg Asn Leu Val
20 25 30

Pro Arg Thr Glu Ser
35

<210> 11
<211> 29
<212> PRT
<213> unknown

<220>
<223> SMAP-29

<400> 11

Arg Gly Leu Arg Arg Leu Gly Arg Lys Ile Ala His Gly Val Lys Lys
1 5 10 15

Tyr Gly Pro Thr Val Leu Arg Ile Ile Arg Ile Ala Gly
20 25

<210> 12
<211> 13
<212> PRT
<213> unknown

<220>
<223> Indolicidin

<400> 12

Ile Leu Pro Trp Lys Trp Pro Trp Trp Pro Trp Arg Arg
1 5 10

<210> 13
<211> 18
<212> PRT
<213> unknown

<220>
<223> Protegrin

<400> 13

Arg Gly Gly Arg Leu Cys Tyr Cys Arg Arg Arg Phe Cys Val Cys Val
1 5 10 15

Gly Arg

<210> 14
<211> 36
<212> PRT
<213> unknown

<220>
<223> Cecropin A (A.aegypti)

<400> 14

Gly Gly Leu Lys Lys Leu Gly Lys Lys Leu Glu Gly Ala Gly Lys Arg
1 5 10 15

Val Phe Asn Ala Ala Glu Lys Ala Leu Pro Val Val Ala Gly Ala Lys
20 25 30

Ala Leu Arg Lys
35

<210> 15
<211> 40
<212> PRT

<213> unknown

<220>
<223> Cecropin A (D. melanogaster)

<400> 15

Gly Trp Leu Lys Lys Ile Gly Lys Lys Ile Glu Arg Val Gly Gln His
1 5 10 15

Thr Arg Asp Ala Thr Ile Gln Gly Leu Gly Ile Pro Gln Gln Ala Ala
20 25 30

Asn Val Ala Ala Thr Ala Arg Gly
35 40

<210> 16
<211> 39
<212> PRT
<213> unknown

<220>
<223> Sarcotoxin IA

<400> 16

Gly Trp Leu Lys Lys Ile Gly Lys Lys Ile Glu Arg Val Gly Gln His
1 5 10 15

Thr Arg Asp Ala Thr Ile Gln Gly Leu Gly Ile Ala Gln Gln Ala Ala
 20 25 30

Asn Val Ala Ala Thr Ala Arg
 35

<210> 17
 <211> 5
 <212> PRT
 <213> unknown

<220>
 <223> Pentapeptide

<400> 17

Phe Phe Val Ala Pro
 1 5

<210> 18
 <211> 152
 <212> PRT
 <213> unknown

<220>
 <223> E. coli phage K1F

<400> 18

Met Val Ser Lys Val Gln Phe Asn Pro Arg Ser Arg Thr Asp Ala Ile
 1 5 10 15

Phe Val His Cys Ser Ala Thr Lys Pro Glu Met Asp Ile Gly Val Glu
 20 25 30

Thr Ile Arg Met Trp His Lys Gln Gln Ala Trp Leu Asp Val Gly Tyr
 35 40 45

His Phe Ile Ile Lys Arg Asp Gly Thr Val Glu Glu Gly Arg Pro Val
 50 55 60

Asn Val Val Gly Ser His Val Lys Asp Trp Asn Ser Arg Ser Val Gly
 65 70 75 80

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

Phe Thr Pro Ala Gln Met Asn Ser Leu Arg Asn Lys Leu Asp Asp Leu
100 105 110

Lys Val Met Tyr Pro Gln Ala Glu Ile Arg Ala His His Asp Val Ala
115 120 125

Pro Lys Ala Cys Pro Ser Phe Asp Leu Gln Arg Trp Leu Ser Thr Asn
130 135 140

Glu Leu Val Thr Ser Asp Arg Gly
145 150

<210> 19
<211> 39
<212> PRT
<213> unknown

<220>
<223> Buforin I

<400> 19

Ala Gly Arg Gly Lys Gln Gly Gly Lys Val Arg Ala Lys Ala Lys Thr
1 5 10 15

Arg Ser Ser Arg Ala Gly Leu Gln Phe Pro Val Gly Arg Val His Arg
20 25 30

Leu Leu Arg Lys Gly Asn Tyr
35

<210> 20
<211> 165
<212> PRT
<213> unknown

<220>
<223> PSP3 gp10 Salmonella endolysin

<400> 20

Met Pro Val Ile Asn Thr His Gln Asn Ile Ala Ala Phe Leu Asp Met
1 5 10 15

Leu Ala Tyr Ser Glu Gly Thr Ala Asn His Pro Leu Thr Lys Asn Arg
20 25 30

Gly Tyr Asp Val Ile Val Thr Gly Phe Asp Gly Ser Pro Glu Ile Phe
35 40 45

Thr Asp Tyr Ser Asp His Pro Phe Ala His Gly Arg Pro Pro Lys Val
50 55 60

Phe Asn Arg Arg Gly Glu Lys Ser Thr Ala Ser Gly Arg Tyr Gln Gln
65 70 75 80

Leu Tyr Ile Phe Trp Pro His Tyr Lys Lys Gln Leu Ala Leu Pro Asp
85 90 95

Phe Ser Pro Leu Ser Gln Asp Lys Leu Ala Ile Gln Leu Ile Arg Glu
100 105 110

Arg Gly Ala Ile Asp Asp Ile Arg Ala Gly Arg Ile Glu Arg Ala Val
115 120 125

Ser Arg Cys Arg Asn Ile Trp Ala Ser Leu Pro Gly Ala Gly Tyr Gly
130 135 140

Gln Arg Glu His Ser Leu Glu Lys Leu Val Thr Val Trp Arg Thr Ala
145 150 155 160

Gly Gly Val Met Ala
165

<210> 21
<211> 165
<212> PRT
<213> unknown

<220>
<223> E. coli phage endolysin P2gp09

<400> 21

Met Pro Val Ile Asn Thr His Gln Asn Ile Ala Ala Phe Leu Asp Met
1 5 10 15

Leu Ala Val Ser Glu Gly Thr Ala Asn His Pro Leu Thr Lys Asn Arg
20 25 30

Gly Tyr Asp Val Ile Val Thr Gly Leu Asp Gly Lys Pro Glu Ile Phe
35 40 45

Thr Asp Tyr Ser Asp His Pro Phe Ala His Gly Arg Pro Ala Lys Val
50 55 60

Phe Asn Arg Arg Gly Glu Lys Ser Thr Ala Ser Gly Arg Tyr Gln Gln
65 70 75 80

Leu Tyr Leu Phe Trp Pro His Tyr Arg Lys Gln Leu Ala Leu Pro Asp
85 90 95

Phe Ser Pro Leu Ser Gln Asp Arg Leu Ala Ile Gln Leu Ile Arg Glu
100 105 110

Arg Gly Ala Leu Asp Asp Ile Arg Ala Gly Arg Ile Glu Arg Ala Ile
115 120 125

Ser Arg Cys Arg Asn Ile Trp Ala Ser Leu Pro Gly Ala Gly Tyr Gly
130 135 140

Gln Arg Glu His Ser Leu Glu Lys Leu Val Thr Val Trp Arg Thr Ala
145 150 155 160

Gly Gly Val Pro Ala
165

<210> 22
<211> 176
<212> PRT
<213> unknown

<220>
<223> STM0016

<400> 22

Asn Pro Ile Ile Asp Gly Ile Ile Ala Leu Glu Gly Gly Tyr Val Phe
1 5 10 15

Asn Pro Lys Asp Lys Gly Gly Ala Thr His Trp Gly Ile Thr Glu Ala
20 25 30

Thr Ala Arg Ala His Gly Tyr Ala Gly Asp Met Arg Asp Leu Thr His
35 40 45

Ala Glu Ala Tyr Ala Ile Leu Glu Glu Asp Tyr Trp Ile Lys Pro Gly
50 55 60

Phe Asp Val Ile Ser Thr Leu Ser Trp Pro Val Ser Phe Glu Leu Cys
65 70 75 80

Asp Ala Ala Val Asn Ile Gly Ala Tyr His Pro Ser Ala Trp Leu Gln
85 90 95

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

His Val Asp Gly Asn Ile Gly Pro Arg Thr Leu Ala Ala Leu Glu His
115 120 125

Tyr Leu Ala Trp Arg Gly Gln Glu Gly Glu Ala Val Leu Val Lys Ala
130 135 140

Leu Asn Cys Ser Gln Gly Thr Tyr Tyr Leu Asn Val Ala Glu Lys Asn
145 150 155 160

His Asn Asn Glu Gln Phe Ile Tyr Gly Trp Ile Lys Asn Arg Val Thr
165 170 175

<210> 23
<211> 208
<212> PRT
<213> unknown

<220>
<223> E.coli Phage N4 muramidase N4-gp61

<400> 23

Met Ala Ile Ser Lys Lys Lys Val Gly Gly Val Gly Gly Val Ile Ala
1 5 10 15

Ala Ile Ile Ala Ala Val Phe Ala Val Glu Gly Gly Tyr Val Asn Asp
20 25 30

Pro Lys Asp Pro Gly Gly Glu Thr Asn His Gly Val Thr Ile Gln Val
35 40 45

Ala Gln Lys His Lys Gln Glu Leu Glu Ser Met Tyr Asn Trp Asp Gly
50 55 60

Ser Met Lys Asn Leu Thr Gln Glu Met Ala Ser Ser Ile Tyr Tyr Asn
65 70 75 80

Asp Tyr Ile Leu Lys Pro Gly Phe Val Lys Phe Ala Asp Val Ser Pro
85 90 95

Ala Val Thr Glu Lys Leu Val Asp Ala Gly Val Asn Thr Gly Pro Ala
100 105 110

Arg Pro Ser Arg Trp Leu Gln Glu Ser Leu Asn Ala Phe Ser Arg Asn
115 120 125

Gly Lys Asp Tyr Pro Lys Ile Gln Val Asp Gly Lys Val Gly Ser Gly
130 135 140

Thr Leu Ser Ala Tyr Lys Ser Leu Gln Asn Lys Arg Gly Lys Val Glu
145 150 155 160

Ala Cys Lys Leu Ile Leu Lys Ser Leu Asp Gly Lys Gln Leu Asn Tyr
165 170 175

Tyr Leu Ser Leu Asn Met Pro Glu Tyr Thr Thr Gly Trp Ile Ala Asn
180 185 190

Arg Ile Gly Asn Val Pro Leu Glu Arg Cys Asn Glu Asp Ile Val Asn
195 200 205

<210> 24
<211> 184
<212> PRT
<213> unknown

<220>
<223> 24 N4-gp61 trunc.

<400> 24

Val Glu Gly Gly Tyr Val Asn Asp Pro Lys Asp Pro Gly Gly Glu Thr
1 5 10 15

Asn His Gly Val Thr Ile Gln Val Ala Gln Lys His Lys Gln Glu Leu
20 25 30

Glu Ser Met Tyr Asn Trp Asp Gly Ser Met Lys Asn Leu Thr Gln Glu
35 40 45

Met Ala Ser Ser Ile Tyr Tyr Asn Asp Tyr Ile Leu Lys Pro Gly Phe
50 55 60

Val Lys Phe Ala Asp Val Ser Pro Ala Val Thr Glu Lys Leu Val Asp
65 70 75 80

Ala Gly Val Asn Thr Gly Pro Ala Arg Pro Ser Arg Trp Leu Gln Glu
85 90 95

Ser Leu Asn Ala Phe Ser Arg Asn Gly Lys Asp Tyr Pro Lys Ile Gln
100 105 110

Val Asp Gly Lys Val Gly Ser Gly Thr Leu Ser Ala Tyr Lys Ser Leu
115 120 125

Gln Asn Lys Arg Gly Lys Val Glu Ala Cys Lys Leu Ile Leu Lys Ser
130 135 140

Leu Asp Gly Lys Gln Leu Asn Tyr Tyr Leu Ser Leu Asn Met Pro Glu
145 150 155 160

Tyr Thr Thr Gly Trp Ile Ala Asn Arg Ile Gly Asn Val Pro Leu Glu
165 170 175

Arg Cys Asn Glu Asp Ile Val Asn
180

<210> 25
<211> 259
<212> PRT
<213> unknown

<220>
<223> E.coli phage KZ144

<400> 25

Lys Val Leu Arg Lys Gly Asp Arg Gly Asp Glu Val Cys Gln Leu Gln
1 5 10 15

Thr Leu Leu Asn Leu Cys Gly Tyr Asp Val Gly Lys Pro Asp Gly Ile
20 25 30

Phe Gly Asn Asn Thr Phe Asn Gln Val Val Lys Phe Gln Lys Asp Asn
35 40 45

Cys Leu Asp Ser Asp Gly Ile Val Gly Lys Asn Thr Trp Ala Glu Leu
50 55 60

Phe Ser Lys Tyr Ser Pro Pro Ile Pro Tyr Lys Thr Ile Pro Met Pro
65 70 75 80

Thr Ala Asn Lys Ser Arg Ala Ala Ala Thr Pro Val Met Asn Ala Val
85 90 95

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

Ile Glu Ser Ala Phe Asp Tyr Glu Ile Lys Ala Lys Thr Ser Ser Ala
115 120 125

Thr Gly Trp Phe Gln Phe Leu Thr Gly Thr Trp Lys Thr Met Ile Glu
130 135 140

Asn Tyr Gly Met Lys Tyr Gly Val Leu Thr Asp Pro Thr Gly Ala Leu
145 150 155 160

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

Glu Asn Met Asn Ile Leu Arg Pro Val Leu Lys Arg Glu Pro Thr Asp
180 185 190

Thr Asp Leu Tyr Leu Ala His Phe Phe Gly Pro Gly Ala Ala Arg Arg
195 200 205

Phe Leu Thr Thr Gly Gln Asn Glu Leu Ala Ala Thr His Phe Pro Lys
210 215 220

Glu Ala Gln Ala Asn Pro Ser Ile Phe Tyr Asn Lys Asp Gly Ser Pro
225 230 235 240

Lys Thr Ile Gln Glu Val Tyr Asn Leu Met Asp Gly Lys Val Ala Ala
245 250 255

His Arg Lys

<210> 26
<211> 22
<212> PRT
<213> unknown

<220>

<223> Nigrocine 2

<400> 26

Gly	Leu	Leu	Ser	Lys	Val	Leu	Gly	Val	Gly	Lys	Lys	Val	Leu	Cys	Gly
1				5					10					15	

Val	Ser	Gly	Leu	Val	Cys
			20		

<210> 27

<211> 24

<212> PRT

<213> unknown

<220>

<223> Ascaphine 5

<400> 27

Gly	Ile	Lys	Asp	Trp	Ile	Lys	Gly	Ala	Ala	Lys	Lys	Leu	Ile	Lys	Thr
1				5					10					15	

Val	Ala	Ser	His	Ile	Ala	Asn	Gln
							20

<210> 28

<211> 17

<212> PRT

<213> unknown

<220>

<223> Apidaecin

<400> 28

Ala	Asn	Arg	Pro	Val	Tyr	Ile	Pro	Pro	Pro	Arg	Pro	Pro	His	Pro	Arg
1				5					10					15	

