

SEQUENCE LISTING

<110> F. Hoffmann-La Roche AG

<120> Use of an anti-Tau pS422 antibody for the treatment of brain diseases

<130> 26157 WO

<150> EP 09007656.3

<151> 2009-06-10

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<151> 2009-06-30

<160> 73

<170> PatentIn version 3.5

<210> 1

<211> 112

<212> PRT

<213> Mus musculus

<400> 1

Glu Ile Val Met Thr Gln Ala Ala Pro Ser Val Pro Val Thr Pro Gly
1 5 10 15

Glu Ser Ala Ser Ile Ser Cys Arg Ser Asn Lys Ser Leu Leu His Ser
20 25 30

Asn Gly Asn Thr Tyr Leu Cys Trp Phe Leu Gln Arg Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Arg Met Ser Thr Leu Ala Pro Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Arg Ile
65 70 75 80

Ser Arg Leu Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His
85 90 95

Ile Glu Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
100 105 110

<210> 2

<211> 121

<212> PRT

<213> Mus musculus

- 2 -

<400> 2

Glu Val Gln Leu Val Glu Ser Gly Gly Asp Leu Val Arg Pro Gly Gly
1 5 10 15

Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Thr Tyr
20 25 30

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

Ala Thr Ile Ser Ser Gly Gly Thr Tyr Thr Tyr Tyr Ala Asp Asn Val
50 55 60

Arg Glu Arg Phe Thr Ile Ser Arg Asp Asn Ala Arg Asp Thr Leu Tyr
65 70 75 80

Leu Gln Met Ser Arg Leu Glu Ser Asp Asp Thr Ala Met Tyr Tyr Cys
85 90 95

Thr Arg Arg Tyr Gly Tyr Asp Gly Gly Gly Ser Phe Asp Val Trp Gly
100 105 110

Ala Gly Thr Arg Val Thr Val Ser Ser
115 120

<210> 3

<211> 16

<212> PRT

<213> Mus musculus

<400> 3

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

<210> 4

<211> 7

<212> PRT

<213> Mus musculus

<400> 4

Arg Met Ser Thr Leu Ala Pro
1 5

<210> 5

<211> 9

<212> PRT

<213> Mus musculus

<400> 5

Met Gln His Ile Glu Tyr Pro Leu Thr
1 5

<210> 6

<211> 5

<212> PRT

<213> Mus musculus

<400> 6

Thr Tyr Gly Met Ser
1 5

<210> 7

<211> 17

<212> PRT

<213> Mus musculus

<400> 7

Thr Ile Ser Ser Gly Gly Thr Tyr Thr Tyr Tyr Ala Asp Asn Val Arg
1 5 10 15

Glu

<210> 8

<211> 12

<212> PRT

<213> Mus musculus

<400> 8

Arg Tyr Gly Tyr Asp Gly Gly Gly Ser Phe Asp Val
1 5 10

<210> 9

<211> 15

<212> PRT

<213> Mus musculus

<220>

<221> MOD_RES

<222> (7)..(7)

