

SEQUENCE LISTING

<110> Bristol-Myers Squibb Company

<120> MODIFIED RELAXIN POLYPEPTIDES COMPRISING A PHARMACOKINETIC ENHANCER AND USES THEREOF

<130> 46561.2413

<150> 62/627,411

<151> 2018-02-07

<150> 62/456,161

<151> 2017-02-08

<160> 279

<210> 1

<211> 53

<212> PRT

<213> Homo sapiens

<400> 1

Gln	Leu	Tyr	Ser	Ala	Leu	Ala	Asn	Lys	Cys	Cys	His	Val	Gly	Cys	Thr
1				5					10					15	

Lys	Arg	Ser	Leu	Ala	Arg	Phe	Cys	Asp	Ser	Trp	Met	Glu	Glu	Val	Ile
			20					25					30		

Lys	Leu	Cys	Gly	Arg	Glu	Leu	Val	Arg	Ala	Gln	Ile	Ala	Ile	Cys	Gly
		35					40					45			

Met	Ser	Thr	Trp	Ser
				50

<210> 2

<211> 53

<212> PRT

<213> Homo sapiens

<400> 2

Gln	Leu	Tyr	Ser	Ala	Leu	Ala	Asn	Lys	Cys	Cys	His	Val	Gly	Cys	Thr
1				5					10					15	

Lys	Arg	Ser	Leu	Ala	Arg	Phe	Cys	Ala	Ser	Trp	Met	Glu	Glu	Val	Ile
			20					25					30		

