

Sequenzprotokoll_TM529EP_ST25
SEQUENCE LISTING

<110> Philipps-Universität Marburg
Marahiel, Mohamed A.
Knappe, Thomas

<120> Lasso peptide-based integrin antagonists

<130> TM529

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<170> PatentIn version 3.5

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<223> RGD_FP represents the first primer used for the insertion of the
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<223> RGD_FP represents the first primer used for the insertion of the
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<223> RGD_RP represents the second primer used for the insertion of the
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<223> RGD_RP represents the second primer used for the insertion of the
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<223> N-terminal b-series of MccJ25: a8 fragment ion

<220>

<221> MISC_FEATURE

<222> (1)..(8)

<223> Mass spectrometric analysis: N-terminal b- and a-series (-H2O) of MccJ25: a8 fragment ion

<400> 20

Gly Gly Ala Gly His Val Pro Glu
1 5

<210> 21

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Sterically linked b+y-series of MccJ25: b15 + y4 fragment ions

<220>

<221> MISC_FEATURE

<222> (1)..(21)

<223> Mass spectrometric analysis: sterically linked b+y-series of MccJ25, b15 + y4 ion. Xaa1 represents P (=Pro), Xaa2 represents I (= Ile). Xaa1 and Xaa2 do not form part of the b15 + y4 fragment ion.

<400> 21

Gly Gly Ala Gly His Val Pro Glu Tyr Phe Val Gly Ile Gly Thr Xaa
1 5 10 15

Xaa Ser Phe Tyr Gly
20

<210> 22

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Sterically linked b+y-series of MccJ25: b13 + y4 fragment ions

<220>

<221> MISC_FEATURE

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<222> (1)..(21)

<223> Mass spectrometric analysis: sterically linked b+y-series of MccJ25, b13 + y4 ion. Xaa1 represents G (= Gly), Xaa2 represents T (Thr), Xaa3 represents P (=Pro), Xaa4 represents I (= Ile). Xaa1 to Xaa4 do not form part of the b13 + y4 fragment ion.

<400> 22

Gly Gly Ala Gly His Val Pro Glu Tyr Phe Val Gly Ile Xaa Xaa Xaa
1 5 10 15

Xaa Ser Phe Tyr Gly
20

<210> 23

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Sterically linked b+y-series of MccJ25: b12 + y4 fragment ions

<220>

<221> MISC_FEATURE

<222> (1)..(21)

<223> Mass spectrometric analysis: sterically linked b+y-series of MccJ25, b12 + y4 ion. Xaa1 = Ile, Xaa2 = Gly, Xaa3 = Thr, Xaa4 = Pro, Xaa5 (= Ile). Xaa1 to Xaa5 do not form part of the b12 + y4 fragment ion.

<400> 23

Gly Gly Ala Gly His Val Pro Glu Tyr Phe Val Gly Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Ser Phe Tyr Gly
20

<210> 24

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Sterically linked b+y-series of MccJ25: b11 + y4 fragment ion

<220>

<221> MISC_FEATURE

<222> (1)..(21)

<223> Mass spectrometric analysis: sterically linked b+y-series of MccJ25, b11 + y4 ion. Xaa1 = Gly, Xaa2 = Ile, Xaa3 = Gly, Xaa4 = Thr, Xaa5 = Pro, Xaa6 (= Ile). Xaa1 to Xaa6 do not form part of the b11 + y4 fragment ion.

<400> 24

Gly Gly Ala Gly His Val Pro Glu Tyr Phe Val Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Ser Phe Tyr Gly
20

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<210> 25
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Sterically linked b+y-series of MccJ25: b10 + y4 fragment ions

<220>
 <221> MISC_FEATURE
 <222> (1)..(21)
 <223> Mass spectrometric analysis: sterically linked b+y-series of MccJ25, b10 + y4 ion. Xaa1 = Val, Xaa2 = Gly, Xaa3 = Ile, Xaa4 = Gly, Xaa5 = Thr, Xaa6 =Pro, Xaa7 (= Ile). Xaa1 to Xaa7 do not form part of the b10 + y4 fragment ion.

