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<110> KINETA CHRONIC PAIN, LLC
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 INFLAMMATORY CONDITIONS
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<210> 35
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<220>
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<400> 35

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<210> 36
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 (S)-homopropargyl glycine at position 12 form a triazole bridge

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<400> 36

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Tyr
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<400> 37

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 1 5 10

<210> 38
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<400> 38

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<210> 39
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 (S)-3-azido-alanine at position 12 form a triazole bridge

<220>
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 <223> Xaa = Citrulline

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<400> 39

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<210> 40

<211> 13

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<220>

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<223> Xaa = Citrulline

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<400> 40

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<210> 41

<211> 13

<212> PRT

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<220>

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<400> 41

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<210> 42
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<223> Xaa = Citrulline

<220>
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<223> Xaa = (S)-bis-homopropargyl glycine

<400> 42

Gly	Cys	Xaa	Thr	Asp	Pro	Arg	Cys	Xaa	Trp	Gln	Xaa	Tyr
1				5					10			

<210> 43

<211> 13

<212> PRT

<213> Artificial Sequence

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<223> Intermediate conotoxin peptide analog Yk

<220>

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<223> Xaa = (S)-3-azido-alanine

<220>

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<222> (9)..(9)

<223> Xaa = Citrulline

<220>

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<222> (12)..(12)

<223> Xaa = (S)-bis-homopropargyl glycine

<400> 43

Gly	Cys	Xaa	Thr	Asp	Pro	Arg	Cys	Xaa	Trp	Gln	Xaa	Tyr
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<210> 44

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Intermediate conotoxin peptide analog Zk

<220>

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 <223> Xaa = Citrulline

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 <223> Xaa = (S)-bis-homopropargyl glycine

<400> 44

Gly	Cys	Xaa	Thr	Asp	Pro	Arg	Cys	Xaa	Trp	Gln	Xaa	Tyr
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 <223> (S)-Propargyl glycine at position 3 and
 (S)-5-azidonorvaline at position 12 form a triazole bridge

<220>
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 <223> Xaa = (S)-propargyl glycine

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 <223> Xaa = Citrulline

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<400> 45

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Phe
1 5 10

<210> 46
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<223> Xaa = Citrulline

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<400> 46

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Phe
1 5 10

<210> 47
<211> 13
<212> PRT
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<220>
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<222> (9)..(9)

<223> Xaa = Citrulline

<220>

<221> MOD_RES

<222> (12)..(12)

<223> Xaa = (S)-5-azidonorvaline

<400> 47

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Phe
1 5 10

<210> 48

<211> 13

<212> PRT

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<223> (S)-Propargyl glycine at position 3 and
(S)-5-azidonorvaline at position 12 form a triazole bridge

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 <223> Xaa = (S)-5-azidonorvaline

<220>
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 <222> (13)..(13)
 <223> Xaa = D-Tyr

<400> 48

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 <223> Xaa = Citrulline

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 <223> Xaa = (S)-5-azidonorvaline

<220>
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 <223> Xaa = D-Tyr

<400> 49

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1				5					10			

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(S)-5-azidonorvaline at position 12 form a triazole bridge

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<222> (9)..(9)

<223> Xaa = Citrulline

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<220>

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<223> Xaa = N-Me-Gly

<400> 51

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Tyr Xaa
1 5 10

<210> 52

<211> 14

<212> PRT

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<220>
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<400> 52

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Tyr Xaa
1 5 10

<210> 53
<211> 14
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<400> 53

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1 5 10

<210> 54

<211> 14

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(S)-5-azidonorvaline at position 12 form a triazole bridge

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<221> MOD_RES

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1 5 10

<210> 55
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<400> 55

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<210> 56
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<210> 57
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(S)-5-azidonorvaline at position 12 form a triazole bridge

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1 5 10

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1 5 10

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 1 5 10

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(S)-5-azidonorvaline at position 12 form a triazole bridge

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<210> 62
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<400> 62

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<210> 63
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 (S)-5-azidonorvaline at position 12 form a triazole bridge

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<220>
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 <223> Xaa = N-Me-Tyr

<400> 63

Gly	Cys	Xaa	Thr	Asp	Pro	Arg	Cys	Xaa	Trp	Gln	Xaa	Xaa
1				5					10			

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<210> 66
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(S)-5-azidonorvaline at position 12 form a triazole bridge

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<223> Xaa = (S)-propargyl glycine

<220>
<221> MOD_RES
<222> (9)..(9)
<223> Xaa = Citrulline

<220>
<221> MOD_RES
<222> (12)..(12)
<223> Xaa = (S)-5-azidonorvaline

<220>
<221> MOD_RES
<222> (13)..(13)
<223> Xaa = D-Arg

<400> 66

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Xaa
 1 5 10

<210> 67
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Intermediate conotoxin peptide analog Ys

