

SEQUENCE LISTING

<110> INVECTYS

<120> Anti HLA-G specific antibodies

<130> B2258PC00

<160> 102

<170> PatentIn version 3.5

<210> 1

<211> 26

<212> PRT

<213> Mus musculus

<400> 1

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Asp	Gln	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser
			20					25	

<210> 2

<211> 11

<212> PRT

<213> Mus musculus

<400> 2

Gln	Ser	Ile	Val	His	Arg	Ser	Gly	Asn	Thr	Tyr
1				5					10	

<210> 3

<211> 17

<212> PRT

<213> Mus musculus

<400> 3

Leu	Glu	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser	Pro	Lys	Leu	Leu	Ile
1				5					10					15	

Tyr

<210> 4

<211> 36

<212> PRT

<213> Mus musculus

<400> 4

Asn Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly
1 5 10 15

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

Val Tyr Tyr Cys
35

<210> 5

<211> 9

<212> PRT

<213> Mus musculus

<400> 5

Phe Gln Gly Ser His Leu Pro Pro Thr
1 5

<210> 6

<211> 9

<212> PRT

<213> Mus musculus

<400> 6

Phe Gly Gly Thr Thr Leu Glu Ile Lys
1 5

<210> 7

<211> 25

<212> PRT

<213> Mus musculus

<400> 7

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Ser Val Lys Leu Ser Cys Lys Ala Ser
20 25

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<211> 8

<212> PRT

<213> Mus musculus

<400> 8

Gly Tyr Thr Phe Thr Asp Tyr Trp
1 5

<210> 9
<211> 17
<212> PRT
<213> Mus musculus

<400> 9

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

Thr

<210> 10
<211> 8
<212> PRT
<213> Mus musculus

<400> 10

Ile Tyr Pro Ser Asp Ser Ser Thr
1 5

<210> 11
<211> 38
<212> PRT
<213> Mus musculus

<400> 11

His Tyr Asn Gln Glu Phe Lys Gly Lys Ala Thr Met Thr Val Asp Lys
1 5 10 15

Ser Ser Ser Thr Ala Tyr Met His Leu Ser Ser Leu Thr Ser Glu Asp
20 25 30

Ser Ala Val Tyr Tyr Cys
35

<210> 12
<211> 13
<212> PRT
<213> Mus musculus

<400> 12

Ala Arg Glu Gly Leu Ala Gly Val Phe Tyr Phe Asp Tyr
1 5 10

<210> 13
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 <212> PRT
 <213> Mus musculus

<400> 13

Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
 1 5 10

<210> 14
 <211> 26
 <212> PRT
 <213> Mus musculus

<400> 14

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

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser
 20 25

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

<400> 15

Gln Ser Leu Val His Ser Asn Gly Asn Thr Tyr
 1 5 10

<210> 16
 <211> 17
 <212> PRT
 <213> Mus musculus

<400> 16

Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile
 1 5 10 15

Tyr

<210> 17
 <211> 36
 <212> PRT
 <213> Mus musculus

<400> 17

Asn Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly
1 5 10 15

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

Val Tyr Phe Cys
35

<210> 18

<211> 9

<212> PRT

<213> Mus musculus

<400> 18

Ser Gln Ser Thr His Phe Pro Pro Thr
1 5

<210> 19

<211> 10

<212> PRT

<213> Mus musculus

<400> 19

Phe Gly Gly Gly Thr Lys Leu Glu Ile Ile
1 5 10

<210> 20

<211> 9

<212> PRT

<213> Mus musculus

<400> 20

Ser Gln Ser Thr His Val Pro Pro Thr
1 5

<210> 21

<211> 10

<212> PRT

<213> Mus musculus

<400> 21

Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
1 5 10

<210> 22
<211> 25
<212> PRT
<213> Mus musculus

<400> 22

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

Ser Val Lys Ile Pro Cys Lys Ala Ser
20 25

<210> 23
<211> 8
<212> PRT
<213> Mus musculus

<400> 23

Gly Tyr Ser Phe Thr Asn Tyr Trp
1 5

<210> 24
<211> 17
<212> PRT
<213> Mus musculus

<400> 24

Met His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly
1 5 10 15

Met

<210> 25
<211> 8
<212> PRT
<213> Mus musculus

<400> 25

Ile Ala Pro Ser Asp Ser Asp Ser
1 5

<210> 26
<211> 38
<212> PRT
<213> Mus musculus

<400> 26

Arg Leu Asn Gln Asn Phe Lys Asp Lys Ala Thr Leu Thr Val Asp Lys
1 5 10 15

Ser Ser Ser Thr Ala Tyr Met Gln Leu Ser Ser Pro Thr Ser Glu Asp
20 25 30

Ser Ala Val Tyr Tyr Cys
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<210> 27

