

55303WOPCT-seq1-000001
SEQUENCE LISTING

<110> Novartis AG
<120> Novel selection vectors and methods of selecting eukaryotic host cells
<130> PAT055303-WO-PCT
<150> US 61/860,439
<151> 2013-07-31
<160> 13
<170> PatentIn version 3.5
<210> 1
<211> 205
<212> PRT
<213> Homo sapiens
<400> 1

Ile Ala Trp Ala Arg Thr Glu Leu Leu Asn Val Cys Met Asn Ala Lys
1 5 10 15

His His Lys Glu Lys Pro Gly Pro Glu Asp Lys Leu His Glu Gln Cys
20 25 30

Arg Pro Trp Arg Lys Asn Ala Cys Cys Ser Thr Asn Thr Ser Gln Glu
35 40 45

Ala His Lys Asp Val Ser Tyr Leu Tyr Arg Phe Asn Trp Asn His Cys
50 55 60

Gly Glu Met Ala Pro Ala Cys Lys Arg His Phe Ile Gln Asp Thr Cys
65 70 75 80

Leu Tyr Glu Cys Ser Pro Asn Leu Gly Pro Trp Ile Gln Gln Val Asp
85 90 95

Gln Ser Trp Arg Lys Glu Arg Val Leu Asn Val Pro Leu Cys Lys Glu

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100

105

110

Asp Cys Glu Gln Trp Trp Glu Asp Cys Arg Thr Ser Tyr Thr Cys Lys
115 120 125

Ser Asn Trp His Lys Gly Trp Asn Trp Thr Ser Gly Phe Asn Lys Cys
130 135 140

Ala Val Gly Ala Ala Cys Gln Pro Phe His Phe Tyr Phe Pro Thr Pro
145 150 155 160

Thr Val Leu Cys Asn Glu Ile Trp Thr His Ser Tyr Lys Val Ser Asn
165 170 175

Tyr Ser Arg Gly Ser Gly Arg Cys Ile Gln Met Trp Phe Asp Pro Ala
180 185 190

Gln Gly Asn Pro Asn Glu Glu Val Ala Arg Phe Tyr Ala
195 200 205

<210> 2
<211> 27
<212> PRT
<213> Homo sapiens

<400> 2

Ala Ala Met Ser Gly Ala Gly Pro Trp Ala Ala Trp Pro Phe Leu Leu
1 5 10 15

Ser Leu Ala Leu Met Leu Leu Trp Leu Leu Ser
20 25

<210> 3
<211> 257
<212> PRT
<213> Homo sapiens

<400> 3

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Met Ala Gln Arg Met Thr Thr Gln Leu Leu Leu Leu Val Trp Val
1 5 10 15

Ala Val Val Gly Glu Ala Gln Thr Arg Ile Ala Trp Ala Arg Thr Glu
20 25 30

Leu Leu Asn Val Cys Met Asn Ala Lys His His Lys Glu Lys Pro Gly
35 40 45

Pro Glu Asp Lys Leu His Glu Gln Cys Arg Pro Trp Arg Lys Asn Ala
50 55 60

Cys Cys Ser Thr Asn Thr Ser Gln Glu Ala His Lys Asp Val Ser Tyr
65 70 75 80

Leu Tyr Arg Phe Asn Trp Asn His Cys Gly Glu Met Ala Pro Ala Cys
85 90 95

Lys Arg His Phe Ile Gln Asp Thr Cys Leu Tyr Glu Cys Ser Pro Asn
100 105 110

Leu Gly Pro Trp Ile Gln Gln Val Asp Gln Ser Trp Arg Lys Glu Arg
115 120 125

Val Leu Asn Val Pro Leu Cys Lys Glu Asp Cys Glu Gln Trp Trp Glu
130 135 140

Asp Cys Arg Thr Ser Tyr Thr Cys Lys Ser Asn Trp His Lys Gly Trp
145 150 155 160

Asn Trp Thr Ser Gly Phe Asn Lys Cys Ala Val Gly Ala Ala Cys Gln
165 170 175

Pro Phe His Phe Tyr Phe Pro Thr Pro Thr Val Leu Cys Asn Glu Ile
180 185 190

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Trp Thr His Ser Tyr Lys Val Ser Asn Tyr Ser Arg Gly Ser Gly Arg
195 200 205