<220>
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 <223> Xaa = (S)-propargyl glycine

<220>
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 <222> (9)..(9)
 <223> Xaa = Citrulline

<220>
 <221> MOD_RES
 <222> (12)..(12)
 <223> Xaa = (S)-5-azidonorvaline

<220>
 <221> MOD_RES
 <222> (13)..(13)
 <223> Xaa = D-Arg

<400> 67

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Xaa
 1 5 10

<210> 68
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Intermediate conotoxin peptide analog Zs

<220>
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 <222> (2)..(8)

<220>
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 <223> Xaa = (S)-propargyl glycine

<220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Xaa = Citrulline

<220>
 <221> MOD_RES
 <222> (12)..(12)
 <223> Xaa = (S)-5-azidonorvaline

<220>
 <221> MOD_RES
 <222> (13)..(13)
 <223> Xaa = D-Arg

<400> 68

Gly	Cys	Xaa	Thr	Asp	Pro	Arg	Cys	Xaa	Trp	Gln	Xaa	Xaa
1				5					10			

<210> 69
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Conotoxin peptide analog It

<220>
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<220>
 <221> MISC_FEATURE
 <222> (3)..(12)
 <223> (S)-Propargyl glycine at position 3 and
 (S)-5-azidonorvaline at position 12 form a triazole bridge

<220>
 <221> MOD_RES
 <222> (3)..(3)
 <223> Xaa = (S)-propargyl glycine

<220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Xaa = Citrulline

<220>
 <221> MOD_RES
 <222> (12)..(12)
 <223> Xaa = (S)-5-azidonorvaline

<220>
 <221> MOD_RES
 <222> (13)..(13)
 <223> Xaa = N-Me-D-Tyr

<400> 69

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Xaa
 1 5 10

<210> 70
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Intermediate conotoxin peptide analog Yt

<220>
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 <222> (3)..(3)
 <223> Xaa = (S)-propargyl glycine

<220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Xaa = Citrulline

<220>
 <221> MOD_RES
 <222> (12)..(12)
 <223> Xaa = (S)-5-azidonorvaline

<220>
 <221> MOD_RES
 <222> (13)..(13)
 <223> Xaa = N-Me-D-Tyr

<400> 70

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Xaa
1 5 10

<210> 71

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Intermediate conotoxin peptide analog Zt

<220>

<221> DISULFID

<222> (2)..(8)

<220>

<221> MOD_RES

<222> (3)..(3)

<223> Xaa = (S)-propargyl glycine

<220>

<221> MOD_RES

<222> (9)..(9)

<223> Xaa = Citrulline

<220>

<221> MOD_RES

<222> (12)..(12)

<223> Xaa = (S)-5-azidonorvaline

<220>

<221> MOD_RES

<222> (13)..(13)

<223> Xaa = N-Me-D-Tyr

<400> 71

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Xaa
1 5 10

<210> 72

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Conotoxin peptide analog Iu

<220>

<221> DISULFID

<222> (2)..(8)

<220>

<221> MISC_FEATURE

<222> (3)..(12)

<223> (S)-Propargyl glycine at position 3 and
(S)-5-azidonorvaline at position 12 form a triazole bridge

<220>

<221> MOD_RES

<222> (3)..(3)

<223> Xaa = (S)-propargyl glycine

<220>

<221> MOD_RES

<222> (9)..(9)

<223> Xaa = Citrulline

<220>

<221> MOD_RES

<222> (12)..(12)

<223> Xaa = (S)-5-azidonorvaline

<220>

<221> MOD_RES

<222> (13)..(13)

<223> Xaa = beta-Tyr

<400> 72

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Xaa
1 5 10

<210> 73

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Intermediate conotoxin peptide analog Yu

<220>

<221> MOD_RES

<222> (3)..(3)

<223> Xaa = (S)-propargyl glycine

<220>

<221> MOD_RES

<222> (9)..(9)

<223> Xaa = Citrulline

<220>

<221> MOD_RES

<222> (12)..(12)

<223> Xaa = (S)-5-azidonorvaline

<220>

<221> MOD_RES

<222> (13)..(13)

<223> Xaa = beta-Tyr

<400> 73

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Xaa
1 5 10

<210> 74

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Intermediate conotoxin peptide analog Zu

<220>

<221> DISULFID

<222> (2)..(8)

<220>

<221> MOD_RES

<222> (3)..(3)

<223> Xaa = (S)-propargyl glycine

<220>

<221> MOD_RES

<222> (9)..(9)