Lys Leu Cys Gly Arg Glu Leu Val Arg Ala Gln Ile Ala Ile Cys Gly
35 40 45

Met Ser Thr Trp Ser
50

<210> 3
<211> 88
<212> PRT
<213> Homo sapiens

<400> 3

Asp Ser Trp Met Glu Glu Val Ile Lys Leu Cys Gly Arg Glu Leu Val
1 5 10 15

Arg Ala Gln Ile Ala Ile Cys Gly Met Ser Thr Trp Ser Arg Arg Glu
20 25 30

Ala Glu Asp Leu Gln Val Gly Gln Val Glu Leu Gly Gly Gly Pro Gly
35 40 45

Ala Gly Ser Leu Gln Pro Leu Ala Leu Glu Gly Ser Leu Gln Lys Arg
50 55 60

Gln Leu Tyr Ser Ala Leu Ala Asn Lys Cys Cys His Val Gly Cys Thr
65 70 75 80

Lys Arg Ser Leu Ala Arg Phe Cys
85

<210> 4
<211> 24
<212> PRT
<213> Homo sapiens

<400> 4

Gln Leu Tyr Ser Ala Leu Ala Asn Lys Cys Cys His Val Gly Cys Thr
1 5 10 15

Lys Arg Ser Leu Ala Arg Phe Cys
20

<210> 5
<211> 29
<212> PRT
<213> Homo sapiens

<400> 5

Asp Ser Trp Met Glu Glu Val Ile Lys Leu Cys Gly Arg Glu Leu Val
1 5 10 15

Arg Ala Gln Ile Ala Ile Cys Gly Met Ser Thr Trp Ser
20 25

<210> 6
<211> 29
<212> PRT
<213> Homo sapiens

<400> 6

Ala Ser Trp Met Glu Glu Val Ile Lys Leu Cys Gly Arg Glu Leu Val
1 5 10 15

Arg Ala Gln Ile Ala Ile Cys Gly Met Ser Thr Trp Ser
20 25

<210> 7
<211> 35
<212> PRT
<213> Homo sapiens

<400> 7

Arg Arg Glu Ala Glu Asp Leu Gln Val Gly Gln Val Glu Leu Gly Gly
1 5 10 15

Gly Pro Gly Ala Gly Ser Leu Gln Pro Leu Ala Leu Glu Gly Ser Leu
20 25 30

Gln Lys Arg
35

<210> 8
<211> 11
<212> PRT
<213> Homo sapiens

<400> 8

Met Lys Lys Asn Ile Ala Phe Leu Leu Lys Arg
1 5 10

<210> 9

<211> 6

<212> PRT

<213> Homo sapiens

<400> 9

Met Ile Glu Gly Gly Arg
1 5

<210> 10

<211> 72

<212> DNA

<213> Homo sapiens

<400> 10

caactctaca gtgcattggc taataaatgt tgccatgttg gttgtaccaa aagatctctt 60

gctagatttt gc 72

<210> 11

<211> 87

<212> DNA

<213> Homo sapiens

<400> 11

gactcatgga tggaggaagt tattaaatta tgcggccgcg aattagttcg cgcgcagatt 60

gccatttgcg gcatgagcac ctggagc 87

<210> 12

<211> 159

<212> DNA

<213> Homo sapiens

<400> 12

caactctaca gtgcattggc taataaatgt tgccatgttg gttgtaccaa aagatctctt 60

gctagatttt gcgactcatg gatggaggaa gttattaaat tatgcggccg cgaattagtt 120

cgcgcgcaga ttgccatttg cggcatgagc acctggagc 159

<210> 13

<211> 33
<212> DNA
<213> Homo sapiens

<400> 13
atgaaaaaga atatcgcat tcttcttaaa cgg

33

<210> 14
<211> 18
<212> DNA
<213> Homo sapiens

<400> 14
atgattgaag gtggtcgt

18

<210> 15
<211> 94
<212> PRT
<213> Homo sapiens

<400> 15

Met Ile Glu Gly Gly Arg Asp Ser Trp Met Glu Glu Val Ile Lys Leu
1 5 10 15

Cys Gly Arg Glu Leu Val Arg Ala Gln Ile Ala Ile Cys Gly Met Ser
20 25 30

Thr Trp Ser Arg Arg Glu Ala Glu Asp Leu Gln Val Gly Gln Val Glu
35 40 45

Leu Gly Gly Gly Pro Gly Ala Gly Ser Leu Gln Pro Leu Ala Leu Glu
50 55 60

Gly Ser Leu Gln Lys Arg Gln Leu Tyr Ser Ala Leu Ala Asn Lys Cys
65 70 75 80

Cys His Val Gly Cys Thr Lys Arg Ser Leu Ala Arg Phe Cys
85 90

<210> 16
<211> 306
<212> PRT
<213> Artificial

<220>

<223> Mutant synthetase derived from Methanococcus jannaschii
synthetase

<400> 16

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Val
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Tyr Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Glu His Gly Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Gly Ile His
145 150 155 160

Tyr Glu Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser

195

200

205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
 210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
 225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
 245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
 260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
 275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
 290 295 300

Arg Leu
 305

<210> 17
 <211> 77
 <212> DNA
 <213> Artificial

<220>

<223> Mutant tRNA derived from Methanococcus jannaschii tRNA

<400> 17
 ccggcggttag ttcagcaggg cagaacggcg gactctaaat ccgcatggcg ctggttcaaa 60
 tccagcccg cggacca 77

<210> 18
 <211> 77
 <212> DNA
 <213> Methanococcus jannaschii

<400> 18
 ccggcggttag ttcagcaggg cagaacggcg gactctaaat ccgcatggcg ctggttcaaa 60
 tccgccccgc cggacca 77

<210> 19
<211> 88
<212> DNA
<213> Artificial

<220>
<223> An optimized amber supressor tRNA

<400> 19
cccagggtag ccaagctcgg ccaacggcga cggactctaa atccgttctc gtaggagttc 60
gagggttcga atcccttccc tgggacca 88

<210> 20
<211> 89
<212> DNA
<213> Artificial

<220>
<223> An optimized AGGA frameshift supressor tRNA

<400> 20
gcgagggtag ccaagctcgg ccaacggcga cggacttcct aatccgttct ctaggagtt 60
cgagggttcg aatccctccc ctgcacca 89

<210> 21
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of
p-azido-L-phenylalanine

<400> 21

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

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

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile

50

55

60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Thr Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Thr Tyr Tyr
145 150 155 160

Tyr Leu Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 22
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of
p-benzoyl-L-phenylalanine

<400> 22

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

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

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Ser Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Thr Ser His
145 150 155 160

Tyr Leu Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 23
<211> 305
<212> PRT
<213> Artificial

<220>

<223> Aminoacyl tRNA synthetase for the incorporation of
propargyl-phenylalanine

<400> 23

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Ala
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Pro Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Ala Ile Tyr
145 150 155 160

Leu Ala Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile His
165 170 175

Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His Asn
180 185 190

Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser Lys
195 200 205

Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala Lys
210 215 220

Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro Ile
225 230 235 240

Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys Arg
245 250 255

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

Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys Asn
275 280 285

Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys Arg
290 295 300

Leu
305

<210> 24
<211> 305
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of
propargyl-phenylalanine

<400> 24

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Ala
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Pro Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Ile Pro Tyr
145 150 155 160

Leu Pro Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile His
165 170 175

Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His Asn
180 185 190

Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser Lys
195 200 205

Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala Lys
210 215 220

Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro Ile
225 230 235 240

Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys Arg
245 250 255

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

Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys Asn
275 280 285

Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys Arg
290 295 300

Leu
305

<210> 25
<211> 305
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of
propargyl-phenylalanine

<400> 25

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Ala
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Lys Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Ala Ile Tyr
145 150 155 160

Leu Ala Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile His
165 170 175

Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His Asn
180 185 190

Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser Lys
195 200 205

Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala Lys
210 215 220

Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro Ile
225 230 235 240

Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys Arg
245 250 255

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

Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys Asn
275 280 285

Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys Arg
290 295 300

Leu
305

<210> 26

<211> 306
<212> PRT
<213> Artificial

<220>

<223> Aminoacyl tRNA synthetase for the incorporation of
p-azido-phenylalanine

<400> 26

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Thr
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Asn Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Pro Leu His
145 150 155 160

Tyr Gln Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 27
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of
p-azido-phenylalanine

<400> 27

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Thr
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Ser Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Pro Leu His
145 150 155 160

Tyr Gln Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys

245

250

255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
 260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
 275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
 290 295 300

Arg Leu
 305

<210> 28
 <211> 306
 <212> PRT
 <213> Artificial

<220>
 <223> Aminoacyl tRNA synthetase for the incorporation of
 p-azido-phenylalanine

<400> 28

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
 1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Leu
 20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
 35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
 50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
 65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
 85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Thr Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Pro Val His
145 150 155 160

Tyr Gln Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 29
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of
p-azido-phenylalanine

<400> 29

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Thr
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Ser Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Pro Ser His
145 150 155 160

Tyr Gln Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile

165

170

175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
 180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
 195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
 210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
 225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
 245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
 260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
 275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
 290 295 300

Arg Leu
 305

<210> 30
 <211> 306
 <212> PRT
 <213> Artificial

<220>
 <223> Aminoacyl tRNA synthetase for the incorporation of
 p-acetyl-phenylalanine

<400> 30

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
 1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Leu
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Glu Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Gly Cys His
145 150 155 160

