

SEQUENCE LISTING

<110> Protagonist Therapeutics, Inc.
Liu, David Y.
Bourne, Gregory Thomas
Taranath, Roopa
Gupta, Suneel Kumar
Modi, Nishit Bachulal

<120> CONJUGATED HEPCIDIN MIMETICS

<130> PRTH-037/05WO 321085-2344

<150> US 62/895,201
<151> 2019-09-03

<150> US 62/983,515
<151> 2020-02-28

<150> US 63/020,945
<151> 2020-05-06

<150> US 63/059,747
<151> 2020-07-31

<160> 58

<170> PatentIn version 3.5

<210> 1
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Hepcidin analogue formula

<220>
<221> MOD_RES
<222> (1)..(1)
<223> Xaa is Asp, Ala, Ida, pGlu, bhAsp, Leu, D-Asp or absent

<220>
<221> MOD_RES
<222> (1)..(1)
<223> N-terminal residue modified with hydrogen, a C1-C6 alkyl, a C6-C12 aryl, a C1-C20 alkanoyl or pGlu

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is Thr, Ala, or D-Thr

<220>
 <221> MOD_RES
 <222> (3)..(3)
 <223> Xaa is His, Lys or D-His

<220>
 <221> MOD_RES
 <222> (4)..(4)
 <223> Xaa is Phe, Ala, Dpa or D-Phe

<220>
 <221> MOD_RES
 <222> (5)..(5)
 <223> Xaa is Pro, Gly, Arg, Lys, Ala, D-Pro or bhPro

<220>
 <221> MOD_RES
 <222> (6)..(6)
 <223> Xaa is Ile, Cys, Arg, Lys, D-Ile or D-Cys

<220>
 <221> MOD_RES
 <222> (7)..(7)
 <223> Xaa is Cys, Ile, Leu, Val, Phe, D-Ile or D-Cys

<220>
 <221> MOD_RES
 <222> (8)..(8)
 <223> Xaa is Ile, Arg, Phe, Gln, Lys, Glu, Val, Leu or D-Ile

<220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Xaa is Phe or bhPhe

<220>
 <221> MOD_RES
 <222> (10)..(10)
 <223> Xaa is Lys, Phe or absent

<220>
 <221> MOD_RES
 <222> (11)..(11)
 <223> Xaa is Gly, Cys, Ala, Phe, Pro, Glu, Lys, D-Pro, Val, Ser or absent

<220>
 <221> MOD_RES
 <222> (12)..(12)
 <223> Xaa is Pro, Ala, Cys, Gly or absent

<220>
 <221> MOD_RES
 <222> (13)..(13)

<223> Xaa is Arg, Lys, Pro, Gly, His, Ala, Trp or absent

<220>

<221> MOD_RES

<222> (14)..(14)

<223> Xaa is Ser, Arg, Gly, Trp, Ala, His, Tyr or absent

<220>

<221> MOD_RES

<222> (15)..(15)

<223> Xaa is Lys, Met, Arg, Ala or absent

<220>

<221> MOD_RES

<222> (16)..(16)

<223> Xaa is Gly, Ser, Lys, Ile, Ala, Pro, Val or absent

<220>

<221> MOD_RES

<222> (17)..(17)

<223> Xaa is Trp, Lys, Gly, Ala, Ile, Val or absent

<220>

<221> MOD_RES

<222> (18)..(18)

<223> Xaa is Val, Thr, Gly, Cys, Met, Tyr, Ala, Glu, Lys, Asp, Arg or absent

<220>

<221> MOD_RES

<222> (19)..(19)

<223> Xaa is Cys, Tyr or absent

<220>

<221> MOD_RES

<222> (20)..(20)

<223> Xaa is Met, Lys, Arg, Tyr or absent

<220>

<221> MOD_RES

<222> (21)..(21)

<223> Xaa is Arg, Met, Cys, Lys or absent

<220>

<221> MOD_RES

<222> (22)..(22)

<223> Xaa is Arg, Lys, Ala or absent

<220>

<221> MOD_RES

<222> (23)..(23)

<223> Xaa is Arg, Cys, Lys, Val or absent

<220>

<221> MOD_RES
<222> (24)..(24)
<223> Xaa is Arg, Lys, Pro, Cys, Thr or absent

<220>
<221> MOD_RES
<222> (25)..(25)
<223> Xaa is Thr, Arg or absent

<220>
<221> MOD_RES
<222> (25)..(25)
<223> Xaa is Thr, Arg or absent

<220>
<221> MOD_RES
<222> (25)..(25)
<223> C-Terminal residue modified with NH2 or OH