<211> 14

<212> PRT

<213> Mus musculus

<400> 27

Ala Arg Glu Gly Val Thr Met Ile Thr Thr Gly Leu Asp Tyr
1 5 10

<210> 28

<211> 11

<212> PRT

<213> Mus musculus

<400> 28

Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
1 5 10

<210> 29

<211> 275

<212> PRT

<213> Homo sapiens

<400> 29

Gly Ser His Ser Met Arg Tyr Phe Ser Ala Ala Val Ser Arg Pro Gly
1 5 10 15

Arg Gly Glu Pro Arg Phe Ile Ala Met Gly Tyr Val Asp Asp Thr Gln
20 25 30

Phe Val Arg Phe Asp Ser Asp Ser Ala Cys Pro Arg Met Glu Pro Arg
35 40 45

Ala Pro Trp Val Glu Gln Glu Gly Pro Glu Tyr Trp Glu Glu Glu Thr
50 55 60

Arg Asn Thr Lys Ala His Ala Gln Thr Asp Arg Met Asn Leu Gln Thr
65 70 75 80

Leu Arg Gly Tyr Tyr Asn Gln Ser Glu Ala Ser Ser His Thr Leu Gln
85 90 95

Trp Met Ile Gly Cys Asp Leu Gly Ser Asp Gly Arg Leu Leu Arg Gly
100 105 110

Tyr Glu Gln Tyr Ala Tyr Asp Gly Lys Asp Tyr Leu Ala Leu Asn Glu
115 120 125

Asp Leu Arg Ser Trp Thr Ala Ala Asp Thr Ala Ala Gln Ile Ser Lys
130 135 140

Arg Lys Cys Glu Ala Ala Asn Val Ala Glu Gln Arg Arg Ala Tyr Leu
145 150 155 160

Glu Gly Thr Cys Val Glu Trp Leu His Arg Tyr Leu Glu Asn Gly Lys
165 170 175

Glu Met Leu Gln Arg Ala Asp Pro Pro Lys Thr His Val Thr His His
180 185 190

Pro Val Phe Asp Tyr Glu Ala Thr Leu Arg Cys Trp Ala Leu Gly Phe
195 200 205

Tyr Pro Ala Glu Ile Ile Leu Thr Trp Gln Arg Asp Gly Glu Asp Gln
210 215 220

Thr Gln Asp Val Glu Leu Val Glu Thr Arg Pro Ala Gly Asp Gly Thr
225 230 235 240

Phe Gln Lys Trp Ala Ala Val Val Val Pro Ser Gly Glu Glu Gln Arg
245 250 255

Tyr Thr Cys His Val Gln His Glu Gly Leu Pro Glu Pro Leu Met Leu
260 265 270

Arg Trp Lys
275

<210> 30

<211> 275
 <212> PRT
 <213> Homo sapiens

<400> 30

Gly Ser His Ser Leu Lys Tyr Phe His Thr Ser Val Ser Arg Pro Gly
 1 5 10 15

Arg Gly Glu Pro Arg Phe Ile Ser Val Gly Tyr Val Asp Asp Thr Gln
 20 25 30

Phe Val Arg Phe Asp Asn Asp Ala Ala Ser Pro Arg Met Val Pro Arg
 35 40 45

Ala Pro Trp Met Glu Gln Glu Gly Ser Glu Tyr Trp Asp Arg Glu Thr
 50 55 60

Arg Ser Ala Arg Asp Thr Ala Gln Ile Phe Arg Val Asn Leu Arg Thr
 65 70 75 80

Leu Arg Gly Tyr Tyr Asn Gln Ser Glu Ala Gly Ser His Thr Leu Gln
 85 90 95

Trp Met His Gly Cys Glu Leu Gly Pro Asp Gly Arg Phe Leu Arg Gly
 100 105 110

Tyr Glu Gln Phe Ala Tyr Asp Gly Lys Asp Tyr Leu Thr Leu Asn Glu
 115 120 125

Asp Leu Arg Ser Trp Thr Ala Val Asp Thr Ala Ala Gln Ile Ser Glu
 130 135 140

Gln Lys Ser Asn Asp Ala Ser Glu Ala Glu His Gln Arg Ala Tyr Leu
 145 150 155 160

Glu Asp Thr Cys Val Glu Trp Leu His Lys Tyr Leu Glu Lys Gly Lys
 165 170 175

Glu Thr Leu Leu His Leu Glu Pro Pro Lys Thr His Val Thr His His
 180 185 190