Tyr Arg Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 31
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of p-acetyl
-phenylalanine

<400> 31

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Leu
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met

85

90

95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Glu Phe Gln Leu Asp Lys
 100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
 115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
 130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Gly Thr His
 145 150 155 160

Tyr Arg Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
 165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
 180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
 195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
 210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
 225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
 245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
 260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
 275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
 290 295 300

Arg Leu
305

<210> 32
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of
p-acetyl-phenylalanine

<400> 32

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Ala
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Glu Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Gly Gly His
145 150 155 160

Tyr Leu Gly Val Asp Val Ile Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 33
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of
p-azido-phenylalanine

<400> 33

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser

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

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 34
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of
p-azido-phenylalanine

<400> 34

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

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

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Thr Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Thr Tyr Tyr
145 150 155 160

Tyr Leu Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 35
<211> 24
<212> PRT
<213> ARTIFICIAL

<220>
<223> Modified relaxin polypeptide A chain

<220>
<221> misc_feature
<222> (1)..(1)
<223> Xaa is a non-naturally encoded amino acid such as
para-acetyl-L-phenylalanine

<400> 35

Xaa Leu Tyr Ser Ala Leu Ala Asn Lys Cys Cys His Val Gly Cys Thr
1 5 10 15

Lys Arg Ser Leu Ala Arg Phe Cys
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<210> 36
<211> 24
<212> PRT
<213> ARTIFICIAL

<220>
<223> Modified relaxin polypeptide A chain

<400> 36

Asn Leu Tyr Ser Ala Leu Ala Asn Lys Cys Cys His Val Gly Cys Thr
1 5 10 15

Lys Arg Ser Leu Ala Arg Phe Cys
20

<210> 37
<211> 29
<212> PRT
<213> ARTIFICIAL

<220>
<223> Modified relaxin polypeptide B chain

<220>
<221> misc_feature
<222> (25)..(25)
<223> Xaa is a non-naturally encoded amino acid such as
para-acetyl-L-phenylalanine

<400> 37

Ala Ser Trp Met Glu Glu Val Ile Lys Leu Cys Gly Arg Glu Leu Val
1 5 10 15

Arg Ala Gln Ile Ala Ile Cys Gly Xaa Ser Thr Trp Ser
20 25

<210> 38
<211> 94
<212> PRT
<213> ARTIFICIAL

<220>
<223> Modified relaxin polypeptide (prepro sequence)

<220>
<221> misc_feature
<222> (71)..(71)
<223> Xaa is a non-naturally encoded amino acid such as
para-acetyl-L-phenylalanine

<400> 38

Met Ile Glu Glu Gly Arg Ala Ser Trp Met Glu Glu Val Ile Lys Leu
1 5 10 15

Cys Gly Arg Glu Leu Val Arg Ala Gln Ile Ala Ile Cys Gly Met Ser
20 25 30

Thr Trp Ser Arg Arg Glu Ala Glu Asp Leu Gln Val Gly Gln Val Glu
35 40 45

Leu Gly Gly Gly Pro Gly Ala Gly Ser Leu Gln Pro Leu Ala Leu Glu
50 55 60

Gly Ser Leu Gln Gly Arg Xaa Leu Tyr Ser Ala Leu Ala Asn Lys Cys
65 70 75 80

Cys His Val Gly Cys Thr Lys Arg Ser Leu Ala Arg Phe Cys
85 90

<210> 39
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
<223> Exemplary insulin leader amino acid sequence

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<210> 51
<211> 27
<212> DNA
<213> ARTIFICIAL

<220>
<223> PCR Primer

<400> 51
aaataactctg tctggatcgg tggctcc

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<210> 52
<211> 30
<212> DNA
<213> ARTIFICIAL

<220>
<223> PCR Primer

<400> 52
cacataggta acgagtcaga gcttttgcta

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<210> 53
<211> 22
<212> DNA
<213> ARTIFICIAL

<220>
<223> PCR Primer

<400> 53
gctggagtcg atcaactcta gg

22

<210> 54
<211> 21
<212> DNA
<213> ARTIFICIAL

<220>
<223> PCR Primer

<400> 54
ccaatttcgc ttgccttgt c

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<210> 55
<211> 9
<212> PRT
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<220>
<223> Polyhistidine purification tag

<400> 55

His His His His His His Ser Gly Gly
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<210> 56

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<210> 101
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<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 6

<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 101

Gly Gly Gly Gly Ser Glu
1 5

<210> 102

<211> 6

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 6

<223> optionally linked to a half-life extending moiety
such as C13-COOH

<400> 102

Asp Arg Asp Asp Arg Asp
1 5

<210> 103

<211> 7

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 7

<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 103

Lys Lys Lys Lys Lys Lys Glu
1 5

<210> 104
<211> 13
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 13
<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 104

Arg Gly Gly Glu Glu Lys Lys Lys Glu Lys Glu Lys Glu
1 5 10

<210> 105
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 105

Gly Gly Gly Glu Glu Glu Glu
1 5

<210> 106
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 106

Glu Glu Glu Gly Gly Gly Glu
1 5

<210> 107
<211> 7
<212> PRT
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<220>
<223> Synthetic linker

<220>
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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 107

Lys Lys Lys Gly Gly Gly Glu

<210> 108
 <211> 11
 <212> PRT
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<220>
 <223> Synthetic linker

<220>
 <221> MOD_RES
 <222> 1
 <223> optionally linked to side-chain carbonyl group of a
 para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
 <221> MOD_RES
 <222> 11
 <223> gamma carbon optionally linked to a half-life extending moiety
 such as C13-COOH