Leu

<210> 29

<211> 24

<212> PRT

<213> unknown

<220>

<223> Pseudin 1

<400> 29

Gly Leu Asn Thr Leu Lys Lys Val Phe Gln Gly Leu His Glu Ala Ile
1 5 10 15

Lys Leu Ile Asn Asn His Val Gln
20

<210> 30
<211> 18
<212> PRT
<213> unknown

<220>
<223> Ranalexin

<400> 30

Phe Leu Gly Gly Leu Ile Val Pro Ala Met Ile Cys Ala Val Thr Lys
1 5 10 15

Lys Cys

<210> 31
<211> 26
<212> PRT
<213> unknown

<220>
<223> Melittin

<400> 31

Gly Ile Gly Ala Val Leu Lys Val Leu Thr Thr Gly Leu Pro Ala Leu
1 5 10 15

Ile Ser Trp Ile Lys Arg Lys Arg Gln Gln
20 25

<210> 32
<211> 34
<212> PRT
<213> unknown

<220>
<223> Sushi 1

<400> 32

Gly Phe Lys Leu Lys Gly Met Ala Arg Ile Ser Cys Leu Pro Asn Gly
1 5 10 15

Gln Trp Ser Asn Phe Pro Pro Lys Cys Ile Arg Glu Cys Ala Met Val
20 25 30

Ser Ser

<210> 33
<211> 27
<212> PRT
<213> unknown

<220>
<223> WLUB2 variant

<400> 33

Lys Arg Trp Val Lys Arg Val Lys Arg Val Lys Arg Trp Val Lys Arg
1 5 10 15

Val Val Arg Val Val Lys Arg Trp Val Lys Arg
20 25

<210> 34
<211> 332
<212> PRT
<213> unknown

<220>
<223> OBPgpLYS

<400> 34

Met Gly Ser Lys Asn Ser Glu Lys Asn Ala Ser Ile Ile Met Ser Ile
1 5 10 15

Gln Arg Thr Leu Ala Ser Leu Ser Leu Tyr Gly Gly Arg Ile Asp Gly
20 25 30

Leu Phe Gly Glu Lys Cys Arg Gly Ala Ile Ile Leu Met Leu Asn Lys
35 40 45

Val Tyr Pro Asn Phe Ser Thr Asn Lys Leu Pro Ser Asn Thr Tyr Glu
50 55 60

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

Leu Tyr Thr Ile Thr Ile Asp Gly Lys Trp Gly Gly Thr Ser Gln Gly
85 90 95

Ala Ile Asp Ala Leu Val Lys Ser Tyr Arg Gln Ile Thr Glu Ala Glu
 100 105 110

Arg Ala Gly Ser Thr Leu Pro Leu Gly Leu Ala Thr Val Met Ser Lys
 115 120 125

His Met Ser Ile Glu Gln Leu Arg Ala Met Leu Pro Thr Asp Arg Gln
 130 135 140

Gly Tyr Ala Glu Val Tyr Ile Asp Pro Leu Asn Glu Thr Met Asp Ile
 145 150 155 160

Phe Glu Ile Asn Thr Pro Leu Arg Ile Ala His Phe Met Ala Gln Ile
 165 170 175

Leu His Glu Thr Ala Cys Phe Lys Tyr Thr Glu Glu Leu Ala Ser Gly
 180 185 190

Lys Ala Tyr Glu Gly Arg Ala Asp Leu Gly Asn Thr Arg Pro Gly Asp
 195 200 205

Gly Pro Leu Phe Lys Gly Arg Gly Leu Leu Gln Ile Thr Gly Arg Leu
 210 215 220

Asn Tyr Val Lys Cys Gln Val Tyr Leu Arg Glu Lys Leu Lys Asp Pro
 225 230 235 240

Thr Phe Asp Ile Thr Ser Ser Val Thr Cys Ala Gln Gln Leu Ser Glu
 245 250 255

Ser Pro Leu Leu Ala Ala Leu Ala Ser Gly Tyr Phe Trp Arg Phe Ile
 260 265 270

Lys Pro Lys Leu Asn Glu Thr Ala Asp Lys Asp Asp Ile Tyr Trp Val
 275 280 285

Ser Val Tyr Val Asn Gly Tyr Ala Lys Gln Ala Asn Pro Tyr Tyr Pro
 290 295 300

Asn Arg Asp Lys Glu Pro Asn His Met Lys Glu Arg Val Gln Met Leu
 305 310 315 320

Ala Val Thr Lys Lys Ala Leu Gly Ile Val Lys Gly
325 330

<210> 35
<211> 18
<212> PRT
<213> unknown

<220>
<223> 35 Walmagh1

<400> 35

Gly Phe Phe Ile Pro Ala Val Ile Leu Pro Ser Ile Ala Phe Leu Ile
1 5 10 15

Val Pro

<210> 36
<211> 283
<212> PRT
<213> unknown

<220>
<223> Ascaphine5-KZ144

<400> 36

Gly Ile Lys Asp Trp Ile Lys Gly Ala Ala Lys Lys Leu Ile Lys Thr
1 5 10 15

Val Ala Ser His Ile Ala Asn Gln Lys Val Leu Arg Lys Gly Asp Arg
20 25 30

Gly Asp Glu Val Cys Gln Leu Gln Thr Leu Leu Asn Leu Cys Gly Tyr
35 40 45

Asp Val Gly Lys Pro Asp Gly Ile Phe Gly Asn Asn Thr Phe Asn Gln
50 55 60

Val Val Lys Phe Gln Lys Asp Asn Cys Leu Asp Ser Asp Gly Ile Val
65 70 75 80

Gly Lys Asn Thr Trp Ala Glu Leu Phe Ser Lys Tyr Ser Pro Pro Ile
85 90 95

Pro Tyr Lys Thr Ile Pro Met Pro Thr Ala Asn Lys Ser Arg Ala Ala
100 105 110

Ala Thr Pro Val Met Asn Ala Val Glu Asn Ala Thr Gly Val Arg Ser
115 120 125

Gln Leu Leu Leu Thr Phe Ala Ser Ile Glu Ser Ala Phe Asp Tyr Glu
130 135 140

Ile Lys Ala Lys Thr Ser Ser Ala Thr Gly Trp Phe Gln Phe Leu Thr
145 150 155 160

Gly Thr Trp Lys Thr Met Ile Glu Asn Tyr Gly Met Lys Tyr Gly Val
165 170 175

Leu Thr Asp Pro Thr Gly Ala Leu Arg Lys Asp Pro Arg Ile Ser Ala
180 185 190

Leu Met Gly Ala Glu Leu Ile Lys Glu Asn Met Asn Ile Leu Arg Pro
195 200 205

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

Phe Gly Pro Gly Ala Ala Arg Arg Phe Leu Thr Thr Gly Gln Asn Glu
225 230 235 240

Leu Ala Ala Thr His Phe Pro Lys Glu Ala Gln Ala Asn Pro Ser Ile
245 250 255

Phe Tyr Asn Lys Asp Gly Ser Pro Lys Thr Ile Gln Glu Val Tyr Asn
260 265 270

Leu Met Asp Gly Lys Val Ala Ala His Arg Lys
275 280

<210> 37
<211> 276
<212> PRT
<213> unknown

<220>
<223> Apidaecine-KZ144

<400> 37

Ala Asn Arg Pro Val Tyr Ile Pro Pro Pro Arg Pro Pro His Pro Arg
1 5 10 15

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

Gln Thr Leu Leu Asn Leu Cys Gly Tyr Asp Val Gly Lys Pro Asp Gly
 35 40 45

Ile Phe Gly Asn Asn Thr Phe Asn Gln Val Val Lys Phe Gln Lys Asp
 50 55 60

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

Leu Phe Ser Lys Tyr Ser Pro Pro Ile Pro Tyr Lys Thr Ile Pro Met
 85 90 95

Pro Thr Ala Asn Lys Ser Arg Ala Ala Ala Thr Pro Val Met Asn Ala
 100 105 110

Val Glu Asn Ala Thr Gly Val Arg Ser Gln Leu Leu Leu Thr Phe Ala
 115 120 125

Ser Ile Glu Ser Ala Phe Asp Tyr Glu Ile Lys Ala Lys Thr Ser Ser
 130 135 140

Ala Thr Gly Trp Phe Gln Phe Leu Thr Gly Thr Trp Lys Thr Met Ile
 145 150 155 160

Glu Asn Tyr Gly Met Lys Tyr Gly Val Leu Thr Asp Pro Thr Gly Ala
 165 170 175

Leu Arg Lys Asp Pro Arg Ile Ser Ala Leu Met Gly Ala Glu Leu Ile
 180 185 190

Lys Glu Asn Met Asn Ile Leu Arg Pro Val Leu Lys Arg Glu Pro Thr
 195 200 205

Asp Thr Asp Leu Tyr Leu Ala His Phe Phe Gly Pro Gly Ala Ala Arg
 210 215 220

Arg Phe Leu Thr Thr Gly Gln Asn Glu Leu Ala Ala Thr His Phe Pro
 225 230 235 240

Lys Glu Ala Gln Ala Asn Pro Ser Ile Phe Tyr Asn Lys Asp Gly Ser
245 250 255

Pro Lys Thr Ile Gln Glu Val Tyr Asn Leu Met Asp Gly Lys Val Ala
260 265 270

Ala His Arg Lys
275

<210> 38
<211> 281
<212> PRT
<213> unknown

<220>
<223> Nigrocine2-KZ144

<400> 38

Gly Leu Leu Ser Lys Val Leu Gly Val Gly Lys Lys Val Leu Cys Gly
1 5 10 15

Val Ser Gly Leu Val Cys Lys Val Leu Arg Lys Gly Asp Arg Gly Asp
20 25 30

Glu Val Cys Gln Leu Gln Thr Leu Leu Asn Leu Cys Gly Tyr Asp Val
35 40 45

Gly Lys Pro Asp Gly Ile Phe Gly Asn Asn Thr Phe Asn Gln Val Val
50 55 60

Lys Phe Gln Lys Asp Asn Cys Leu Asp Ser Asp Gly Ile Val Gly Lys
65 70 75 80

Asn Thr Trp Ala Glu Leu Phe Ser Lys Tyr Ser Pro Pro Ile Pro Tyr
85 90 95

Lys Thr Ile Pro Met Pro Thr Ala Asn Lys Ser Arg Ala Ala Ala Thr
100 105 110

Pro Val Met Asn Ala Val Glu Asn Ala Thr Gly Val Arg Ser Gln Leu
115 120 125

Leu Leu Thr Phe Ala Ser Ile Glu Ser Ala Phe Asp Tyr Glu Ile Lys
130 135 140

Ala Lys Thr Ser Ser Ala Thr Gly Trp Phe Gln Phe Leu Thr Gly Thr
 145 150 155 160

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

Asp Pro Thr Gly Ala Leu Arg Lys Asp Pro Arg Ile Ser Ala Leu Met
 180 185 190

Gly Ala Glu Leu Ile Lys Glu Asn Met Asn Ile Leu Arg Pro Val Leu
 195 200 205

Lys Arg Glu Pro Thr Asp Thr Asp Leu Tyr Leu Ala His Phe Phe Gly
 210 215 220

Pro Gly Ala Ala Arg Arg Phe Leu Thr Thr Gly Gln Asn Glu Leu Ala
 225 230 235 240

Ala Thr His Phe Pro Lys Glu Ala Gln Ala Asn Pro Ser Ile Phe Tyr
 245 250 255

Asn Lys Asp Gly Ser Pro Lys Thr Ile Gln Glu Val Tyr Asn Leu Met
 260 265 270

Asp Gly Lys Val Ala Ala His Arg Lys
 275 280

<210> 39
 <211> 283
 <212> PRT
 <213> unknown

<220>
 <223> Pseudin1-KZ144

<400> 39

Gly Leu Asn Thr Leu Lys Lys Val Phe Gln Gly Leu His Glu Ala Ile
 1 5 10 15

Lys Leu Ile Asn Asn His Val Gln Lys Val Leu Arg Lys Gly Asp Arg
 20 25 30

Gly Asp Glu Val Cys Gln Leu Gln Thr Leu Leu Asn Leu Cys Gly Tyr
 35 40 45

Asp	Val	Gly	Lys	Pro	Asp	Gly	Ile	Phe	Gly	Asn	Asn	Thr	Phe	Asn	Gln	50	55	60	
Val	Val	Lys	Phe	Gln	Lys	Asp	Asn	Cys	Leu	Asp	Ser	Asp	Gly	Ile	Val	65	70	75	80
Gly	Lys	Asn	Thr	Trp	Ala	Glu	Leu	Phe	Ser	Lys	Tyr	Ser	Pro	Pro	Ile	85	90	95	
Pro	Tyr	Lys	Thr	Ile	Pro	Met	Pro	Thr	Ala	Asn	Lys	Ser	Arg	Ala	Ala	100	105	110	
Ala	Thr	Pro	Val	Met	Asn	Ala	Val	Glu	Asn	Ala	Thr	Gly	Val	Arg	Ser	115	120	125	
Gln	Leu	Leu	Leu	Thr	Phe	Ala	Ser	Ile	Glu	Ser	Ala	Phe	Asp	Tyr	Glu	130	135	140	
Ile	Lys	Ala	Lys	Thr	Ser	Ser	Ala	Thr	Gly	Trp	Phe	Gln	Phe	Leu	Thr	145	150	155	160
Gly	Thr	Trp	Lys	Thr	Met	Ile	Glu	Asn	Tyr	Gly	Met	Lys	Tyr	Gly	Val	165	170	175	
Leu	Thr	Asp	Pro	Thr	Gly	Ala	Leu	Arg	Lys	Asp	Pro	Arg	Ile	Ser	Ala	180	185	190	
Leu	Met	Gly	Ala	Glu	Leu	Ile	Lys	Glu	Asn	Met	Asn	Ile	Leu	Arg	Pro	195	200	205	
Val	Leu	Lys	Arg	Glu	Pro	Thr	Asp	Thr	Asp	Leu	Tyr	Leu	Ala	His	Phe	210	215	220	
Phe	Gly	Pro	Gly	Ala	Ala	Arg	Arg	Phe	Leu	Thr	Thr	Gly	Gln	Asn	Glu	225	230	235	240
Leu	Ala	Ala	Thr	His	Phe	Pro	Lys	Glu	Ala	Gln	Ala	Asn	Pro	Ser	Ile	245	250	255	
Phe	Tyr	Asn	Lys	Asp	Gly	Ser	Pro	Lys	Thr	Ile	Gln	Glu	Val	Tyr	Asn	260	265	270	
Leu	Met	Asp	Gly	Lys	Val	Ala	Ala	His	Arg	Lys						275	280		