Pro Ile Ser Asp His Glu Ala Thr Leu Arg Cys Trp Ala Leu Gly Phe
 195 200 205

Tyr Pro Ala Glu Ile Thr Leu Thr Trp Gln Gln Asp Gly Glu Gly His
 210 215 220

Thr Gln Asp Thr Glu Leu Val Glu Thr Arg Pro Ala Gly Asp Gly Thr
 225 230 235 240

Phe Gln Lys Trp Ala Ala Val Val Val Pro Ser Gly Glu Glu Gln Arg
 245 250 255

Tyr Thr Cys His Val Gln His Glu Gly Leu Pro Glu Pro Val Thr Leu
 260 265 270

Arg Trp Lys
 275

<210> 31
 <211> 275
 <212> PRT
 <213> Homo sapiens

<400> 31

Gly Ser His Ser Met Arg Tyr Phe Phe Thr Ser Val Ser Arg Pro Gly
 1 5 10 15

Arg Gly Glu Pro Arg Phe Ile Ala Val Gly Tyr Val Asp Asp Thr Gln
 20 25 30

Phe Val Arg Phe Asp Ser Asp Ala Ala Ser Gln Arg Met Glu Pro Arg
 35 40 45

Ala Pro Trp Ile Glu Gln Glu Gly Pro Glu Tyr Trp Asp Gly Glu Thr
 50 55 60

Arg Lys Val Lys Ala His Ser Gln Thr His Arg Val Asp Leu Gly Thr
 65 70 75 80

Leu Arg Gly Tyr Tyr Asn Gln Ser Glu Ala Gly Ser His Thr Val Gln
 85 90 95

Arg Met Tyr Gly Cys Asp Val Gly Ser Asp Trp Arg Phe Leu Arg Gly
 100 105 110

Tyr His Gln Tyr Ala Tyr Asp Gly Lys Asp Tyr Ile Ala Leu Lys Glu
 115 120 125

Asp Leu Arg Ser Trp Thr Ala Ala Asp Met Ala Ala Gln Thr Thr Lys
 130 135 140

His Lys Trp Glu Ala Ala His Val Ala Glu Gln Leu Arg Ala Tyr Leu
 145 150 155 160

Glu Gly Thr Cys Val Glu Trp Leu Arg Arg Tyr Leu Glu Asn Gly Lys
 165 170 175

Glu Thr Leu Gln Arg Thr Asp Ala Pro Lys Thr His Met Thr His His
 180 185 190

Ala Val Ser Asp His Glu Ala Thr Leu Arg Cys Trp Ala Leu Ser Phe
 195 200 205

Tyr Pro Ala Glu Ile Thr Leu Thr Trp Gln Arg Asp Gly Glu Asp Gln
 210 215 220

Thr Gln Asp Thr Glu Leu Val Glu Thr Arg Pro Ala Gly Asp Gly Thr
 225 230 235 240

Phe Gln Lys Trp Ala Ala Val Val Val Pro Ser Gly Gln Glu Gln Arg
 245 250 255

Tyr Thr Cys His Val Gln His Glu Gly Leu Pro Lys Pro Leu Thr Leu
 260 265 270

Arg Trp Glu
 275

<210> 32
 <211> 275
 <212> PRT
 <213> Homo sapiens

<400> 32

Gly Ser His Ser Met Arg Tyr Phe Tyr Thr Ser Val Ser Arg Pro Gly
 1 5 10 15

Arg Gly Glu Pro Arg Phe Ile Ser Val Gly Tyr Val Asp Asp Thr Gln
 20 25 30

Phe Val Arg Phe Asp Ser Asp Ala Ala Ser Pro Arg Glu Glu Pro Arg
 35 40 45

12

Arg Trp Glu
275

<210> 33
<211> 274
<212> PRT
<213> Homo sapiens

<400> 33

Gly Ser His Ser Met Arg Tyr Phe Cys Thr Ala Val Ser Arg Pro Gly
1 5 10 15

Arg Gly Glu Pro His Phe Ile Ala Val Gly Tyr Val Asp Asp Thr Gln
20 25 30

Phe Val Arg Phe Asp Ser Asp Asp Glu Ser Pro Arg Gly Glu Pro Arg
35 40 45

Ala Pro Trp Val Glu Arg Lys Gly Pro Glu Tyr Trp Asp Arg Glu Thr
50 55 60

Gln Lys Tyr Lys Pro Gln Ala Gln Thr Asp Arg Val Ser Leu Arg Asn
65 70 75 80

Leu Arg Gly Tyr Tyr Asn Gln Ser Glu Ala Gly Ser His Ile Ile Arg
85 90 95

Met Tyr Gly Cys Asp Val Gly Pro Asp Gly Arg Leu Leu Arg Gly Tyr