<400> 108

Gly Glu Thr Gly Ser Ser Gly Glu Gly Thr Glu
 1 5 10

<210> 109
 <211> 7
 <212> PRT
 <213> ARTIFICIAL

<220>
 <223> Synthetic linker

<220>
 <221> MOD_RES
 <222> 1
 <223> optionally linked to side-chain carbonyl group of a
 para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
 <221> MOD_RES
 <222> 7
 <223> gamma carbon optionally linked to a half-life extending moiety
 such as C13-COOH

<400> 109

Gly Gly Gly Lys Lys Lys Glu
 1 5

<210> 110
<211> 10
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 10
<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 110

Gly Ser His His His His His Gly Ser Glu
1 5 10

<210> 111
<211> 10
<212> PRT
<213> ARTIFICIAL

<220>
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<220>
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<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 1..4
<223> Sarcosine (N-methyl glycine)

<220>
<221> MOD_RES
<222> 6..9
<223> Sarcosine (N-methyl glycine)

<220>
<221> MOD_RES
<222> 10

<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 111

Xaa Xaa Xaa Xaa Ser Xaa Xaa Xaa Xaa Glu
1 5 10

<210> 112

<211> 6

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 1..4

<223> Sarcosine (N-methyl glycine)

<220>

<221> MOD_RES

<222> 6

<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 112

Xaa Xaa Xaa Xaa Ser Glu
1 5

<210> 113

<211> 6

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a

para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 1..3

<223> Sarcosine (N-methyl glycine)

<220>

<221> MOD_RES

<222> 6

<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 113

Xaa Xaa Xaa Glu Glu Glu
1 5

<210> 114

<211> 9

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 9

<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 114

Lys Lys Ser Gly Gly Ser Gly Gly Glu
1 5

<210> 115

<211> 9

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 9
<223> alpha carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 115

Lys Lys Ser Gly Gly Ser Gly Gly Glu
1 5

<210> 116
<211> 9
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 9
<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 116

Lys Lys Ser Ala Gly Ser Ala Gly Glu
1 5

<210> 117
<211> 8
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES

<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 8
<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 117

Lys Ser Gly Gly Ser Gly Gly Glu
1 5

<210> 118
<211> 10
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 10
<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 118

Lys Lys Lys Ser Gly Gly Ser Gly Gly Glu
1 5 10

<210> 119
<211> 11
<212> PRT
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<220>
<223> Synthetic linker

<220>
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<222> 1
<223> optionally linked to side-chain carbonyl group of a

para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 11

<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 119

Lys Lys Ser Gly Gly Ser Gly Gly Glu Glu Glu
1 5 10

<210> 120

<211> 7

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 1..6

<223> D-amino acid(s)

<220>

<221> MOD_RES

<222> 7

<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 120

Lys Lys Lys Lys Lys Lys Glu
1 5

<210> 121

<211> 9

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 9
<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 121

Glu Glu Ser Gly Gly Ser Gly Gly Glu
1 5

<210> 122
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 6
<223> gamma carbon optionally linked to a half-life extending moiety
such as C15-COOH

<400> 122

Gly Gly Gly Gly Ser Glu
1 5

<210> 123
<211> 9
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 9

<223> gamma carbon optionally linked to a half-life extending moiety
such as C15-COOH

<400> 123

Gly Ser Gly Ser Gly Ser Gly Ser Glu

1

5

<210> 124

<211> 7

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 7

<223> gamma carbon optionally linked to a half-life extending moiety
such as C15-COOH

<400> 124

Glu Glu Glu Gly Gly Gly Glu

1

5

<210> 125

<211> 7

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C17-COOH

<400> 125

Glu Glu Glu Gly Gly Gly Glu
1 5

<210> 126
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-CH3

<400> 126

Glu Glu Glu Gly Gly Gly Glu
1 5

<210> 127
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
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<220>
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C15-CH3

<400> 127

Glu Glu Glu Gly Gly Gly Glu
1 5

<210> 128
<211> 7
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<213> ARTIFICIAL

<220>
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<220>
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
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<223> D-amino acid(s)

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 128

Glu Glu Glu Gly Gly Gly Glu
1 5

<210> 129
<211> 7
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 7

<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 129

Glu Glu Glu Gly Gly Gly Glu
1 5

<210> 130

<211> 8

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 8

<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 130

Glu Gly Gly Gly Gly Ser Lys Glu
1 5

<210> 131

<211> 7

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

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<221> MOD_RES

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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C15-COOH

<400> 131

Glu Glu Glu Glu Glu Glu Glu
1 5

<210> 132

<400> 132
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<210> 133
<211> 20
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<213> ARTIFICIAL

<220>
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<221> MOD_RES
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 20
<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-CH3

<400> 133

Glu Glu Glu Glu Pro Glu Glu Glu Glu Pro Glu Glu Glu Glu Pro Glu
1 5 10 15

Glu Glu Glu Glu
20

<210> 134
<211> 20
<212> PRT
<213> ARTIFICIAL

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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 20
<223> gamma carbon optionally linked to a half-life extending moiety
such as C15-CH3

<400> 134

Glu Glu Glu Glu Pro Glu Glu Glu Glu Pro Glu Glu Glu Glu Pro Glu
1 5 10 15

Glu Glu Glu Glu
20

<210> 135
<211> 20
<212> PRT
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<220>
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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 20
<223> optionally linked to a half-life extending moiety
such as C14-CH3