<400> 1

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
1				5					10						15	

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
			20					25

<210> 2
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Hepcidin analogue formula

<220>
<221> MOD_RES
<222> (1)..(1)
<223> Xaa is Asp, Ala, Ida, pGlu, bhAsp, Leu, D-Asp or absent

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is Thr, Ala, or D-Thr

<220>
<221> MOD_RES
<222> (3)..(3)
<223> Xaa is His, Lys or D-His

<220>

<221> MOD_RES
<222> (4)..(4)
<223> Xaa is Phe, Ala, Dpa or D-Phe

<220>
<221> MOD_RES
<222> (5)..(5)
<223> Xaa is Pro, Gly, Arg, Lys, Ala, D-Pro or bhPro

<220>
<221> MOD_RES
<222> (6)..(6)
<223> Xaa is Ile, Cys, Arg, Lys, D-Ile or D-Cys

<220>
<221> MOD_RES
<222> (7)..(7)
<223> Xaa is Cys, Ile, Leu, Val, Phe, D-Ile or D-Cys

<220>
<221> MOD_RES
<222> (8)..(8)
<223> Xaa is Ile, Arg, Phe, Gln, Lys, Glu, Val, Leu or D-Ile

<220>
<221> MOD_RES
<222> (9)..(9)
<223> Xaa is Phe or bhPhe

<220>
<221> MOD_RES
<222> (10)..(10)
<223> Xaa is Lys, Phe or absent

<400> 2

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 3
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Hepcidin analogue formula

<220>
<221> MOD_RES
<222> (1)..(1)
<223> Xaa is Gly, Cys, Ala, Phe, Pro, Glu, Lys, D-Pro, Val, Ser or absent

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is Pro, Ala, Cys, Gly or absent

<220>
<221> MOD_RES
<222> (3)..(3)
<223> Xaa is Arg, Lys, Pro, Gly, His, Ala, Trp or absent

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Xaa is Ser, Arg, Gly, Trp, Ala, His, Tyr or absent

<220>
<221> MOD_RES
<222> (5)..(5)
<223> Xaa is Lys, Met, Arg, Ala or absent

<220>
<221> MOD_RES
<222> (6)..(6)
<223> Xaa is Gly, Ser, Lys, Ile, Ala, Pro, Val or absent

<220>
<221> MOD_RES
<222> (7)..(7)
<223> Xaa is Trp, Lys, Gly, Ala, Ile, Val or absent

<220>
<221> MOD_RES
<222> (8)..(8)
<223> Xaa is Val, Thr, Gly, Cys, Met, Tyr, Ala, Glu, Lys, Asp, Arg or absent

<220>
<221> MOD_RES
<222> (9)..(9)
<223> Xaa is Cys, Tyr or absent

<220>
<221> MOD_RES
<222> (10)..(10)
<223> Xaa is Met, Lys, Arg, Tyr or absent

<220>
<221> MOD_RES
<222> (11)..(11)
<223> Xaa is Arg, Met, Cys, Lys or absent

<220>
<221> MOD_RES

<222> (12)..(12)
<223> Xaa is Arg, Lys, Ala or absent

<220>
<221> MOD_RES
<222> (13)..(13)
<223> Xaa is Arg, Cys, Lys, Val or absent

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Xaa is Arg, Lys, Pro, Cys, Thr or absent

<220>
<221> MOD_RES
<222> (15)..(15)
<223> Xaa is Thr, Arg or absent

<400> 3

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
1				5					10						15

<210> 4
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Hepcidin analogue formula

<220>
<221> MOD_RES
<222> (1)..(1)
<223> Xaa is Asp, Ida, pGlu, bhAsp or absent

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Xaa is Phe or Dpa

<220>
<221> MOD_RES
<222> (5)..(5)
<223> Xaa is Pro or bhPro

<220>
<221> MOD_RES
<222> (6)..(6)
<223> Xaa is Ile, Cys or Arg

<220>

<221> MOD_RES
<222> (7)..(7)
<223> Xaa is Cys, Ile, Leu or Val

<220>
<221> MOD_RES
<222> (8)..(8)
<223> Xaa is Ile, Lys, Glu, Phe, Gln or Arg

<220>
<221> MOD_RES
<222> (10)..(10)
<223> Xaa is Lys or absent

<400> 4

Xaa	Thr	His	Xaa	Xaa	Xaa	Xaa	Xaa	Phe	Xaa
1				5					10

<210> 5
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Hepcidin analogue formula