100 105 110

Asp Gln His Ala Tyr Asp Gly Lys Asp Tyr Ile Ala Leu Asn Glu Asp
115 120 125

Leu Arg Ser Trp Thr Ala Ala Asn Thr Ala Ala Gln Ile Thr Gln Arg
130 135 140

Lys Trp Glu Ala Ala Arg Glu Ala Glu Gln Leu Arg Ala Tyr Leu Glu
145 150 155 160

Gly Leu Cys Val Glu Trp Leu Arg Arg Tyr Leu Lys Asn Gly Lys Glu
165 170 175

Thr Leu Gln Gly Ala Glu His Pro Lys Thr His Val Thr His His Pro
180 185 190

Val Ser Asp His Glu Ala Thr Leu Arg Cys Trp Ala Leu Gly Phe Tyr
195 200 205

Pro Ala Glu Ile Thr Leu Thr Trp Gln Trp Asp Gly Glu Asp Gln Thr
210 215 220

Gln Asp Thr Glu Leu Val Glu Thr Arg Pro Ala Gly Asp Gly Thr Phe
225 230 235 240

Gln Lys Trp Ala Ala Val Val Val Pro Ser Gly Glu Glu Gln Arg Tyr
245 250 255

Thr Cys His Val Gln His Glu Gly Leu Pro Glu Pro Leu Thr Leu Arg
260 265 270

Trp Glu

<210> 34
<211> 275
<212> PRT
<213> Homo sapiens

<400> 34

Gly Ser His Ser Met Arg Tyr Phe Tyr Thr Ala Met Ser Arg Pro Gly
1 5 10 15

Arg Gly Glu Pro Arg Phe Ile Thr Val Gly Tyr Val Asp Asp Thr Leu
20 25 30

Phe Val Arg Phe Asp Ser Asp Ala Thr Ser Pro Arg Lys Glu Pro Arg
35 40 45

Ala Pro Trp Ile Glu Gln Glu Gly Pro Glu Tyr Trp Asp Arg Glu Thr
50 55 60

Gln Ile Ser Lys Thr Asn Thr Gln Thr Tyr Arg Glu Asn Leu Arg Thr
65 70 75 80

Ala Ala Arg Tyr Tyr Asn Gln Ser Glu Ala Gly Ser His Ile Ile Gln
85 90 95

Arg Met Tyr Gly Cys Asp Val Gly Pro Asp Gly Arg Leu Leu Arg Gly
100 105 110

Tyr Asp Gln Asp Ala Tyr Asp Gly Lys Asp Tyr Ile Ala Leu Asn Glu
115 120 125

Asp Leu Ser Ser Trp Thr Ala Ala Asp Thr Ala Ala Gln Ile Thr Gln
130 135 140

Arg Lys Trp Glu Ala Ala Arg Val Ala Glu Gln Asp Arg Ala Tyr Leu
145 150 155 160

Glu Gly Leu Cys Val Glu Ser Leu Arg Arg Tyr Leu Glu Asn Gly Lys
165 170 175

Glu Thr Leu Gln Arg Ala Asp Pro Pro Lys Thr His Val Thr His His
180 185 190

Pro Ile Ser Asp His Glu Ala Thr Leu Arg Cys Trp Ser Leu Gly Phe
195 200 205

Tyr Pro Ala Glu Ile Thr Leu Thr Trp Gln Arg Asp Gly Glu Asp Gln
210 215 220

Thr Gln Asp Thr Glu Leu Val Glu Thr Arg Pro Ala Gly Asp Arg Thr
225 230 235 240

Phe Gln Lys Trp Ala Ala Val Val Val Pro Ser Gly Glu Glu Gln Arg
245 250 255

Tyr Thr Cys His Val Gln His Glu Gly Leu Pro Lys Pro Leu Thr Leu
260 265 270

Arg Trp Glu
275

<210> 35
<211> 336
<212> DNA
<213> Mus musculus

<400> 35
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atctcttgca gatctagtca gagcattgta catagaagtg gaaacaccta tttagagtgg
120

tacctgcaga agccaggcca gtctccaaag ctctgatct acaaagtttc caaccgattt
180

tctgggggtcc cagacagggt cagtggcagt ggatcaggga cagatttcac actcaagatc
240

agcagagtgg aggctgagga tctgggagtt tattactgct ttcaagggtc acatcttcct
300

ccgacgttcg gtggaggcac cacgctggaa atcaaa