<400> 135

Glu Glu Glu Glu Pro Glu Glu Glu Glu Pro Glu Glu Glu Glu Pro Glu
1 5 10 15

Glu Gly Gly Gly
20

<210> 136

<211> 20
<212> PRT
<213> ARTIFICIAL

<220>
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 20
<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-CH3

<400> 136

Glu Glu Glu Glu Gly Glu Glu Glu Glu Gly Glu Glu Glu Glu Gly Glu
1 5 10 15

Glu Glu Glu Glu
20

<210> 137
<211> 27
<212> PRT
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
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<223> gamma carbon optionally linked to a half-life extending moiety
such as C15-COOH

<400> 137

Lys Gly Gly Glu Glu Lys Lys Lys Glu Lys Glu Lys Glu Pro Lys Gly
1 5 10 15

Gly Glu Glu Lys Lys Lys Glu Lys Glu Lys Glu
20 25

<210> 138
<211> 22
<212> PRT
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<220>
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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 22
<223> gamma carbon optionally linked to a half-life extending moiety
such as C15-COOH

<400> 138

Glu Ala Gln Lys Ala Gln Ala Glu Ala Gln Lys Ala Gln Ala Glu Ala
1 5 10 15

Gln Lys Ala Gln Ala Glu
20

<210> 139
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 6
<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 139

Gly Gly Gly Gly Ser Glu
1 5

<210> 140

<211> 3

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 3

<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 140

Lys Lys Glu
1

<210> 141

<211> 3

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 3

<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 141

Lys Lys Glu
1

<210> 142
<211> 3
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 3
<223> gamma carbon optionally linked to a half-life extending moiety
such as C15-COOH

<400> 142

Lys Lys Glu
1

<210> 143
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-CH3

<400> 143

Glu Glu Glu Glu Glu Glu Glu

<210> 144
<211> 3
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 3
<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-CH3

<400> 144

Lys Lys Glu
1

<210> 145
<211> 4
<212> PRT
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<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 4
<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 145

Lys Gly Pro Glu
1

<210> 146
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
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<220>
<221> MOD_RES
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 146

Lys Gly Pro Lys Gly Pro Glu
1 5

<210> 147
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 6
<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 147

Ser Gly Gly Gly Ser Glu
1 5

<210> 148

<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
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<220>
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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 6
<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 148

Lys Gly Gly Gly Ser Glu
1 5

<210> 149
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
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<220>
<221> MOD_RES
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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 149

Lys Gly Gly Gly Ser Glu Glu
1 5

<210> 150
<211> 7
<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 7

<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 150

Gly Ser Pro Gly Ser Pro Glu

1 5

<210> 151

<211> 6

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 6

<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 151

Gly Gly Gly Gly Pro Glu

1 5

<210> 152

<211> 5

<212> PRT

<213> ARTIFICIAL

<220>
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<220>
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<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 5
<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 152

Glu Gly Gly Ser Glu
1 5

<210> 153
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
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<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 6
<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 153

Glu Gly Gly Gly Pro Glu
1 5

<210> 154
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 154

Lys Gly Pro Gly Ser Glu Glu
1 5

<210> 155

<400> 155
000

<210> 156
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
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<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 6
<223> gamma carbon optionally linked to a half-life extending moiety
such as C15-COOH

<400> 156

Lys Lys Gly Gly Ser Glu
1 5

<210> 157
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 1..4

<223> Sarcosine (N-methyl glycine)

<220>

<221> MOD_RES

<222> 6

<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 157

Xaa Xaa Xaa Xaa Ser Glu

1

5

<210> 158

<211> 6

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 1..3

<223> Sarcosine (N-methyl glycine)

<220>

<221> MOD_RES

<222> 6

<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 158

Xaa Xaa Xaa Glu Glu Glu
1 5

<210> 159

<211> 7

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 7

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<400> 159

Ala Ala Ala Ala Ala Ser Xaa
1 5

<210> 160

<211> 6

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 6

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES
<222> 6
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 160

Ala Ala Ala Ala Ser Xaa
1 5

<210> 161
<211> 5
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
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<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 5
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 161

Ala Ala Ala Ser Xaa
1 5

<210> 162
<211> 12
<212> PRT
<213> ARTIFICIAL

<220>
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<220>

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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 12
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
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<222> 12
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 162

Ala Ala Ser Ala Ala Ser Ala Ala Ser Ala Ala Xaa
1 5 10

<210> 163
<211> 10
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
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<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 10
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 163

Ala Ala Ser Ala Ala Ser Ala Ala Ser Xaa

1

5

10

<210> 164
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
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<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 7
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 164

Ala Ala Ser Ala Ala Ser Xaa

1 5

<210> 165
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
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<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,

(D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 6

<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 165

Ala Ala Ser Ser Ala Xaa

1 5

<210> 166

<211> 4

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 4

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 4

<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 166

Ala Ala Ser Xaa

1

<210> 167

<211> 6

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 6

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 6

<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 167

Ala Gly Ala Gly Ser Xaa
1 5

<210> 168

<211> 6

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 6

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 6

<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 168

Ala Gly Ala Gly Ser Xaa
1 5

<210> 169

<211> 5

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 5

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 5

<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 169

Ala Gly Ala Ser Xaa
1 5

<210> 170

<211> 5

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES
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<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 5
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 170

Ala Gly Ala Ser Xaa
1 5

<210> 171
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 6
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 6
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 171