<223> PHOSPHORYLATION

<400> 9

Ser Ile Asp Met Val Asp Ser Pro Gln Leu Ala Thr Leu Ala Asp

1 5 10 15

<210> 10
<211> 15
<212> PRT
<213> Mus musculus

<400> 10

Ser Ile Asp Met Val Asp Ser Pro Gln Leu Ala Thr Leu Ala Asp
1 5 10 15

<210> 11
<211> 107
<212> PRT
<213> Homo sapiens

<400> 11

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
1 5 10 15

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
20 25 30

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
35 40 45

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
50 55 60

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
65 70 75 80

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
85 90 95

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
100 105

<210> 12
<211> 106
<212> PRT
<213> Homo sapiens

<400> 12

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
1 5 10 15

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
20 25 30

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
35 40 45

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
50 55 60

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
65 70 75 80

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
85 90 95

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
100 105

<210> 13
<211> 330
<212> PRT
<213> Homo sapiens

<400> 13

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
1 5 10 15

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
100 105 110

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
115 120 125

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
130 135 140

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
145 150 155 160

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
165 170 175

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
180 185 190

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
195 200 205

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
210 215 220

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu
225 230 235 240

Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
245 250 255

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
260 265 270

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
275 280 285

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
290 295 300

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
305 310 315 320

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
325 330

<210> 14
<211> 330

<212> PRT

<213> Homo sapiens

<400> 14

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
1 5 10 15

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
100 105 110

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
115 120 125

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
130 135 140

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
145 150 155 160

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
165 170 175

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
180 185 190

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
195 200 205

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
210 215 220

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
225 230 235 240

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
245 250 255

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
260 265 270

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
275 280 285

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
290 295 300

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
305 310 315 320

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
325 330

<210> 15
<211> 327
<212> PRT
<213> Homo sapiens

<400> 15

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg
1 5 10 15

Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr
65 70 75 80

Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Ser Cys Pro Ala Pro
100 105 110

Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys
115 120 125

Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val
130 135 140

Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp
145 150 155 160

Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe
165 170 175

Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp
180 185 190

Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu
195 200 205

Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg
210 215 220

Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys
225 230 235 240

Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp
245 250 255

Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys
260 265 270

Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser
275 280 285

Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser
290 295 300

Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser
305 310 315 320

Leu Ser Leu Ser Leu Gly Lys

325

<210> 16
<211> 327
<212> PRT
<213> Homo sapiens

<400> 16

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg
1 5 10 15

Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr
65 70 75 80

Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro
100 105 110

Glu Phe Glu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys
115 120 125

Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val
130 135 140

Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp
145 150 155 160

Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe
165 170 175

Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp
180 185 190

Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu

195	200	205
Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg		
210	215	220
Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys		
225	230	235
Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp		
	245	250
		255
Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys		
	260	265
		270
Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser		
	275	280
		285
Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser		
	290	295
		300
Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser		
305	310	315
		320
Leu Ser Leu Ser Leu Gly Lys		
	325	

<210> 17
 <211> 15
 <212> PRT
 <213> Homo sapiens

<220>
 <221> MOD_RES
 <222> (8)..(8)
 <223> PHOSPHORYLATION

<400> 17

Ile Gln Lys Gln Lys Arg Arg Ser Val Asn Ser Lys Ile Pro Ala
1 5 10 15

<210> 18
 <211> 37
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 18
aagcttgcca ccatggagac tgggctgcgc tggcttc 37

<210> 19
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 19
ccattggtga ggggtgccga g 21

<210> 20
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 20
aagcttgcca ccatggacay gagggccccc actc 34

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

<220>
<223> Primer

<400> 21
cagagtrctg ctgaggttgt aggtac 26

<210> 22
<211> 108
<212> PRT
<213> Oryctolagus cuniculus

<400> 22

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Leu Ser Leu Ser Ser Asn Ala
20 25 30

Ile Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Tyr Ile Ser Thr Ser Gly Asn Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Gly Arg Gly Asp
85 90 95

Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
100 105

<210> 23
<211> 10
<212> PRT
<213> Oryctolagus cuniculus

<400> 23

Gly Leu Ser Leu Ser Ser Asn Ala Ile Asn
1 5 10

<210> 24
<211> 16
<212> PRT
<213> Oryctolagus cuniculus

<400> 24

Tyr Ile Ser Thr Ser Gly Asn Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
1 5 10 15

<210> 25
<211> 3
<212> PRT
<213> Oryctolagus cuniculus

<400> 25

Gly Asp Leu
1

<210> 26
<211> 112
<212> PRT
<213> Oryctolagus cuniculus

<400> 26

Gln Val Leu Thr Gln Thr Ala Ser Pro Val Ser Ala Ala Val Gly Ser
1 5 10 15

Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Val Tyr Lys Asn Asn
20 25 30

Tyr Leu Ala Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro Lys Arg Leu
35 40 45

Ile Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys
50 55 60

Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val Gln
65 70 75 80

Cys Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Ser Cys Asp Ser Ser
85 90 95

Ser Asn Asn Cys Val Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 27
<211> 13
<212> PRT
<213> Oryctolagus cuniculus
<400> 27