<400> 25

Gly Gly Ala Gly His Val Pro Glu Tyr Phe Xaa Xaa Xaa Xaa Xaa Xaa
 1 5 10 15

Xaa Ser Phe Tyr Gly
 20

<210> 26
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Sterically linked b+y-series of MccJ25: b9 + y4 fragment ions

<220>
 <221> MISC_FEATURE
 <222> (1)..(21)
 <223> Mass spectrometric analysis: sterically linked b+y-series of MccJ25, b9 + y4 ion. Xaa1 = Phe, Xaa2 = Val, Xaa3 = Gly, Xaa4 = Ile, Xaa5 = Gly, Xaa6 = Thr, Xaa7 =Pro, Xaa8 (= Ile). Xaa1 to Xaa8 do not form part of the b9 + y4 fragment ion.

<400> 26

Gly Gly Ala Gly His Val Pro Glu Tyr Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1 5 10 15

Xaa Ser Phe Tyr Gly
 20

<210> 27
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Sterically linked b+y-series of Mcc J25: b11 + y6 fragment ions

<220>
 <221> MISC_FEATURE
 <222> (1)..(21)

Sequenzprotokoll_TM529EP_ST25

<223> Mass spectrometric analysis: sterically linked b+y-series of MccJ25, b11 + y6 ion. Xaa1 = Gly, Xaa2 = Ile, Xaa3 = Gly, Xaa4 = Thr. Xaa1 to Xaa4 do not form part of the b11 + y6 fragment ion.

<400> 27

Gly Gly Ala Gly His Val Pro Glu Tyr Phe Val Xaa Xaa Xaa Xaa Pro
1 5 10 15

Ile Ser Phe Tyr Gly
20

<210> 28

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Sterically linked b+y-series of MccJ25: b10 + y6 fragment ions

<220>

<221> MISC_FEATURE

<222> (1)..(21)

<223> Mass spectrometric analysis: sterically linked b+y-series of MccJ25, b10 + y6 ion. Xaa1 = Val, Xaa2 = Gly, Xaa3 = Ile, Xaa4 = Gly, Xaa5 = Thr. Xaa1 to Xaa5 do not form part of the b10 + y6 fragment ion.

<400> 28

Gly Gly Ala Gly His Val Pro Glu Tyr Phe Xaa Xaa Xaa Xaa Xaa Pro
1 5 10 15

Ile Ser Phe Tyr Gly
20

<210> 29

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Sterically linked b+y-series of MccJ25: b9 + y6 fragment ions

<220>

<221> MISC_FEATURE

<222> (1)..(21)

<223> Mass spectrometric analysis: sterically linked b+y-series of MccJ25, b9 + y6 ion. Xaa1 = Phe, Xaa2 = Val, Xaa3 = Gly, Xaa4 = Ile, Xaa5 = Gly, Xaa6 = Thr. Xaa1 to Xaa6 do not form part of the b9 + y6 fragment ion.

<400> 29

Gly Gly Ala Gly His Val Pro Glu Tyr Xaa Xaa Xaa Xaa Xaa Xaa Pro
1 5 10 15

Ile Ser Phe Tyr Gly
20

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<210> 30
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> MccJ25 RGD sequence

<220>
 <221> MISC_FEATURE
 <222> (1)..(21)
 <223> Peptide sequence of MccJ25 RGD

<300>
 <308> BMRB 21000
 <309> 2010-10-26
 <313> (1)..(21)

<400> 30

Gly Gly Ala Gly His Val Pro Glu Tyr Phe Val Arg Gly Asp Thr Pro
 1 5 10 15

Ile Ser Phe Tyr Gly
 20

<210> 31
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> C-terminal y-series of MccJ25 RGD: y12 fragment ion

<220>
 <221> MISC_FEATURE
 <222> (1)..(12)
 <223> Mass spectrometric analysis: C-terminal y-series of MccJ25 RGD:
 y12 fragment ion

