

SEQUENCE LISTING

<110> Immatics Biotechnologies GmbH

<120> TRANSFECTED T-CELLS AND T-CELL RECEPTORS FOR USE IN
IMMUNOTHERAPY
AGAINST CANCERS

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<151> 2016-03-16

<150> US 62/308,970

<151> 2016-03-16

<160> 45

<170> PatentIn version 3.5

<210> 1

<211> 9

<212> PRT

<213> Homo sapiens

<400> 1

Lys Ile Gln Glu Ile Leu Thr Gln Val
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<210> 2

<211> 271

<212> PRT

<213> Homo sapiens

<400> 2

Met Lys Thr Phe Ala Gly Phe Ser Phe Leu Phe Leu Trp Leu Gln Leu
1 5 10 15

Asp Cys Met Ser Arg Gly Glu Asp Val Glu Gln Ser Leu Phe Leu Ser
20 25 30

Val Arg Glu Gly Asp Ser Ser Val Ile Asn Cys Thr Tyr Thr Asp Ser
35 40 45

Ser Ser Thr Tyr Leu Tyr Trp Tyr Lys Gln Glu Pro Gly Ala Gly Leu
50 55 60

Gln Leu Leu Thr Tyr Ile Phe Ser Asn Met Asp Met Lys Gln Asp Gln

65	70	75	80
Arg Leu Thr Val Leu Leu Asn Lys Lys Asp Lys His Leu Ser Leu Arg			
	85	90	95
Ile Ala Asp Thr Gln Thr Gly Asp Ser Ala Ile Tyr Phe Cys Ala Glu			
	100	105	110
Ser Lys Glu Thr Arg Leu Met Phe Gly Asp Gly Thr Gln Leu Val Val			
	115	120	125
Lys Pro Asn Ile Gln Asn Pro Asp Pro Ala Val Tyr Gln Leu Arg Asp			
	130	135	140
Ser Lys Ser Ser Asp Lys Ser Val Cys Leu Phe Thr Asp Phe Asp Ser			
	145	150	155
			160
Gln Thr Asn Val Ser Gln Ser Lys Asp Ser Asp Val Tyr Ile Thr Asp			
	165	170	175
Lys Thr Val Leu Asp Met Arg Ser Met Asp Phe Lys Ser Asn Ser Ala			
	180	185	190
Val Ala Trp Ser Asn Lys Ser Asp Phe Ala Cys Ala Asn Ala Phe Asn			
	195	200	205
Asn Ser Ile Ile Pro Glu Asp Thr Phe Phe Pro Ser Pro Glu Ser Ser			
	210	215	220
Cys Asp Val Lys Leu Val Glu Lys Ser Phe Glu Thr Asp Thr Asn Leu			
	225	230	235
			240
Asn Phe Gln Asn Leu Ser Val Ile Gly Phe Arg Ile Leu Leu Leu Lys			
	245	250	255
Val Ala Gly Phe Asn Leu Leu Met Thr Leu Arg Leu Trp Ser Ser			
	260	265	270

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 <213> Homo sapiens

<400> 3

Met Lys Thr Phe Ala Gly Phe Ser Phe Leu Phe Leu Trp Leu Gln Leu
1 5 10 15

Asp Cys Met Ser Arg
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<210> 4

<211> 113

<212> PRT

<213> Homo sapiens

<400> 4

Met Lys Thr Phe Ala Gly Phe Ser Phe Leu Phe Leu Trp Leu Gln Leu
1 5 10 15

Asp Cys Met Ser Arg Gly Glu Asp Val Glu Gln Ser Leu Phe Leu Ser
20 25 30

Val Arg Glu Gly Asp Ser Ser Val Ile Asn Cys Thr Tyr Thr Asp Ser
35 40 45

Ser Ser Thr Tyr Leu Tyr Trp Tyr Lys Gln Glu Pro Gly Ala Gly Leu
50 55 60

Gln Leu Leu Thr Tyr Ile Phe Ser Asn Met Asp Met Lys Gln Asp Gln
65 70 75 80

Arg Leu Thr Val Leu Leu Asn Lys Lys Asp Lys His Leu Ser Leu Arg
85 90 95

Ile Ala Asp Thr Gln Thr Gly Asp Ser Ala Ile Tyr Phe Cys Ala Glu
100 105 110

Ser

<210> 5

<211> 6

<212> PRT

<213> Homo sapiens

<400> 5

Asp Ser Ser Ser Thr Tyr
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<210> 6