Gln Ala Ser Gln Ser Val Tyr Lys Asn Asn Tyr Leu Ala
1 5 10

<210> 28
<211> 7
<212> PRT
<213> Oryctolagus cuniculus
<400> 28

Ser Ala Ser Thr Leu Ala Ser
1 5

<210> 29
<211> 13
<212> PRT
<213> Oryctolagus cuniculus
<400> 29

Leu Gly Ser Cys Asp Ser Ser Ser Asn Asn Cys Val Ala
1 5 10

<210> 30
<211> 114
<212> PRT
<213> Oryctolagus cuniculus

<400> 30

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Thr
20 25 30

Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Asp Trp Ile Gly
35 40 45

Phe Ile Asn Ser Gly Gly Tyr Thr Ser Tyr Ala Ser Trp Thr Arg Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Arg Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Tyr Gly
85 90 95

Gly Gly Ser Gly Phe Asp Leu Trp Gly Pro Gly Thr Leu Val Thr Val
100 105 110

Ser Ser

<210> 31
<211> 10
<212> PRT
<213> Oryctolagus cuniculus

<400> 31

Gly Ile Asp Leu Ser Ser Tyr Thr Met Asn
1 5 10

<210> 32
<211> 16
<212> PRT
<213> Oryctolagus cuniculus

<400> 32

Phe Ile Asn Ser Gly Gly Tyr Thr Ser Tyr Ala Ser Trp Thr Arg Gly
1 5 10 15

<210> 33
<211> 9
<212> PRT
<213> *Oryctolagus cuniculus*

<400> 33

Tyr Gly Gly Gly Ser Gly Phe Asp Leu
1 5

<210> 34
<211> 107
<212> PRT
<213> *Oryctolagus cuniculus*

<400> 34

Gln Val Leu Thr Gln Thr Ala Ser Ser Val Ser Ala Ala Val Gly Gly
1 5 10 15

Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Ser Val Tyr Asn Asn Arg
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

Tyr Lys Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu Cys
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Gly Tyr Ile Asn Ile Phe
85 90 95

Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 35
<211> 12
<212> PRT
<213> *Oryctolagus cuniculus*

<400> 35

Gln Ser Ser Gln Ser Val Tyr Asn Asn Arg Leu Ala
1 5 10

<210> 36
<211> 7
<212> PRT
<213> Oryctolagus cuniculus

<400> 36

Lys Ala Ser Thr Leu Ala Ser
1 5

<210> 37
<211> 9
<212> PRT
<213> Oryctolagus cuniculus

<400> 37

Ala Gly Gly Tyr Ile Asn Ile Phe Ala
1 5

<210> 38
<211> 109
<212> PRT
<213> Oryctolagus cuniculus

<400> 38

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Lys Val Ser Gly Phe Ser Leu Ser Ser Tyr Asp
20 25 30

Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Gly
35 40 45

Ala Ile Ser Thr Gly Gly Asn Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Thr Leu Thr Ile Thr
65 70 75 80

Ser Pro Thr Thr Ala Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Ser
85 90 95

Ser Ile Trp Gly Pro Gly Thr Leu Val Thr Val Ser Leu
100 105

<210> 39
<211> 10

<212> PRT
<213> Oryctolagus cuniculus

<400> 39

Gly Phe Ser Leu Ser Ser Tyr Asp Met Asn
1 5 10

<210> 40
<211> 16
<212> PRT
<213> Oryctolagus cuniculus

<400> 40

Ala Ile Ser Thr Gly Gly Asn Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
1 5 10 15

<210> 41
<211> 4
<212> PRT
<213> Oryctolagus cuniculus

<400> 41

Gly Ser Ser Ile
1

<210> 42
<211> 112
<212> PRT
<213> Oryctolagus cuniculus

<400> 42

Gln Val Leu Thr Gln Thr Ala Ser Pro Val Ser Ala Ala Val Gly Ser
1 5 10 15

Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Val Tyr Lys Asn Asn
20 25 30