<223> Xaa = Citrulline

<220>

<221> MOD_RES

<222> (12)..(12)

<223> Xaa = (S)-5-azidonorvaline

<220>
 <221> MOD_RES
 <222> (13)..(13)
 <223> Xaa = beta-Tyr

<400> 74

Gly	Cys	Xaa	Thr	Asp	Pro	Arg	Cys	Xaa	Trp	Gln	Xaa	Xaa
1				5					10			

<210> 75
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Conotoxin peptide analog Iv

<220>
 <221> DISULFID
 <222> (2)..(8)

<220>
 <221> MISC_FEATURE
 <222> (3)..(12)
 <223> (S)-Propargyl glycine at position 3 and
 (S)-5-azidonorvaline at position 12 form a triazole bridge

<220>
 <221> MOD_RES
 <222> (3)..(3)
 <223> Xaa = (S)-propargyl glycine

<220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Xaa = Citrulline

<220>
 <221> MOD_RES
 <222> (12)..(12)
 <223> Xaa = (S)-5-azidonorvaline

<220>
 <221> MOD_RES
 <222> (13)..(13)
 <223> Xaa = N-Me-Arg

<400> 75

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Xaa
 1 5 10

<210> 76
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Intermediate conotoxin peptide analog Yv

<220>
 <221> MOD_RES
 <222> (3)..(3)
 <223> Xaa = (S)-propargyl glycine

<220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Xaa = Citrulline

<220>
 <221> MOD_RES
 <222> (12)..(12)
 <223> Xaa = (S)-5-azidonorvaline

<220>
 <221> MOD_RES
 <222> (13)..(13)
 <223> Xaa = N-Me-Arg

<400> 76

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Xaa
 1 5 10

<210> 77
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Intermediate conotoxin peptide analog Zv

<220>
 <221> DISULFID

<222> (2)..(8)

<220>

<221> MOD_RES

<222> (3)..(3)

<223> Xaa = (S)-propargyl glycine

<220>

<221> MOD_RES

<222> (9)..(9)

<223> Xaa = Citrulline

<220>

<221> MOD_RES

<222> (12)..(12)

<223> Xaa = (S)-5-azidonorvaline

<220>

<221> MOD_RES

<222> (13)..(13)

<223> Xaa = N-Me-Arg

<400> 77

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Xaa
1 5 10

<210> 78

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Conotoxin peptide analog Iw

<220>

<221> DISULFID

<222> (2)..(8)

<220>

<221> MISC_FEATURE

<222> (3)..(12)

<223> Glu at position 3 and Lys at position 12
form a lactam bridge

<220>

<221> MOD_RES

<222> (9)..(9)

<223> Xaa = Citrulline

<220>
<221> MOD_RES
<222> (10)..(10)
<223> Xaa = 3-I-Tyr

<400> 78

Gly	Cys	Glu	Thr	Asp	Pro	Arg	Cys	Xaa	Xaa	Gln	Lys	Tyr
1				5					10			

<210> 79
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Intermediate X1

<220>
<221> MISC_FEATURE
<222> (13)..(13)
<223> Tyr at position 13 is attached to a
Rink amide MBHA resin

<220>
<221> MOD_RES
<222> (9)..(9)
<223> Xaa = Citrulline

<220>
<221> MOD_RES
<222> (10)..(10)
<223> Xaa = 3-I-Tyr

<400> 79

Gly	Cys	Glu	Thr	Asp	Pro	Arg	Cys	Xaa	Xaa	Gln	Lys	Tyr
1				5					10			

<210> 80
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Intermediate X2

<220>
 <221> MISC_FEATURE
 <222> (3)..(12)
 <223> Glu at position 3 and Lys at position 12
 form a lactam bridge

<220>
 <221> MISC_FEATURE
 <222> (13)..(13)
 <223> Tyr at position 13 is attached to a Rink
 amide MBHA resin

<220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Xaa = Citrulline

<220>
 <221> MOD_RES
 <222> (10)..(10)
 <223> Xaa = 3-I-Tyr

<400> 80

Gly	Cys	Glu	Thr	Asp	Pro	Arg	Cys	Xaa	Xaa	Gln	Lys	Tyr
1				5					10			

<210> 81
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Intermediate X3

<220>
 <221> MISC_FEATURE
 <222> (3)..(12)
 <223> Glu at position 3 and Lys at position 12
 form a lactam bridge

<220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Xaa = Citrulline

<220>
 <221> MOD_RES
 <222> (10)..(10)

