

SEQUENCE LISTING

<110> Sanofi

<120> Insulin conjugate

<130> DE2018/057

<150> EP 18 306 657.0

<151> 2018-12-11

<150> EP 18 306 658.8

<151> 2018-12-11

<150> EP 18 306 659.6

<151> 2018-12-11

<160> 105

<170> BiSSAP 1.3.6

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<211> 21

<212> PRT

<213> Homo sapiens

<220>

<223> Chain A

<400> 1

Gly	Ile	Val	Glu	Gln	Cys	Cys	Thr	Ser	Ile	Cys	Ser	Leu	Tyr	Gln	Leu
1				5					10					15	
Glu	Asn	Tyr	Cys	Asn											
				20											

<210> 2

<211> 30

<212> PRT

<213> Homo sapiens

<220>

<223> Chain B

<400> 2

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Tyr
1				5					10					15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Phe	Tyr	Thr	Pro	Lys	Thr		
			20				25						30		

<210> 3
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<223> Chain A

<400> 3
Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
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<210> 4
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<220>
<223> Chain B

<400> 4
Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Tyr
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Phe Tyr Thr Pro Lys
20 25

<210> 5
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<223> Chain A

<400> 5
Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Tyr Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
20

<210> 6
<211> 29
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<223> Chain B

<400> 6

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Leu
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Phe	Tyr	Thr	Pro	Lys			
			20					25							

<210> 7

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<223> Chain A

<400> 7

Gly	Ile	Val	Glu	Gln	Cys	Cys	Thr	Ser	Ile	Cys	Ser	Leu	Tyr	Gln	Leu
1				5				10						15	
Glu	Asn	Tyr	Cys	Gly											
			20												

<210> 8

<211> 29

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<213> Artificial Sequence

<220>

<223> Chain B

<400> 8

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Trp
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Phe	Tyr	Thr	Pro	Lys			
			20					25							

<210> 9

<211> 21

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<223> Chain A

<400> 9

Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Tyr Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
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<210> 10

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 10

Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu His
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Phe Tyr Thr Pro Lys
20 25

<210> 11

<211> 21

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<213> Artificial Sequence

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<223> Chain A

<400> 11

Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Tyr Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
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<210> 12

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<223> Chain B

<400> 12

Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Val
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Phe Tyr Thr Pro Lys
20 25

<210> 13
<211> 21
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<223> Chain A

<400> 13
Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Tyr Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
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<210> 14
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<213> Artificial Sequence

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<223> Chain B

<400> 14
Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Tyr
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Ala Tyr Thr Pro Lys Thr
20 25 30

<210> 15
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<223> Chain A

<400> 15
Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Tyr Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
20

<210> 16
<211> 29
<212> PRT
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<220>

<223> Chain B

<400> 16

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Tyr
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Ala	Tyr	Thr	Pro	Lys			
			20					25							

<210> 17

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<400> 17

Gly	Ile	Val	Glu	Gln	Cys	Cys	Thr	Ser	Ile	Cys	Ser	Leu	Tyr	Gln	Leu
1				5				10						15	
Glu	Asn	Tyr	Cys	Asn											
			20												

<210> 18

<211> 29

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<213> Artificial Sequence

<220>

<223> Chain B

<400> 18

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Tyr
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Glu	Tyr	Thr	Pro	Lys			
			20					25							

<210> 19

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<223> Chain A

<400> 19

Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Tyr Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
20

<210> 20

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 20

Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Tyr
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe His Tyr Thr Pro Lys
20 25

<210> 21

<211> 21

<212> PRT

<213> Artificial Sequence

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<223> Chain A

<400> 21

Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Tyr Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
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<210> 22

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 22

Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Tyr
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Leu Tyr Thr Pro Lys
20 25

<210> 23
<211> 21
<212> PRT
<213> Artificial Sequence

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<223> Chain A

<400> 23
Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Tyr Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
20

<210> 24
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Chain B

<400> 24
Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Tyr
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Val Tyr Thr Pro Lys
20 25

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

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<223> Chain A

<400> 25
Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Tyr Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
20

<210> 26
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<212> PRT
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<400> 26

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	His
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	His	Tyr	Thr	Pro	Lys			
			20					25							

<210> 27

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<223> Chain A

<400> 27

Gly	Ile	Val	Glu	Gln	Cys	Cys	Thr	Ser	Ile	Cys	Ser	Leu	Tyr	Gln	Leu
1				5				10						15	
Glu	Asn	Tyr	Cys	Gly											
			20												