<400> 31

Phe Val Arg Gly Asp Thr Pro Ile Ser Phe Tyr Gly
 1 5 10

<210> 32
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> C-terminal y-series of MccJ25 RGD: y11 fragment ion

<220>
 <221> MISC_FEATURE
 <222> (1)..(11)
 <223> Mass spectrometric analysis: C-terminal y-series of MccJ25 RGD:
 y11 fragment ion

<400> 32

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Val Arg Gly Asp Thr Pro Ile Ser Phe Tyr Gly
 1 5 10

<210> 33
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> C-terminal y-series of MccJ25 RGD: y10 fragment ion

<220>
 <221> MISC_FEATURE
 <222> (1)..(10)
 <223> Mass spectrometric analysis: C-terminal y-series of MccJ25 RGD:
 y10 fragment ion

<400> 33

Arg Gly Asp Thr Pro Ile Ser Phe Tyr Gly
 1 5 10

<210> 34
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> C-terminal y-series of MccJ25 RGD: y7 fragment ion

<220>
 <221> MISC_FEATURE
 <222> (1)..(7)
 <223> Mass spectrometric analysis: C-terminal y-series of MccJ25 RGD:
 y7 fragment ion

<400> 34

Thr Pro Ile Ser Phe Tyr Gly
 1 5

<210> 35
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> C-terminal y-series of MccJ25 RGD: y6 fragment ion

<220>
 <221> MISC_FEATURE
 <222> (1)..(6)
 <223> Mass spectrometric analysis: C-terminal y-series of MccJ25 RGD:
 y6 fragment ion

<400> 35

Pro Ile Ser Phe Tyr Gly
 1 5

<210> 36

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<211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> C-terminal y-series of MccJ25 RGD: y4 fragment ion

<220>
 <221> MISC_FEATURE
 <222> (1)..(4)
 <223> Mass spectrometric analysis: C-terminal y-series of MccJ25 RGD:
 y4 fragment ion

<400> 36

Ser Phe Tyr Gly
 1

<210> 37
 <211> 3
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> C-terminal y-series of MccJ25 RGD: y3 fragment ion

<220>
 <221> MISC_FEATURE
 <222> (1)..(3)
 <223> Mass spectrometric analysis: C-terminal y-series of MccJ25 RGD:
 y3 fragment ion

<400> 37

Phe Tyr Gly
 1

<210> 38
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> N-terminal b-series of MccJ25 RGD: b15 fragment ion

<220>
 <221> MISC_FEATURE
 <222> (1)..(15)
 <223> Mass spectrometric analysis: N-terminal b- and a-series (-H2O) of
 MccJ25 RGD: b15 fragment ion

<400> 38

Gly Gly Ala Gly His Val Pro Glu Tyr Phe Val Arg Gly Asp Thr
 1 5 10 15

<210> 39
 <211> 14
 <212> PRT
 <213> Artificial Sequence

<220>

Sequenzprotokoll_TM529EP_ST25

<223> N-terminal b-series of MccJ25 RGD: b14 fragment ion

<220>

<221> MISC_FEATURE

<222> (1)..(14)

<223> Mass spectrometric analysis: N-terminal b- and a-series (-H2O) of MccJ25 RGD: b14 fragment ion

<400> 39

Gly Gly Ala Gly His Val Pro Glu Tyr Phe Val Arg Gly Asp
1 5 10

<210> 40

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> N-terminal b-series of MccJ25 RGD: b13 fragment ion

<220>

<221> MISC_FEATURE

<222> (1)..(13)

<223> Mass spectrometric analysis: N-terminal b- and a-series (-H2O) of MccJ25 RGD: b13 fragment ion

<400> 40

Gly Gly Ala Gly His Val Pro Glu Tyr Phe Val Arg Gly
1 5 10

<210> 41

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> N-terminal b-series of MccJ25 RGD: b12 fragment ion

<220>

<221> MISC_FEATURE

<222> (1)..(12)

<223> Mass spectrometric analysis: N-terminal b- and a-series (-H2O) of MccJ25 RGD: b12 fragment ion