<223> Xaa = 3-I-Tyr

<400> 81

Gly Cys Glu Thr Asp Pro Arg Cys Xaa Xaa Gln Lys Tyr
1 5 10

<210> 82

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Conotoxin peptide analog Ix

<220>

<221> DISULFID

<222> (2)..(8)

<220>

<221> MISC_FEATURE

<222> (3)..(12)

<223> Lys at position 3 and Glu at position 12
form a lactam bridge

<220>

<221> MOD_RES

<222> (9)..(9)

<223> Xaa = Citrulline

<220>

<221> MOD_RES

<222> (10)..(10)

<223> Xaa = 3-I-Tyr

<400> 82

Gly Cys Lys Thr Asp Pro Arg Cys Xaa Xaa Gln Glu Tyr
1 5 10

<210> 83

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> PEGylated conotoxin peptide analog IIa

<220>
 <221> MISC_FEATURE
 <222> (1)..(1)
 <223> Gly at position 1 is attached to a linear
 30 kDa mPEG polymer via a valerate linker

 <220>
 <221> DISULFID
 <222> (2)..(8)

 <220>
 <221> MISC_FEATURE
 <222> (3)..(12)
 <223> (S)-Propargyl glycine at position 3 and
 (S)-5-azidonorvaline at position 12 form a triazole bridge

 <220>
 <221> MOD_RES
 <222> (3)..(3)
 <223> Xaa = (S)-propargyl glycine

 <220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Xaa = Citrulline

 <220>
 <221> MOD_RES
 <222> (12)..(12)
 <223> Xaa = (S)-5-azidonorvaline

 <400> 83

Gly	Cys	Xaa	Thr	Asp	Pro	Arg	Cys	Xaa	Trp	Gln	Xaa	Tyr
1				5					10			

<210> 84
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> PEGylated conotoxin peptide analog IVa

<220>
 <221> MISC_FEATURE
 <222> (1)..(1)
 <223> Gly at position 1 is attached to a linear
 30 kDa mPEG polymer via a butylene linker

<220>
 <221> DISULFID
 <222> (2)..(8)

 <220>
 <221> MISC_FEATURE
 <222> (3)..(12)
 <223> (S)-Propargyl glycine at position 3 and
 (S)-5-azidonorvaline at position 12 form a triazole bridge

 <220>
 <221> MOD_RES
 <222> (3)..(3)
 <223> Xaa = (S)-propargyl glycine

 <220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Xaa = Citrulline

 <220>
 <221> MOD_RES
 <222> (12)..(12)
 <223> Xaa = (S)-5-azidonorvaline

 <400> 84

Gly	Cys	Xaa	Thr	Asp	Pro	Arg	Cys	Xaa	Trp	Gln	Xaa	Tyr
1				5					10			

<210> 85
 <211> 13
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> PEGylated conotoxin peptide analog Va

 <220>
 <221> MOD_RES
 <222> (1)..(1)
 <223> ACETYLATION

 <220>
 <221> MISC_FEATURE
 <222> (13)..(13)
 <223> Tyr at position 13 is attached to a linear
 30 kDa mPEG polymer via a amidopropyl linker

<220>
 <221> DISULFID
 <222> (2)..(8)

 <220>
 <221> MISC_FEATURE
 <222> (3)..(12)
 <223> (S)-Propargyl glycine at position 3 and
 (S)-5-azidonorvaline at position 12 form a triazole bridge

 <220>
 <221> MOD_RES
 <222> (3)..(3)
 <223> Xaa = (S)-propargyl glycine

 <220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Xaa = Citrulline

 <220>
 <221> MOD_RES
 <222> (12)..(12)
 <223> Xaa = (S)-5-azidonorvaline

 <400> 85

Gly	Cys	Xaa	Thr	Asp	Pro	Arg	Cys	Xaa	Trp	Gln	Xaa	Tyr
1				5					10			

<210> 86
 <211> 13
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> PEGylated conotoxin peptide analog VIa

 <220>
 <221> MOD_RES
 <222> (1)..(1)
 <223> ACETYLATION

 <220>
 <221> MISC_FEATURE
 <222> (7)..(7)
 <223> Arg at position 7 is attached to a linear
 30 kDa mPEG polymer via a valerate linker

<220>
 <221> DISULFID
 <222> (2)..(8)

 <220>
 <221> MISC_FEATURE
 <222> (3)..(12)
 <223> (S)-Propargyl glycine at position 3 and
 (S)-5-azidonorvaline at position 12 form a triazole bridge