336

<210> 36
<211> 100
<212> PRT
<213> Mus musculus

<400> 36

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

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser
20 25 30

Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

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

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

Ser His Val Pro
100

<210> 37
<211> 12
<212> PRT
<213> Mus musculus

<400> 37

Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
1 5 10

<210> 38
 <211> 360
 <212> DNA
 <213> Mus musculus

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 120
 cctggacaag gccttgaatg gattgggtacc atttaccctt ctgatagttc aactcactac
 180
 aatcaagagt tcaagggcaa ggccacaatg actgtagaca aatcctccag cacagcctac
 240
 atgcatctca gcagcctgac atctgaggac tctgcggtct attactgtgc aagagagggg
 300
 ctagctgggg tggttctactt tgactactgg ggccaaggca ccactctcac agtctcctca
 360

<210> 39
 <211> 98
 <212> PRT
 <213> Mus musculus

<400> 39
 Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Arg Pro Gly Ser
 1 5 10 15
 Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
 20 25 30
 Trp Met Asp Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45
 Gly Asn Ile Tyr Pro Ser Asp Ser Glu Thr His Tyr Asn Gln Lys Phe
 50 55 60
 Lys Asp Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
 65 70 75 80
 Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg

<210> 40
 <211> 15
 <212> PRT
 <213> Mus musculus

<400> 40

Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
 1 5 10 15

<210> 41
 <211> 336
 <212> DNA
 <213> Mus musculus

<400> 41

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atctcttgca gatctagtca gaggccttgta cacagtaatg gaaacaccta ttacattgg
 120

tacctgcaga agccaggcca gtctccaaag ctctgatct acaaagtctc caaccgattt
 180

tctgggggtcc ctgacagggt cagtggcagt ggatcaggga cagatttcac actcaagatc
 240

agcagagtgg aggctgagga tctgggagtt tattttctgct ctcaaagtac acattttcct
 300

ccgacgttcg gtggaggcac caagctggaa atcata
 336

<210> 42
 <211> 100
 <212> PRT
 <213> Mus musculus

<400> 42

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

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
 20 25 30

Asn Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

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

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

Thr His Val Pro
 100

<210> 43
 <211> 12
 <212> PRT
 <213> Mus musculus

<400> 43

Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 1 5 10

<210> 44
 <211> 372
 <212> DNA
 <213> Mus musculus

<400> 44
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atctcttgca gatctagtca gaggccttgta cacagtaatg gaaacaccta ttacattgg
 120