<210> 28

<211> 29

<212> PRT

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<220>

<223> Chain B

<400> 28

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Trp
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	His	Tyr	Thr	Pro	Lys			
			20					25							

<210> 29

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<212> PRT

<213> Artificial Sequence

<220>

<223> Chain A

<400> 29

Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Tyr Gln Leu
1 5 10 15
Glu Asn Tyr Cys Gly
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<210> 30

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 30

Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Trp
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Trp Tyr Thr Pro Lys
20 25

<210> 31

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain A

<400> 31

Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
20

<210> 32

<211> 29

<212> PRT

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<220>

<223> Chain B

<400> 32

Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu His
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Phe Tyr Thr Pro Lys
20 25

<210> 33
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Chain A

<400> 33
Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Gly
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<210> 34
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Chain B

<400> 34
Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Trp
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Phe Tyr Thr Pro Lys
20 25

<210> 35
<211> 21
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<213> Artificial Sequence

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<223> Chain A

<400> 35
Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
20

<210> 36
<211> 29
<212> PRT
<213> Artificial Sequence

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<223> Chain B

<400> 36

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Ile
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Phe	Tyr	Thr	Pro	Lys			
			20					25							

<210> 37

<211> 21

<212> PRT

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<220>

<223> Chain A

<400> 37

Gly	Ile	Val	Glu	Gln	Cys	Cys	Thr	Ser	Ile	Cys	Ser	Leu	Glu	Gln	Leu
1				5				10						15	
Glu	Asn	Tyr	Cys	Asn											
			20												

<210> 38

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 38

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Val
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Phe	Tyr	Thr	Pro	Lys			
			20					25							

<210> 39

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<212> PRT

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<400> 39

Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
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<210> 40

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<213> Artificial Sequence

<220>

<223> Chain B

<400> 40

Phe Val Glu Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Val
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Phe Tyr Thr Pro Lys
20 25

<210> 41

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain A

<400> 41

Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
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<210> 42

<211> 29

<212> PRT

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<223> Chain B

<400> 42

Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Tyr
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe His Tyr Thr Pro Lys
20 25

<210> 43
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Chain A

<400> 43
Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
20

<210> 44
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Chain B

<400> 44
Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Tyr
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Ile Tyr Thr Pro Lys
20 25

<210> 45
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Chain A

<400> 45
Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Gly
20

<210> 46
<211> 29
<212> PRT
<213> Artificial Sequence

<220>

<223> Chain B

<400> 46

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Tyr
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Trp	Tyr	Thr	Pro	Lys			
			20					25							

<210> 47

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain A

<400> 47

Gly	Ile	Val	Glu	Gln	Cys	Cys	Thr	Ser	Ile	Cys	Ser	Leu	Glu	Gln	Leu
1				5				10						15	
Glu	Asn	Tyr	Cys	Asn											
			20												

<210> 48

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 48

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Tyr
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Val	Tyr	Thr	Pro	Lys			
			20					25							

<210> 49

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<212> PRT

<213> Artificial Sequence

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<223> Chain A

<400> 49

Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Gly
20

<210> 50

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 50

Phe Val Glu Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Tyr
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Val Tyr Thr Pro Lys
20 25

<210> 51

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain A

<400> 51

Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
20

<210> 52

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 52

Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Glu
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe His Tyr Thr Pro Lys
20 25

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

<220>
<223> Chain A

<400> 53
Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
20

<210> 54
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Chain B

<400> 54
Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu His
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Ala Tyr Thr Pro Lys
20 25

<210> 55
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Chain A

<400> 55
Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
20

<210> 56
<211> 29
<212> PRT
<213> Artificial Sequence

<220>

<223> Chain B

<400> 56

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	His
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	His	Tyr	Thr	Pro	Lys			
			20					25							

<210> 57

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain A

<400> 57

Gly	Ile	Val	Glu	Gln	Cys	Cys	Thr	Ser	Ile	Cys	Ser	Leu	Glu	Gln	Leu
1				5				10						15	
Glu	Asn	Tyr	Cys	Asn											
			20												

<210> 58

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 58

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Ile
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Ile	Tyr	Thr	Pro	Lys			
			20					25							

<210> 59

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain A

<400> 59

Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
20

<210> 60

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 60

Phe Val Glu Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Ile
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Ile Tyr Thr Pro Lys
20 25

<210> 61

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain A

<400> 61

Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Gly
20

<210> 62

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 62

Phe Val Glu Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Ile
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Trp Tyr Thr Pro Lys
20 25