 <220>
 <221> MOD_RES
 <222> (3)..(3)
 <223> Xaa = (S)-propargyl glycine

 <220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Xaa = Citrulline

 <220>
 <221> MOD_RES
 <222> (12)..(12)
 <223> Xaa = (S)-5-azidonorvaline

 <400> 86

Gly	Cys	Xaa	Thr	Asp	Pro	Arg	Cys	Xaa	Trp	Gln	Xaa	Tyr
1				5					10			

<210> 87
 <211> 13
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> PEGylated conotoxin peptide analog VII

 <220>
 <221> MISC_FEATURE
 <222> (1)..(1)
 <223> Gly at position 1 is attached to a linear
 20 kDa mPEG polymer via a valerate linker

 <220>
 <221> DISULFID
 <222> (2)..(8)

<220>
<221> DISULFID
<222> (3)..(12)

<220>
<221> MOD_RES
<222> (9)..(9)
<223> Xaa = Citrulline

<220>
<221> MOD_RES
<222> (10)..(10)
<223> Xaa = 3-I-Tyr

<400> 87

Gly Cys Cys Thr Asp Pro Arg Cys Xaa Xaa Gln Cys Tyr
1 5 10

<210> 88
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> PEGylated conotoxin peptide analog VIII

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Gly at position 1 is attached to a linear
20 kDa mPEG polymer via a butylene linker

<220>
<221> DISULFID
<222> (2)..(8)

<220>
<221> DISULFID
<222> (3)..(12)

<220>
<221> MOD_RES
<222> (9)..(9)
<223> Xaa = Citrulline

<220>
<221> MOD_RES
<222> (10)..(10)

<223> Xaa = 3-I-Tyr

<400> 88

Gly Cys Cys Thr Asp Pro Arg Cys Xaa Xaa Gln Cys Tyr
1 5 10

<210> 89

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> PEGylated conotoxin peptide analog IX

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> Gly at position 1 is attached to a branched
20 kDa mPEG polymer via a propyl amine linker

<220>

<221> DISULFID

<222> (2)..(8)

<220>

<221> DISULFID

<222> (3)..(12)

<220>

<221> MOD_RES

<222> (9)..(9)

<223> Xaa = Citrulline

<220>

<221> MOD_RES

<222> (10)..(10)

<223> Xaa = 3-I-Tyr

<400> 89

Gly Cys Cys Thr Asp Pro Arg Cys Xaa Xaa Gln Cys Tyr
1 5 10

<210> 90

<211> 13

<212> PRT

<213> Artificial Sequence

<220>
 <223> PEGylated conotoxin peptide analog X

 <220>
 <221> DISULFID
 <222> (2)..(8)

 <220>
 <221> DISULFID
 <222> (3)..(12)

 <220>
 <221> MISC_FEATURE
 <222> (1)..(1)
 <223> Gly at position 1 is attached to a branched
 20 kDa mPEG polymer via a carbamate linker

 <220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Xaa = Citrulline

 <220>
 <221> MOD_RES
 <222> (10)..(10)
 <223> Xaa = 3-I-Tyr

 <400> 90

Gly Cys Cys Thr Asp Pro Arg Cys Xaa Xaa Gln Cys Tyr
 1 5 10

<210> 91
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> PEGylated conotoxin peptide analog XI

<220>
 <221> MISC_FEATURE
 <222> (1)..(1)
 <223> Gly at position 1 is attached to a linear
 30 kDa mPEG polymer via a valerate linker

<220>
 <221> DISULFID

<222> (2)..(8)

<220>

<221> DISULFID

<222> (3)..(12)

<220>

<221> MOD_RES

<222> (9)..(9)

<223> Xaa = Citrulline

<220>

<221> MOD_RES

<222> (10)..(10)

<223> Xaa = 3-I-Tyr

<400> 91

Gly Cys Cys Thr Asp Pro Arg Cys Xaa Xaa Gln Cys Tyr
1 5 10

<210> 92

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> PEGylated conotoxin peptide analog XII

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> Gly at position 1 is attached to a linear
40 kDa mPEG polymer via a valerate linker

<220>

<221> DISULFID

<222> (2)..(8)

<220>

<221> DISULFID

<222> (3)..(12)

<220>

<221> MOD_RES

<222> (9)..(9)

<223> Xaa = Citrulline

<220>

<221> MOD_RES
 <222> (10)..(10)
 <223> Xaa = 3-I-Tyr

<400> 92

Gly	Cys	Cys	Thr	Asp	Pro	Arg	Cys	Xaa	Xaa	Gln	Cys	Tyr
1				5					10			

<210> 93
 <211> 14
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Formula I

<220>
 <221> DISULFID
 <222> (2)..(8)

<220>
 <221> MISC_FEATURE
 <222> (3)..(12)
 <223> Xaa3 and Xaa12 form a triazole bridge