<220>
<221> MOD_RES
<222> (1)..(1)
<223> Xaa is Asp, Ida, pGlu, bhAsp or absent

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Xaa is Phe or Dpa

<220>
<221> MOD_RES
<222> (5)..(5)
<223> Xaa is Pro or bhPro

<220>
<221> MOD_RES
<222> (8)..(8)
<223> Xaa is Ile, Lys, Glu, Phe, Gln or Arg

<220>
<221> MOD_RES
<222> (10)..(10)
<223> Xaa is Lys or absent

<400> 5

Xaa Thr His Xaa Xaa Cys Ile Xaa Phe Xaa
1 5 10

<210> 6

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Hepcidin analogue formula

<220>

<221> MOD_RES

<222> (1)..(1)

<223> Xaa is Asp, Ida, pGlu, bhAsp or absent

<220>

<221> MOD_RES

<222> (1)..(1)

<223> N-terminal residue modified with hydrogen, isovaleric acid,
isobutyric acid or acetyl

<220>

<221> MOD_RES

<222> (4)..(4)

<223> Xaa is Phe or Dpa

<220>

<221> MOD_RES

<222> (5)..(5)

<223> Xaa is Pro or bhPro

<220>

<221> MOD_RES

<222> (8)..(8)

<223> Xaa is Ile, Lys, Glu, Phe, Gln or Arg

<220>

<221> MOD_RES

<222> (10)..(10)

<223> Xaa is Lys or absent

<220>

<221> MOD_RES

<222> (11)..(11)

<223> Xaa is Gly, Glu, Val or Lys

<220>

<221> MOD_RES

<222> (13)..(13)

<223> Xaa is Arg or Lys

<220>

<221> MOD_RES

<222> (15)..(15)

<223> Xaa is Arg or Lys

<220>

<221> MOD_RES

<222> (16)..(16)

<223> Xaa is Gly, Ser, Lys, Ile or Arg

<220>

<221> MOD_RES

<222> (17)..(17)

<223> Xaa is Trp or absent

<220>

<221> MOD_RES

<222> (18)..(18)

<223> Xaa is Val, Thr, Asp, Glu or absent

<220>

<221> MOD_RES

<222> (20)..(20)

<223> Xaa is Lys or absent

<220>

<221> MOD_RES

<222> (20)..(20)

<223> C-terminal residue modified with NH2 or OH

<400> 6

Xaa	Thr	His	Xaa	Xaa	Cys	Ile	Xaa	Phe	Xaa	Xaa	Pro	Xaa	Ser	Xaa	Xaa
1				5					10					15	

Xaa	Xaa	Cys	Xaa
			20

<210> 7

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Hepcidin analogue formula

<220>

<221> MOD_RES

<222> (1)..(1)

<223> Xaa is Asp, Ida, pGlu, bhAsp or absent

<220>

<221> MOD_RES

<222> (4)..(4)

<223> Xaa is Phe or Dpa

<220>

<221> MOD_RES

<222> (5)..(5)

<223> Xaa is Pro or bhPro

<220>

<221> MOD_RES

<222> (8)..(8)

<223> Xaa is Ile, Lys, Glu, Phe, Gln or Arg

<220>

<221> MOD_RES

<222> (10)..(10)

<223> Xaa is Lys or absent

<400> 7

Xaa	Thr	His	Xaa	Xaa	Cys	Ile	Xaa	Phe	Xaa
1				5				10	

<210> 8

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Hepcidin analogue formula

<220>

<221> MOD_RES

<222> (1)..(1)

<223> Xaa is Gly, Glu, Val or Lys

<220>

<221> MOD_RES

<222> (3)..(3)

<223> Xaa is Arg or Lys

<220>

<221> MOD_RES

<222> (5)..(5)

<223> Xaa is Arg or Lys

<220>

<221> MOD_RES

<222> (6)..(6)
<223> Xaa is Gly, Ser, Lys, Ile or Arg

<220>
<221> MOD_RES
<222> (7)..(7)
<223> Xaa is Trp or absent

<220>
<221> MOD_RES
<222> (8)..(8)
<223> Xaa is Val, Thr, Asp, Glu or absent

<220>
<221> MOD_RES
<222> (10)..(10)
<223> Xaa is Lys or absent

<400> 8

Xaa	Pro	Xaa	Ser	Xaa	Xaa	Xaa	Xaa	Cys	Xaa
1				5					10

<210> 9
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 9

Asp	Thr	His	Phe	Pro	Ile	Cys	Ile	Phe	Gly	Pro	Arg	Ser	Lys	Gly	Trp
1				5					10					15	