Ala Gly Gly Ala Ser Xaa
1 5

<210> 172
<211> 6
<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 6

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta, (D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 6

<223> optionally linked to a half-life extending moiety such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 172

Ala Gly Gly Ala Ser Xaa

1 5

<210> 173

<211> 6

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 6

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta, (D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 6

<223> optionally linked to a half-life extending moiety

such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 173

Ala Gly Gly Gly Ser Xaa
1 5

<210> 174

<211> 6

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 6

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 6

<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 174

Ala Gly Gly Gly Ser Xaa
1 5

<210> 175

<211> 3

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a

para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 3

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 3

<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 175

Ala Ser Xaa

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<210> 176

<211> 6

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MISC_FEATURE

<222> 1..5

<223> joined by beta linkages

<220>

<221> MOD_RES

<222> 6

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 6

<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 176

Ala Ala Ala Ala Ser Xaa
1 5

<210> 177

<211> 5

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MISC_FEATURE

<222> 1..4

<223> joined by beta linkages

<220>

<221> MOD_RES

<222> 5

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 5

<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 177

Ala Ala Ala Ser Xaa
1 5

<210> 178

<211> 4

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MISC_FEATURE
<222> 1..3
<223> joined by beta linkages

<220>
<221> MOD_RES
<222> 4
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 4
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 178

Ala Ala Ser Xaa
1

<210> 179
<211> 3
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MISC_FEATURE
<222> 1..2
<223> joined by beta linkage

<220>
<221> MOD_RES
<222> 3
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES
<222> 3
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 179

Ala Ser Xaa
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<210> 180
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> (D)-Glu-gamma, Asp-alpha, Asp-beta, (D)-Asp-alpha,
or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 7
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 180

Glu Gly Gly Glu Gly Gly Xaa
1 5

<210> 181
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>

<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> (D)-Glu-gamma, Asp-alpha, Asp-beta, (D)-Asp-alpha,
or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 7
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 181

Glu Gly Gly Glu Gly Pro Xaa
1 5

<210> 182
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> (D)-Glu-gamma, Asp-alpha, Asp-beta, (D)-Asp-alpha,
or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 7
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 182

Glu Gly Pro Glu Gly Pro Xaa

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5

<210> 183
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 6
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 6
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 183

Gly Gly Ala Ala Ser Xaa
1 5

<210> 184
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 6
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,

(D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 6

<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 184

Gly Gly Ala Ala Ser Xaa

1 5

<210> 185

<211> 5

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 5

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 5

<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 185

Gly Gly Ala Ser Xaa

1 5

<210> 186

<211> 5

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 5

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 5

<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 186

Gly Gly Ala Ser Xaa

1 5

<210> 187

<211> 6

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 6

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 6

<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 187

Gly Gly Gly Ala Ser Xaa
1 5

<210> 188

<211> 6

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 6

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 6

<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 188

Gly Gly Gly Ala Ser Xaa
1 5

<210> 189

<211> 8

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES
<222> 8
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 8
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 189

Gly Gly Gly Gly Gly Gly Ser Xaa
1 5

<210> 190
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
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<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 7
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 190

Gly Gly Gly Gly Gly Ser Xaa
1 5

<210> 191
<211> 5
<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 5

<223> optionally linked to a half-life extending moiety such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 191

Gly Gly Gly Gly Ser

1 5

<210> 192

<211> 6

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MISC_FEATURE

<222> 5..6

<223> joined by -PEG2-PEG2- linkage

<220>

<221> MOD_RES

<222> 6

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta, (D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 6

<223> optionally linked to a half-life extending moiety such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 192

Gly Gly Gly Gly Ser Xaa
1 5

<210> 193

<211> 6

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 6

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 6

<223> optionally linked to a half-life extending moiety
such as C14-COOH

<400> 193

Gly Gly Gly Gly Ser Xaa
1 5

<210> 194

<211> 6

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 6
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 6
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH
having malonic acid tail

<400> 194

Gly Gly Gly Gly Ser Xaa
1 5

<210> 195
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 6
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 6
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH having
a succinic acid tail

<400> 195

Gly Gly Gly Gly Ser Xaa
1 5

<210> 196
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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<222> 6
<223> (D)-Glu-gamma, Asp-alpha, Asp-beta, (D)-Asp-alpha,
or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 6
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 196

Gly Gly Gly Gly Ser Xaa
1 5

<210> 197
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
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<220>
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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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<223> (D)-Glu-gamma, Asp-alpha, Asp-beta, (D)-Asp-alpha,
or (D)-Asp-beta

<220>

<221> MOD_RES
<222> 6
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 197

Gly Gly Gly Gly Ser Xaa
1 5

<210> 198
<211> 5
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 5
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 198

Gly Gly Gly Gly Thr
1 5

<210> 199
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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<222> 6
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 6
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 199

Gly Gly Gly Ser Gly Xaa
1 5

<210> 200
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 7
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 200

Gly Gly Gly Ser Ser Ser Xaa
1 5

<210> 201
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
 <223> Synthetic linker

 <220>
 <221> MOD_RES
 <222> 1
 <223> optionally linked to side-chain carbonyl group of a
 para-acetyl-phenylalanine residue of a modified relaxin polypeptide

 <220>
 <221> MOD_RES
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 <223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
 (D)-Asp-alpha, or (D)-Asp-beta

 <220>
 <221> MOD_RES
 <222> 6
 <223> optionally linked to a half-life extending moiety
 such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