<220>
 <221> VARIANT
 <222> (3)..(3)
 <223> Xaa = an unnatural amino acid that forms a triazole bridge with the residue at position 12

<220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Xaa = Citrulline

<220>
 <221> VARIANT
 <222> (12)..(12)
 <223> Xaa = an unnatural amino acid that forms a triazole bridge with the residue at position 3

<220>
 <221> VARIANT
 <222> (13)..(13)
 <223> Xaa can be Tyr, Phe, Trp, D-Tyr, D-Phe or D-Trp

<220>

<221> VARIANT
 <222> (14)..(14)
 <223> Xaa can be N-Me-Gly, D-Tyr, N-Me-Tyr or absent

<400> 93

Gly	Cys	Xaa	Thr	Asp	Pro	Arg	Cys	Xaa	Trp	Gln	Xaa	Xaa	Xaa
1				5					10				

<210> 94
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Formula Ia

<220>
 <221> DISULFID
 <222> (2)..(8)

<220>
 <221> MISC_FEATURE
 <222> (3)..(12)
 <223> (S)-Propargyl glycine at position 3 and
 (S)-5-azidonorvaline at position 12 form a triazole bridge

<220>
 <221> MOD_RES
 <222> (3)..(3)
 <223> Xaa = (S)-propargyl glycine

<220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Xaa = Citrulline

<220>
 <221> MOD_RES
 <222> (12)..(12)
 <223> Xaa = (S)-5-azidonorvaline

<400> 94

Gly	Cys	Xaa	Thr	Asp	Pro	Arg	Cys	Xaa	Trp	Gln	Xaa	Tyr
1				5					10			

<210> 95

<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> PEGylated conotoxin peptide analog IIg

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Gly at position 1 is attached to a linear
30 kDa mPEG polymer via a valerate linker

<220>
<221> DISULFID
<222> (2)..(8)

<220>
<221> MISC_FEATURE
<222> (3)..(12)
<223> (S)-homopropargyl glycine at position 3 and
(S)-5-azidonorvaline at position 12 form a triazole bridge

<220>
<221> MOD_RES
<222> (3)..(3)
<223> Xaa = (S)-homopropargyl glycine

<220>
<221> MOD_RES
<222> (9)..(9)
<223> Xaa = Citrulline

<220>
<221> MOD_RES
<222> (12)..(12)
<223> Xaa = (S)-5-azidonorvaline

<400> 95

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Tyr
1 5 10

<210> 96
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> PEGylated conotoxin peptide analog IIh

<220>
 <221> MISC_FEATURE
 <222> (1)..(1)
 <223> Gly at position 1 is attached to a linear
 30 kDa mPEG polymer via a valerate linker

 <220>
 <221> DISULFID
 <222> (2)..(8)

 <220>
 <221> MISC_FEATURE
 <222> (3)..(12)
 <223> (S)-Homopropargyl glycine at position 3 and
 (S)-gamma-azido-homoalanine at position 12 form a triazole bridge

 <220>
 <221> MOD_RES
 <222> (3)..(3)
 <223> Xaa = (S)-homopropargyl glycine

 <220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Xaa = Citrulline

 <220>
 <221> MOD_RES
 <222> (12)..(12)
 <223> Xaa = (S)-gamma-azido-homoalanine

 <400> 96

 Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Tyr
 1 5 10

<210> 97
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> PEGylated conotoxin peptide analog Iii

<220>
 <221> MISC_FEATURE
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 <223> Gly at position 1 is attached to a linear

30 kDa mPEG polymer via a valerate linker

<220>

<221> DISULFID

<222> (2)..(8)

<220>

<221> MISC_FEATURE

<222> (3)..(12)

<223> (S)-Gamma-azido-homoalanine at position 3 and
(S)-homopropargyl glycine at position 12 form a triazole bridge

<220>

<221> MOD_RES

<222> (3)..(3)

<223> Xaa = (S)-gamma-azido-homoalanine

<220>

<221> MOD_RES

<222> (9)..(9)

<223> Xaa = Citrulline

<220>

<221> MOD_RES

<222> (12)..(12)

<223> Xaa = (S)-homopropargyl glycine

<400> 97

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Tyr

1

5

10

<210> 98

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> PEGylated conotoxin peptide analog IIk

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> Gly at position 1 is attached to a linear
30 kDa mPEG polymer via a valerate linker

<220>

<221> DISULFID

<222> (2)..(8)

<220>
 <221> MISC_FEATURE
 <222> (3)..(12)
 <223> (S)-3-Azido-alanine at position 3 and (S)-bis-homopropargyl glycine at position 12 form a triazole bridge