tacctgcaga agccaggcca gtctccaaag ctctgatct acaaagtttc caaccgattt
 180

tctggggtcc cagacagggt cagtggcagt ggatcaggga cagatttcac actcaagatc
 240

agcagagtgg aggctgagga tctgggagtt tatttctgct ctcaaagtac acatgttcct
 300

cccacgttcg gtgctgggac caagctggag ctgaaacggg ctgatgctgc accaactgta
 360

tccgcggccg ca
 372

<210> 45
 <211> 12
 <212> PRT

<213> Mus musculus

<400> 45

Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
1 5 10

<210> 46

<211> 363

<212> DNA

<213> Mus musculus

<400> 46

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ccctgcaagg cttctgggta ctcattcacc aactactgga tgcactgggt gaagcagagg
120

cctggacaag gtcttgagtg gattggcatg attgctcctt ccgatagtga tagtaggtta
180

aatcagaatt tcaaggacaa ggccacattg actgtagaca aatcctccag cacagcctac
240

atgcaactca gcagcccgac atctgaggac tctgcggtct attactgtgc aagagagggg
300

gttacaatga taacgacggg ccttgactac tggggccaag gcaccactct cacagtctcc
360

tca
363

<210> 47

<211> 98

<212> PRT

<213> Mus musculus

<400> 47

Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

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

Gly Glu Ile Asp Pro Ser Asp Ser Tyr Thr Asn Asn Asn Gln Lys Phe
50 55 60

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

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

Ala Arg

<210> 48
<211> 8
<212> PRT
<213> Mus musculus

<400> 48

Pro Thr Ile Val Thr Ile Val Thr
1 5

<210> 49
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Immunogenic peptide

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa at position 1 is absent, cysteine or valine or KTHV or CKTHV

<220>
<221> MISC_FEATURE
<222> (15)..(15)
<223> Xaa at position 15 is absent or cysteine

<400> 49

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

<210> 50
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> fragment of immunogenic peptide

<400> 50

Lys Thr His Val
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<210> 51
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> fragment of immunogenic sequence

<400> 51

Cys Lys Thr His Val
1 5

<210> 52
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> immunogenic peptide

<400> 52

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

<210> 53
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> immunogenic peptide

<400> 53

Cys Lys Thr His Val Thr His His Pro Val Phe Asp Tyr Glu Ala Thr
1 5 10 15

Leu Arg Cys

<210> 54
<211> 13
<212> PRT
<213> Homo sapiens

<400> 54

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

<210> 55
<211> 14
<212> PRT
<213> Homo sapiens

<400> 55

Thr His His Pro Val Phe Asp Tyr Glu Ala Thr Leu Arg Cys
1 5 10

<210> 56
<211> 15
<212> PRT
<213> Homo sapiens

<400> 56

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

<210> 57
<211> 14
<212> PRT
<213> Homo sapiens

<400> 57

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

<210> 58
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> immunogenic peptide

<400> 58

Cys Thr His His Pro Val Phe Asp Tyr Glu Ala Thr Leu Arg
1 5 10

<210> 59
<211> 17
<212> PRT
<213> Homo sapiens

<400> 59

Lys Thr His Val Thr His His Pro Val Phe Asp Tyr Glu Ala Thr Leu
 1 5 10 15

Arg

<210> 60
 <211> 18
 <212> PRT
 <213> Homo sapiens

<400> 60

Lys Thr His Val Thr His His Pro Val Phe Asp Tyr Glu Ala Thr Leu
 1 5 10 15

Arg Cys

<210> 61
 <211> 18
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> immunogenic peptide

<400> 61

Cys Lys Thr His Val Thr His His Pro Val Phe Asp Tyr Glu Ala Thr
 1 5 10 15

Leu Arg

<210> 62
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant peptide

<400> 62

Cys Thr His His Pro Val Ala Asp Ala Glu Ala Thr Leu Arg Cys
 1 5 10 15

<210> 63
 <211> 111
 <212> PRT

<213> Mus musculus

<400> 63

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

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Arg
20 25 30

Ser Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

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

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

Ser His Leu Pro Pro Thr Phe Gly Gly Thr Thr Leu Glu Ile Lys
100 105 110

<210> 64

<211> 120

<212> PRT

<213> Mus musculus

<400> 64

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

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

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

Gly Thr Ile Tyr Pro Ser Asp Ser Ser Thr His Tyr Asn Gln Glu Phe
50 55 60

Lys Gly Lys Ala Thr Met Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Met His Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Gly Leu Ala Gly Val Phe Tyr Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Thr Leu Thr Val Ser Ser
115 120