Cys Ile Gln Met Trp Phe Asp Pro Ala Gln Gly Asn Pro Asn Glu Glu
210 215 220

Val Ala Arg Phe Tyr Ala Ala Ala Met Ser Gly Ala Gly Pro Trp Ala
225 230 235 240

Ala Trp Pro Phe Leu Leu Ser Leu Ala Leu Met Leu Leu Trp Leu Leu
245 250 255

Ser

<210> 4
<211> 203
<212> PRT
<213> Homo sapiens

<400> 4

Gln Asp Arg Thr Asp Leu Leu Asn Val Cys Met Asp Ala Lys His His
1 5 10 15

Lys Thr Lys Pro Gly Pro Glu Asp Lys Leu His Asp Gln Cys Ser Pro
20 25 30

Trp Lys Lys Asn Ala Cys Cys Thr Ala Ser Thr Ser Gln Glu Leu His
35 40 45

Lys Asp Thr Ser Arg Leu Tyr Asn Phe Asn Trp Asp His Cys Gly Lys
50 55 60

Met Glu Pro Ala Cys Lys Arg His Phe Ile Gln Asp Thr Cys Leu Tyr
65 70 75 80

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Glu Cys Ser Pro Asn Leu Gly Pro Trp Ile Gln Gln Val Asn Gln Thr
85 90 95

Trp Arg Lys Glu Arg Phe Leu Asp Val Pro Leu Cys Lys Glu Asp Cys
100 105 110

Gln Arg Trp Trp Glu Asp Cys His Thr Ser His Thr Cys Lys Ser Asn
115 120 125

Trp His Arg Gly Trp Asp Trp Thr Ser Gly Val Asn Lys Cys Pro Ala
130 135 140

Gly Ala Leu Cys Arg Thr Phe Glu Ser Tyr Phe Pro Thr Pro Ala Ala
145 150 155 160

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

Arg Gly Ser Gly Arg Cys Ile Gln Met Trp Phe Asp Ser Ala Gln Gly
180 185 190

Asn Pro Asn Glu Glu Val Ala Arg Phe Tyr Ala
195 200

<210> 5
<211> 31
<212> PRT
<213> Homo sapiens

<400> 5

Ala Ala Met His Val Asn Ala Gly Glu Met Leu His Gly Thr Gly Gly
1 5 10 15

Leu Leu Leu Ser Leu Ala Leu Met Leu Gln Leu Trp Leu Leu Gly
20 25 30

<210> 6

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<211> 255

<212> PRT

<213> Homo sapiens

<400> 6

Met Val Trp Lys Trp Met Pro Leu Leu Leu Leu Val Cys Val Ala
1 5 10 15

Thr Met Cys Ser Ala Gln Asp Arg Thr Asp Leu Leu Asn Val Cys Met
20 25 30

Asp Ala Lys His His Lys Thr Lys Pro Gly Pro Glu Asp Lys Leu His
35 40 45

Asp Gln Cys Ser Pro Trp Lys Lys Asn Ala Cys Cys Thr Ala Ser Thr
50 55 60

Ser Gln Glu Leu His Lys Asp Thr Ser Arg Leu Tyr Asn Phe Asn Trp
65 70 75 80

Asp His Cys Gly Lys Met Glu Pro Ala Cys Lys Arg His Phe Ile Gln
85 90 95

Asp Thr Cys Leu Tyr Glu Cys Ser Pro Asn Leu Gly Pro Trp Ile Gln
100 105 110

Gln Val Asn Gln Thr Trp Arg Lys Glu Arg Phe Leu Asp Val Pro Leu
115 120 125

Cys Lys Glu Asp Cys Gln Arg Trp Trp Glu Asp Cys His Thr Ser His
130 135 140

Thr Cys Lys Ser Asn Trp His Arg Gly Trp Asp Trp Thr Ser Gly Val
145 150 155 160

Asn Lys Cys Pro Ala Gly Ala Leu Cys Arg Thr Phe Glu Ser Tyr Phe
165 170 175

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Pro Thr Pro Ala Ala Leu Cys Glu Gly Leu Trp Ser His Ser Tyr Lys
180 185 190