<210> 40
 <211> 277
 <212> PRT
 <213> unknown

<220>
 <223> Ranalexin-KZ144

<400> 40

Phe Leu Gly Gly Leu Ile Val Pro Ala Met Ile Cys Ala Val Thr Lys
 1 5 10 15

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

Leu Gln Thr Leu Leu Asn Leu Cys Gly Tyr Asp Val Gly Lys Pro Asp
 35 40 45

Gly Ile Phe Gly Asn Asn Thr Phe Asn Gln Val Val Lys Phe Gln Lys
 50 55 60

Asp Asn Cys Leu Asp Ser Asp Gly Ile Val Gly Lys Asn Thr Trp Ala
 65 70 75 80

Glu Leu Phe Ser Lys Tyr Ser Pro Pro Ile Pro Tyr Lys Thr Ile Pro
 85 90 95

Met Pro Thr Ala Asn Lys Ser Arg Ala Ala Ala Thr Pro Val Met Asn
 100 105 110

Ala Val Glu Asn Ala Thr Gly Val Arg Ser Gln Leu Leu Leu Thr Phe
 115 120 125

Ala Ser Ile Glu Ser Ala Phe Asp Tyr Glu Ile Lys Ala Lys Thr Ser
 130 135 140

Ser Ala Thr Gly Trp Phe Gln Phe Leu Thr Gly Thr Trp Lys Thr Met
 145 150 155 160

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

Ala Leu Arg Lys Asp Pro Arg Ile Ser Ala Leu Met Gly Ala Glu Leu
 180 185 190

Ile Lys Glu Asn Met Asn Ile Leu Arg Pro Val Leu Lys Arg Glu Pro
195 200 205

Thr Asp Thr Asp Leu Tyr Leu Ala His Phe Phe Gly Pro Gly Ala Ala
210 215 220

Arg Arg Phe Leu Thr Thr Gly Gln Asn Glu Leu Ala Ala Thr His Phe
225 230 235 240

Pro Lys Glu Ala Gln Ala Asn Pro Ser Ile Phe Tyr Asn Lys Asp Gly
245 250 255

Ser Pro Lys Thr Ile Gln Glu Val Tyr Asn Leu Met Asp Gly Lys Val
260 265 270

Ala Ala His Arg Lys
275

<210> 41
<211> 286
<212> PRT
<213> unknown

<220>
<223> WLB2-Variant-KZ144

<400> 41

Lys Arg Trp Val Lys Arg Val Lys Arg Val Lys Arg Trp Val Lys Arg
1 5 10 15

Val Val Arg Val Val Lys Arg Trp Val Lys Arg Lys Val Leu Arg Lys
20 25 30

Gly Asp Arg Gly Asp Glu Val Cys Gln Leu Gln Thr Leu Leu Asn Leu
35 40 45

Cys Gly Tyr Asp Val Gly Lys Pro Asp Gly Ile Phe Gly Asn Asn Thr
50 55 60

Phe Asn Gln Val Val Lys Phe Gln Lys Asp Asn Cys Leu Asp Ser Asp
65 70 75 80

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

Pro Pro Ile Pro Tyr Lys Thr Ile Pro Met Pro Thr Ala Asn Lys Ser
100 105 110

Arg Ala Ala Ala Thr Pro Val Met Asn Ala Val Glu Asn Ala Thr Gly
115 120 125

Val Arg Ser Gln Leu Leu Leu Thr Phe Ala Ser Ile Glu Ser Ala Phe
130 135 140

Asp Tyr Glu Ile Lys Ala Lys Thr Ser Ser Ala Thr Gly Trp Phe Gln
145 150 155 160

Phe Leu Thr Gly Thr Trp Lys Thr Met Ile Glu Asn Tyr Gly Met Lys
165 170 175

Tyr Gly Val Leu Thr Asp Pro Thr Gly Ala Leu Arg Lys Asp Pro Arg
180 185 190

Ile Ser Ala Leu Met Gly Ala Glu Leu Ile Lys Glu Asn Met Asn Ile
195 200 205

Leu Arg Pro Val Leu Lys Arg Glu Pro Thr Asp Thr Asp Leu Tyr Leu
210 215 220

Ala His Phe Phe Gly Pro Gly Ala Ala Arg Arg Phe Leu Thr Thr Gly
225 230 235 240

Gln Asn Glu Leu Ala Ala Thr His Phe Pro Lys Glu Ala Gln Ala Asn
245 250 255

Pro Ser Ile Phe Tyr Asn Lys Asp Gly Ser Pro Lys Thr Ile Gln Glu
260 265 270

Val Tyr Asn Leu Met Asp Gly Lys Val Ala Ala His Arg Lys
275 280 285

<210> 42
<211> 293
<212> PRT
<213> unknown

<220>
<223> Sushil-KZ144

<400> 42

Gly Phe Lys Leu Lys Gly Met Ala Arg Ile Ser Cys Leu Pro Asn Gly
1 5 10 15

Gln Trp Ser Asn Phe Pro Pro Lys Cys Ile Arg Glu Cys Ala Met Val
20 25 30

Ser Ser Lys Val Leu Arg Lys Gly Asp Arg Gly Asp Glu Val Cys Gln
35 40 45

Leu Gln Thr Leu Leu Asn Leu Cys Gly Tyr Asp Val Gly Lys Pro Asp
50 55 60

Gly Ile Phe Gly Asn Asn Thr Phe Asn Gln Val Val Lys Phe Gln Lys
65 70 75 80

Asp Asn Cys Leu Asp Ser Asp Gly Ile Val Gly Lys Asn Thr Trp Ala
85 90 95

Glu Leu Phe Ser Lys Tyr Ser Pro Pro Ile Pro Tyr Lys Thr Ile Pro
100 105 110

Met Pro Thr Ala Asn Lys Ser Arg Ala Ala Ala Thr Pro Val Met Asn
115 120 125

Ala Val Glu Asn Ala Thr Gly Val Arg Ser Gln Leu Leu Leu Thr Phe
130 135 140

Ala Ser Ile Glu Ser Ala Phe Asp Tyr Glu Ile Lys Ala Lys Thr Ser
145 150 155 160

Ser Ala Thr Gly Trp Phe Gln Phe Leu Thr Gly Thr Trp Lys Thr Met
165 170 175

Ile Glu Asn Tyr Gly Met Lys Tyr Gly Val Leu Thr Asp Pro Thr Gly
180 185 190

Ala Leu Arg Lys Asp Pro Arg Ile Ser Ala Leu Met Gly Ala Glu Leu
195 200 205

Ile Lys Glu Asn Met Asn Ile Leu Arg Pro Val Leu Lys Arg Glu Pro
210 215 220

Thr Asp Thr Asp Leu Tyr Leu Ala His Phe Phe Gly Pro Gly Ala Ala
 225 230 235 240

Arg Arg Phe Leu Thr Thr Gly Gln Asn Glu Leu Ala Ala Thr His Phe
 245 250 255

Pro Lys Glu Ala Gln Ala Asn Pro Ser Ile Phe Tyr Asn Lys Asp Gly
 260 265 270

Ser Pro Lys Thr Ile Gln Glu Val Tyr Asn Leu Met Asp Gly Lys Val
 275 280 285

Ala Ala His Arg Lys
 290

<210> 43
 <211> 285
 <212> PRT
 <213> unknown

<220>
 <223> Melttin-KZ144

<400> 43

Gly Ile Gly Ala Val Leu Lys Val Leu Thr Thr Gly Leu Pro Ala Leu
 1 5 10 15

Ile Ser Trp Ile Lys Arg Lys Arg Gln Gln Lys Val Leu Arg Lys Gly
 20 25 30

Asp Arg Gly Asp Glu Val Cys Gln Leu Gln Thr Leu Leu Asn Leu Cys
 35 40 45

Gly Tyr Asp Val Gly Lys Pro Asp Gly Ile Phe Gly Asn Asn Thr Phe
 50 55 60

Asn Gln Val Val Lys Phe Gln Lys Asp Asn Cys Leu Asp Ser Asp Gly
 65 70 75 80

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

Pro Ile Pro Tyr Lys Thr Ile Pro Met Pro Thr Ala Asn Lys Ser Arg
 100 105 110

Ala Ala Ala Thr Pro Val Met Asn Ala Val Glu Asn Ala Thr Gly Val
115 120 125

Arg Ser Gln Leu Leu Leu Thr Phe Ala Ser Ile Glu Ser Ala Phe Asp
130 135 140

Tyr Glu Ile Lys Ala Lys Thr Ser Ser Ala Thr Gly Trp Phe Gln Phe
145 150 155 160

Leu Thr Gly Thr Trp Lys Thr Met Ile Glu Asn Tyr Gly Met Lys Tyr
165 170 175

Gly Val Leu Thr Asp Pro Thr Gly Ala Leu Arg Lys Asp Pro Arg Ile
180 185 190

Ser Ala Leu Met Gly Ala Glu Leu Ile Lys Glu Asn Met Asn Ile Leu
195 200 205

Arg Pro Val Leu Lys Arg Glu Pro Thr Asp Thr Asp Leu Tyr Leu Ala
210 215 220

His Phe Phe Gly Pro Gly Ala Ala Arg Arg Phe Leu Thr Thr Gly Gln
225 230 235 240

Asn Glu Leu Ala Ala Thr His Phe Pro Lys Glu Ala Gln Ala Asn Pro
245 250 255

Ser Ile Phe Tyr Asn Lys Asp Gly Ser Pro Lys Thr Ile Gln Glu Val
260 265 270

Tyr Asn Leu Met Asp Gly Lys Val Ala Ala His Arg Lys
275 280 285

<210> 44
<211> 296
<212> PRT
<213> unknown

<220>
<223> LL-37-KZ144

<400> 44

Leu Leu Gly Asp Phe Phe Arg Lys Ser Lys Glu Lys Ile Gly Lys Glu
1 5 10 15

Phe Lys Arg Ile Val Gln Arg Ile Lys Asp Phe Leu Arg Asn Leu Val
20 25 30

Pro Arg Thr Glu Ser Lys Val Leu Arg Lys Gly Asp Arg Gly Asp Glu
35 40 45

Val Cys Gln Leu Gln Thr Leu Leu Asn Leu Cys Gly Tyr Asp Val Gly
50 55 60

Lys Pro Asp Gly Ile Phe Gly Asn Asn Thr Phe Asn Gln Val Val Lys
65 70 75 80

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

Thr Trp Ala Glu Leu Phe Ser Lys Tyr Ser Pro Pro Ile Pro Tyr Lys
100 105 110

Thr Ile Pro Met Pro Thr Ala Asn Lys Ser Arg Ala Ala Ala Thr Pro
115 120 125

Val Met Asn Ala Val Glu Asn Ala Thr Gly Val Arg Ser Gln Leu Leu
130 135 140

Leu Thr Phe Ala Ser Ile Glu Ser Ala Phe Asp Tyr Glu Ile Lys Ala
145 150 155 160

Lys Thr Ser Ser Ala Thr Gly Trp Phe Gln Phe Leu Thr Gly Thr Trp
165 170 175

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

Pro Thr Gly Ala Leu Arg Lys Asp Pro Arg Ile Ser Ala Leu Met Gly
195 200 205

Ala Glu Leu Ile Lys Glu Asn Met Asn Ile Leu Arg Pro Val Leu Lys
210 215 220

Arg Glu Pro Thr Asp Thr Asp Leu Tyr Leu Ala His Phe Phe Gly Pro
225 230 235 240

Gly Ala Ala Arg Arg Phe Leu Thr Thr Gly Gln Asn Glu Leu Ala Ala
245 250 255

Thr His Phe Pro Lys Glu Ala Gln Ala Asn Pro Ser Ile Phe Tyr Asn
260 265 270

Lys Asp Gly Ser Pro Lys Thr Ile Gln Glu Val Tyr Asn Leu Met Asp
275 280 285

Gly Lys Val Ala Ala His Arg Lys
290 295

<210> 45
<211> 272
<212> PRT
<213> unknown

<220>
<223> Indolicidin-KZ144

<400> 45

Ile Leu Pro Trp Lys Trp Pro Trp Trp Pro Trp Arg Arg Lys Val Leu
1 5 10 15

Arg Lys Gly Asp Arg Gly Asp Glu Val Cys Gln Leu Gln Thr Leu Leu
20 25 30

Asn Leu Cys Gly Tyr Asp Val Gly Lys Pro Asp Gly Ile Phe Gly Asn
35 40 45

Asn Thr Phe Asn Gln Val Val Lys Phe Gln Lys Asp Asn Cys Leu Asp
50 55 60

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

Tyr Ser Pro Pro Ile Pro Tyr Lys Thr Ile Pro Met Pro Thr Ala Asn
85 90 95

Lys Ser Arg Ala Ala Ala Thr Pro Val Met Asn Ala Val Glu Asn Ala
100 105 110

Thr Gly Val Arg Ser Gln Leu Leu Leu Thr Phe Ala Ser Ile Glu Ser
115 120 125

Ala Phe Asp Tyr Glu Ile Lys Ala Lys Thr Ser Ser Ala Thr Gly Trp
130 135 140

Phe Gln Phe Leu Thr Gly Thr Trp Lys Thr Met Ile Glu Asn Tyr Gly
 145 150 155 160

Met Lys Tyr Gly Val Leu Thr Asp Pro Thr Gly Ala Leu Arg Lys Asp
 165 170 175

Pro Arg Ile Ser Ala Leu Met Gly Ala Glu Leu Ile Lys Glu Asn Met
 180 185 190

Asn Ile Leu Arg Pro Val Leu Lys Arg Glu Pro Thr Asp Thr Asp Leu
 195 200 205

Tyr Leu Ala His Phe Phe Gly Pro Gly Ala Ala Arg Arg Phe Leu Thr
 210 215 220

Thr Gly Gln Asn Glu Leu Ala Ala Thr His Phe Pro Lys Glu Ala Gln
 225 230 235 240

Ala Asn Pro Ser Ile Phe Tyr Asn Lys Asp Gly Ser Pro Lys Thr Ile
 245 250 255

Gln Glu Val Tyr Asn Leu Met Asp Gly Lys Val Ala Ala His Arg Lys
 260 265 270

<210> 46
 <211> 288
 <212> PRT
 <213> unknown

<220>
 <223> SMAP-29-KZ144

<400> 46

Arg Gly Leu Arg Arg Leu Gly Arg Lys Ile Ala His Gly Val Lys Lys
 1 5 10 15

Tyr Gly Pro Thr Val Leu Arg Ile Ile Arg Ile Ala Gly Lys Val Leu
 20 25 30

Arg Lys Gly Asp Arg Gly Asp Glu Val Cys Gln Leu Gln Thr Leu Leu
 35 40 45

Asn Leu Cys Gly Tyr Asp Val Gly Lys Pro Asp Gly Ile Phe Gly Asn
 50 55 60

Asn	Thr	Phe	Asn	Gln	Val	Val	Lys	Phe	Gln	Lys	Asp	Asn	Cys	Leu	Asp	
65					70					75					80	
Ser	Asp	Gly	Ile	Val	Gly	Lys	Asn	Thr	Trp	Ala	Glu	Leu	Phe	Ser	Lys	
				85					90					95		
Tyr	Ser	Pro	Pro	Ile	Pro	Tyr	Lys	Thr	Ile	Pro	Met	Pro	Thr	Ala	Asn	
			100					105					110			
Lys	Ser	Arg	Ala	Ala	Ala	Thr	Pro	Val	Met	Asn	Ala	Val	Glu	Asn	Ala	
		115					120					125				
Thr	Gly	Val	Arg	Ser	Gln	Leu	Leu	Leu	Thr	Phe	Ala	Ser	Ile	Glu	Ser	
	130					135					140					
Ala	Phe	Asp	Tyr	Glu	Ile	Lys	Ala	Lys	Thr	Ser	Ser	Ala	Thr	Gly	Trp	
145					150					155					160	
Phe	Gln	Phe	Leu	Thr	Gly	Thr	Trp	Lys	Thr	Met	Ile	Glu	Asn	Tyr	Gly	
				165					170					175		
Met	Lys	Tyr	Gly	Val	Leu	Thr	Asp	Pro	Thr	Gly	Ala	Leu	Arg	Lys	Asp	
			180					185					190			
Pro	Arg	Ile	Ser	Ala	Leu	Met	Gly	Ala	Glu	Leu	Ile	Lys	Glu	Asn	Met	
		195					200					205				
Asn	Ile	Leu	Arg	Pro	Val	Leu	Lys	Arg	Glu	Pro	Thr	Asp	Thr	Asp	Leu	
	210					215					220					
Tyr	Leu	Ala	His	Phe	Phe	Gly	Pro	Gly	Ala	Ala	Arg	Arg	Phe	Leu	Thr	
225					230					235					240	
Thr	Gly	Gln	Asn	Glu	Leu	Ala	Ala	Thr	His	Phe	Pro	Lys	Glu	Ala	Gln	
				245					250					255		
Ala	Asn	Pro	Ser	Ile	Phe	Tyr	Asn	Lys	Asp	Gly	Ser	Pro	Lys	Thr	Ile	
			260					265					270			
Gln	Glu	Val	Tyr	Asn	Leu	Met	Asp	Gly	Lys	Val	Ala	Ala	His	Arg	Lys	
		275					280					285				