<210> 63
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Chain A

<400> 63
Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
20

<210> 64
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Chain B

<400> 64
Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Ile
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Val Tyr Thr Pro Lys
20 25

<210> 65
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Chain A

<400> 65
Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Gly
20

<210> 66
<211> 29
<212> PRT
<213> Artificial Sequence

<220>

<223> Chain B

<400> 66

Phe	Val	Glu	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Ile
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Val	Tyr	Thr	Pro	Lys			
			20					25							

<210> 67

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain A

<400> 67

Gly	Ile	Val	Glu	Gln	Cys	Cys	Thr	Ser	Ile	Cys	Ser	Leu	Glu	Gln	Leu
1				5				10						15	
Glu	Asn	Tyr	Cys	Asn											
			20												

<210> 68

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 68

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Leu
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Ala	Tyr	Thr	Pro	Lys			
			20					25							

<210> 69

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<213> Artificial Sequence

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<223> Chain A

<400> 69

Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
20

<210> 70

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<223> Chain B

<400> 70

Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Val
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Ile Tyr Thr Pro Lys
20 25

<210> 71

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<223> Chain A

<400> 71

Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Gly
20

<210> 72

<211> 29

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<223> Chain B

<400> 72

Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Val
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Trp Tyr Thr Pro Lys
20 25

<210> 73
<211> 21
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<213> Artificial Sequence

<220>
<223> Chain A

<400> 73
Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Gly
20

<210> 74
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Chain B

<400> 74
Phe Val Glu Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Val
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Trp Tyr Thr Pro Lys
20 25

<210> 75
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<220>
<223> Chain A

<400> 75
Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
20

<210> 76
<211> 29
<212> PRT
<213> Artificial Sequence

<220>

<223> Chain B

<400> 76

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Val
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Val	Tyr	Thr	Pro	Lys			
			20					25							

<210> 77

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain A

<400> 77

Gly	Ile	Val	Glu	Gln	Cys	Cys	Thr	Ser	Ile	Cys	Ser	Leu	Glu	Gln	Leu
1				5				10						15	
Glu	Asn	Tyr	Cys	Asn											
			20												

<210> 78

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 78

Phe	Val	Glu	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Val
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Val	Tyr	Thr	Pro	Lys			
			20					25							

<210> 79

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain A

<400> 79

Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Glu Gln Leu
1 5 10 15
Glu Asn Tyr Cys Gly
20

<210> 80

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 80

Phe Val Glu Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Val
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Val Tyr Thr Pro Lys
20 25

<210> 81

<211> 21

<212> PRT

<213> Bos

<220>

<223> Chain A

<400> 81

Gly Ile Val Glu Gln Cys Cys Ala Ser Val Cys Ser Leu Tyr Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
20

<210> 82

<211> 30

<212> PRT

<213> Bos

<220>

<223> Chain B

<400> 82

Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Tyr
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Phe Tyr Thr Pro Lys Ala
20 25 30

<210> 83
<211> 21
<212> PRT
<213> Sus

<220>
<223> Chain A

<400> 83
Gly Ile Val Glu Gln Cys Cys Thr Ser Ile Cys Ser Leu Tyr Gln Leu
1 5 10 15
Glu Asn Tyr Cys Asn
20

<210> 84
<211> 30
<212> PRT
<213> Sus

<220>
<223> Chain B

<400> 84
Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Tyr
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Phe Tyr Thr Pro Lys Ala
20 25 30

<210> 85
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Chain B

<400> 85
Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Tyr
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Leu Tyr Thr Pro Lys
20 25

<210> 86
<211> 29
<212> PRT
<213> Artificial Sequence

<220>

<223> Chain B

<400> 86

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Tyr
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Val	Tyr	Thr	Pro	Lys			
			20					25							

<210> 87

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 87

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Tyr
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Ile	Tyr	Thr	Pro	Lys			
			20					25							

<210> 88

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 88

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Tyr
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Val	Tyr	Thr	Pro	Lys			
			20					25							

<210> 89

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 89

Phe	Val	Glu	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Tyr
1				5					10					15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Val	Tyr	Thr	Pro	Lys			
			20					25							

<210> 90

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 90

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Ile
1				5					10					15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Ile	Tyr	Thr	Pro	Lys			
			20					25							

<210> 91

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 91

Phe	Val	Glu	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Ile
1				5					10					15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Ile	Tyr	Thr	Pro	Lys			
			20					25							

<210> 92

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 92

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Ile
1				5					10					15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Val	Tyr	Thr	Pro	Lys			
			20					25							