Val Cys

<210> 10
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 10

Asp	Thr	His	Phe	Pro	Cys	Ile	Ile	Phe	Gly	Pro	Arg	Ser	Lys	Gly	Trp
1				5					10					15	

Val Cys Lys

<210> 11
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 11

Asp	Thr	His	Phe	Pro	Cys	Ile	Ile	Phe	Glu	Pro	Arg	Ser	Lys	Gly	Trp
1				5					10					15	

Val Cys Lys

<210> 12
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 12

Asp	Thr	His	Phe	Pro	Cys	Ile	Ile	Phe	Gly	Pro	Arg	Ser	Lys	Gly	Trp
1				5					10					15	

Ala Cys Lys

<210> 13
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 13

Asp	Thr	His	Phe	Pro	Cys	Ile	Ile	Phe	Gly	Pro	Arg	Ser	Lys	Gly	Trp
1				5					10					15	

Val Cys Lys Lys
20

<210> 14
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 14

Asp Thr His Phe Pro Cys Ile Ile Phe Val Cys His Arg Pro Lys Gly
1 5 10 15

Cys Tyr Arg Arg Val Cys Arg
20

<210> 15
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 15

Asp Thr His Phe Pro Cys Ile Lys Phe Gly Pro Arg Ser Lys Gly Trp
1 5 10 15

Val Cys Lys

<210> 16
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 16

Asp Thr His Phe Pro Cys Ile Lys Phe Lys Pro Arg Ser Lys Gly Trp
1 5 10 15

Val Cys Lys

<210> 17
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 17

Asp	Thr	His	Phe	Pro	Cys	Ile	Ile	Phe	Gly	Pro	Arg	Ser	Arg	Gly	Trp
1				5					10					15	

Val Cys Lys

<210> 18
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 18

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Gly	Pro	Lys	Ser	Lys	Gly	Trp
1				5					10					15	

Val Cys Lys

<210> 19
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 19

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Glu	Pro	Arg	Ser	Lys	Gly	Cys
1				5					10					15	

Lys

<210> 20
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 20

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Glu	Pro	Lys	Ser	Lys	Gly	Trp
1				5					10					15	

Glu Cys Lys

<210> 21
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 21

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Glu	Pro	Arg	Ser	Lys	Lys	Cys
1				5					10					15	

Lys

<210> 22
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 22

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Glu	Pro	Arg	Ser	Lys	Gly	Cys
1				5					10					15	

Lys Lys

<210> 23
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 23

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Lys	Pro	Arg	Ser	Lys	Gly	Cys
1				5					10					15	

Lys

<210> 24
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 24

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Glu	Pro	Lys	Ser	Lys	Gly	Cys
1				5					10					15	

Lys

<210> 25
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 25

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe
1				5				

<210> 26
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 26

Asp Thr His Phe Pro Cys Ile Ile Phe
1 5

<210> 27
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 27

Asp Thr Lys Phe Pro Cys Ile Ile Phe
1 5

<210> 28
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - hepcidin peptide analogue

<400> 28

Asp Thr His Phe Pro Cys Ile Lys Phe Gly Pro Arg Ser Lys Gly Trp
1 5 10 15

Val Cys Lys

<210> 29
<211> 18
<212> PRT
<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 29

Asp	Thr	His	Phe	Pro	Ile	Cys	Ile	Phe	Gly	Pro	Arg	Ser	Lys	Gly	Trp
1				5					10					15	

Val Cys

<210> 30

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 30

Asp	Thr	His	Phe	Pro	Ile	Cys	Ile	Phe	Gly	Pro	Arg	Ser	Lys	Gly	Trp
1				5					10					15	

Val Cys

<210> 31

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 31

Asp	Thr	His	Phe	Pro	Cys	Ile	Ile	Phe	Gly	Pro	Arg	Ser	Arg	Gly	Trp
1				5					10					15	

Val Cys Lys

<210> 32

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 32

Asp	Thr	His	Phe	Pro	Cys	Ile	Ile	Phe	Gly	Pro	Arg	Ser	Arg	Gly	Trp
1				5					10					15	

Val Cys Lys

<210> 33

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 33

Asp	Thr	His	Phe	Pro	Cys	Ile	Ile	Phe	Gly	Pro	Arg	Ser	Arg	Gly	Trp
1				5					10					15	

Val Cys Lys

<210> 34

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 34

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Gly	Pro	Arg	Ser	Lys	Gly	Trp
1				5					10					15	

Val Cys Lys

<210> 35

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 35

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Lys	Pro	Arg	Ser	Lys	Gly	Trp
1				5					10					15	