<210> 47
 <211> 277
 <212> PRT
 <213> unknown

<220>
 <223> Protegrin-KZ144

<400> 47

Arg Gly Gly Arg Leu Cys Tyr Cys Arg Arg Arg Phe Cys Val Cys Val
 1 5 10 15

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

Leu Gln Thr Leu Leu Asn Leu Cys Gly Tyr Asp Val Gly Lys Pro Asp
 35 40 45

Gly Ile Phe Gly Asn Asn Thr Phe Asn Gln Val Val Lys Phe Gln Lys
 50 55 60

Asp Asn Cys Leu Asp Ser Asp Gly Ile Val Gly Lys Asn Thr Trp Ala
 65 70 75 80

Glu Leu Phe Ser Lys Tyr Ser Pro Pro Ile Pro Tyr Lys Thr Ile Pro
 85 90 95

Met Pro Thr Ala Asn Lys Ser Arg Ala Ala Ala Thr Pro Val Met Asn
 100 105 110

Ala Val Glu Asn Ala Thr Gly Val Arg Ser Gln Leu Leu Leu Thr Phe
 115 120 125

Ala Ser Ile Glu Ser Ala Phe Asp Tyr Glu Ile Lys Ala Lys Thr Ser
 130 135 140

Ser Ala Thr Gly Trp Phe Gln Phe Leu Thr Gly Thr Trp Lys Thr Met
 145 150 155 160

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

Ala Leu Arg Lys Asp Pro Arg Ile Ser Ala Leu Met Gly Ala Glu Leu
 180 185 190

Ile Lys Glu Asn Met Asn Ile Leu Arg Pro Val Leu Lys Arg Glu Pro
195 200 205

Thr Asp Thr Asp Leu Tyr Leu Ala His Phe Phe Gly Pro Gly Ala Ala
210 215 220

Arg Arg Phe Leu Thr Thr Gly Gln Asn Glu Leu Ala Ala Thr His Phe
225 230 235 240

Pro Lys Glu Ala Gln Ala Asn Pro Ser Ile Phe Tyr Asn Lys Asp Gly
245 250 255

Ser Pro Lys Thr Ile Gln Glu Val Tyr Asn Leu Met Asp Gly Lys Val
260 265 270

Ala Ala His Arg Lys
275

<210> 48
<211> 290
<212> PRT
<213> unknown

<220>
<223> Cecropin P1-KZ144

<400> 48

Ser Trp Leu Ser Lys Thr Ala Lys Lys Leu Glu Asn Ser Ala Lys Lys
1 5 10 15

Arg Ile Ser Glu Gly Ile Ala Ile Ala Ile Gln Gly Gly Pro Arg Lys
20 25 30

Val Leu Arg Lys Gly Asp Arg Gly Asp Glu Val Cys Gln Leu Gln Thr
35 40 45

Leu Leu Asn Leu Cys Gly Tyr Asp Val Gly Lys Pro Asp Gly Ile Phe
50 55 60

Gly Asn Asn Thr Phe Asn Gln Val Val Lys Phe Gln Lys Asp Asn Cys
65 70 75 80

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

Ser Lys Tyr Ser Pro Pro Ile Pro Tyr Lys Thr Ile Pro Met Pro Thr
100 105 110

Ala Asn Lys Ser Arg Ala Ala Ala Thr Pro Val Met Asn Ala Val Glu
115 120 125

Asn Ala Thr Gly Val Arg Ser Gln Leu Leu Leu Thr Phe Ala Ser Ile
130 135 140

Glu Ser Ala Phe Asp Tyr Glu Ile Lys Ala Lys Thr Ser Ser Ala Thr
145 150 155 160

Gly Trp Phe Gln Phe Leu Thr Gly Thr Trp Lys Thr Met Ile Glu Asn
165 170 175

Tyr Gly Met Lys Tyr Gly Val Leu Thr Asp Pro Thr Gly Ala Leu Arg
180 185 190

Lys Asp Pro Arg Ile Ser Ala Leu Met Gly Ala Glu Leu Ile Lys Glu
195 200 205

Asn Met Asn Ile Leu Arg Pro Val Leu Lys Arg Glu Pro Thr Asp Thr
210 215 220

Asp Leu Tyr Leu Ala His Phe Phe Gly Pro Gly Ala Ala Arg Arg Phe
225 230 235 240

Leu Thr Thr Gly Gln Asn Glu Leu Ala Ala Thr His Phe Pro Lys Glu
245 250 255

Ala Gln Ala Asn Pro Ser Ile Phe Tyr Asn Lys Asp Gly Ser Pro Lys
260 265 270

Thr Ile Gln Glu Val Tyr Asn Leu Met Asp Gly Lys Val Ala Ala His
275 280 285

Arg Lys
290

<210> 49
<211> 282
<212> PRT
<213> unknown

<220>

<223> Magainin-KZ144

<400> 49

Gly Ile Gly Lys Phe Leu His Ser Ala Lys Lys Phe Gly Lys Ala Phe
1 5 10 15

Val Gly Glu Ile Met Asn Ser Lys Val Leu Arg Lys Gly Asp Arg Gly
20 25 30

Asp Glu Val Cys Gln Leu Gln Thr Leu Leu Asn Leu Cys Gly Tyr Asp
35 40 45

Val Gly Lys Pro Asp Gly Ile Phe Gly Asn Asn Thr Phe Asn Gln Val
50 55 60

Val Lys Phe Gln Lys Asp Asn Cys Leu Asp Ser Asp Gly Ile Val Gly
65 70 75 80

Lys Asn Thr Trp Ala Glu Leu Phe Ser Lys Tyr Ser Pro Pro Ile Pro
85 90 95

Tyr Lys Thr Ile Pro Met Pro Thr Ala Asn Lys Ser Arg Ala Ala Ala
100 105 110

Thr Pro Val Met Asn Ala Val Glu Asn Ala Thr Gly Val Arg Ser Gln
115 120 125

Leu Leu Leu Thr Phe Ala Ser Ile Glu Ser Ala Phe Asp Tyr Glu Ile
130 135 140

Lys Ala Lys Thr Ser Ser Ala Thr Gly Trp Phe Gln Phe Leu Thr Gly
145 150 155 160

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

Thr Asp Pro Thr Gly Ala Leu Arg Lys Asp Pro Arg Ile Ser Ala Leu
180 185 190

Met Gly Ala Glu Leu Ile Lys Glu Asn Met Asn Ile Leu Arg Pro Val
195 200 205

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

Gly Pro Gly Ala Ala Arg Arg Phe Leu Thr Thr Gly Gln Asn Glu Leu
 225 230 235 240

Ala Ala Thr His Phe Pro Lys Glu Ala Gln Ala Asn Pro Ser Ile Phe
 245 250 255

Tyr Asn Lys Asp Gly Ser Pro Lys Thr Ile Gln Glu Val Tyr Asn Leu
 260 265 270

Met Asp Gly Lys Val Ala Ala His Arg Lys
 275 280

<210> 50
 <211> 284
 <212> PRT
 <213> unknown

<220>
 <223> Pleurocidin-KZ144

<400> 50

Gly Trp Gly Ser Phe Phe Lys Lys Ala Ala His Val Gly Lys His Val
 1 5 10 15

Gly Lys Ala Ala Leu Thr His Tyr Leu Lys Val Leu Arg Lys Gly Asp
 20 25 30

Arg Gly Asp Glu Val Cys Gln Leu Gln Thr Leu Leu Asn Leu Cys Gly
 35 40 45

Tyr Asp Val Gly Lys Pro Asp Gly Ile Phe Gly Asn Asn Thr Phe Asn
 50 55 60

Gln Val Val Lys Phe Gln Lys Asp Asn Cys Leu Asp Ser Asp Gly Ile
 65 70 75 80

Val Gly Lys Asn Thr Trp Ala Glu Leu Phe Ser Lys Tyr Ser Pro Pro
 85 90 95

Ile Pro Tyr Lys Thr Ile Pro Met Pro Thr Ala Asn Lys Ser Arg Ala
 100 105 110

Ala Ala Thr Pro Val Met Asn Ala Val Glu Asn Ala Thr Gly Val Arg
 115 120 125

Ser Gln Leu Leu Leu Thr Phe Ala Ser Ile Glu Ser Ala Phe Asp Tyr
130 135 140

Glu Ile Lys Ala Lys Thr Ser Ser Ala Thr Gly Trp Phe Gln Phe Leu
145 150 155 160

Thr Gly Thr Trp Lys Thr Met Ile Glu Asn Tyr Gly Met Lys Tyr Gly
165 170 175

Val Leu Thr Asp Pro Thr Gly Ala Leu Arg Lys Asp Pro Arg Ile Ser
180 185 190

Ala Leu Met Gly Ala Glu Leu Ile Lys Glu Asn Met Asn Ile Leu Arg
195 200 205

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

Phe Phe Gly Pro Gly Ala Ala Arg Arg Phe Leu Thr Thr Gly Gln Asn
225 230 235 240

Glu Leu Ala Ala Thr His Phe Pro Lys Glu Ala Gln Ala Asn Pro Ser
245 250 255

Ile Phe Tyr Asn Lys Asp Gly Ser Pro Lys Thr Ile Gln Glu Val Tyr
260 265 270

Asn Leu Met Asp Gly Lys Val Ala Ala His Arg Lys
275 280

<210> 51
<211> 295
<212> PRT
<213> unknown

<220>
<223> Cecropin A (A.aegypti)-KZ144

<400> 51

Gly Gly Leu Lys Lys Leu Gly Lys Lys Leu Glu Gly Ala Gly Lys Arg
1 5 10 15

Val Phe Asn Ala Ala Glu Lys Ala Leu Pro Val Val Ala Gly Ala Lys
20 25 30

Ala	Leu	Arg	Lys	Lys	Val	Leu	Arg	Lys	Gly	Asp	Arg	Gly	Asp	Glu	Val
	35					40					45				
Cys	Gln	Leu	Gln	Thr	Leu	Leu	Asn	Leu	Cys	Gly	Tyr	Asp	Val	Gly	Lys
	50					55					60				
Pro	Asp	Gly	Ile	Phe	Gly	Asn	Asn	Thr	Phe	Asn	Gln	Val	Val	Lys	Phe
65					70					75					80
Gln	Lys	Asp	Asn	Cys	Leu	Asp	Ser	Asp	Gly	Ile	Val	Gly	Lys	Asn	Thr
				85					90					95	
Trp	Ala	Glu	Leu	Phe	Ser	Lys	Tyr	Ser	Pro	Pro	Ile	Pro	Tyr	Lys	Thr
		100					105						110		
Ile	Pro	Met	Pro	Thr	Ala	Asn	Lys	Ser	Arg	Ala	Ala	Ala	Thr	Pro	Val
		115					120					125			
Met	Asn	Ala	Val	Glu	Asn	Ala	Thr	Gly	Val	Arg	Ser	Gln	Leu	Leu	Leu
	130					135					140				
Thr	Phe	Ala	Ser	Ile	Glu	Ser	Ala	Phe	Asp	Tyr	Glu	Ile	Lys	Ala	Lys
145					150					155					160
Thr	Ser	Ser	Ala	Thr	Gly	Trp	Phe	Gln	Phe	Leu	Thr	Gly	Thr	Trp	Lys
				165				170						175	
Thr	Met	Ile	Glu	Asn	Tyr	Gly	Met	Lys	Tyr	Gly	Val	Leu	Thr	Asp	Pro
			180					185					190		
Thr	Gly	Ala	Leu	Arg	Lys	Asp	Pro	Arg	Ile	Ser	Ala	Leu	Met	Gly	Ala
		195					200					205			
Glu	Leu	Ile	Lys	Glu	Asn	Met	Asn	Ile	Leu	Arg	Pro	Val	Leu	Lys	Arg
	210					215					220				
Glu	Pro	Thr	Asp	Thr	Asp	Leu	Tyr	Leu	Ala	His	Phe	Phe	Gly	Pro	Gly
225					230					235					240
Ala	Ala	Arg	Arg	Phe	Leu	Thr	Thr	Gly	Gln	Asn	Glu	Leu	Ala	Ala	Thr
				245					250					255	

His Phe Pro Lys Glu Ala Gln Ala Asn Pro Ser Ile Phe Tyr Asn Lys
260 265 270

Asp Gly Ser Pro Lys Thr Ile Gln Glu Val Tyr Asn Leu Met Asp Gly
275 280 285

Lys Val Ala Ala His Arg Lys
290 295

<210> 52
<211> 299
<212> PRT
<213> unknown

<220>
<223> Cecropin A (D.melanogaster)-KZ144

<400> 52

Gly Trp Leu Lys Lys Ile Gly Lys Lys Ile Glu Arg Val Gly Gln His
1 5 10 15

Thr Arg Asp Ala Thr Ile Gln Gly Leu Gly Ile Pro Gln Gln Ala Ala
20 25 30

Asn Val Ala Ala Thr Ala Arg Gly Lys Val Leu Arg Lys Gly Asp Arg
35 40 45

Gly Asp Glu Val Cys Gln Leu Gln Thr Leu Leu Asn Leu Cys Gly Tyr
50 55 60

Asp Val Gly Lys Pro Asp Gly Ile Phe Gly Asn Asn Thr Phe Asn Gln
65 70 75 80

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

Gly Lys Asn Thr Trp Ala Glu Leu Phe Ser Lys Tyr Ser Pro Pro Ile
100 105 110

Pro Tyr Lys Thr Ile Pro Met Pro Thr Ala Asn Lys Ser Arg Ala Ala
115 120 125

Ala Thr Pro Val Met Asn Ala Val Glu Asn Ala Thr Gly Val Arg Ser
130 135 140

Gln Leu Leu Leu Thr Phe Ala Ser Ile Glu Ser Ala Phe Asp Tyr Glu
145 150 155 160

Ile Lys Ala Lys Thr Ser Ser Ala Thr Gly Trp Phe Gln Phe Leu Thr
165 170 175

Gly Thr Trp Lys Thr Met Ile Glu Asn Tyr Gly Met Lys Tyr Gly Val
180 185 190

Leu Thr Asp Pro Thr Gly Ala Leu Arg Lys Asp Pro Arg Ile Ser Ala
195 200 205

Leu Met Gly Ala Glu Leu Ile Lys Glu Asn Met Asn Ile Leu Arg Pro
210 215 220

Val Leu Lys Arg Glu Pro Thr Asp Thr Asp Leu Tyr Leu Ala His Phe
225 230 235 240

Phe Gly Pro Gly Ala Ala Arg Arg Phe Leu Thr Thr Gly Gln Asn Glu
245 250 255

Leu Ala Ala Thr His Phe Pro Lys Glu Ala Gln Ala Asn Pro Ser Ile
260 265 270

Phe Tyr Asn Lys Asp Gly Ser Pro Lys Thr Ile Gln Glu Val Tyr Asn
275 280 285

Leu Met Asp Gly Lys Val Ala Ala His Arg Lys
290 295

<210> 53
<211> 280
<212> PRT
<213> unknown

<220>
<223> BuforinII-KZ144

<400> 53

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

Arg Leu Leu Arg Lys Lys Val Leu Arg Lys Gly Asp Arg Gly Asp Glu
20 25 30

Val	Cys	Gln	Leu	Gln	Thr	Leu	Leu	Asn	Leu	Cys	Gly	Tyr	Asp	Val	Gly
		35					40					45			
Lys	Pro	Asp	Gly	Ile	Phe	Gly	Asn	Asn	Thr	Phe	Asn	Gln	Val	Val	Lys
	50					55					60				
Phe	Gln	Lys	Asp	Asn	Cys	Leu	Asp	Ser	Asp	Gly	Ile	Val	Gly	Lys	Asn
65					70					75					80
Thr	Trp	Ala	Glu	Leu	Phe	Ser	Lys	Tyr	Ser	Pro	Pro	Ile	Pro	Tyr	Lys
				85					90					95	
Thr	Ile	Pro	Met	Pro	Thr	Ala	Asn	Lys	Ser	Arg	Ala	Ala	Ala	Thr	Pro
			100					105					110		
Val	Met	Asn	Ala	Val	Glu	Asn	Ala	Thr	Gly	Val	Arg	Ser	Gln	Leu	Leu
			115				120					125			
Leu	Thr	Phe	Ala	Ser	Ile	Glu	Ser	Ala	Phe	Asp	Tyr	Glu	Ile	Lys	Ala
	130					135					140				
Lys	Thr	Ser	Ser	Ala	Thr	Gly	Trp	Phe	Gln	Phe	Leu	Thr	Gly	Thr	Trp
145					150					155					160
Lys	Thr	Met	Ile	Glu	Asn	Tyr	Gly	Met	Lys	Tyr	Gly	Val	Leu	Thr	Asp
				165					170					175	
Pro	Thr	Gly	Ala	Leu	Arg	Lys	Asp	Pro	Arg	Ile	Ser	Ala	Leu	Met	Gly
			180					185					190		
Ala	Glu	Leu	Ile	Lys	Glu	Asn	Met	Asn	Ile	Leu	Arg	Pro	Val	Leu	Lys
		195					200					205			
Arg	Glu	Pro	Thr	Asp	Thr	Asp	Leu	Tyr	Leu	Ala	His	Phe	Phe	Gly	Pro
	210					215					220				
Gly	Ala	Ala	Arg	Arg	Phe	Leu	Thr	Thr	Gly	Gln	Asn	Glu	Leu	Ala	Ala
225					230					235					240
Thr	His	Phe	Pro	Lys	Glu	Ala	Gln	Ala	Asn	Pro	Ser	Ile	Phe	Tyr	Asn
				245					250					255	
Lys	Asp	Gly	Ser	Pro	Lys	Thr	Ile	Gln	Glu	Val	Tyr	Asn	Leu	Met	Asp
			260					265					270		