<210> 93
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Chain B

<400> 93
Phe Val Glu Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Ile
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Val Tyr Thr Pro Lys
20 25

<210> 94
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Chain B

<400> 94
Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Val
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Ile Tyr Thr Pro Lys
20 25

<210> 95
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Chain B

<400> 95
Phe Val Asn Gln His Leu Cys Gly Ser His Leu Val Glu Ala Leu Val
1 5 10 15
Leu Val Cys Gly Glu Arg Gly Phe Val Tyr Thr Pro Lys
20 25

<210> 96
<211> 29
<212> PRT
<213> Artificial Sequence

<220>

<223> Chain B

<400> 96

Phe	Val	Glu	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Val
1				5				10					15		
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Val	Tyr	Thr	Pro	Lys			
			20					25							

<210> 97

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Chain B

<400> 97

Phe	Val	Glu	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Val
1				5				10					15		
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Val	Tyr	Thr	Pro	Lys			
			20					25							

<210> 98

<211> 44

<212> PRT

<213> Artificial Sequence

<220>

<223> Lixisenatide

<400> 98

His	Gly	Glu	Gly	Thr	Phe	Thr	Ser	Asp	Leu	Ser	Lys	Gln	Met	Glu	Glu
1				5				10					15		
Glu	Ala	Val	Arg	Leu	Phe	Ile	Glu	Trp	Leu	Lys	Asn	Gly	Gly	Pro	Ser
			20					25					30		
Ser	Gly	Ala	Pro	Pro	Ser	Lys	Lys	Lys	Lys	Lys	Lys				
			35					40							

<210> 99

<211> 39

<212> PRT

<213> Artificial Sequence

<220>

<223> Exenatide

<400> 99

His	Gly	Glu	Gly	Thr	Phe	Thr	Ser	Asp	Leu	Ser	Lys	Gln	Met	Glu	Glu
1				5					10					15	
Glu	Ala	Val	Arg	Leu	Phe	Ile	Glu	Trp	Leu	Lys	Asn	Gly	Gly	Pro	Ser
			20					25					30		
Ser	Gly	Ala	Pro	Pro	Pro	Ser									
		35													

<210> 100

<211> 31

<212> PRT

<213> Artificial Sequence

<220>

<223> Semaglutide

<220>

<221> MOD_RES

<222> 2

<223> Aib

<400> 100

His	Ala	Glu	Gly	Thr	Phe	Thr	Ser	Asp	Val	Ser	Ser	Tyr	Leu	Glu	Gly
1				5					10					15	
Gln	Ala	Ala	Lys	Glu	Phe	Ile	Ala	Trp	Leu	Val	Arg	Gly	Arg	Gly	
			20					25					30		

<210> 101

<211> 31

<212> PRT

<213> Artificial Sequence

<220>

<223> Dulaglutide

<400> 101

His	Ala	Glu	Gly	Thr	Phe	Thr	Ser	Asp	Val	Ser	Ser	Tyr	Leu	Glu	Gly
1				5					10					15	
Gln	Ala	Ala	Lys	Glu	Phe	Ile	Ala	Trp	Leu	Val	Lys	Gly	Arg	Gly	
			20					25					30		

<210> 102

<211> 21

<212> PRT

<213> Homo sapiens

<220>

<223> human insulin , A chain

<400> 102

Gly	Ile	Val	Glu	Gln	Cys	Cys	Thr	Ser	Ile	Cys	Ser	Leu	Tyr	Gln	Leu
1				5				10						15	
Glu	Asn	Tyr	Cys	Asn											
			20												

<210> 103

<211> 30

<212> PRT

<213> Homo sapiens

<220>

<223> human insulin , B chain

<400> 103

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	Tyr
1				5				10						15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	Phe	Tyr	Thr	Pro	Lys	Thr		
			20				25						30		

<210> 104

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> insulin analog 1 , A chain

<400> 104

Gly	Ile	Val	Glu	Gln	Cys	Cys	Thr	Ser	Ile	Cys	Ser	Leu	Glu	Gln	Leu
1				5				10						15	
Glu	Asn	Tyr	Cys	Asn											
			20												

<210> 105

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> insulin analog 1 , B chain

<400> 105

Phe	Val	Asn	Gln	His	Leu	Cys	Gly	Ser	His	Leu	Val	Glu	Ala	Leu	His
1				5					10					15	
Leu	Val	Cys	Gly	Glu	Arg	Gly	Phe	His	Tyr	Thr	Pro	Lys			
			20					25							