Tyr Leu Arg Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Arg Leu
35 40 45

Ile Tyr Thr Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys
50 55 60

Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val Gln
65 70 75 80

Cys Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Gly Tyr Asp Cys Asn

85

90

95

Ser Ala Asp Cys Trp Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 43

<211> 13

<212> PRT

<213> Oryctolagus cuniculus

<400> 43

Gln Ala Ser Gln Ser Val Tyr Lys Asn Asn Tyr Leu Arg
1 5 10

<210> 44

<211> 7

<212> PRT

<213> Oryctolagus cuniculus

<400> 44

Thr Ala Ser Thr Leu Ala Ser
1 5

<210> 45

<211> 13

<212> PRT

<213> Oryctolagus cuniculus

<400> 45

Leu Gly Gly Tyr Asp Cys Asn Ser Ala Asp Cys Trp Ala
1 5 10

<210> 46

<211> 108

<212> PRT

<213> Oryctolagus cuniculus

<400> 46

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Leu Ser Leu Ser Ser Asn Ala
20 25 30

Ile Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

- 20 -

Tyr Ile Ala Val Ser Gly Asn Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Ala Ser Thr Thr Val Asp Leu Lys Met Thr
65 70 75 80

Ser Pro Thr Ala Glu Asp Thr Gly Thr Tyr Phe Cys Gly Lys Ser Asn
85 90 95

Ile Trp Gly Pro Gly Thr Leu Val Thr Val Ser Leu
100 105

<210> 47
<211> 10
<212> PRT
<213> Oryctolagus cuniculus

<400> 47

Gly Leu Ser Leu Ser Ser Asn Ala Ile Asn
1 5 10

<210> 48
<211> 16
<212> PRT
<213> Oryctolagus cuniculus

<400> 48

Tyr Ile Ala Val Ser Gly Asn Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
1 5 10 15

<210> 49
<211> 3
<212> PRT
<213> Oryctolagus cuniculus

<400> 49

Ser Asn Ile
1

<210> 50
<211> 111
<212> PRT
<213> Oryctolagus cuniculus

<400> 50

Gln Val Leu Thr Gln Thr Ala Ser Pro Val Ser Ala Ala Val Gly Ile
1 5 10 15

Thr Val Thr Ile Ser Cys Gln Ser Ser Gln Ser Val Arg Thr Asn Lys
20 25 30

Leu Ala Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro Lys Arg Leu Ile
35 40 45

Tyr Ser Ala Ser Thr Leu Asp Ser Gly Val Pro Ser Arg Phe Ser Ala
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val Gln Cys
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Tyr Tyr Asp Cys Ser Ile
85 90 95

Ala Asp Cys Val Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 51
<211> 12
<212> PRT
<213> Oryctolagus cuniculus

<400> 51

Gln Ser Ser Gln Ser Val Arg Thr Asn Lys Leu Ala
1 5 10

<210> 52
<211> 7
<212> PRT
<213> Oryctolagus cuniculus

<400> 52

Ser Ala Ser Thr Leu Asp Ser
1 5

<210> 53
<211> 13
<212> PRT
<213> Oryctolagus cuniculus

<400> 53

Leu Gly Tyr Tyr Asp Cys Ser Ile Ala Asp Cys Val Ala
1 5 10

<210> 54

<211> 108
<212> PRT
<213> *Oryctolagus cuniculus*

<400> 54

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Ser Asn Ala
20 25 30

Ile Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Tyr Ile Ala Val Ser Gly Asn Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Ala Ser Thr Thr Val Asp Leu Lys Met Thr
65 70 75 80

Ser Pro Thr Ala Glu Asp Thr Gly Thr Tyr Phe Cys Gly Lys Ser Asn
85 90 95

Ile Trp Gly Pro Gly Thr Leu Val Thr Val Ser Leu
100 105

<210> 55
<211> 10
<212> PRT
<213> *Oryctolagus cuniculus*

<400> 55

Gly Phe Ser Leu Ser Ser Asn Ala Ile Asn
1 5 10

<210> 56
<211> 16
<212> PRT
<213> *Oryctolagus cuniculus*

<400> 56

Tyr Ile Ala Val Ser Gly Asn Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
1 5 10 15