Gly Lys Val Ala Ala His Arg Lys
 275 280

<210> 54
 <211> 298
 <212> PRT
 <213> unknown

<220>
 <223> Sarcotoxin IA-KZ144

<400> 54

Gly Trp Leu Lys Lys Ile Gly Lys Lys Ile Glu Arg Val Gly Gln His
 1 5 10 15

Thr Arg Asp Ala Thr Ile Gln Gly Leu Gly Ile Ala Gln Gln Ala Ala
 20 25 30

Asn Val Ala Ala Thr Ala Arg Lys Val Leu Arg Lys Gly Asp Arg Gly
 35 40 45

Asp Glu Val Cys Gln Leu Gln Thr Leu Leu Asn Leu Cys Gly Tyr Asp
 50 55 60

Val Gly Lys Pro Asp Gly Ile Phe Gly Asn Asn Thr Phe Asn Gln Val
 65 70 75 80

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

Lys Asn Thr Trp Ala Glu Leu Phe Ser Lys Tyr Ser Pro Pro Ile Pro
 100 105 110

Tyr Lys Thr Ile Pro Met Pro Thr Ala Asn Lys Ser Arg Ala Ala Ala
 115 120 125

Thr Pro Val Met Asn Ala Val Glu Asn Ala Thr Gly Val Arg Ser Gln
 130 135 140

Leu Leu Leu Thr Phe Ala Ser Ile Glu Ser Ala Phe Asp Tyr Glu Ile
 145 150 155 160

Lys Ala Lys Thr Ser Ser Ala Thr Gly Trp Phe Gln Phe Leu Thr Gly
 165 170 175

Thr Trp Lys Thr Met Ile Glu Asn Tyr Gly Met Lys Tyr Gly Val Leu
180 185 190

Thr Asp Pro Thr Gly Ala Leu Arg Lys Asp Pro Arg Ile Ser Ala Leu
195 200 205

Met Gly Ala Glu Leu Ile Lys Glu Asn Met Asn Ile Leu Arg Pro Val
210 215 220

Leu Lys Arg Glu Pro Thr Asp Thr Asp Leu Tyr Leu Ala His Phe Phe
225 230 235 240

Gly Pro Gly Ala Ala Arg Arg Phe Leu Thr Thr Gly Gln Asn Glu Leu
245 250 255

Ala Ala Thr His Phe Pro Lys Glu Ala Gln Ala Asn Pro Ser Ile Phe
260 265 270

Tyr Asn Lys Asp Gly Ser Pro Lys Thr Ile Gln Glu Val Tyr Asn Leu
275 280 285

Met Asp Gly Lys Val Ala Ala His Arg Lys
290 295

<210> 55
<211> 200
<212> PRT
<213> unknown

<220>
<223> Ascaphine 5-STM0016

<400> 55

Gly Ile Lys Asp Trp Ile Lys Gly Ala Ala Lys Lys Leu Ile Lys Thr
1 5 10 15

Val Ala Ser His Ile Ala Asn Gln Asn Pro Ile Ile Asp Gly Ile Ile
20 25 30

Ala Leu Glu Gly Gly Tyr Val Phe Asn Pro Lys Asp Lys Gly Gly Ala
35 40 45

Thr His Trp Gly Ile Thr Glu Ala Thr Ala Arg Ala His Gly Tyr Ala
50 55 60

Gly Asp Met Arg Asp Leu Thr His Ala Glu Ala Tyr Ala Ile Leu Glu
65 70 75 80

Glu Asp Tyr Trp Ile Lys Pro Gly Phe Asp Val Ile Ser Thr Leu Ser
85 90 95

Trp Pro Val Ser Phe Glu Leu Cys Asp Ala Ala Val Asn Ile Gly Ala
100 105 110

Tyr His Pro Ser Ala Trp Leu Gln Arg Trp Leu Asn Val Phe Asn His
115 120 125

Glu Gly Lys Arg Tyr Pro Asp Ile His Val Asp Gly Asn Ile Gly Pro
130 135 140

Arg Thr Leu Ala Ala Leu Glu His Tyr Leu Ala Trp Arg Gly Gln Glu
145 150 155 160

Gly Glu Ala Val Leu Val Lys Ala Leu Asn Cys Ser Gln Gly Thr Tyr
165 170 175

Tyr Leu Asn Val Ala Glu Lys Asn His Asn Asn Glu Gln Phe Ile Tyr
180 185 190

Gly Trp Ile Lys Asn Arg Val Thr
195 200

<210> 56
<211> 198
<212> PRT
<213> unknown

<220>
<223> Nigrocine2-STM0016

<400> 56

Gly Leu Leu Ser Lys Val Leu Gly Val Gly Lys Lys Val Leu Cys Gly
1 5 10 15

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

Glu Gly Gly Tyr Val Phe Asn Pro Lys Asp Lys Gly Gly Ala Thr His
35 40 45

Trp Gly Ile Thr Glu Ala Thr Ala Arg Ala His Gly Tyr Ala Gly Asp
50 55 60

Met Arg Asp Leu Thr His Ala Glu Ala Tyr Ala Ile Leu Glu Glu Asp
65 70 75 80

Tyr Trp Ile Lys Pro Gly Phe Asp Val Ile Ser Thr Leu Ser Trp Pro
85 90 95

Val Ser Phe Glu Leu Cys Asp Ala Ala Val Asn Ile Gly Ala Tyr His
100 105 110

Pro Ser Ala Trp Leu Gln Arg Trp Leu Asn Val Phe Asn His Glu Gly
115 120 125

Lys Arg Tyr Pro Asp Ile His Val Asp Gly Asn Ile Gly Pro Arg Thr
130 135 140

Leu Ala Ala Leu Glu His Tyr Leu Ala Trp Arg Gly Gln Glu Gly Glu
145 150 155 160

Ala Val Leu Val Lys Ala Leu Asn Cys Ser Gln Gly Thr Tyr Tyr Leu
165 170 175

Asn Val Ala Glu Lys Asn His Asn Asn Glu Gln Phe Ile Tyr Gly Trp
180 185 190

Ile Lys Asn Arg Val Thr
195

<210> 57
<211> 205
<212> PRT
<213> unknown

<220>
<223> SMAP-29-STM0016

<400> 57

Arg Gly Leu Arg Arg Leu Gly Arg Lys Ile Ala His Gly Val Lys Lys
1 5 10 15

Tyr Gly Pro Thr Val Leu Arg Ile Ile Arg Ile Ala Gly Asn Pro Ile
20 25 30

Ile Asp Gly Ile Ile Ala Leu Glu Gly Gly Tyr Val Phe Asn Pro Lys
35 40 45

Asp Lys Gly Gly Ala Thr His Trp Gly Ile Thr Glu Ala Thr Ala Arg
50 55 60

Ala His Gly Tyr Ala Gly Asp Met Arg Asp Leu Thr His Ala Glu Ala
65 70 75 80

Tyr Ala Ile Leu Glu Glu Asp Tyr Trp Ile Lys Pro Gly Phe Asp Val
85 90 95

Ile Ser Thr Leu Ser Trp Pro Val Ser Phe Glu Leu Cys Asp Ala Ala
100 105 110

Val Asn Ile Gly Ala Tyr His Pro Ser Ala Trp Leu Gln Arg Trp Leu
115 120 125

Asn Val Phe Asn His Glu Gly Lys Arg Tyr Pro Asp Ile His Val Asp
130 135 140

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

Trp Arg Gly Gln Glu Gly Glu Ala Val Leu Val Lys Ala Leu Asn Cys
165 170 175

Ser Gln Gly Thr Tyr Tyr Leu Asn Val Ala Glu Lys Asn His Asn Asn
180 185 190

Glu Gln Phe Ile Tyr Gly Trp Ile Lys Asn Arg Val Thr
195 200 205

<210> 58
<211> 215
<212> PRT
<213> unknown

<220>
<223> Sarcotoxin IA-STM0016

<400> 58

Gly Trp Leu Lys Lys Ile Gly Lys Lys Ile Glu Arg Val Gly Gln His
1 5 10 15

Thr Arg Asp Ala Thr Ile Gln Gly Leu Gly Ile Ala Gln Gln Ala Ala
20 25 30

Asn Val Ala Ala Thr Ala Arg Asn Pro Ile Ile Asp Gly Ile Ile Ala
35 40 45

Leu Glu Gly Gly Tyr Val Phe Asn Pro Lys Asp Lys Gly Gly Ala Thr
50 55 60

His Trp Gly Ile Thr Glu Ala Thr Ala Arg Ala His Gly Tyr Ala Gly
65 70 75 80

Asp Met Arg Asp Leu Thr His Ala Glu Ala Tyr Ala Ile Leu Glu Glu
85 90 95

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

Pro Val Ser Phe Glu Leu Cys Asp Ala Ala Val Asn Ile Gly Ala Tyr
115 120 125

His Pro Ser Ala Trp Leu Gln Arg Trp Leu Asn Val Phe Asn His Glu
130 135 140

Gly Lys Arg Tyr Pro Asp Ile His Val Asp Gly Asn Ile Gly Pro Arg
145 150 155 160

Thr Leu Ala Ala Leu Glu His Tyr Leu Ala Trp Arg Gly Gln Glu Gly
165 170 175

Glu Ala Val Leu Val Lys Ala Leu Asn Cys Ser Gln Gly Thr Tyr Tyr
180 185 190

Leu Asn Val Ala Glu Lys Asn His Asn Asn Glu Gln Phe Ile Tyr Gly
195 200 205

Trp Ile Lys Asn Arg Val Thr
210 215

<210> 59
<211> 233
<212> PRT
<213> unknown

<220>

<223> Melittin-N4gp61

<400> 59

Gly Ile Gly Ala Val Leu Lys Val Leu Thr Thr Gly Leu Pro Ala Leu
1 5 10 15

Ile Ser Trp Ile Lys Arg Lys Arg Gln Gln Ala Ile Ser Lys Lys Lys
20 25 30

Val Gly Gly Val Gly Gly Val Ile Ala Ala Ile Ile Ala Ala Val Phe
35 40 45

Ala Val Glu Gly Gly Tyr Val Asn Asp Pro Lys Asp Pro Gly Gly Glu
50 55 60

Thr Asn His Gly Val Thr Ile Gln Val Ala Gln Lys His Lys Gln Glu
65 70 75 80

Leu Glu Ser Met Tyr Asn Trp Asp Gly Ser Met Lys Asn Leu Thr Gln
85 90 95

Glu Met Ala Ser Ser Ile Tyr Tyr Asn Asp Tyr Ile Leu Lys Pro Gly
100 105 110

Phe Val Lys Phe Ala Asp Val Ser Pro Ala Val Thr Glu Lys Leu Val
115 120 125

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

Glu Ser Leu Asn Ala Phe Ser Arg Asn Gly Lys Asp Tyr Pro Lys Ile
145 150 155 160

Gln Val Asp Gly Lys Val Gly Ser Gly Thr Leu Ser Ala Tyr Lys Ser
165 170 175

Leu Gln Asn Lys Arg Gly Lys Val Glu Ala Cys Lys Leu Ile Leu Lys
180 185 190

Ser Leu Asp Gly Lys Gln Leu Asn Tyr Tyr Leu Ser Leu Asn Met Pro
195 200 205

Glu Tyr Thr Thr Gly Trp Ile Ala Asn Arg Ile Gly Asn Val Pro Leu
 210 215 220

Glu Arg Cys Asn Glu Asp Ile Val Asn
 225 230

<210> 60
 <211> 236
 <212> PRT
 <213> unknown

<220>
 <223> SMAP-29-N4gp61

<400> 60

Arg Gly Leu Arg Arg Leu Gly Arg Lys Ile Ala His Gly Val Lys Lys
 1 5 10 15

Tyr Gly Pro Thr Val Leu Arg Ile Ile Arg Ile Ala Gly Ala Ile Ser
 20 25 30

Lys Lys Lys Val Gly Gly Val Gly Gly Val Ile Ala Ala Ile Ile Ala
 35 40 45

Ala Val Phe Ala Val Glu Gly Gly Tyr Val Asn Asp Pro Lys Asp Pro
 50 55 60

Gly Gly Glu Thr Asn His Gly Val Thr Ile Gln Val Ala Gln Lys His
 65 70 75 80

Lys Gln Glu Leu Glu Ser Met Tyr Asn Trp Asp Gly Ser Met Lys Asn
 85 90 95

Leu Thr Gln Glu Met Ala Ser Ser Ile Tyr Tyr Asn Asp Tyr Ile Leu
 100 105 110

Lys Pro Gly Phe Val Lys Phe Ala Asp Val Ser Pro Ala Val Thr Glu
 115 120 125

Lys Leu Val Asp Ala Gly Val Asn Thr Gly Pro Ala Arg Pro Ser Arg
 130 135 140

Trp Leu Gln Glu Ser Leu Asn Ala Phe Ser Arg Asn Gly Lys Asp Tyr
 145 150 155 160

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

Tyr Lys Ser Leu Gln Asn Lys Arg Gly Lys Val Glu Ala Cys Lys Leu
180 185 190

Ile Leu Lys Ser Leu Asp Gly Lys Gln Leu Asn Tyr Tyr Leu Ser Leu
195 200 205

Asn Met Pro Glu Tyr Thr Thr Gly Trp Ile Ala Asn Arg Ile Gly Asn
210 215 220

Val Pro Leu Glu Arg Cys Asn Glu Asp Ile Val Asn
225 230 235

<210> 61
<211> 210
<212> PRT
<213> unknown

<220>
<223> Melittin-N4gp61trunc

<400> 61

Gly Ile Gly Ala Val Leu Lys Val Leu Thr Thr Gly Leu Pro Ala Leu
1 5 10 15

Ile Ser Trp Ile Lys Arg Lys Arg Gln Gln Val Glu Gly Gly Tyr Val
20 25 30

Asn Asp Pro Lys Asp Pro Gly Gly Glu Thr Asn His Gly Val Thr Ile
35 40 45

Gln Val Ala Gln Lys His Lys Gln Glu Leu Glu Ser Met Tyr Asn Trp
50 55 60

Asp Gly Ser Met Lys Asn Leu Thr Gln Glu Met Ala Ser Ser Ile Tyr
65 70 75 80

Tyr Asn Asp Tyr Ile Leu Lys Pro Gly Phe Val Lys Phe Ala Asp Val
85 90 95

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

Pro Ala Arg Pro Ser Arg Trp Leu Gln Glu Ser Leu Asn Ala Phe Ser
115 120 125

Arg Asn Gly Lys Asp Tyr Pro Lys Ile Gln Val Asp Gly Lys Val Gly
130 135 140

Ser Gly Thr Leu Ser Ala Tyr Lys Ser Leu Gln Asn Lys Arg Gly Lys
145 150 155 160

Val Glu Ala Cys Lys Leu Ile Leu Lys Ser Leu Asp Gly Lys Gln Leu
165 170 175

Asn Tyr Tyr Leu Ser Leu Asn Met Pro Glu Tyr Thr Thr Gly Trp Ile
180 185 190

Ala Asn Arg Ile Gly Asn Val Pro Leu Glu Arg Cys Asn Glu Asp Ile
195 200 205

Val Asn
210

<210> 62
<211> 215
<212> PRT
<213> unknown

<220>
<223> Cecropin P1-N4gp61trunc

<400> 62

Ser Trp Leu Ser Lys Thr Ala Lys Lys Leu Glu Asn Ser Ala Lys Lys
1 5 10 15

Arg Ile Ser Glu Gly Ile Ala Ile Ala Ile Gln Gly Gly Pro Arg Val
20 25 30

Glu Gly Gly Tyr Val Asn Asp Pro Lys Asp Pro Gly Gly Glu Thr Asn
35 40 45

His Gly Val Thr Ile Gln Val Ala Gln Lys His Lys Gln Glu Leu Glu
50 55 60

Ser Met Tyr Asn Trp Asp Gly Ser Met Lys Asn Leu Thr Gln Glu Met
65 70 75 80

Ala Ser Ser Ile Tyr Tyr Asn Asp Tyr Ile Leu Lys Pro Gly Phe Val
85 90 95

Lys Phe Ala Asp Val Ser Pro Ala Val Thr Glu Lys Leu Val Asp Ala
100 105 110

Gly Val Asn Thr Gly Pro Ala Arg Pro Ser Arg Trp Leu Gln Glu Ser
115 120 125

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

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

Asn Lys Arg Gly Lys Val Glu Ala Cys Lys Leu Ile Leu Lys Ser Leu
165 170 175

Asp Gly Lys Gln Leu Asn Tyr Tyr Leu Ser Leu Asn Met Pro Glu Tyr
180 185 190

Thr Thr Gly Trp Ile Ala Asn Arg Ile Gly Asn Val Pro Leu Glu Arg
195 200 205

Cys Asn Glu Asp Ile Val Asn
210 215

<210> 63
<211> 213
<212> PRT
<213> unknown

<220>
<223> SMAP-29-N4gp61trunc

<400> 63

Arg Gly Leu Arg Arg Leu Gly Arg Lys Ile Ala His Gly Val Lys Lys
1 5 10 15

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

Gly Tyr Val Asn Asp Pro Lys Asp Pro Gly Gly Glu Thr Asn His Gly
35 40 45

Val Thr Ile Gln Val Ala Gln Lys His Lys Gln Glu Leu Glu Ser Met
50 55 60

Tyr Asn Trp Asp Gly Ser Met Lys Asn Leu Thr Gln Glu Met Ala Ser
65 70 75 80

Ser Ile Tyr Tyr Asn Asp Tyr Ile Leu Lys Pro Gly Phe Val Lys Phe
85 90 95

Ala Asp Val Ser Pro Ala Val Thr Glu Lys Leu Val Asp Ala Gly Val
100 105 110

Asn Thr Gly Pro Ala Arg Pro Ser Arg Trp Leu Gln Glu Ser Leu Asn
115 120 125

Ala Phe Ser Arg Asn Gly Lys Asp Tyr Pro Lys Ile Gln Val Asp Gly
130 135 140

Lys Val Gly Ser Gly Thr Leu Ser Ala Tyr Lys Ser Leu Gln Asn Lys
145 150 155 160

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

Lys Gln Leu Asn Tyr Tyr Leu Ser Leu Asn Met Pro Glu Tyr Thr Thr
180 185 190

Gly Trp Ile Ala Asn Arg Ile Gly Asn Val Pro Leu Glu Arg Cys Asn
195 200 205

Glu Asp Ile Val Asn
210

<210> 64
<211> 777
<212> DNA
<213> unknown

<220>
<223> KZ144

<400> 64
aaagtattac gcaaaggcga taggggtgat gaggtatgtc aactccagac actcttaaataat 60
ttatgtggct atgatgttgg aaagccagat ggtatTTTTTg gaaataaacac ctttaatacag 120
gtagttaaata ttcaaaaaga taattgtcta gatagtgatg gtattgtagg taagaataact 180

tgggctgaat tattcagtaa atattctcca cctattcctt ataaaactat ccctatgcca	240
actgcaaata aatcacgtgc agctgcaact ccagttatga atgcagtaga aaatgctact	300
ggcgttcgta gccagttgct actaacattt gcttctattg aatcagcatt cgattacgaa	360
ataaaagcta agacttcacg agctactggg tggttccaat tccttactgg aacatggaaa	420
acaatgattg aaaattatgg catgaagtat ggcgtactta ctgatccaac tggggcatta	480
cgtaaagatc cacgtataag tgctttaatg ggtgccgaac taattaaaga gaatatgaat	540
attcttcgtc ctgtccttaa acgtgaacca actgatactg atctttatct agctcacttc	600
tttgggcctg gtgcagcccg tcgtttcctg accactggcc agaatgaatt agctgctacc	660
catttcccaa aagaagctca ggcaaaccba tctatctttt ataacaaga tgggtcacct	720
aaaaccattc aagaagttta taacttaatg gatggtaaag ttgcagcaca tagaaaa	777

<210> 65
 <211> 528
 <212> DNA
 <213> unknown

<220>
 <223> STM0016

<400> 65	
aacccgatta tcgatggcat tatcgcgctg gaaggagggt acgtctttta tccgaaagat	60
aaggggtggag caacacattg ggggtattaca gaagcgacgg cacgagcaca tggttatgca	120
ggagacatgc gtgatctaac tcatgccgaa gcctacgcaa tacttgagga ggattactgg	180
atcaaaccgg gttttgatgt tatctcaacg ctgtcgtggc ctgtgagctt tgaattgtgt	240
gatgcagcgg ttaacatagg tgcataccac ctagtgcct gggttacagag atggcttaac	300
gtgttcaatc acgaaggcaa acgctatcca gacattcatg tagacggcaa cattgggtccc	360
aggactttag cagccttaga acattacttg gcttgagag ggcaagaagg tgaagctgta	420
ctggtgaaag ctctgaattg cagccaaggg acctactatc taaacgtcgc tgagaagaac	480
cacaacaacg aacagttcat ctacggttgg atcaagaatc gtgtgacc	528

<210> 66
 <211> 528
 <212> DNA
 <213> unknown

<220>
 <223> Pseudin 1

<400> 66
aaccgcgatta tcgatggcat tatcgcgctg gaaggaggtt acgtctttta tccgaaagat 60
aagggtggag caacacattg ggggtattaca gaagcgacgg cacgagcaca tggttatgca 120
ggagacatgc gtgatctaac tcatgccgaa gcctacgcaa tacttgagga ggattactgg 180
atcaaaccgg gttttgatgt tatctcaacg ctgtcgtggc ctgtgagctt tgaattgtgt 240
gatgcagcgg ttaacatagg tgcataccac cctagtgcct ggttacagag atggcctaac 300
gtgttcaatc acgaaggcaa acgctatcca gacattcatg tagacggcaa cattgggtccc 360
aggacttttag cagccttaga acattacttg gcttgagag ggcaagaagg tgaagctgta 420
ctggtgaaag ctctgaattg cagccaaggg acctactatc taaacgtcgc tgagaagaac 480
cacaacaacg aacagttcat ctacggttgg atcaagaatc gtgtgacc 528

<210> 67
<211> 54
<212> DNA
<213> unknown

<220>
<223> Ranalexin

<400> 67
ttcctgggcg gtctgattgt tccagctatg atctgtgcgg tgaccaaaaa atgc 54

<210> 68
<211> 102
<212> DNA
<213> unknown

<220>
<223> Sushi 1

<400> 68
ggcttcaaac tgaaaggtat ggctcgtatc tcctgtctgc caaacgggtca gtggtctaac 60
tttccaccga aatgcatccg tgaatgcgcg atggtttagct ct 102

<210> 69
<211> 81
<212> DNA
<213> unknown

<220>
<223> WLB2-Variant

<400> 69
aaacgctggg ttaaacgcgt gaaacgtgtc aaacgttggg tcaaacgtgt tgtccgtgta 60
gtgaaacggt gggtgaaacg c 81

<210> 70
 <211> 78
 <212> DNA
 <213> unknown

 <220>
 <223> Melittin

 <400> 70
 ggtatcgggtg ctgtgctgaa agttctgacc actggtctgc cggcactgat ttcttggaac 60
 aaacgcaaac gtcagcag 78

 <210> 71
 <211> 87
 <212> DNA
 <213> unknown

 <220>
 <223> SMAP-29

 <400> 71
 cgtggtctgc gtcgcctggg tcgcaaaatt gcgcacggcg tcaaaaaata cggcccagacc 60
 gtgctgcgca ttatccgcat cgctggt 87

 <210> 72
 <211> 75
 <212> DNA
 <213> unknown

 <220>
 <223> Pleurocidin

 <400> 72
 ggctgggggtt ctttctttaa aaaagcggct cacgttggca aacatgtagg taaagcagct 60
 ctgaccact atctg 75

 <210> 73
 <211> 108
 <212> DNA
 <213> unknown

 <220>
 <223> Cecropin A (A. aegypti)

 <400> 73
 ggcggcctga aaaaactggg caaaaaactg gaaggtgccg gcaaactgtg gttcaacgct 60
 gcagaaaaag cactgccggt tgtagctggt gctaaagctc tccgtaaa 108

<210> 74
 <211> 120
 <212> DNA
 <213> unknown

<220>
 <223> Cecropin A (D. melanogaster)

<400> 74
 ggctggctga aaaaaattgg caaaaaaatc gaacgcgtgg gccagcacac gcgtgatgca 60
 accatccagg gtctgggtat cccacagcag gcagctaacg tagccgcgac tgctcgtggt 120

<210> 75
 <211> 63
 <212> DNA
 <213> unknown

<220>
 <223> Buforin II

<400> 75
 acccgtagct ctcgctgctgg cctgcagttt ccggttggtc gcgtgcaccg totgctccgc 60
 aaa 63

<210> 76
 <211> 117
 <212> DNA
 <213> unknown

<220>
 <223> Sarcotoxin IA

<400> 76
 ggatggctca aaaagattgg caagaaaatc gagcgagtcg gtcagcatac gcgtgatgca 60
 actatccagg gtttaggtat cgcacagcaa gcagctaattg tagcagctac tgctcgg 117

<210> 77
 <211> 294
 <212> PRT
 <213> unknown

<220>
 <223> Pseudin 1-KZ144

<400> 77

Met Gly Leu Asn Thr Leu Lys Lys Val Phe Gln Gly Leu His Glu Ala
 1 5 10 15

Ile Lys Leu Ile Asn Asn His Val Gln Gly Ser Lys Val Leu Arg Lys
 20 25 30

Gly 35	Asp	Arg	Gly	Asp	Glu	Val	Cys	Gln	Leu	Gln	Thr	Leu	Leu	Asn	Leu
Cys 50	Gly	Tyr	Asp	Val	Gly	Lys	Pro	Asp	Gly	Ile	Phe	Gly	Asn	Asn	Thr
Phe 65	Asn	Gln	Val	Val	Lys	Phe	Gln	Lys	Asp	Asn	Cys	Leu	Asp	Ser	Asp
Gly	Ile	Val	Gly	Lys	Asn	Thr	Trp	Ala	Glu	Leu	Phe	Ser	Lys	Tyr	Ser
Pro	Pro	Ile	Pro	Tyr	Lys	Thr	Ile	Pro	Met	Pro	Thr	Ala	Asn	Lys	Ser
Arg	Ala	Ala	Ala	Thr	Pro	Val	Met	Asn	Ala	Val	Glu	Asn	Ala	Thr	Gly
Val	Arg	Ser	Gln	Leu	Leu	Leu	Thr	Phe	Ala	Ser	Ile	Glu	Ser	Ala	Phe
Asp 145	Tyr	Glu	Ile	Lys	Ala	Lys	Thr	Ser	Ser	Ala	Thr	Gly	Trp	Phe	Gln
Phe	Leu	Thr	Gly	Thr	Trp	Lys	Thr	Met	Ile	Glu	Asn	Tyr	Gly	Met	Lys
Tyr	Gly	Val	Leu	Thr	Asp	Pro	Thr	Gly	Ala	Leu	Arg	Lys	Asp	Pro	Arg
Ile	Ser	Ala	Leu	Met	Gly	Ala	Glu	Leu	Ile	Lys	Glu	Asn	Met	Asn	Ile
Leu	Arg	Pro	Val	Leu	Lys	Arg	Glu	Pro	Thr	Asp	Thr	Asp	Leu	Tyr	Leu
Ala 225	His	Phe	Phe	Gly	Pro	Gly	Ala	Ala	Arg	Arg	Phe	Leu	Thr	Thr	Gly
Gln	Asn	Glu	Leu	Ala	Ala	Thr	His	Phe	Pro	Lys	Glu	Ala	Gln	Ala	Asn