<210> 65
<211> 112
<212> PRT
<213> Mus musculus

<400> 65

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

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

Asn Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

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

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

Thr His Phe Pro Pro Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Ile
100 105 110

<210> 66
<211> 112
<212> PRT
<213> Mus musculus

<400> 66

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

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

Asn Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

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

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

Thr His Val Pro Pro Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
100 105 110

<210> 67
<211> 121
<212> PRT
<213> Mus musculus

<400> 67

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

Ser Val Lys Ile Pro Cys Lys Ala Ser Gly Tyr Ser Phe Thr Asn Tyr
20 25 30

Trp Met His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Ala Pro Ser Asp Ser Asp Ser Arg Leu Asn Gln Asn Phe
50 55 60

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

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

Ala Arg Glu Gly Val Thr Met Ile Thr Thr Gly Leu Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Thr Leu Thr Val Ser Ser
115 120

<210> 68
<211> 26
<212> PRT
<213> Mus musculus

<400> 68

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

Glu Lys Val Thr Met Thr Cys Ser Ala Ser
20 25

<210> 69
<211> 7
<212> PRT
<213> Mus musculus

<400> 69

Ser Ser Val Ser Ser Asn Phe
1 5

<210> 70
<211> 17
<212> PRT
<213> Mus musculus

<400> 70

Leu His Trp Tyr Gln Gln Lys Ser Gly Thr Ser Pro Lys Leu Trp Ile
1 5 10 15

Tyr

<210> 71
<211> 36
<212> PRT
<213> Mus musculus

<400> 71

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

Ile Ser Tyr Ser Leu Thr Val Ser Asn Met Glu Ala Glu Asn Asp Ala
20 25 30

Ala Tyr Tyr Cys
35

<210> 72
<211> 9
<212> PRT
<213> Mus musculus

<400> 72

Gln Gln Trp Asn Ala Tyr Pro Phe Thr
1 5

<210> 73
<211> 25
<212> PRT
<213> Mus musculus

<400> 73

Glu Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Met Lys Leu Ser Cys Val Ala Ser
20 25