<400> 41

Gly Gly Ala Gly His Val Pro Glu Tyr Phe Val Arg
1 5 10

<210> 42

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> N-terminal b-series of MccJ25 RGD: b11 fragment ion

<220>

<221> MISC_FEATURE

Sequenzprotokoll_TM529EP_ST25

<222> (1)..(11)

<223> Mass spectrometric analysis: N-terminal b- and a-series (-H2O) of MccJ25 RGD: b11 fragment ion

<400> 42

Gly Gly Ala Gly His Val Pro Glu Tyr Phe Val
1 5 10

<210> 43

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> N-terminal b-series of MccJ25 RGD: b10 fragment ion

<220>

<221> MISC_FEATURE

<222> (1)..(10)

<223> Mass spectrometric analysis: N-terminal b- and a-series (-H2O) of MccJ25 RGD: b10 fragment ion

<400> 43

Gly Gly Ala Gly His Val Pro Glu Tyr Phe
1 5 10

<210> 44

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> N-terminal b-series of MccJ25 RGD: b9 fragment ion

<220>

<221> MISC_FEATURE

<222> (1)..(9)

<223> Mass spectrometric analysis: N-terminal b- and a-series (-H2O) of MccJ25 RGD: b9 fragment ion

<400> 44

Gly Gly Ala Gly His Val Pro Glu Tyr
1 5

<210> 45

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> N-terminal b-series of MccJ25 RGD: a8 fragment ion

<220>

<221> MISC_FEATURE

<222> (1)..(8)

<223> Mass spectrometric analysis: N-terminal b- and a-series (-H2O) of MccJ25 RGD: a8 fragment ion

<400> 45

Sequenzprotokoll_TM529EP_ST25

Gly Gly Ala Gly His Val Pro Glu
1 5

<210> 46
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Sterically linked b+y-series of MccJ25 RGD: b14 + y4 fragment ions

<220>
<221> MISC_FEATURE
<222> (1)..(21)
<223> Mass spectrometric analysis: sterically linked b+y-series of MccJ25 RGD, b14 + y4 ion. Xaa1 = Thr, Xaa2 = Pro, Xaa3 = Ile. (= Ile). Xaa1 to Xaa3 do not form part of the b14 + y4 fragment ion.

<400> 46

Gly Gly Ala Gly His Val Pro Glu Tyr Phe Val Arg Gly Asp Xaa Xaa
1 5 10 15

Xaa Ser Phe Tyr Gly
20

<210> 47
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Sterically linked b+y-series of MccJ25 RGD: b11 + y4 fragment ions

<220>
<221> MISC_FEATURE
<222> (1)..(21)
<223> Mass spectrometric analysis: sterically linked b+y-series of MccJ25 RGD, b11 + y4 ion.

Xaa1 = Arg, Xaa2 = Gly, Xaa 3 = Asp, Xaa4 = Thr, Xaa5 = Pro, Xaa6 = Ile. (= Ile). Xaa1 to Xaa6 do not form part of the b11 + y4

<400> 47

Gly Gly Ala Gly His Val Pro Glu Tyr Phe Val Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Ser Phe Tyr Gly
20

<210> 48
<211> 21
<212> PRT
<213> Artificial Sequence

<220>

<223> Sterically linked b+y-series of MccJ25 RGD: b10 + y4 fragment ions

<220>

<221> MISC_FEATURE

<222> (1)..(21)

<223> Mass spectrometric analysis: sterically linked b+y-series of MccJ25 RGD, b10 + y4 ion. X aa1 = Val, Xaa2 = Arg, Xaa3 = Gly, Xaa4 = Asp, Xaa5 = Thr, Xaa6 = Pro, Xaa7 = Ile. (= Ile). Xaa1 to Xaa7 do not form part of the b10 + y4 fragment ion.