Pro Ser Ile Phe Tyr Asn Lys Asp Gly Ser Pro Lys Thr Ile Gln Glu
260 265 270

Val Tyr Asn Leu Met Asp Gly Lys Val Ala Ala His Arg Lys Leu Glu
275 280 285

His His His His His His
290

<210> 78
<211> 288
<212> PRT
<213> unknown

<220>
<223> Ranalexin-KZ144

<400> 78

Met Phe Leu Gly Gly Leu Ile Val Pro Ala Met Ile Cys Ala Val Thr
1 5 10 15

Lys Lys Cys Gly Ser Lys Val Leu Arg Lys Gly Asp Arg Gly Asp Glu
20 25 30

Val Cys Gln Leu Gln Thr Leu Leu Asn Leu Cys Gly Tyr Asp Val Gly
35 40 45

Lys Pro Asp Gly Ile Phe Gly Asn Asn Thr Phe Asn Gln Val Val Lys
50 55 60

Phe Gln Lys Asp Asn Cys Leu Asp Ser Asp Gly Ile Val Gly Lys Asn
65 70 75 80

Thr Trp Ala Glu Leu Phe Ser Lys Tyr Ser Pro Pro Ile Pro Tyr Lys
85 90 95

Thr Ile Pro Met Pro Thr Ala Asn Lys Ser Arg Ala Ala Ala Thr Pro
100 105 110

Val Met Asn Ala Val Glu Asn Ala Thr Gly Val Arg Ser Gln Leu Leu
115 120 125

Leu Thr Phe Ala Ser Ile Glu Ser Ala Phe Asp Tyr Glu Ile Lys Ala
130 135 140

Lys Thr Ser Ser Ala Thr Gly Trp Phe Gln Phe Leu Thr Gly Thr Trp
 145 150 155 160

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

Pro Thr Gly Ala Leu Arg Lys Asp Pro Arg Ile Ser Ala Leu Met Gly
 180 185 190

Ala Glu Leu Ile Lys Glu Asn Met Asn Ile Leu Arg Pro Val Leu Lys
 195 200 205

Arg Glu Pro Thr Asp Thr Asp Leu Tyr Leu Ala His Phe Phe Gly Pro
 210 215 220

Gly Ala Ala Arg Arg Phe Leu Thr Thr Gly Gln Asn Glu Leu Ala Ala
 225 230 235 240

Thr His Phe Pro Lys Glu Ala Gln Ala Asn Pro Ser Ile Phe Tyr Asn
 245 250 255

Lys Asp Gly Ser Pro Lys Thr Ile Gln Glu Val Tyr Asn Leu Met Asp
 260 265 270

Gly Lys Val Ala Ala His Arg Lys Leu Glu His His His His His His
 275 280 285

<210> 79
 <211> 306
 <212> PRT
 <213> unknown

<220>
 <223> Sushil-KZ144

<400> 79

Ala Met Gly Gly Phe Lys Leu Lys Gly Met Ala Arg Ile Ser Cys Leu
 1 5 10 15

Pro Asn Gly Gln Trp Ser Asn Phe Pro Pro Lys Cys Ile Arg Glu Cys
 20 25 30

Ala Met Val Ser Ser Gly Ser Lys Val Leu Arg Lys Gly Asp Arg Gly
 35 40 45

Asp Glu Val Cys Gln Leu Gln Thr Leu Leu Asn Leu Cys Gly Tyr Asp
 50 55 60

Val Gly Lys Pro Asp Gly Ile Phe Gly Asn Asn Thr Phe Asn Gln Val
 65 70 75 80

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

Lys Asn Thr Trp Ala Glu Leu Phe Ser Lys Tyr Ser Pro Pro Ile Pro
 100 105 110

Tyr Lys Thr Ile Pro Met Pro Thr Ala Asn Lys Ser Arg Ala Ala Ala
 115 120 125

Thr Pro Val Met Asn Ala Val Glu Asn Ala Thr Gly Val Arg Ser Gln
 130 135 140

Leu Leu Leu Thr Phe Ala Ser Ile Glu Ser Ala Phe Asp Tyr Glu Ile
 145 150 155 160

Lys Ala Lys Thr Ser Ser Ala Thr Gly Trp Phe Gln Phe Leu Thr Gly
 165 170 175

Thr Trp Lys Thr Met Ile Glu Asn Tyr Gly Met Lys Tyr Gly Val Leu
 180 185 190

Thr Asp Pro Thr Gly Ala Leu Arg Lys Asp Pro Arg Ile Ser Ala Leu
 195 200 205

Met Gly Ala Glu Leu Ile Lys Glu Asn Met Asn Ile Leu Arg Pro Val
 210 215 220

Leu Lys Arg Glu Pro Thr Asp Thr Asp Leu Tyr Leu Ala His Phe Phe
 225 230 235 240

Gly Pro Gly Ala Ala Arg Arg Phe Leu Thr Thr Gly Gln Asn Glu Leu
 245 250 255

Ala Ala Thr His Phe Pro Lys Glu Ala Gln Ala Asn Pro Ser Ile Phe
 260 265 270

Tyr Asn Lys Asp Gly Ser Pro Lys Thr Ile Gln Glu Val Tyr Asn Leu
 275 280 285

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

His His
 305

<210> 80
 <211> 297
 <212> PRT
 <213> unknown

<220>
 <223> WLBUE-Variant-KZ144

<400> 80

Met Lys Arg Trp Val Lys Arg Val Lys Arg Val Lys Arg Trp Val Lys
 1 5 10 15

Arg Val Val Arg Val Val Lys Arg Trp Val Lys Arg Gly Ser Lys Val
 20 25 30

Leu Arg Lys Gly Asp Arg Gly Asp Glu Val Cys Gln Leu Gln Thr Leu
 35 40 45

Leu Asn Leu Cys Gly Tyr Asp Val Gly Lys Pro Asp Gly Ile Phe Gly
 50 55 60

Asn Asn Thr Phe Asn Gln Val Val Lys Phe Gln Lys Asp Asn Cys Leu
 65 70 75 80

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

Lys Tyr Ser Pro Pro Ile Pro Tyr Lys Thr Ile Pro Met Pro Thr Ala
 100 105 110

Asn Lys Ser Arg Ala Ala Ala Thr Pro Val Met Asn Ala Val Glu Asn
 115 120 125

Ala Thr Gly Val Arg Ser Gln Leu Leu Leu Thr Phe Ala Ser Ile Glu
 130 135 140

Ser Ala Phe Asp Tyr Glu Ile Lys Ala Lys Thr Ser Ser Ala Thr Gly
 145 150 155 160

Trp Phe Gln Phe Leu Thr Gly Thr Trp Lys Thr Met Ile Glu Asn Tyr
165 170 175

Gly Met Lys Tyr Gly Val Leu Thr Asp Pro Thr Gly Ala Leu Arg Lys
180 185 190

Asp Pro Arg Ile Ser Ala Leu Met Gly Ala Glu Leu Ile Lys Glu Asn
195 200 205

Met Asn Ile Leu Arg Pro Val Leu Lys Arg Glu Pro Thr Asp Thr Asp
210 215 220

Leu Tyr Leu Ala His Phe Phe Gly Pro Gly Ala Ala Arg Arg Phe Leu
225 230 235 240

Thr Thr Gly Gln Asn Glu Leu Ala Ala Thr His Phe Pro Lys Glu Ala
245 250 255

Gln Ala Asn Pro Ser Ile Phe Tyr Asn Lys Asp Gly Ser Pro Lys Thr
260 265 270

Ile Gln Glu Val Tyr Asn Leu Met Asp Gly Lys Val Ala Ala His Arg
275 280 285

Lys Leu Glu His His His His His His
290 295

<210> 81
<211> 296
<212> PRT
<213> unknown

<220>
<223> Melttin-KZ144

<400> 81

Met Gly Ile Gly Ala Val Leu Lys Val Leu Thr Thr Gly Leu Pro Ala
1 5 10 15

Leu Ile Ser Trp Ile Lys Arg Lys Arg Gln Gln Gly Ser Lys Val Leu
20 25 30

Arg Lys Gly Asp Arg Gly Asp Glu Val Cys Gln Leu Gln Thr Leu Leu
35 40 45

Asn Leu Cys Gly Tyr Asp Val Gly Lys Pro Asp Gly Ile Phe Gly Asn
 50 55 60

Asn Thr Phe Asn Gln Val Val Lys Phe Gln Lys Asp Asn Cys Leu Asp
 65 70 75 80

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

Tyr Ser Pro Pro Ile Pro Tyr Lys Thr Ile Pro Met Pro Thr Ala Asn
 100 105 110

Lys Ser Arg Ala Ala Ala Thr Pro Val Met Asn Ala Val Glu Asn Ala
 115 120 125

Thr Gly Val Arg Ser Gln Leu Leu Leu Thr Phe Ala Ser Ile Glu Ser
 130 135 140

Ala Phe Asp Tyr Glu Ile Lys Ala Lys Thr Ser Ser Ala Thr Gly Trp
 145 150 155 160

Phe Gln Phe Leu Thr Gly Thr Trp Lys Thr Met Ile Glu Asn Tyr Gly
 165 170 175

Met Lys Tyr Gly Val Leu Thr Asp Pro Thr Gly Ala Leu Arg Lys Asp
 180 185 190

Pro Arg Ile Ser Ala Leu Met Gly Ala Glu Leu Ile Lys Glu Asn Met
 195 200 205

Asn Ile Leu Arg Pro Val Leu Lys Arg Glu Pro Thr Asp Thr Asp Leu
 210 215 220

Tyr Leu Ala His Phe Phe Gly Pro Gly Ala Ala Arg Arg Phe Leu Thr
 225 230 235 240

Thr Gly Gln Asn Glu Leu Ala Ala Thr His Phe Pro Lys Glu Ala Gln
 245 250 255

Ala Asn Pro Ser Ile Phe Tyr Asn Lys Asp Gly Ser Pro Lys Thr Ile
 260 265 270

Gln Glu Val Tyr Asn Leu Met Asp Gly Lys Val Ala Ala His Arg Lys
275 280 285

Leu Glu His His His His His His
290 295

<210> 82
<211> 299
<212> PRT
<213> unknown

<220>
<223> SMAP-29-KZ144

<400> 82

Met Arg Gly Leu Arg Arg Leu Gly Arg Lys Ile Ala His Gly Val Lys
1 5 10 15

Lys Tyr Gly Pro Thr Val Leu Arg Ile Ile Arg Ile Ala Gly Gly Ser
20 25 30

Lys Val Leu Arg Lys Gly Asp Arg Gly Asp Glu Val Cys Gln Leu Gln
35 40 45

Thr Leu Leu Asn Leu Cys Gly Tyr Asp Val Gly Lys Pro Asp Gly Ile
50 55 60

Phe Gly Asn Asn Thr Phe Asn Gln Val Val Lys Phe Gln Lys Asp Asn
65 70 75 80

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

Phe Ser Lys Tyr Ser Pro Pro Ile Pro Tyr Lys Thr Ile Pro Met Pro
100 105 110

Thr Ala Asn Lys Ser Arg Ala Ala Ala Thr Pro Val Met Asn Ala Val
115 120 125

Glu Asn Ala Thr Gly Val Arg Ser Gln Leu Leu Leu Thr Phe Ala Ser
130 135 140

Ile Glu Ser Ala Phe Asp Tyr Glu Ile Lys Ala Lys Thr Ser Ser Ala
145 150 155 160

Thr Gly Trp Phe Gln Phe Leu Thr Gly Thr Trp Lys Thr Met Ile Glu
165 170 175

Asn Tyr Gly Met Lys Tyr Gly Val Leu Thr Asp Pro Thr Gly Ala Leu
180 185 190

Arg Lys Asp Pro Arg Ile Ser Ala Leu Met Gly Ala Glu Leu Ile Lys
195 200 205

Glu Asn Met Asn Ile Leu Arg Pro Val Leu Lys Arg Glu Pro Thr Asp
210 215 220

Thr Asp Leu Tyr Leu Ala His Phe Phe Gly Pro Gly Ala Ala Arg Arg
225 230 235 240

Phe Leu Thr Thr Gly Gln Asn Glu Leu Ala Ala Thr His Phe Pro Lys
245 250 255

Glu Ala Gln Ala Asn Pro Ser Ile Phe Tyr Asn Lys Asp Gly Ser Pro
260 265 270

Lys Thr Ile Gln Glu Val Tyr Asn Leu Met Asp Gly Lys Val Ala Ala
275 280 285

His Arg Lys Leu Glu His His His His His His
290 295

<210> 83

<211> 306

<212> PRT

<213> unknown

<220>

<223> Cecropin A (A.aegypti)-KZ144

<400> 83

Met Gly Gly Leu Lys Lys Leu Gly Lys Lys Leu Glu Gly Ala Gly Lys
1 5 10 15

Arg Val Phe Asn Ala Ala Glu Lys Ala Leu Pro Val Val Ala Gly Ala
20 25 30

Lys Ala Leu Arg Lys Gly Ser Lys Val Leu Arg Lys Gly Asp Arg Gly
35 40 45

Asp Glu Val Cys Gln Leu Gln Thr Leu Leu Asn Leu Cys Gly Tyr Asp
 50 55 60

Val Gly Lys Pro Asp Gly Ile Phe Gly Asn Asn Thr Phe Asn Gln Val
 65 70 75 80

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

Lys Asn Thr Trp Ala Glu Leu Phe Ser Lys Tyr Ser Pro Pro Ile Pro
 100 105 110

Tyr Lys Thr Ile Pro Met Pro Thr Ala Asn Lys Ser Arg Ala Ala Ala
 115 120 125

Thr Pro Val Met Asn Ala Val Glu Asn Ala Thr Gly Val Arg Ser Gln
 130 135 140

Leu Leu Leu Thr Phe Ala Ser Ile Glu Ser Ala Phe Asp Tyr Glu Ile
 145 150 155 160

Lys Ala Lys Thr Ser Ser Ala Thr Gly Trp Phe Gln Phe Leu Thr Gly
 165 170 175

Thr Trp Lys Thr Met Ile Glu Asn Tyr Gly Met Lys Tyr Gly Val Leu
 180 185 190

Thr Asp Pro Thr Gly Ala Leu Arg Lys Asp Pro Arg Ile Ser Ala Leu
 195 200 205

Met Gly Ala Glu Leu Ile Lys Glu Asn Met Asn Ile Leu Arg Pro Val
 210 215 220

Leu Lys Arg Glu Pro Thr Asp Thr Asp Leu Tyr Leu Ala His Phe Phe
 225 230 235 240

Gly Pro Gly Ala Ala Arg Arg Phe Leu Thr Thr Gly Gln Asn Glu Leu
 245 250 255

Ala Ala Thr His Phe Pro Lys Glu Ala Gln Ala Asn Pro Ser Ile Phe
 260 265 270

Tyr Asn Lys Asp Gly Ser Pro Lys Thr Ile Gln Glu Val Tyr Asn Leu
 275 280 285

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

His His
 305

<210> 84
 <211> 295
 <212> PRT
 <213> unknown

<220>
 <223> Pleurocidin-KZ144

<400> 84

Met Gly Trp Gly Ser Phe Phe Lys Lys Ala Ala His Val Gly Lys His
 1 5 10 15

Val Gly Lys Ala Ala Leu Thr His Tyr Leu Gly Ser Lys Val Leu Arg
 20 25 30

Lys Gly Asp Arg Gly Asp Glu Val Cys Gln Leu Gln Thr Leu Leu Asn
 35 40 45

Leu Cys Gly Tyr Asp Val Gly Lys Pro Asp Gly Ile Phe Gly Asn Asn
 50 55 60

Thr Phe Asn Gln Val Val Lys Phe Gln Lys Asp Asn Cys Leu Asp Ser
 65 70 75 80

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

Ser Pro Pro Ile Pro Tyr Lys Thr Ile Pro Met Pro Thr Ala Asn Lys
 100 105 110

Ser Arg Ala Ala Ala Thr Pro Val Met Asn Ala Val Glu Asn Ala Thr
 115 120 125

Gly Val Arg Ser Gln Leu Leu Leu Thr Phe Ala Ser Ile Glu Ser Ala
 130 135 140

Phe Asp Tyr Glu Ile Lys Ala Lys Thr Ser Ser Ala Thr Gly Trp Phe
 145 150 155 160

Gln Phe Leu Thr Gly Thr Trp Lys Thr Met Ile Glu Asn Tyr Gly Met
165 170 175

Lys Tyr Gly Val Leu Thr Asp Pro Thr Gly Ala Leu Arg Lys Asp Pro
180 185 190

Arg Ile Ser Ala Leu Met Gly Ala Glu Leu Ile Lys Glu Asn Met Asn
195 200 205

Ile Leu Arg Pro Val Leu Lys Arg Glu Pro Thr Asp Thr Asp Leu Tyr
210 215 220