<211> 3

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<213> Homo sapiens

<400> 6

Ile Phe Ser
1

<210> 7

<211> 11

<212> PRT

<213> Homo sapiens

<400> 7

Cys Ala Glu Ser Lys Glu Thr Arg Leu Met Phe
1 5 10

<210> 8

<211> 14

<212> PRT

<213> Homo sapiens

<400> 8

Arg Leu Met Phe Gly Asp Gly Thr Gln Leu Val Val Lys Pro
1 5 10

<210> 9

<211> 141

<212> PRT

<213> Homo sapiens

<400> 9

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

Ser Ser Asp Lys Ser Val Cys Leu Phe Thr Asp Phe Asp Ser Gln Thr
20 25 30

Asn Val Ser Gln Ser Lys Asp Ser Asp Val Tyr Ile Thr Asp Lys Thr

35 40 45

Val Leu Asp Met Arg Ser Met Asp Phe Lys Ser Asn Ser Ala Val Ala
50 55 60

Trp Ser Asn Lys Ser Asp Phe Ala Cys Ala Asn Ala Phe Asn Asn Ser
65 70 75 80

Ile Ile Pro Glu Asp Thr Phe Phe Pro Ser Pro Glu Ser Ser Cys Asp
85 90 95

Val Lys Leu Val Glu Lys Ser Phe Glu Thr Asp Thr Asn Leu Asn Phe
100 105 110

Gln Asn Leu Ser Val Ile Gly Phe Arg Ile Leu Leu Leu Lys Val Ala
115 120 125

Gly Phe Asn Leu Leu Met Thr Leu Arg Leu Trp Ser Ser
130 135 140

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<213> Homo sapiens

<400> 10

Met Leu Leu Leu Leu Leu Leu Gly Pro Gly Ile Ser Leu Leu Leu
1 5 10 15

Pro Gly Ser Leu Ala Gly Ser Gly Leu Gly Ala Val Val Ser Gln His
20 25 30

Pro Ser Trp Val Ile Cys Lys Ser Gly Thr Ser Val Lys Ile Glu Cys
35 40 45

Arg Ser Leu Asp Phe Gln Ala Thr Thr Met Phe Trp Tyr Arg Gln Phe
50 55 60

Pro Lys Gln Ser Leu Met Leu Met Ala Thr Ser Asn Glu Gly Ser Lys
65 70 75 80

Ala Thr Tyr Glu Gln Gly Val Glu Lys Asp Lys Phe Leu Ile Asn His

85

90

95

Ala Ser Leu Thr Leu Ser Thr Leu Thr Val Thr Ser Ala His Pro Glu
100 105 110

Asp Ser Ser Phe Tyr Ile Cys Ser Ala Arg Ala Gly Gly His Glu Gln
115 120 125

Phe Phe Gly Pro Gly Thr Arg Leu Thr Val Leu Glu Asp Leu Lys Asn
130 135 140

Val Phe Pro Pro Glu Val Ala Val Phe Glu Pro Ser Glu Ala Glu Ile
145 150 155 160

Ser His Thr Gln Lys Ala Thr Leu Val Cys Leu Ala Thr Gly Phe Tyr
165 170 175

Pro Asp His Val Glu Leu Ser Trp Trp Val Asn Gly Lys Glu Val His
180 185 190

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

Asn Asp Ser Arg Tyr Cys Leu Ser Ser Arg Leu Arg Val Ser Ala Thr
210 215 220

Phe Trp Gln Asn Pro Arg Asn His Phe Arg Cys Gln Val Gln Phe Tyr
225 230 235 240

Gly Leu Ser Glu Asn Asp Glu Trp Thr Gln Asp Arg Ala Lys Pro Val
245 250 255

Thr Gln Ile Val Ser Ala Glu Ala Trp Gly Arg Ala Asp Cys Gly Phe
260 265 270

Thr Ser Glu Ser Tyr Gln Gln Gly Val Leu Ser Ala Thr Ile Leu Tyr
275 280 285

Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala Val Leu Val Ser Ala
290 295 300