<400> 48

Gly Gly Ala Gly His Val Pro Glu Tyr Phe Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Ser Phe Tyr Gly
20

<210> 49

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Sterically linked b+y-series of MccJ25 RGD: b9 + y4 fragment ions

<220>

<221> MISC_FEATURE

<222> (1)..(21)

<223> Mass spectrometric analysis: sterically linked b+y-series of MccJ25 RGD, b9 + y4 ion. Xaa1 = Phe, Xaa2 = Val, Xaa3 = Arg, Xaa4 = Gly, Xaa5 = Asp, Xaa6 = Thr, Xaa7 = Pro, Xaa8 = Ile. (= Ile). Xaa1 to Xaa8 do not form part of the b9 + y4 fragment ion.

<400> 49

Gly Gly Ala Gly His Val Pro Glu Tyr Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Ser Phe Tyr Gly
20

<210> 50

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Sterically linked b+y-series of MccJ25 RGD: b8 + y4 fragment ions

<220>

<221> MISC_FEATURE

<222> (1)..(21)

<223> Mass spectrom. analysis: sterically linked b+y-series of MccJ25 RGD, b8 + y4 ion. Xaa1 = Tyr, Xaa2 = Phe, Xaa3 = Val, Xaa4 = Arg, Xaa5 = Gly, Xaa6 = Asp, Xaa7 = Thr, Xaa8 = Pro, Xaa9 = Ile. (= Ile). Xaa1 to Xaa9 do not form part of the b8 + y4 fragment

<400> 50

Sequenzprotokoll_TM529EP_ST25

Gly Gly Ala Gly His Val Pro Glu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1 5 10 15

Xaa Ser Phe Tyr Gly
 20

<210> 51
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Sterically linked b+y-series of MccJ25 RGD: b11 + y6 fragment ions

<220>
 <221> MISC_FEATURE
 <222> (1)..(21)
 <223> Mass spectrom. analysis: sterically linked b+y-series of MccJ25 RGD, b11 + y6 ion. Xaa1 = Arg, Xaa2 = Gly, Xaa3 = Asp, Xaa4 = Thr . Xaa1 to Xaa4 do not form part of the b11 + y6 fragment ion.

<400> 51

Gly Gly Ala Gly His Val Pro Glu Tyr Phe Val Xaa Xaa Xaa Xaa Pro
 1 5 10 15

Ile Ser Phe Tyr Gly
 20

<210> 52
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Sterically linked b+y-series of MccJ25 RGD: b10 + y6 fragment ions

<220>
 <221> MISC_FEATURE
 <222> (1)..(21)
 <223> Mass spectrometrical analysis: sterically linked b+y-series of MccJ25 RGD, b10 + y6 ion. Xaa1 = Val, Xaa2 = Arg, Xaa3 = Gly, Xaa4 = Asp, Xaa5 = Thr . Xaa1 to Xaa5 do not form part of the b10 + y6 fragment ion.

<400> 52

Gly Gly Ala Gly His Val Pro Glu Tyr Phe Xaa Xaa Xaa Xaa Xaa Pro
 1 5 10 15

Ile Ser Phe Tyr Gly
 20

<210> 53
 <211> 21
 <212> PRT
 <213> Artificial Sequence

Sequenzprotokoll_TM529EP_ST25

<220>
<223> sterically linked b+y-series of MccJ25 RGD: b9 + y6 fragment ions

<220>
<221> MISC_FEATURE
<222> (1)..(21)
<223> Mass spectrometrical analysis: sterically linked b+y-series of MccJ25 RGD, b9 + y6 ion. Xaa1 = Phe, Xaa2 = Val, Xaa3 = Arg, Xaa4 = Gly, Xaa5 = Asp, Xaa6 = Thr . Xaa1 to Xaa6 do not form part of the b9 + y6 fragment ion.

<400> 53

Gly Gly Ala Gly His Val Pro Glu Tyr Xaa Xaa Xaa Xaa Xaa Xaa Pro
1 5 10 15

Ile Ser Phe Tyr Gly
20

<210> 54
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Sequence of Protein P1

<220>
<221> MISC_FEATURE
<222> (1)..(7)
<223> Sequence of Protein P1. Xaa1 = Ac-Phe; Xaa2 = Pro-NH2.

<400> 54

Xaa Val Arg Gly Asp Thr Xaa
1 5