<210> 74
<211> 8
<212> PRT
<213> Mus musculus

<400> 74

Gly Phe Thr Phe Ser Ser Tyr Trp
1 5

<210> 75
<211> 17
<212> PRT
<213> Mus musculus

<400> 75

Leu Ser Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val Ala
1 5 10 15

Glu

<210> 76
<211> 10
<212> PRT
<213> Mus musculus

<400> 76

Val Arg Leu Lys Ser Asp Asn Tyr Ala Thr
1 5 10

<210> 77
<211> 38
<212> PRT
<213> Mus musculus

<400> 77

Ser Tyr Ala Glu Ser Val Lys Gly Lys Phe Thr Ile Ser Arg Asp Asp
1 5 10 15

Ala Asn Ser Arg Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
20 25 30

Thr Gly Ile Tyr Tyr Cys
35

<210> 78
<211> 5
<212> PRT
<213> Mus musculus

<400> 78

Thr Thr Gly Asp Tyr
1 5

<210> 79
<211> 26
<212> PRT
<213> Mus musculus

<400> 79

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

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser
20 25

<210> 80
<211> 11
<212> PRT
<213> Mus musculus

<400> 80

Gln Ser Leu Val Asn Ser Asn Gly Asn Thr Leu
1 5 10

<210> 81
<211> 9
<212> PRT
<213> Mus musculus

<400> 81

Ser Gln Ser Thr His Val Pro Trp Thr
1 5

<210> 82
<211> 10
<212> PRT
<213> Mus musculus

<400> 82

Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
1 5 10

<210> 83
<211> 8
<212> PRT
<213> Mus musculus

<400> 83

Gly Leu Thr Phe Ser Ser Tyr Trp
1 5

<210> 84
<211> 17
<212> PRT
<213> Mus musculus

<400> 84

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

Glu

<210> 85
<211> 10
<212> PRT
<213> Mus musculus

<400> 85

Ile Arg Leu Arg Ser Asp Asn Tyr Val Lys
1 5 10

<210> 86
<211> 38
<212> PRT
<213> Mus musculus

<400> 86

Gln Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp
1 5 10 15

Ser Lys Gly Arg Leu Tyr Leu Gln Met Asn Arg Leu Arg Gly Asp Asp
20 25 30

Thr Gly Ile Tyr Phe Cys
35

<210> 87
<211> 11
<212> PRT
<213> Mus musculus

<400> 87

Gln Thr Ile Val His Ser Asn Gly Asn Thr Tyr
1 5 10

<210> 88
<211> 9
<212> PRT
<213> Mus musculus

<400> 88

Phe Gln Gly Ser His Val Pro Pro Thr
1 5

<210> 89
<211> 25
<212> PRT
<213> Mus musculus

<400> 89

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

Ser Val Lys Leu Ser Cys Lys Ala Ser
20 25

<210> 90

<211> 8

<212> PRT

<213> Mus musculus

<400> 90

Gly Tyr Thr Phe Thr Arg Asn Trp
1 5

<210> 91

<211> 17

<212> PRT

<213> Mus musculus

<400> 91

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

Asp

<210> 92

<211> 8

<212> PRT

<213> Mus musculus

<400> 92

Ile Tyr Pro Gly Asp Ala Ser Thr
1 5

<210> 93

<211> 38

<212> PRT

<213> Mus musculus

<400> 93

His Tyr Asn Gly Lys Phe Lys Asn Lys Ala Thr Leu Thr Val Asp Thr
1 5 10 15

Ser Ser Ser Thr Ala Tyr Leu Gln Val Ser Ser Leu Thr Ser Glu Asp
20 25 30

Ser Ala Val Tyr Tyr Cys
35

<210> 94
<211> 13
<212> PRT
<213> Mus musculus

<400> 94

Ala Arg Glu Gln Val Gln Phe Ala Met Phe Phe Asp Val
1 5 10

<210> 95
<211> 11
<212> PRT
<213> Mus musculus

<400> 95

Trp Gly Thr Gly Ala Thr Val Thr Val Ser Ser
1 5 10

<210> 96
<211> 25
<212> PRT
<213> Mus musculus

<400> 96

Gln Val Gln Leu Gln Gln Pro Arg Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Met Ser Cys Lys Ala Ser
20 25

<210> 97
<211> 8
<212> PRT
<213> Mus musculus

<400> 97

Gly Tyr Thr Phe Ala Arg Tyr Trp
1 5

<210> 98
<211> 17

<212> PRT
<213> Mus musculus

<400> 98

Ile Ser Trp Leu Lys Leu Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly
1 5 10 15

Asp

<210> 99
<211> 8
<212> PRT
<213> Mus musculus

<400> 99

Ile Tyr Pro Gly Asp Asp Ser Thr
1 5

<210> 100
<211> 38
<212> PRT
<213> Mus musculus

<400> 100

His Tyr Asn Gly Lys Phe Lys Asn Lys Ala Thr Leu Thr Val Asp Thr
1 5 10 15

Ser Thr Ser Thr Ala Tyr Ile Gln Leu Ser Ser Leu Thr Ser Glu Asp
20 25 30

Ser Ala Val Tyr Tyr Cys
35

<210> 101
<211> 11
<212> PRT
<213> Mus musculus

<400> 101

Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr
1 5 10

<210> 102
<211> 38
<212> PRT
<213> Mus musculus

<400> 102

His	Tyr	Asn	Gln	Glu	Phe	Lys	Gly	Lys	Ala	Thr	Met	Thr	Val	Asp	Lys
1				5					10					15	

Ser	Ser	Ser	Thr	Ala	Tyr	Met	His	Leu	Gly	Ser	Leu	Thr	Ser	Glu	Asp
			20					25					30		

Ser	Ala	Val	Tyr	Tyr	Cys
					35