Val Cys Lys

<210> 36

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 36

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Gly	Pro	Lys	Ser	Lys	Gly	Trp
1				5					10					15	

Val Cys Lys

<210> 37

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 37

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Gly	Pro	Arg	Ser	Lys	Gly	Trp
1				5					10					15	

Val Cys Lys

<210> 38

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 38

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Gly	Pro	Arg	Ser	Lys	Gly	Trp
1				5					10					15	

Val Cys Lys

<210> 39

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 39

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Gly	Pro	Arg	Ser	Lys	Gly	Trp
1				5					10					15	

Val Cys Lys

<210> 40

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 40

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Lys	Pro	Arg	Ser	Lys	Gly	Trp
1				5					10					15	

Val Cys Lys

<210> 41

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 41

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Gly	Pro	Lys	Ser	Lys	Gly	Trp
1				5					10					15	

Val Cys Lys

<210> 42

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 42

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Gly	Pro	Arg	Ser	Lys	Gly	Trp
1				5					10					15	

Val Cys Lys

<210> 43

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 43

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Gly	Pro	Arg	Ser	Lys	Gly	Trp
1				5					10					15	

Val Cys Lys

<210> 44

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 44

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Gly	Pro	Arg	Ser	Lys	Gly	Trp
1				5					10					15	

Val Cys Lys

<210> 45

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 45

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Glu	Pro	Arg	Ser	Lys	Gly	Cys
1				5					10					15	

Lys

<210> 46

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 46

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Lys	Pro	Arg	Ser	Lys	Gly	Cys
1				5					10					15	

Lys

<210> 47

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 47

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Glu	Pro	Lys	Ser	Lys	Gly	Cys
1				5					10					15	

Lys

<210> 48

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 48

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Glu	Pro	Arg	Ser	Lys	Gly	Cys
1				5					10					15	

Lys

<210> 49

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 49

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Glu	Pro	Arg	Ser	Lys	Gly	Cys
1				5					10					15	

Lys Lys

<210> 50

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 50

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Glu	Pro	Arg	Ser	Lys	Gly	Cys
1				5					10					15	

Lys

<210> 51

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 51

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Glu	Pro	Arg	Ser	Lys	Gly	Cys
1				5					10					15	

Lys

<210> 52

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 52

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Glu	Pro	Arg	Ser	Lys	Lys	Cys
1				5					10					15	

Lys

<210> 53

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 53

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Glu	Pro	Arg	Ser	Lys	Gly	Cys
1				5					10					15	

Lys Lys

<210> 54

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<400> 54

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Glu	Pro	Arg	Ser	Lys	Gly	Cys
1				5					10					15	

Lys

<210> 55

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in Lab - hepcidin peptide analogue

<220>

<221> MOD_RES

<222> (15)..(15)

<223> Xaa is sarcosine

<400> 55

Asp	Thr	His	Phe	Pro	Cys	Ile	Lys	Phe	Lys	Pro	Arg	Ser	Lys	Xaa	Cys
1				5					10					15	

Lys

<210> 56
<211> 25
<212> PRT
<213> Homo sapiens

<400> 56

Asp	Thr	His	Phe	Pro	Ile	Cys	Ile	Phe	Cys	Cys	Gly	Cys	Cys	His	Arg
1				5					10					15	

Ser	Lys	Cys	Gly	Met	Cys	Cys	Lys	Thr
			20					25

<210> 57
<211> 9
<212> PRT
<213> Homo sapiens

<400> 57

Asp	Thr	His	Phe	Pro	Ile	Cys	Ile	Phe
1				5				

<210> 58
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in Lab - retro inverse mini hepcidin analogue

<220>
<221> MOD_RES
<222> (1)..(1)
<223> D form Phe

<220>
<221> MOD_RES
<222> (2)..(2)
<223> D form Ile

<220>
<221> MOD_RES
<222> (3)..(3)
<223> D form Cys

<220>
<221> MOD_RES
<222> (4)..(4)
<223> D form Ile

<220>
<221> MOD_RES
<222> (5)..(5)
<223> D form Pro

<220>
<221> MOD_RES
<222> (6)..(6)
<223> D form Phe

<220>
<221> MOD_RES
<222> (7)..(7)
<223> D form His

<220>
<221> MOD_RES
<222> (8)..(8)
<223> D form Thr

<220>
<221> MOD_RES
<222> (9)..(9)
<223> D form Asp

<400> 58

Phe Ile Cys Ile Pro Phe His Thr Asp
1 5