Leu Ala His Phe Phe Gly Pro Gly Ala Ala Arg Arg Phe Leu Thr Thr
225 230 235 240

Gly Gln Asn Glu Leu Ala Ala Thr His Phe Pro Lys Glu Ala Gln Ala
245 250 255

Asn Pro Ser Ile Phe Tyr Asn Lys Asp Gly Ser Pro Lys Thr Ile Gln
260 265 270

Glu Val Tyr Asn Leu Met Asp Gly Lys Val Ala Ala His Arg Lys Leu
275 280 285

Glu His His His His His His
290 295

<210> 85
<211> 310
<212> PRT
<213> unknown

<220>
<223> Cecropin A (D.melanogaster)-KZ144

<400> 85

Met Gly Trp Leu Lys Lys Ile Gly Lys Lys Ile Glu Arg Val Gly Gln
1 5 10 15

His Thr Arg Asp Ala Thr Ile Gln Gly Leu Gly Ile Pro Gln Gln Ala
20 25 30

Ala Asn Val Ala Ala Thr Ala Arg Gly Gly Ser Lys Val Leu Arg Lys
35 40 45

Gly Asp Arg Gly Asp Glu Val Cys Gln Leu Gln Thr Leu Leu Asn Leu
 50 55 60

Cys Gly Tyr Asp Val Gly Lys Pro Asp Gly Ile Phe Gly Asn Asn Thr
 65 70 75 80

Phe Asn Gln Val Val Lys Phe Gln Lys Asp Asn Cys Leu Asp Ser Asp
 85 90 95

Gly Ile Val Gly Lys Asn Thr Trp Ala Glu Leu Phe Ser Lys Tyr Ser
 100 105 110

Pro Pro Ile Pro Tyr Lys Thr Ile Pro Met Pro Thr Ala Asn Lys Ser
 115 120 125

Arg Ala Ala Ala Thr Pro Val Met Asn Ala Val Glu Asn Ala Thr Gly
 130 135 140

Val Arg Ser Gln Leu Leu Leu Thr Phe Ala Ser Ile Glu Ser Ala Phe
 145 150 155 160

Asp Tyr Glu Ile Lys Ala Lys Thr Ser Ser Ala Thr Gly Trp Phe Gln
 165 170 175

Phe Leu Thr Gly Thr Trp Lys Thr Met Ile Glu Asn Tyr Gly Met Lys
 180 185 190

Tyr Gly Val Leu Thr Asp Pro Thr Gly Ala Leu Arg Lys Asp Pro Arg
 195 200 205

Ile Ser Ala Leu Met Gly Ala Glu Leu Ile Lys Glu Asn Met Asn Ile
 210 215 220

Leu Arg Pro Val Leu Lys Arg Glu Pro Thr Asp Thr Asp Leu Tyr Leu
 225 230 235 240

Ala His Phe Phe Gly Pro Gly Ala Ala Arg Arg Phe Leu Thr Thr Gly
 245 250 255

Gln Asn Glu Leu Ala Ala Thr His Phe Pro Lys Glu Ala Gln Ala Asn
 260 265 270

Pro Ser Ile Phe Tyr Asn Lys Asp Gly Ser Pro Lys Thr Ile Gln Glu
 275 280 285

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

His His His His His His
 305 310

<210> 86
 <211> 291
 <212> PRT
 <213> unknown

<220>
 <223> BuforinII-KZ144

<400> 86

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

His Arg Leu Leu Arg Lys Gly Ser Lys Val Leu Arg Lys Gly Asp Arg
 20 25 30

Gly Asp Glu Val Cys Gln Leu Gln Thr Leu Leu Asn Leu Cys Gly Tyr
 35 40 45

Asp Val Gly Lys Pro Asp Gly Ile Phe Gly Asn Asn Thr Phe Asn Gln
 50 55 60

Val Val Lys Phe Gln Lys Asp Asn Cys Leu Asp Ser Asp Gly Ile Val
 65 70 75 80

Gly Lys Asn Thr Trp Ala Glu Leu Phe Ser Lys Tyr Ser Pro Pro Ile
 85 90 95

Pro Tyr Lys Thr Ile Pro Met Pro Thr Ala Asn Lys Ser Arg Ala Ala
 100 105 110

Ala Thr Pro Val Met Asn Ala Val Glu Asn Ala Thr Gly Val Arg Ser
 115 120 125

Gln Leu Leu Leu Thr Phe Ala Ser Ile Glu Ser Ala Phe Asp Tyr Glu
 130 135 140

Ile Lys Ala Lys Thr Ser Ser Ala Thr Gly Trp Phe Gln Phe Leu Thr
 145 150 155 160

Gly Thr Trp Lys Thr Met Ile Glu Asn Tyr Gly Met Lys Tyr Gly Val
 165 170 175

Leu Thr Asp Pro Thr Gly Ala Leu Arg Lys Asp Pro Arg Ile Ser Ala
 180 185 190

Leu Met Gly Ala Glu Leu Ile Lys Glu Asn Met Asn Ile Leu Arg Pro
 195 200 205

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

Phe Gly Pro Gly Ala Ala Arg Arg Phe Leu Thr Thr Gly Gln Asn Glu
 225 230 235 240

Leu Ala Ala Thr His Phe Pro Lys Glu Ala Gln Ala Asn Pro Ser Ile
 245 250 255

Phe Tyr Asn Lys Asp Gly Ser Pro Lys Thr Ile Gln Glu Val Tyr Asn
 260 265 270

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

His His His
 290

<210> 87
 <211> 309
 <212> PRT
 <213> unknown

<220>
 <223> Sarcotoxin IA-KZ144

<400> 87

Met Gly Trp Leu Lys Lys Ile Gly Lys Lys Ile Glu Arg Val Gly Gln
 1 5 10 15

His Thr Arg Asp Ala Thr Ile Gln Gly Leu Gly Ile Ala Gln Gln Ala
 20 25 30

Ala	Asn	Val	Ala	Ala	Thr	Ala	Arg	Gly	Ser	Lys	Val	Leu	Arg	Lys	Gly	35	40	45	
Asp	Arg	Gly	Asp	Glu	Val	Cys	Gln	Leu	Gln	Thr	Leu	Leu	Asn	Leu	Cys	50	55	60	
Gly	Tyr	Asp	Val	Gly	Lys	Pro	Asp	Gly	Ile	Phe	Gly	Asn	Asn	Thr	Phe	65	70	75	80
Asn	Gln	Val	Val	Lys	Phe	Gln	Lys	Asp	Asn	Cys	Leu	Asp	Ser	Asp	Gly	85	90	95	
Ile	Val	Gly	Lys	Asn	Thr	Trp	Ala	Glu	Leu	Phe	Ser	Lys	Tyr	Ser	Pro	100	105	110	
Pro	Ile	Pro	Tyr	Lys	Thr	Ile	Pro	Met	Pro	Thr	Ala	Asn	Lys	Ser	Arg	115	120	125	
Ala	Ala	Ala	Thr	Pro	Val	Met	Asn	Ala	Val	Glu	Asn	Ala	Thr	Gly	Val	130	135	140	
Arg	Ser	Gln	Leu	Leu	Leu	Thr	Phe	Ala	Ser	Ile	Glu	Ser	Ala	Phe	Asp	145	150	155	160
Tyr	Glu	Ile	Lys	Ala	Lys	Thr	Ser	Ser	Ala	Thr	Gly	Trp	Phe	Gln	Phe	165	170	175	
Leu	Thr	Gly	Thr	Trp	Lys	Thr	Met	Ile	Glu	Asn	Tyr	Gly	Met	Lys	Tyr	180	185	190	
Gly	Val	Leu	Thr	Asp	Pro	Thr	Gly	Ala	Leu	Arg	Lys	Asp	Pro	Arg	Ile	195	200	205	
Ser	Ala	Leu	Met	Gly	Ala	Glu	Leu	Ile	Lys	Glu	Asn	Met	Asn	Ile	Leu	210	215	220	
Arg	Pro	Val	Leu	Lys	Arg	Glu	Pro	Thr	Asp	Thr	Asp	Leu	Tyr	Leu	Ala	225	230	235	240
His	Phe	Phe	Gly	Pro	Gly	Ala	Ala	Arg	Arg	Phe	Leu	Thr	Thr	Gly	Gln	245	250	255	
Asn	Glu	Leu	Ala	Ala	Thr	His	Phe	Pro	Lys	Glu	Ala	Gln	Ala	Asn	Pro	260	265	270	

Ser Ile Phe Tyr Asn Lys Asp Gly Ser Pro Lys Thr Ile Gln Glu Val
275 280 285

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

His His His His His
305

<210> 88
<211> 226
<212> PRT
<213> unknown

<220>
<223> Sarcotoxin IA-STM0016

<400> 88

Met Gly Trp Leu Lys Lys Ile Gly Lys Lys Ile Glu Arg Val Gly Gln
1 5 10 15

His Thr Arg Asp Ala Thr Ile Gln Gly Leu Gly Ile Ala Gln Gln Ala
20 25 30

Ala Asn Val Ala Ala Thr Ala Arg Gly Ser Asn Pro Ile Ile Asp Gly
35 40 45

Ile Ile Ala Leu Glu Gly Gly Tyr Val Phe Asn Pro Lys Asp Lys Gly
50 55 60

Gly Ala Thr His Trp Gly Ile Thr Glu Ala Thr Ala Arg Ala His Gly
65 70 75 80

Tyr Ala Gly Asp Met Arg Asp Leu Thr His Ala Glu Ala Tyr Ala Ile
85 90 95

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

Leu Ser Trp Pro Val Ser Phe Glu Leu Cys Asp Ala Ala Val Asn Ile
115 120 125

Gly Ala Tyr His Pro Ser Ala Trp Leu Gln Arg Trp Leu Asn Val Phe
130 135 140

Asn His Glu Gly Lys Arg Tyr Pro Asp Ile His Val Asp Gly Asn Ile
 145 150 155 160

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

Gln Glu Gly Glu Ala Val Leu Val Lys Ala Leu Asn Cys Ser Gln Gly
 180 185 190

Thr Tyr Tyr Leu Asn Val Ala Glu Lys Asn His Asn Asn Glu Gln Phe
 195 200 205

Ile Tyr Gly Trp Ile Lys Asn Arg Val Thr Leu Glu His His His His
 210 215 220

His His
 225

<210> 89
 <211> 216
 <212> PRT
 <213> unknown

<220>
 <223> SMAP-29-STM0016

<400> 89

Met Arg Gly Leu Arg Arg Leu Gly Arg Lys Ile Ala His Gly Val Lys
 1 5 10 15

Lys Tyr Gly Pro Thr Val Leu Arg Ile Ile Arg Ile Ala Gly Gly Ser
 20 25 30

Asn Pro Ile Ile Asp Gly Ile Ile Ala Leu Glu Gly Gly Tyr Val Phe
 35 40 45

Asn Pro Lys Asp Lys Gly Gly Ala Thr His Trp Gly Ile Thr Glu Ala
 50 55 60

Thr Ala Arg Ala His Gly Tyr Ala Gly Asp Met Arg Asp Leu Thr His
 65 70 75 80

Ala Glu Ala Tyr Ala Ile Leu Glu Glu Asp Tyr Trp Ile Lys Pro Gly
 85 90 95

Phe Asp Val Ile Ser Thr Leu Ser Trp Pro Val Ser Phe Glu Leu Cys
100 105 110

Asp Ala Ala Val Asn Ile Gly Ala Tyr His Pro Ser Ala Trp Leu Gln
115 120 125

Arg Trp Leu Asn Val Phe Asn His Glu Gly Lys Arg Tyr Pro Asp Ile
130 135 140

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

Tyr Leu Ala Trp Arg Gly Gln Glu Gly Glu Ala Val Leu Val Lys Ala
165 170 175

Leu Asn Cys Ser Gln Gly Thr Tyr Tyr Leu Asn Val Ala Glu Lys Asn
180 185 190

His Asn Asn Glu Gln Phe Ile Tyr Gly Trp Ile Lys Asn Arg Val Thr
195 200 205

Leu Glu His His His His His His
210 215

<210> 90
<211> 247
<212> PRT
<213> unknown

<220>
<223> SMAP-29-N4gp61

<400> 90

Met Arg Gly Leu Arg Arg Leu Gly Arg Lys Ile Ala His Gly Val Lys
1 5 10 15

Lys Tyr Gly Pro Thr Val Leu Arg Ile Ile Arg Ile Ala Gly Gly Ser
20 25 30

Ala Ile Ser Lys Lys Lys Val Gly Gly Val Gly Gly Val Ile Ala Ala
35 40 45

Ile Ile Ala Ala Val Phe Ala Val Glu Gly Gly Tyr Val Asn Asp Pro
50 55 60

Lys Asp Pro Gly Gly Glu Thr Asn His Gly Val Thr Ile Gln Val Ala
65 70 75 80

Gln Lys His Lys Gln Glu Leu Glu Ser Met Tyr Asn Trp Asp Gly Ser
85 90 95

Met Lys Asn Leu Thr Gln Glu Met Ala Ser Ser Ile Tyr Tyr Asn Asp
100 105 110

Tyr Ile Leu Lys Pro Gly Phe Val Lys Phe Ala Asp Val Ser Pro Ala
115 120 125

Val Thr Glu Lys Leu Val Asp Ala Gly Val Asn Thr Gly Pro Ala Arg
130 135 140

Pro Ser Arg Trp Leu Gln Glu Ser Leu Asn Ala Phe Ser Arg Asn Gly
145 150 155 160

Lys Asp Tyr Pro Lys Ile Gln Val Asp Gly Lys Val Gly Ser Gly Thr
165 170 175

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

Cys Lys Leu Ile Leu Lys Ser Leu Asp Gly Lys Gln Leu Asn Tyr Tyr
195 200 205

Leu Ser Leu Asn Met Pro Glu Tyr Thr Thr Gly Trp Ile Ala Asn Arg
210 215 220

Ile Gly Asn Val Pro Leu Glu Arg Cys Asn Glu Asp Ile Val Asn Leu
225 230 235 240

Glu His His His His His His
245

<210> 91
<211> 624
<212> DNA
<213> unknown

<220>
<223> N4gp61

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<400> 91
atggccatct cgaagaaaaa agttggaggt gttggtggag ttattgcggc aatcattgct      60

gcagtatttg ccgttgaagg tggatacggt aatgacccga aagatccagg aggtgaaaca      120

aaccatggtg taactattca ggtcgcacaa aaacacaagc aagaacttga gtcgatgtat      180

aactgggacg ggtcaatgaa gaatctgaca caggagatgg cctcaagtat atattacaac      240

gattatatcc tcaagcctgg ctttgtgaaa tttgcggatg taagtccagc ggttacggaa      300

aaacttgtgg atgctggagt aaatacaggt ccagcaagac caagccgttg gttacaagaa      360

tccttgaatg ctttctcacg caacggcaaa gattatccga aaatccaagt tgacgggaaa      420

gtaggttctg gaactttgag tgcttacaaa agcctgcaga ataagcgagg aaaagtggaa      480

gcctgcaaat taatactgaa gtctctggat ggcaagcagc taaactacta tctgagcctc      540

aatatgcctg agtataccac aggttggatt gcgaatcgta ttggaaatgt gcctttggaa      600

cgctgtaatg aagatatcgt caac                                          624

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<210> 92
<211> 13
<212> PRT
<213> unknown

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<220>
<223> beta 4 helix

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<400> 92

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Pro Asn Arg Ala Lys Arg Val Ile Thr Thr Phe Arg Thr
1           5           10

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<210> 93
<211> 272
<212> PRT
<213> unknown

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<220>
<223> beta 4 helix:KZ144

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<400> 93

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Pro Asn Arg Ala Lys Arg Val Ile Thr Thr Phe Arg Thr Lys Val Leu
1           5           10           15

```

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Arg Lys Gly Asp Arg Gly Asp Glu Val Cys Gln Leu Gln Thr Leu Leu
          20           25           30

```

```

Asn Leu Cys Gly Tyr Asp Val Gly Lys Pro Asp Gly Ile Phe Gly Asn
          35           40           45