<210> 57
<211> 3
<212> PRT

<213> Oryctolagus cuniculus

<400> 57

Ser Asn Ile
1

<210> 58

<211> 111

<212> PRT

<213> Oryctolagus cuniculus

<400> 58

Gln Val Leu Thr Gln Thr Thr Ser Pro Val Ser Ala Ala Val Gly Ser
1 5 10 15

Thr Val Thr Ile Ser Cys Gln Ser Ser Gln Ser Val Arg Thr Asn Lys
20 25 30

Leu Ala Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro Lys Arg Leu Ile
35 40 45

Tyr Ser Ala Ser Thr Leu Asp Phe Gly Val Pro Ser Arg Phe Ser Ala
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Val Gln Cys
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Tyr Phe Asp Cys Ser Ile
85 90 95

Ala Asp Cys Val Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 59

<211> 12

<212> PRT

<213> Oryctolagus cuniculus

<400> 59

Gln Ser Ser Gln Ser Val Arg Thr Asn Lys Leu Ala
1 5 10

<210> 60

<211> 7

<212> PRT

<213> Oryctolagus cuniculus

<400> 60

Ser Ala Ser Thr Leu Asp Phe
1 5

<210> 61

<211> 13

<212> PRT

<213> Oryctolagus cuniculus

<400> 61

Leu Gly Tyr Phe Asp Cys Ser Ile Ala Asp Cys Val Ala
1 5 10

<210> 62

<211> 109

<212> PRT

<213> Oryctolagus cuniculus

<400> 62

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Ser
20 25 30

Ile Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly
35 40 45

Phe Ile Gly Thr Gly Gly Ser Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Arg Thr Ser Thr Thr Val Asp Leu Lys Ile Thr
65 70 75 80

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly Gly
85 90 95

Asp Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
100 105

<210> 63

<211> 10

<212> PRT

<213> Oryctolagus cuniculus

<400> 63

Gly Ile Asp Leu Ser Ser Tyr Ser Ile Thr
1 5 10

<210> 64
<211> 16
<212> PRT
<213> Oryctolagus cuniculus

<400> 64

Phe Ile Gly Thr Gly Gly Ser Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
1 5 10 15

<210> 65
<211> 4
<212> PRT
<213> Oryctolagus cuniculus

<400> 65

Gly Gly Asp Leu
1

<210> 66
<211> 109
<212> PRT
<213> Oryctolagus cuniculus

<400> 66

Gln Val Leu Thr Gln Thr Ala Ser Ser Val Ser Ala Ala Val Gly Gly
1 5 10 15

Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Asn Val Tyr Asn Asn Asn
20 25 30

Lys Leu Ala Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro Lys Arg Leu
35 40 45

Ile Tyr Gly Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys
50 55 60

Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu Glu
65 70 75 80

Cys Asp Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Gly Tyr Ser Gly Asn
85 90 95