 <400> 201

Gly Gly Gly Ser Ser Xaa
 1 5

<210> 202
 <211> 6
 <212> PRT
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 <220>
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 <223> optionally linked to side-chain carbonyl group of a
 para-acetyl-phenylalanine residue of a modified relaxin polypeptide

 <220>
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 <223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
 (D)-Asp-alpha, or (D)-Asp-beta

 <220>
 <221> MOD_RES
 <222> 6
 <223> optionally linked to a half-life extending moiety
 such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 202

Gly Gly Gly Ser Ser Xaa
1 5

<210> 203

<211> 5

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 5

<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>

<221> MOD_RES

<222> 5

<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 203

Gly Gly Gly Ser Xaa
1 5

<210> 204

<211> 8

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
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<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
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<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 204

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<210> 205
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<213> ARTIFICIAL

<220>
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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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(D)-Asp-alpha, or (D)-Asp-beta

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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 205

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1 5

<210> 206

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<220>
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<220>
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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(D)-Asp-alpha, or (D)-Asp-beta

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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

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(D)-Asp-alpha, or (D)-Asp-beta

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<222> 10
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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

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1 5 10

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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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(D)-Asp-alpha, or (D)-Asp-beta

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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 208

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1 5

<210> 209
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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

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<210> 210
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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 210

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<210> 211
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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

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<210> 212
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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 212

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1 5

<210> 213
<211> 6
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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 214

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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 216

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<220>
<221> MOD_RES

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or (D)-Asp-beta

<220>
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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 217

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<210> 218
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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 218

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<210> 219
<211> 6
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<223> optionally linked to side-chain carbonyl group of a
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<220>

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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 219

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<210> 220

<211> 5

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<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 220

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<210> 221

<211> 6

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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

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(D)-Asp-alpha, or (D)-Asp-beta

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<221> MOD_RES

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<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

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<210> 222

<211> 6

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<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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(D)-Asp-alpha, or (D)-Asp-beta

<220>
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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 222

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1 5

<210> 223
<211> 11
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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(D)-Asp-alpha, or (D)-Asp-beta

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<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 223

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<210> 224

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<212> PRT
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<220>
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 224

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1 5

<210> 225
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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(D)-Asp-alpha, or (D)-Asp-beta

<220>
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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 225

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1 5

<210> 226
<211> 6
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

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(D)-Asp-alpha, or (D)-Asp-beta

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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 226

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1 5

<210> 227
<211> 5
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<220>
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<222> 1
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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(D)-Asp-alpha, or (D)-Asp-beta

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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 227

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1 5

<210> 228
<211> 4
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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or (D)-Asp-beta

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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

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<210> 229
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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(D)-Asp-alpha, or (D)-Asp-beta

<220>
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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 229

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1 5

<210> 230
<211> 5
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

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(D)-Asp-alpha, or (D)-Asp-beta

<220>
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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 230

Gly Ser Ser Ser Xaa
1 5

<210> 231
<211> 4
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

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(D)-Asp-alpha, or (D)-Asp-beta

<220>
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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 231

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<210> 232
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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<223> (D)-Glu-gamma, Asp-alpha, Asp-beta, (D)-Asp-alpha,
or (D)-Asp-beta

<220>
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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

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<210> 233
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 233

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1 5

<210> 234
<211> 4
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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(D)-Asp-alpha, or (D)-Asp-beta

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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 234

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<210> 235
<211> 6
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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<223> (D)-Glu-gamma, Asp-alpha, Asp-beta, (D)-Asp-alpha,
or (D)-Asp-beta

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<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 235

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1 5

<210> 236
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<212> PRT
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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<223> (D)-Glu-gamma, Asp-alpha, Asp-beta, (D)-Asp-alpha,
or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 7
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 236

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1 5

<210> 237
<211> 3
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<220>
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<220>
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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<223> joined by -PEG2-PEG2- linkage

<220>
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<220>
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such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 237

Lys Lys Xaa
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
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<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 238

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<210> 239
<211> 4
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para-acetyl-phenylalanine residue of a modified relaxin polypeptide

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or (D)-Asp-beta

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<222> 4
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 239

Lys Lys Ser Xaa
1

<210> 240
<211> 3
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES
<222> 3
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 240

Lys Lys Thr
1

<210> 241
<211> 4
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 4
<223> (D)-Glu-gamma, Asp-alpha, Asp-beta, (D)-Asp-alpha,
or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 4
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 241

Lys Lys Thr Xaa
1

<210> 242
<211> 3
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES

<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 3
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 3
<223> optionally linked to a half-life extending moiety
such as a malonic acid tail

<400> 242

Lys Lys Xaa
1

<210> 243
<211> 3
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 3
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 3
<223> optionally linked to a half-life extending moiety
such as a succinic acid tail

<400> 243

Lys Lys Xaa
1

<210> 244
<211> 3
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 3
<223> (D)-Glu-gamma, Asp-alpha, Asp-beta, (D)-Asp-alpha,
or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 3
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 244

Lys Lys Xaa
1

<210> 245
<211> 5
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 5
<223> (D)-Glu-gamma, Asp-alpha, Asp-beta, (D)-Asp-alpha,
or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 5
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 245

Lys Pro Lys Ser Xaa
1 5

<210> 246
<211> 8
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 8
<223> (D)-Glu-gamma, Asp-alpha, Asp-beta, (D)-Asp-alpha,
or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 8
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 246

Lys Ser Gly Gly Gly Ser Lys Xaa
1 5

<210> 247
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> (D)-Glu-gamma, Asp-alpha, Asp-beta, (D)-Asp-alpha,
or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 7
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 247