```

Asn Thr Phe Asn Gln Val Val Lys Phe Gln Lys Asp Asn Cys Leu Asp
 50 55 60

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

Tyr Ser Pro Pro Ile Pro Tyr Lys Thr Ile Pro Met Pro Thr Ala Asn
 85 90 95

Lys Ser Arg Ala Ala Ala Thr Pro Val Met Asn Ala Val Glu Asn Ala
 100 105 110

Thr Gly Val Arg Ser Gln Leu Leu Leu Thr Phe Ala Ser Ile Glu Ser
 115 120 125

Ala Phe Asp Tyr Glu Ile Lys Ala Lys Thr Ser Ser Ala Thr Gly Trp
 130 135 140

Phe Gln Phe Leu Thr Gly Thr Trp Lys Thr Met Ile Glu Asn Tyr Gly
 145 150 155 160

Met Lys Tyr Gly Val Leu Thr Asp Pro Thr Gly Ala Leu Arg Lys Asp
 165 170 175

Pro Arg Ile Ser Ala Leu Met Gly Ala Glu Leu Ile Lys Glu Asn Met
 180 185 190

Asn Ile Leu Arg Pro Val Leu Lys Arg Glu Pro Thr Asp Thr Asp Leu
 195 200 205

Tyr Leu Ala His Phe Phe Gly Pro Gly Ala Ala Arg Arg Phe Leu Thr
 210 215 220

Thr Gly Gln Asn Glu Leu Ala Ala Thr His Phe Pro Lys Glu Ala Gln
 225 230 235 240

Ala Asn Pro Ser Ile Phe Tyr Asn Lys Asp Gly Ser Pro Lys Thr Ile
 245 250 255

Gln Glu Val Tyr Asn Leu Met Asp Gly Lys Val Ala Ala His Arg Lys
 260 265 270

<210> 94
 <211> 304
 <212> PRT
 <213> unknown

<220>
 <223> beta 4 helix:gp188

<400> 94

Pro Asn Arg Ala Lys Arg Val Ile Thr Thr Phe Arg Thr Asn Phe Arg
 1 5 10 15

Thr Lys Asn Gly Tyr Arg Asp Leu Gln Ala Leu Val Lys Glu Leu Gly
 20 25 30

Leu Tyr Thr Gly Gln Ile Asp Gly Val Trp Gly Lys Gly Thr Ser Ser
 35 40 45

Ser Thr Glu Thr Leu Leu Arg Gly Tyr Ala Glu Val Val Gly Lys Asn
 50 55 60

Thr Gly Gly Ile Gly Leu Pro Thr Thr Ser Asp Ala Ser Gly Tyr Asn
 65 70 75 80

Val Ile Thr Ala Leu Gln Arg Asn Leu Ala Phe Leu Gly Leu Tyr Ser
 85 90 95

Leu Thr Val Asp Gly Ile Trp Gly Asn Gly Thr Leu Ser Gly Leu Asp
 100 105 110

Lys Ala Phe Glu Val Tyr Lys Glu Arg Tyr Arg Thr Pro Thr Tyr Asp
 115 120 125

Ile Ala Trp Ser Gly Lys Val Ser Pro Ala Phe Thr Ala Lys Val Lys
 130 135 140

Asp Trp Cys Gly Val His Val Pro Asn His Arg Ala Pro His Trp Leu
 145 150 155 160

Met Ala Cys Met Ala Phe Glu Thr Gly Gln Thr Phe Ser Pro Ser Ile
 165 170 175

Lys Asn Ala Ala Gly Ser Glu Ala Tyr Gly Leu Ile Gln Phe Met Ser
 180 185 190

Pro Ala Ala Asn Asp Leu Asn Val Pro Leu Ser Val Ile Arg Ser Met
195 200 205

Asp Gln Leu Thr Gln Leu Asp Leu Val Phe Lys Tyr Phe Glu Met Trp
210 215 220

Met Lys Arg Gly Lys Arg Tyr Thr Gln Leu Glu Asp Phe Tyr Leu Thr
225 230 235 240

Ile Phe His Pro Ala Ser Val Gly Lys Lys Ala Asp Glu Val Leu Phe
245 250 255

Leu Gln Gly Ser Lys Ala Tyr Leu Gln Asn Lys Gly Phe Asp Val Asp
260 265 270

Lys Asp Gly Lys Ile Thr Leu Gly Glu Ile Ser Ser Thr Leu Tyr Thr
275 280 285

Thr Tyr Tyr Lys Gly Leu Leu Pro Glu Asn Arg His Val Ile Ser Tyr
290 295 300

<210> 95
<211> 320
<212> PRT
<213> unknown

<220>
<223> SMAP-29:gp188

<400> 95

Arg Gly Leu Arg Arg Leu Gly Arg Lys Ile Ala His Gly Val Lys Lys
1 5 10 15

Tyr Gly Pro Thr Val Leu Arg Ile Ile Arg Ile Ala Gly Asn Phe Arg
20 25 30

Thr Lys Asn Gly Tyr Arg Asp Leu Gln Ala Leu Val Lys Glu Leu Gly
35 40 45

Leu Tyr Thr Gly Gln Ile Asp Gly Val Trp Gly Lys Gly Thr Ser Ser
50 55 60

Ser Thr Glu Thr Leu Leu Arg Gly Tyr Ala Glu Val Val Gly Lys Asn
65 70 75 80

Thr	Gly	Gly	Ile	Gly	Leu	Pro	Thr	Thr	Ser	Asp	Ala	Ser	Gly	Tyr	Asn	
				85					90					95		
Val	Ile	Thr	Ala	Leu	Gln	Arg	Asn	Leu	Ala	Phe	Leu	Gly	Leu	Tyr	Ser	
			100					105					110			
Leu	Thr	Val	Asp	Gly	Ile	Trp	Gly	Asn	Gly	Thr	Leu	Ser	Gly	Leu	Asp	
		115					120					125				
Lys	Ala	Phe	Glu	Val	Tyr	Lys	Glu	Arg	Tyr	Arg	Thr	Pro	Thr	Tyr	Asp	
	130					135					140					
Ile	Ala	Trp	Ser	Gly	Lys	Val	Ser	Pro	Ala	Phe	Thr	Ala	Lys	Val	Lys	
145					150					155					160	
Asp	Trp	Cys	Gly	Val	His	Val	Pro	Asn	His	Arg	Ala	Pro	His	Trp	Leu	
				165					170					175		
Met	Ala	Cys	Met	Ala	Phe	Glu	Thr	Gly	Gln	Thr	Phe	Ser	Pro	Ser	Ile	
			180					185					190			
Lys	Asn	Ala	Ala	Gly	Ser	Glu	Ala	Tyr	Gly	Leu	Ile	Gln	Phe	Met	Ser	
		195					200					205				
Pro	Ala	Ala	Asn	Asp	Leu	Asn	Val	Pro	Leu	Ser	Val	Ile	Arg	Ser	Met	
	210					215					220					
Asp	Gln	Leu	Thr	Gln	Leu	Asp	Leu	Val	Phe	Lys	Tyr	Phe	Glu	Met	Trp	
225					230					235					240	
Met	Lys	Arg	Gly	Lys	Arg	Tyr	Thr	Gln	Leu	Glu	Asp	Phe	Tyr	Leu	Thr	
				245					250					255		
Ile	Phe	His	Pro	Ala	Ser	Val	Gly	Lys	Lys	Ala	Asp	Glu	Val	Leu	Phe	
			260					265					270			
Leu	Gln	Gly	Ser	Lys	Ala	Tyr	Leu	Gln	Asn	Lys	Gly	Phe	Asp	Val	Asp	
		275					280					285				
Lys	Asp	Gly	Lys	Ile	Thr	Leu	Gly	Glu	Ile	Ser	Ser	Thr	Leu	Tyr	Thr	
	290					295					300					
Thr	Tyr	Tyr	Lys	Gly	Leu	Leu	Pro	Glu	Asn	Arg	His	Val	Ile	Ser	Tyr	
305					310					315					320	

<210> 96
 <211> 330
 <212> PRT
 <213> unknown

<220>
 <223> Sarcotoxin IA:gp188

<400> 96

Gly Trp Leu Lys Lys Ile Gly Lys Lys Ile Glu Arg Val Gly Gln His
 1 5 10 15

Thr Arg Asp Ala Thr Ile Gln Gly Leu Gly Ile Ala Gln Gln Ala Ala
 20 25 30

Asn Val Ala Ala Thr Ala Arg Asn Phe Arg Thr Lys Asn Gly Tyr Arg
 35 40 45

Asp Leu Gln Ala Leu Val Lys Glu Leu Gly Leu Tyr Thr Gly Gln Ile
 50 55 60

Asp Gly Val Trp Gly Lys Gly Thr Ser Ser Ser Thr Glu Thr Leu Leu
 65 70 75 80

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

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

Arg Asn Leu Ala Phe Leu Gly Leu Tyr Ser Leu Thr Val Asp Gly Ile
 115 120 125

Trp Gly Asn Gly Thr Leu Ser Gly Leu Asp Lys Ala Phe Glu Val Tyr
 130 135 140

Lys Glu Arg Tyr Arg Thr Pro Thr Tyr Asp Ile Ala Trp Ser Gly Lys
 145 150 155 160

Val Ser Pro Ala Phe Thr Ala Lys Val Lys Asp Trp Cys Gly Val His
 165 170 175

Val Pro Asn His Arg Ala Pro His Trp Leu Met Ala Cys Met Ala Phe
 180 185 190

Glu Thr Gly Gln Thr Phe Ser Pro Ser Ile Lys Asn Ala Ala Gly Ser
195 200 205

Glu Ala Tyr Gly Leu Ile Gln Phe Met Ser Pro Ala Ala Asn Asp Leu
210 215 220

Asn Val Pro Leu Ser Val Ile Arg Ser Met Asp Gln Leu Thr Gln Leu
225 230 235 240

Asp Leu Val Phe Lys Tyr Phe Glu Met Trp Met Lys Arg Gly Lys Arg
245 250 255

Tyr Thr Gln Leu Glu Asp Phe Tyr Leu Thr Ile Phe His Pro Ala Ser
260 265 270

Val Gly Lys Lys Ala Asp Glu Val Leu Phe Leu Gln Gly Ser Lys Ala
275 280 285

Tyr Leu Gln Asn Lys Gly Phe Asp Val Asp Lys Asp Gly Lys Ile Thr
290 295 300

Leu Gly Glu Ile Ser Ser Thr Leu Tyr Thr Thr Tyr Tyr Lys Gly Leu
305 310 315 320

Leu Pro Glu Asn Arg His Val Ile Ser Tyr
325 330

<210> 97
<211> 209
<212> PRT
<213> unknown

<220>
<223> SMAP-29:Salmonella endolysin

<400> 97

Arg Gly Leu Arg Arg Leu Gly Arg Lys Ile Ala His Gly Val Lys Lys
1 5 10 15

Tyr Gly Pro Thr Val Leu Arg Ile Ile Arg Ile Ala Gly Lys Pro Lys
20 25 30

Asp Glu Ile Phe Asp Glu Ile Leu Gly Lys Glu Gly Gly Tyr Val Asn
35 40 45

His Pro Asp Asp Lys Gly Gly Pro Thr Lys Trp Gly Ile Thr Glu Lys
50 55 60

Val Ala Arg Ala His Gly Tyr Arg Gly Asp Met Arg Asn Leu Thr Arg
65 70 75 80

Gly Gln Ala Leu Glu Ile Leu Glu Thr Asp Tyr Trp Tyr Gly Pro Arg
85 90 95

Phe Asp Arg Val Ala Lys Ala Ser Pro Asp Val Ala Ala Glu Leu Cys
100 105 110

Asp Thr Gly Val Asn Met Gly Pro Ser Val Ala Ala Lys Met Leu Gln
115 120 125

Arg Trp Leu Asn Val Phe Asn Gln Gly Gly Arg Leu Tyr Pro Asp Met
130 135 140

Asp Thr Asp Gly Arg Ile Gly Pro Arg Thr Leu Asn Ala Leu Arg Val
145 150 155 160

Tyr Leu Glu Lys Arg Gly Lys Asp Gly Glu Arg Val Leu Leu Val Ala
165 170 175

Leu Asn Cys Thr Gln Gly Glu Arg Tyr Leu Glu Leu Ala Glu Lys Arg
180 185 190

Glu Ala Asp Glu Ser Phe Val Tyr Gly Trp Met Lys Glu Arg Val Leu
195 200 205

Ile

<210> 98
<211> 303
<212> PRT
<213> unknown

<220>
<223> Pseudin 1:Acinetobacter baumannii endolysin

<400> 98

Gly Leu Asn Thr Leu Lys Lys Val Phe Gln Gly Leu His Glu Ala Ile
1 5 10 15

Lys Leu Ile Asn Asn His Val Gln Glu Tyr Asp Met Ile Leu Lys Phe
 20 25 30

Gly Ser Lys Gly Asp Ala Val Ala Thr Leu Gln Lys Gln Leu Ala Lys
 35 40 45

Met Gly Tyr Lys Gly Val Lys Asp Lys Pro Leu Ser Val Asp Gly His
 50 55 60

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

Gly Leu Val Ala Asp Gly Lys Val Gly Asp Lys Thr Arg Gln Ala Leu
 85 90 95

Ala Gly Asp Ser Val Ser Lys Phe Leu Lys Asp Glu Asp Tyr Lys Lys
 100 105 110

Ala Ala Ile Arg Leu Lys Val Pro Glu Leu Val Ile Arg Val Phe Gly
 115 120 125

Ala Val Glu Gly Leu Gly Val Gly Phe Leu Pro Asn Gly Lys Ala Lys
 130 135 140

Ile Leu Phe Glu Arg His Arg Met Tyr Phe Tyr Leu Cys Gln Ala Leu
 145 150 155 160

Gly Lys Thr Phe Ala Asn Ser Gln Val Lys Ile Thr Pro Asn Ile Val
 165 170 175

Asn Thr Leu Thr Gly Gly Tyr Lys Gly Asp Ala Ala Glu Tyr Thr Arg
 180 185 190

Leu Ser Met Ala Ile Asn Ile His Lys Glu Ser Ala Leu Met Ser Thr
 195 200 205

Ser Trp Gly Gln Phe Gln Ile Met Gly Glu Asn Trp Lys Asp Leu Gly
 210 215 220

Tyr Ser Ser Val Gln Glu Phe Val Asp Gln Gln Gln Leu Asn Glu Gly
 225 230 235 240

Asn Gln Leu Glu Ala Phe Ile Arg Phe Ile Glu Trp Lys Pro Gly Leu
245 250 255

Leu Glu Ala Leu Arg Lys Gln Asp Trp Asp Thr Val Phe Thr Leu Tyr
260 265 270

Asn Gly Lys Asn Tyr Lys Lys Leu Gly Tyr Gln Ala Lys Phe Gln Lys
275 280 285

Glu Trp Asp His Leu Glu Pro Ile Tyr Arg Glu Lys Thr Ala Ala
290 295 300

<210> 99
<211> 308
<212> PRT
<213> unknown

<220>
<223> SMAP-29: *Acinetobacter baumannii* endolysin

<400> 99

Arg Gly Leu Arg Arg Leu Gly Arg Lys Ile Ala His Gly Val Lys Lys
1 5 10 15

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

Met Ile Leu Lys Phe Gly Ser Lys Gly Asp Ala Val Ala Thr Leu Gln
35 40 45

Lys Gln Leu Ala Lys Met Gly Tyr Lys Gly Val Lys Asp Lys Pro Leu
50 55 60

Ser Val Asp Gly His Phe Gly Glu Ser Thr Glu Phe Ala Val Ile Gln
65 70 75 80

Leu Gln Arg Lys Phe Gly Leu Val Ala Asp Gly Lys Val Gly Asp Lys
85 90 95

Thr Arg Gln Ala Leu Ala Gly Asp Ser Val Ser Lys Phe Leu Lys Asp
100 105 110

Glu Asp Tyr Lys Lys Ala Ala Ile Arg Leu Lys Val Pro Glu Leu Val
115 120 125

Ile Arg Val Phe Gly Ala Val Glu Gly Leu Gly Val Gly Phe Leu Pro
 130 135 140

Asn Gly Lys Ala Lys Ile Leu Phe Glu Arg His Arg Met Tyr Phe Tyr
 145 150 155 160

Leu Cys Gln Ala Leu Gly Lys Thr Phe Ala Asn Ser Gln Val Lys Ile
 165 170 175

Thr Pro Asn Ile Val Asn Thr Leu Thr Gly Gly Tyr Lys Gly Asp Ala
 180 185 190

Ala Glu Tyr Thr Arg Leu Ser Met Ala Ile Asn Ile His Lys Glu Ser
 195 200 205

Ala Leu Met Ser Thr Ser Trp Gly Gln Phe Gln Ile Met Gly Glu Asn
 210 215 220

Trp Lys Asp Leu Gly Tyr Ser Ser Val Gln Glu Phe Val Asp Gln Gln
 225 230 235 240

Gln Leu Asn Glu Gly Asn Gln Leu Glu Ala Phe Ile Arg Phe Ile Glu
 245 250 255

Trp Lys Pro Gly Leu Leu Glu Ala Leu Arg Lys Gln Asp Trp Asp Thr
 260 265 270

Val Phe Thr Leu Tyr Asn Gly Lys Asn Tyr Lys Lys Leu Gly Tyr Gln
 275 280 285

Ala Lys Phe Gln Lys Glu Trp Asp His Leu Glu Pro Ile Tyr Arg Glu
 290 295 300

Lys Thr Ala Ala
 305

<210> 100
 <211> 313
 <212> PRT
 <213> unknown

<220>
 <223> Sushi 1: Acinetobacter baumannii endolysin
 <400> 100

Gly	Phe	Lys	Leu	Lys	Gly	Met	Ala	Arg	Ile	Ser	Cys	Leu	Pro	Asn	Gly	1	5	10	15
Gln	Trp	Ser	Asn	Phe	Pro	Pro	Lys	Cys	Ile	Arg	Glu	Cys	Ala	Met	Val	20	25	30	
Ser	Ser	Glu	Tyr	Asp	Met	Ile	Leu	Lys	Phe	Gly	Ser	Lys	Gly	Asp	Ala	35	40	45	
Val	Ala	Thr	Leu	Gln	Lys	Gln	Leu	Ala	Lys	Met	Gly	Tyr	Lys	Gly	Val	50	55	60	
Lys	Asp	Lys	Pro	Leu	Ser	Val	Asp	Gly	His	Phe	Gly	Glu	Ser	Thr	Glu	65	70	75	80
Phe	Ala	Val	Ile	Gln	Leu	Gln	Arg	Lys	Phe	Gly	Leu	Val	Ala	Asp	Gly	85	90	95	
Lys	Val	Gly	Asp	Lys	Thr	Arg	Gln	Ala	Leu	Ala	Gly	Asp	Ser	Val	Ser	100	105	110	
Lys	Phe	Leu	Lys	Asp	Glu	Asp	Tyr	Lys	Lys	Ala	Ala	Ile	Arg	Leu	Lys	115	120	125	
Val	Pro	Glu	Leu	Val	Ile	Arg	Val	Phe	Gly	Ala	Val	Glu	Gly	Leu	Gly	130	135	140	
Val	Gly	Phe	Leu	Pro	Asn	Gly	Lys	Ala	Lys	Ile	Leu	Phe	Glu	Arg	His	145	150	155	160
Arg	Met	Tyr	Phe	Tyr	Leu	Cys	Gln	Ala	Leu	Gly	Lys	Thr	Phe	Ala	Asn	165	170	175	
Ser	Gln	Val	Lys	Ile	Thr	Pro	Asn	Ile	Val	Asn	Thr	Leu	Thr	Gly	Gly	180	185	190	
Tyr	Lys	Gly	Asp	Ala	Ala	Glu	Tyr	Thr	Arg	Leu	Ser	Met	Ala	Ile	Asn	195	200	205	
Ile	His	Lys	Glu	Ser	Ala	Leu	Met	Ser	Thr	Ser	Trp	Gly	Gln	Phe	Gln	210	215	220	
Ile	Met	Gly	Glu	Asn	Trp	Lys	Asp	Leu	Gly	Tyr	Ser	Ser	Val	Gln	Glu	225	230	235	240

Phe Val Asp Gln Gln Gln Leu Asn Glu Gly Asn Gln Leu Glu Ala Phe
245 250 255

Ile Arg Phe Ile Glu Trp Lys Pro Gly Leu Leu Glu Ala Leu Arg Lys
260 265 270

Gln Asp Trp Asp Thr Val Phe Thr Leu Tyr Asn Gly Lys Asn Tyr Lys
275 280 285

Lys Leu Gly Tyr Gln Ala Lys Phe Gln Lys Glu Trp Asp His Leu Glu
290 295 300

Pro Ile Tyr Arg Glu Lys Thr Ala Ala
305 310