<220>
 <221> MOD_RES
 <222> (3)..(3)
 <223> Xaa = (S)-3-azido-alanine

<220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Xaa = Citrulline

<220>
 <221> MOD_RES
 <222> (12)..(12)
 <223> Xaa = (S)-bis-homopropargyl glycine

<400> 98

Gly	Cys	Xaa	Thr	Asp	Pro	Arg	Cys	Xaa	Trp	Gln	Xaa	Tyr
1				5					10			

<210> 99
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> PEGylated conotoxin peptide analog III

<220>
 <221> MISC_FEATURE
 <222> (1)..(1)
 <223> Gly at position 1 is attached to a linear 30 kDa mPEG polymer via a valerate linker

<220>
 <221> DISULFID
 <222> (2)..(8)

<220>
 <221> MISC_FEATURE
 <222> (3)..(12)
 <223> (S)-Propargyl glycine at position 3 and

(S)-5-azidonorvaline at position 12 form a triazole bridge

<220>

<221> MOD_RES

<222> (3)..(3)

<223> Xaa = (S)-propargyl glycine

<220>

<221> MOD_RES

<222> (9)..(9)

<223> Xaa = Citrulline

<220>

<221> MOD_RES

<222> (12)..(12)

<223> Xaa = (S)-5-azidonorvaline

<400> 99

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Phe
1 5 10

<210> 100

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> PEGylated conotoxin peptide analog IIm

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> Gly at position 1 is attached to a linear
30 kDa mPEG polymer via a valerate linker

<220>

<221> DISULFID

<222> (2)..(8)

<220>

<221> MISC_FEATURE

<222> (3)..(12)

<223> (S)-Propargyl glycine at position 3 and
(S)-5-azidonorvaline at position 12 form a triazole bridge

<220>

<221> MOD_RES

<222> (3)..(3)

<223> Xaa = (S)-propargyl glycine

<220>

<221> MOD_RES

<222> (9)..(9)

<223> Xaa = Citrulline

<220>

<221> MOD_RES

<222> (12)..(12)

<223> Xaa = (S)-5-azidonorvaline

<220>

<221> MOD_RES

<222> (13)..(13)

<223> Xaa = D-Tyr

<400> 100

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Xaa
1 5 10

<210> 101

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> PEGylated conotoxin peptide analog IIn

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> Gly at position 1 is attached to a linear
30 kDa mPEG polymer via a valerate linker

<220>

<221> DISULFID

<222> (2)..(8)

<220>

<221> MISC_FEATURE

<222> (3)..(12)

<223> (S)-Propargyl glycine at position 3 and
(S)-5-azidonorvaline at position 12 form a triazole bridge

<220>

<221> MOD_RES

<222> (3)..(3)

<223> Xaa = (S)-propargyl glycine

<220>

<221> MOD_RES

<222> (9)..(9)

<223> Xaa = Citrulline

<220>

<221> MOD_RES

<222> (12)..(12)

<223> Xaa = (S)-5-azidonorvaline

<220>

<221> MOD_RES

<222> (14)..(14)

<223> Xaa = N-Me-Gly

<400> 101

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Tyr Xaa
1 5 10

<210> 102

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> PEGylated conotoxin peptide analog IIO

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> Gly at position 1 is attached to a linear
30 kDa mPEG polymer via a valerate linker

<220>

<221> DISULFID

<222> (2)..(8)

<220>

<221> MISC_FEATURE

<222> (3)..(12)

<223> (S)-Propargyl glycine at position 3 and
(S)-5-azidonorvaline at position 12 form a triazole bridge

<220>

<221> MOD_RES

<222> (3)..(3)

<223> Xaa = (S)-propargyl glycine

<220>

<221> MOD_RES

<222> (9)..(9)

<223> Xaa = Citrulline

<220>

<221> MOD_RES

<222> (12)..(12)

<223> Xaa = (S)-5-azidonorvaline

<220>

<221> MOD_RES

<222> (14)..(14)

<223> Xaa = D-Tyr

<400> 102

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Tyr Xaa
1 5 10

<210> 103

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> PEGylated conotoxin peptide analog IIP

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> Gly at position 1 is attached to a linear
30 kDa mPEG polymer via a valerate linker

<220>

<221> DISULFID

<222> (2)..(8)

<220>

<221> MISC_FEATURE

<222> (3)..(12)

<223> (S)-Propargyl glycine at position 3 and
(S)-5-azidonorvaline at position 12 form a triazole bridge

<220>

<221> MOD_RES

<222> (3)..(3)

<223> Xaa = (S)-propargyl glycine

<220>

<221> MOD_RES

<222> (9)..(9)

<223> Xaa = Citrulline

<220>

<221> MOD_RES

<222> (12)..(12)