Lys Ser Gly Lys Ser Gly Xaa
1 5

<210> 248
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 7
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 248

Ser Gly Gly Gly Gly Gly Xaa
1 5

<210> 249
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 6
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 6
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 249

Ser Gly Gly Gly Gly Xaa
1 5

<210> 250
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES

<222> 6
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 6
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 250

Ser Gly Gly Gly Gly Xaa
1 5

<210> 251
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 6
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 6
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 251

Ser Gly Gly Gly Ser Xaa
1 5

<210> 252
<211> 5
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 5
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 5
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 252

Ser Gly Gly Gly Xaa
1 5

<210> 253
<211> 4
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 4
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 4
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 253

Ser Gly Gly Xaa
1

<210> 254
<211> 3
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 3
<223> Glu-gamma, (D)-Glu-gamma, Asp-alpha, Asp-beta,
(D)-Asp-alpha, or (D)-Asp-beta

<220>
<221> MOD_RES
<222> 3
<223> optionally linked to a half-life extending moiety
such as a fatty acid, such as C13-COOH, C14-COOH, or C15-COOH

<400> 254

Ser Gly Xaa
1

<210> 255
<211> 3
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 3
<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 255

Gly Ser Glu
1

<210> 256
<211> 4
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 4
<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 256

Gly Gly Ser Glu
1

<210> 257
<211> 4
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES
<222> 4
<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 257

Gly Ser Pro Glu
1

<210> 258
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 258

Glu Gly Gly Glu Gly Gly Glu
1 5

<210> 259
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MISC_FEATURE
<222> 1..2

<223> joined by gamma linkage

<220>

<221> MOD_RES

<222> 7

<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 259

Glu Gly Gly Gly Gly Ser Glu
1 5

<210> 260

<211> 7

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 7

<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 260

Glu Gly Gly Glu Gly Pro Glu
1 5

<210> 261

<211> 7

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C14-COOH

<400> 261

Glu Gly Pro Glu Gly Pro Glu
1 5

<210> 262
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 6
<223> gamma carbon optionally linked to a half-life extending moiety
such as C15-COOH

<400> 262

Lys Gly Gly Gly Ser Glu
1 5

<210> 263
<211> 8
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES

<222> 8
<223> gamma carbon optionally linked to a half-life extending moiety
such as C15-COOH

<400> 263

Lys Ser Gly Gly Gly Ser Lys Glu
1 5

<210> 264
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C15-COOH

<400> 264

Lys Ser Gly Lys Ser Gly Glu
1 5

<210> 265
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety

such as C15-COOH

<400> 265

Lys Gly Gly Lys Gly Gly Glu
1 5

<210> 266

<211> 5

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 5

<223> gamma carbon optionally linked to a half-life extending moiety
such as C15-COOH

<400> 266

Lys Pro Lys Ser Glu
1 5

<210> 267

<211> 7

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 1..6

<223> D-amino acid(s)

<220>

<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 267

Lys Lys Lys Lys Lys Lys Glu
1 5

<210> 268
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 1..6
<223> 2,3-diaminopropionic acid

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 268

Xaa Xaa Xaa Xaa Xaa Xaa Glu
1 5

<210> 269
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 1..6

<223> 6-N-methyllysine

<220>

<221> MOD_RES

<222> 7

<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 269

Xaa Xaa Xaa Xaa Xaa Xaa Glu

1

5

<210> 270

<211> 7

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 1..3

<223> D-amino acid(s)

<220>

<221> MOD_RES

<222> 7

<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 270

Lys Lys Lys Gly Gly Gly Glu

1

5

<210> 271

<211> 7

<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C15-COOH

<400> 271

Gly Gly Gly Glu Glu Glu Glu
1 5

<210> 272
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C17-COOH

<400> 272

Gly Gly Gly Glu Glu Glu Glu
1 5

<210> 273
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 6

<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 273

Lys Lys Lys Lys Pro Glu
1 5

<210> 274

<211> 6

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 6

<223> optionally linked to a half-life extending moiety
such as C13-COOH

<400> 274

Lys Lys Lys Lys Lys Lys
1 5

<210> 275

<211> 8

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 8

<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 275

Lys Ala Gln Lys Ala Gln Ala Glu
1 5

<210> 276

<211> 10

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 10

<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 276

Lys Lys Lys Lys Pro Lys Lys Lys Lys Glu
1 5 10

<210> 277

<211> 10

<212> PRT

<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 10
<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-COOH

<400> 277

Lys Lys Lys Lys Lys Lys Gly Gly Gly Glu
1 5 10

<210> 278
<211> 7
<212> PRT
<213> ARTIFICIAL

<220>
<223> Synthetic linker

<220>
<221> MOD_RES
<222> 1
<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>
<221> MOD_RES
<222> 7
<223> D-amino acid(s)

<220>
<221> MOD_RES
<222> 7
<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-CH3

<400> 278

Glu Glu Glu Gly Gly Gly Glu
1 5

<210> 279
<211> 6
<212> PRT
<213> ARTIFICIAL

<220>

<223> Synthetic linker

<220>

<221> MOD_RES

<222> 1

<223> optionally linked to side-chain carbonyl group of a
para-acetyl-phenylalanine residue of a modified relaxin polypeptide

<220>

<221> MOD_RES

<222> 6

<223> gamma carbon optionally linked to a half-life extending moiety
such as C13-CH3

<400> 279

Gly Gly Gly Gly Ser Glu

1

5