Leu Val Leu Met Ala Met Val Lys Arg Lys Asp Ser Arg Gly
305 310 315

<210> 11
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<213> Homo sapiens

<400> 11

Met Leu Leu Leu Leu Leu Leu Leu Gly Pro Gly Ile Ser Leu Leu Leu
1 5 10 15

Pro Gly Ser Leu Ala Gly Ser Gly Leu
20 25

<210> 12
<211> 122
<212> PRT
<213> Homo sapiens

<400> 12

Met Leu Leu Leu Leu Leu Leu Leu Gly Pro Gly Ile Ser Leu Leu Leu
1 5 10 15

Pro Gly Ser Leu Ala Gly Ser Gly Leu Gly Ala Val Val Ser Gln His
20 25 30

Pro Ser Trp Val Ile Cys Lys Ser Gly Thr Ser Val Lys Ile Glu Cys
35 40 45

Arg Ser Leu Asp Phe Gln Ala Thr Thr Met Phe Trp Tyr Arg Gln Phe
50 55 60

Pro Lys Gln Ser Leu Met Leu Met Ala Thr Ser Asn Glu Gly Ser Lys
65 70 75 80

Ala Thr Tyr Glu Gln Gly Val Glu Lys Asp Lys Phe Leu Ile Asn His
85 90 95

Ala Ser Leu Thr Leu Ser Thr Leu Thr Val Thr Ser Ala His Pro Glu
100 105 110

Asp Ser Ser Phe Tyr Ile Cys Ser Ala Arg

115

120

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<213> Homo sapiens

<400> 13

Asp Phe Gln Ala Thr Thr

1 5

<210> 14

<211> 7

<212> PRT

<213> Homo sapiens

<400> 14

Ser Asn Glu Gly Ser Lys Ala

1 5

<210> 15

<211> 12

<212> PRT

<213> Homo sapiens

<400> 15

Cys Ser Ala Arg Ala Gly Gly His Glu Gln Phe Phe

1 5 10

<210> 16

<211> 13

<212> PRT

<213> Homo sapiens

<400> 16

Glu Gln Phe Phe Gly Pro Gly Thr Arg Leu Thr Val Leu

1 5 10

<210> 17

<211> 179

<212> PRT

<213> Homo sapiens

<400> 17

Glu Asp Leu Lys Asn Val Phe Pro Pro Glu Val Ala Val Phe Glu Pro

1 5 10 15

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

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

Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro Gln Pro Leu Lys
50 55 60

Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Cys Leu Ser Ser Arg Leu
65 70 75 80

Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg Asn His Phe Arg Cys
85 90 95

Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp Thr Gln Asp
100 105 110

Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala Trp Gly Arg
115 120 125

Ala Asp Cys Gly Phe Thr Ser Glu Ser Tyr Gln Gln Gly Val Leu Ser
130 135 140

Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala
145 150 155 160

Val Leu Val Ser Ala Leu Val Leu Met Ala Met Val Lys Arg Lys Asp
165 170 175

Ser Arg Gly

<210> 18

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<213> Homo sapiens

<400> 18

Val Ile Gly Phe Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu

1 5 10 15

Leu Met Thr Leu
20

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<400> 19

Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala Val
1 5 10 15

Leu Val Ser Ala Leu Val Leu
20

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<213> Homo sapiens

<400> 20

Met Glu Thr Leu Leu Gly Leu Leu Ile Leu Trp Leu Gln Leu Gln Trp
1 5 10 15

Val Ser Ser Lys Gln Glu Val Thr Gln Ile Pro Ala Ala Leu Ser Val
20 25 30

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

Ile Tyr Asn Leu Gln Trp Phe Arg Gln Asp Pro Gly Lys Gly Leu Thr
50 55 60

Ser Leu Leu Leu Ile Gln Ser Ser Gln Arg Glu Gln Thr Ser Gly Arg
65 70 75 80

Leu Asn Ala Ser Leu Asp Lys Ser Ser Gly Arg Ser Thr Leu Tyr Ile
85 90 95

Ala Ala Ser Gln Pro Gly Asp Ser Ala Thr Tyr Leu Cys Ala Val Arg
100 105 110

Pro Thr Ser Gly Gly Ser Tyr Ile Pro Thr Phe Gly Arg Gly Thr Ser
115 120 125

Leu Ile Val His Pro Tyr Ile Gln Asn Pro Asp Pro Ala Val Tyr Gln
130 135 140

Leu Arg Asp Ser Lys Ser Ser Asp Lys Ser Val Cys Leu Phe Thr Asp
145 150 155 160

Phe Asp Ser Gln Thr Asn Val Ser Gln Ser Lys Asp Ser Asp Val Tyr
165 170 175

Ile Thr Asp Lys Thr Val Leu Asp Met Arg Ser Met Asp Phe Lys Ser
180 185 190

Asn Ser Ala Val Ala Trp Ser Asn Lys Ser Asp Phe Ala Cys Ala Asn
195 200 205

Ala Phe Asn Asn Ser Ile Ile Pro Glu Asp Thr Phe Phe Pro Ser Pro
210 215 220

Glu Ser Ser Cys Asp Val Lys Leu Val Glu Lys Ser Phe Glu Thr Asp
225 230 235 240

Thr Asn Leu Asn Phe Gln Asn Leu Ser Val Ile Gly Phe Arg Ile Leu
245 250 255

Leu Leu Lys Val Ala Gly Phe Asn Leu Leu Met Thr Leu Arg Leu Trp
260 265 270

Ser Ser

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<400> 21

Met Ser Ile Gly Leu Leu Cys Cys Ala Ala Leu Ser Leu Leu Trp Ala
1 5 10 15

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

Lys Thr Gly Gln Ser Met Thr Leu Gln Cys Ala Gln Asp Met Asn His
35 40 45

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

Ile His Tyr Ser Val Gly Ala Gly Ile Thr Asp Gln Gly Glu Val Pro
65 70 75 80

Asn Gly Tyr Asn Val Ser Arg Ser Thr Thr Glu Asp Phe Pro Leu Arg
85 90 95

Leu Leu Ser Ala Ala Pro Ser Gln Thr Ser Val Tyr Phe Cys Ala Ser
100 105 110

Ser Tyr Val Gly Asn Thr Gly Glu Leu Phe Phe Gly Glu Gly Ser Arg
115 120 125

Leu Thr Val Leu Glu Asp Leu Lys Asn Val Phe Pro Pro Glu Val Ala
130 135 140

Val Phe Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr
145 150 155 160

Leu Val Cys Leu Ala Thr Gly Phe Tyr Pro Asp His Val Glu Leu Ser
165 170 175

Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro
180 185 190

Gln Pro Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Cys Leu
195 200 205

Ser Ser Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg Asn
210 215 220

His Phe Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu

225 230 235 240

Trp Thr Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu
 245 250 255

Ala Trp Gly Arg Ala Asp Cys Gly Phe Thr Ser Glu Ser Tyr Gln Gln
 260 265 270

Gly Val Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala
 275 280 285

Thr Leu Tyr Ala Val Leu Val Ser Ala Leu Val Leu Met Ala Met Val
 290 295 300

Lys Arg Lys Asp Ser Arg Gly
305 310

<210> 22
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<212> DNA
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<400> 22
ggaattccat atgagtcaac aaggagaaga agatcc 36

<210> 23
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ttgtcagtcg acttagagtc tctcagctgg tacacg 36

<210> 24
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<212> DNA
<213> Homo sapiens

<400> 24
tctctcatat ggatggtgga attactcaat ccccaa 36

<210> 25
<211> 32
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<213> Homo sapiens

<400> 25
tagaaaccgg tggccaggca caccagtgtg gc

32

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<400> 37

Ala Ile Gln Glu Ile Leu Thr Gln Val
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<400> 38

Lys Ala Gln Glu Ile Leu Thr Gln Val
1 5

<210> 39
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<400> 39

Lys Ile Ala Glu Ile Leu Thr Gln Val
1 5

<210> 40
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<400> 40

Lys Ile Gln Ala Ile Leu Thr Gln Val
1 5

<210> 41
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<400> 41

Lys Ile Gln Glu Ala Leu Thr Gln Val
1 5

<210> 42
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<400> 42

Lys Ile Gln Glu Ile Ala Thr Gln Val
1 5

<210> 43
<211> 9
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<213> Homo sapiens

<400> 43

Lys Ile Gln Glu Ile Leu Ala Gln Val
1 5

<210> 44
<211> 9
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<213> Homo sapiens

<400> 44

Lys Ile Gln Glu Ile Leu Thr Ala Val
1 5

<210> 45

<211> 9

<212> PRT

<213> Homo sapiens

<400> 45

Lys Ile Gln Glu Ile Leu Thr Gln Ala
1 5