Ile Tyr Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105

<210> 67
<211> 13
<212> PRT
<213> Oryctolagus cuniculus

<400> 67

Gln Ser Ser Gln Asn Val Tyr Asn Asn Asn Lys Leu Ala
1 5 10

<210> 68
<211> 7
<212> PRT
<213> Oryctolagus cuniculus

<400> 68

Gly Ala Ser Thr Leu Ala Ser
1 5

<210> 69
<211> 10
<212> PRT
<213> Oryctolagus cuniculus

<400> 69

Leu Gly Gly Tyr Ser Gly Asn Ile Tyr Thr
1 5 10

<210> 70
<211> 104
<212> PRT
<213> Oryctolagus cuniculus

<400> 70

Gly Asp Pro Val Ala Pro Thr Val Leu Ile Phe Pro Pro Ala Ala Asp
1 5 10 15

Gln Val Ala Thr Gly Thr Val Thr Ile Val Cys Val Ala Asn Lys Tyr
20 25 30

Phe Pro Asp Val Thr Val Thr Trp Glu Val Asp Gly Thr Thr Gln Thr
35 40 45

Thr Gly Ile Glu Asn Ser Lys Thr Pro Gln Asn Ser Ala Asp Cys Thr
50 55 60

Tyr Asn Leu Ser Ser Thr Leu Thr Leu Thr Ser Thr Gln Tyr Asn Ser

65		70		75		80									
His	Lys	Glu	Tyr	Thr	Cys	Lys	Val	Thr	Gln	Gly	Thr	Thr	Ser	Val	Val
				85					90					95	
Gln Ser Phe Asn Arg Gly Asp Cys															
100															
<210> 71															
<211> 323															
<212> PRT															
<213> Oryctolagus cuniculus															
<400> 71															
Gly	Gln	Pro	Lys	Ala	Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Cys	Cys	Gly
1				5					10					15	
Asp	Thr	Pro	Ser	Ser	Thr	Val	Thr	Leu	Gly	Cys	Leu	Val	Lys	Gly	Tyr
			20					25					30		
Leu	Pro	Glu	Pro	Val	Thr	Val	Thr	Trp	Asn	Ser	Gly	Thr	Leu	Thr	Asn
		35					40					45			
Gly	Val	Arg	Thr	Phe	Pro	Ser	Val	Arg	Gln	Ser	Ser	Gly	Leu	Tyr	Ser
	50					55					60				
Leu	Ser	Ser	Val	Val	Ser	Val	Thr	Ser	Ser	Ser	Gln	Pro	Val	Thr	Cys
65					70					75					80
Asn	Val	Ala	His	Pro	Ala	Thr	Asn	Thr	Lys	Val	Asp	Lys	Thr	Val	Ala
				85					90					95	
Pro	Ser	Thr	Cys	Ser	Lys	Pro	Thr	Cys	Pro	Pro	Pro	Glu	Leu	Leu	Gly
			100					105					110		
Gly	Pro	Ser	Val	Phe	Ile	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met
			115				120					125			
Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	Gln
	130					135					140				
Asp	Asp	Pro	Glu	Val	Gln	Phe	Thr	Trp	Tyr	Ile	Asn	Asn	Glu	Gln	Val
145					150					155					160
Arg Thr Ala Arg Pro Pro Leu Arg Glu Gln Gln Phe Asn Ser Thr Ile															

165 170 175

Arg Val Val Ser Thr Leu Pro Ile Ala His Gln Asp Trp Leu Arg Gly
180 185 190

Lys Glu Phe Lys Cys Lys Val His Asn Lys Ala Leu Pro Ala Pro Ile
195 200 205

Glu Lys Thr Ile Ser Lys Ala Arg Gly Gln Pro Leu Glu Pro Lys Val
210 215 220

Tyr Thr Met Gly Pro Pro Arg Glu Glu Leu Ser Ser Arg Ser Val Ser
225 230 235 240

Leu Thr Cys Met Ile Asn Gly Phe Tyr Pro Ser Asp Ile Ser Val Glu
245 250 255

Trp Glu Lys Asn Gly Lys Ala Glu Asp Asn Tyr Lys Thr Thr Pro Ala
260 265 270

Val Leu Asp Ser Asp Gly Ser Tyr Phe Leu Tyr Asn Lys Leu Ser Val
275 280 285

Pro Thr Ser Glu Trp Gln Arg Gly Asp Val Phe Thr Cys Ser Val Met
290 295 300

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Ile Ser Arg Ser
305 310 315 320

Pro Gly Lys

<210> 72
<211> 107
<212> PRT
<213> Mus musculus

<400> 72

Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu
1 5 10 15

Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe
20 25 30

Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg

35

40

45

Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser
50 55 60

Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu
65 70 75 80

Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser
85 90 95

Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys
100 105

<210> 73
<211> 324
<212> PRT
<213> Mus musculus

<400> 73

Ala Lys Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala
1 5 10 15

Ala Gln Thr Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu
50 55 60

Ser Ser Ser Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val
65 70 75 80

Thr Cys Asn Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys
85 90 95

Ile Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro
100 105 110

Glu Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu
115 120 125

Thr Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser

130 135 140

Lys Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu
145 150 155 160

Val His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr
165 170 175

Phe Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn
180 185 190

Gly Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro
195 200 205

Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln
210 215 220

Val Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val
225 230 235 240

Ser Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val
245 250 255

Glu Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln
260 265 270

Pro Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn
275 280 285

Val Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val
290 295 300

Leu His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His
305 310 315 320

Ser Pro Gly Lys