<223> Xaa = (S)-5-azidonorvaline

<220>

<221> MOD_RES

<222> (14)..(14)

<223> Xaa = N-Me-Tyr

<400> 103

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Tyr Xaa
1 5 10

<210> 104

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Formula Ib

<220>

<221> DISULFID

<222> (2)..(8)

<220>

<221> MISC_FEATURE

<222> (3)..(12)

<223> (S)-Propargyl glycine at position 3 and
(S)-5-azidonorvaline at position 12 form a triazole bridge

<220>

<221> MOD_RES

<222> (3)..(3)

<223> Xaa = (S)-propargyl glycine

<220>

<221> MOD_RES

<222> (9)..(9)

<223> Xaa = Citrulline

<220>
<221> MOD_RES
<222> (10)..(10)
<223> Xaa = 3-I-Tyr

<220>
<221> MOD_RES
<222> (12)..(12)
<223> Xaa = (S)-5-azidonorvaline

<400> 104

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Xaa Gln Xaa Tyr
1 5 10

<210> 105
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> PEGylated conotoxin peptide analog IIb

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Gly at position 1 is attached to a linear
30 kDa mPEG polymer via a valerate linker

<220>
<221> DISULFID
<222> (2)..(8)

<220>
<221> MISC_FEATURE
<222> (3)..(12)
<223> (S)-Propargyl glycine at position 3 and
(S)-5-azidonorvaline at position 12 form a triazole bridge

<220>
<221> MOD_RES
<222> (3)..(3)
<223> Xaa = (S)-propargyl glycine

<220>
<221> MOD_RES
<222> (9)..(9)
<223> Xaa = Citrulline

<220>
 <221> MOD_RES
 <222> (10)..(10)
 <223> Xaa = 3-I-Tyr

<220>
 <221> MOD_RES
 <222> (12)..(12)
 <223> Xaa = (S)-5-azidonorvaline

<400> 105

Gly	Cys	Xaa	Thr	Asp	Pro	Arg	Cys	Xaa	Xaa	Gln	Xaa	Tyr
1				5					10			

<210> 106
 <211> 14
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Intermediate conotoxin peptide analog

<220>
 <221> DISULFID
 <222> (2)..(8)

<220>
 <221> MISC_FEATURE
 <222> (3)..(12)
 <223> Xaa3 and Xaa12 form a triazole bridge

<220>
 <221> MISC_FEATURE
 <222> (3)..(12)
 <223> When Xaa3 is (S)-propargyl glycine, (S)-homopropargyl glycine, or (S)-homopropargyl glycine, Xaa12 is (S)-homopropargyl glycine or (S)-5-azidonorvaline

<220>
 <221> MISC_FEATURE
 <222> (3)..(12)
 <223> When Xaa3 is (S)-3-azido-alanine, (S)-gamma-azido-homoalanine, or (S)-5-azidonorvaline, Xaa12 is (S)-homopropargyl glycine or (S)-bis-homopropargyl glycine

<220>
 <221> VARIANT

<222> (3)..(3)
 <223> Xaa can be (S)-propargyl glycine, (S)-3-azido-alanine,
 (S)-homopropargyl glycine, (S)-gamma-azido-homoalanine,
 (S)-5-azidonorvaline or (S)-bis-homopropargyl glycine

<220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Xaa = Citrulline

<220>
 <221> VARIANT
 <222> (12)..(12)
 <223> Xaa can be (S)-homopropargyl glycine, (S)-gamma-
 azido-homoalanine, (S)-5-azidonorvaline or (S)-bis-
 homopropargyl glycine

<220>
 <221> VARIANT
 <222> (13)..(13)
 <223> Xaa can be Tyr, Phe, Trp, D-Tyr, D-Phe or D-Trp

<220>
 <221> VARIANT
 <222> (14)..(14)
 <223> Xaa can be N-Me-Gly, D-Tyr, N-Me-Tyr or absent

<400> 106

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Trp Gln Xaa Xaa Xaa
 1 5 10

<210> 107
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Intermediate conotoxin peptide analog

<220>
 <221> MOD_RES
 <222> (3)..(3)
 <223> Xaa = (S)-propargyl glycine

<220>
 <221> MOD_RES
 <222> (9)..(9)

<223> Xaa = Citrulline

<220>

<221> MOD_RES

<222> (10)..(10)

<223> Xaa = 3-I-Tyr

<220>

<221> MOD_RES

<222> (12)..(12)

<223> Xaa = (S)-5-azidonorvaline

<400> 107

Gly Cys Xaa Thr Asp Pro Arg Cys Xaa Xaa Gln Xaa Tyr
1 5 10