Val Ser Asn Tyr Ser Arg Gly Ser Gly Arg Cys Ile Gln Met Trp Phe
195 200 205

Asp Ser Ala Gln Gly Asn Pro Asn Glu Glu Val Ala Arg Phe Tyr Ala
210 215 220

Ala Ala Met His Val Asn Ala Gly Glu Met Leu His Gly Thr Gly Gly
225 230 235 240

Leu Leu Leu Ser Leu Ala Leu Met Leu Gln Leu Trp Leu Leu Gly
245 250 255

<210> 7
<211> 223
<212> PRT
<213> Homo sapiens

<400> 7

Gln Pro Arg Ser Ala Arg Ala Arg Thr Asp Leu Leu Asn Val Cys Met
1 5 10 15

Asn Ala Lys His His Lys Thr Gln Pro Ser Pro Glu Asp Glu Leu Tyr
20 25 30

Gly Gln Cys Ser Pro Trp Lys Lys Asn Ala Cys Cys Thr Ala Ser Thr
35 40 45

Ser Gln Glu Leu His Lys Asp Thr Ser Arg Leu Tyr Asn Phe Asn Trp
50 55 60

Asp His Cys Gly Lys Met Glu Pro Thr Cys Lys Arg His Phe Ile Gln
65 70 75 80

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Asp Ser Cys Leu Tyr Glu Cys Ser Pro Asn Leu Gly Pro Trp Ile Arg
85 90 95

Gln Val Asn Gln Ser Trp Arg Lys Glu Arg Ile Leu Asn Val Pro Leu
100 105 110

Cys Lys Glu Asp Cys Glu Arg Trp Trp Glu Asp Cys Arg Thr Ser Tyr
115 120 125

Thr Cys Lys Ser Asn Trp His Lys Gly Trp Asn Trp Thr Ser Gly Ile
130 135 140

Asn Glu Cys Pro Ala Gly Ala Leu Cys Ser Thr Phe Glu Ser Tyr Phe
145 150 155 160

Pro Thr Pro Ala Ala Leu Cys Glu Gly Leu Trp Ser His Ser Phe Lys
165 170 175

Val Ser Asn Tyr Ser Arg Gly Ser Gly Arg Cys Ile Gln Met Trp Phe
180 185 190

Asp Ser Ala Gln Gly Asn Pro Asn Glu Glu Val Ala Lys Phe Tyr Ala
195 200 205

Ala Ala Met Asn Ala Gly Ala Pro Ser Arg Gly Ile Ile Asp Ser
210 215 220

<210> 8
<211> 245
<212> PRT
<213> Homo sapiens

<400> 8

Met Asp Met Ala Trp Gln Met Met Gln Leu Leu Leu Leu Ala Leu Val
1 5 10 15

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Thr	Ala	Ala	Gly	Ser	Ala	Gln	Pro	Arg	Ser	Ala	Arg	Ala	Arg	Thr	Asp
			20					25						30	
Leu	Leu	Asn	Val	Cys	Met	Asn	Ala	Lys	His	His	Lys	Thr	Gln	Pro	Ser
		35					40					45			
Pro	Glu	Asp	Glu	Leu	Tyr	Gly	Gln	Cys	Ser	Pro	Trp	Lys	Lys	Asn	Ala
	50					55					60				
Cys	Cys	Thr	Ala	Ser	Thr	Ser	Gln	Glu	Leu	His	Lys	Asp	Thr	Ser	Arg
65					70					75					80
Leu	Tyr	Asn	Phe	Asn	Trp	Asp	His	Cys	Gly	Lys	Met	Glu	Pro	Thr	Cys
				85					90						95
Lys	Arg	His	Phe	Ile	Gln	Asp	Ser	Cys	Leu	Tyr	Glu	Cys	Ser	Pro	Asn
			100					105						110	
Leu	Gly	Pro	Trp	Ile	Arg	Gln	Val	Asn	Gln	Ser	Trp	Arg	Lys	Glu	Arg
		115					120					125			
Ile	Leu	Asn	Val	Pro	Leu	Cys	Lys	Glu	Asp	Cys	Glu	Arg	Trp	Trp	Glu
	130					135					140				
Asp	Cys	Arg	Thr	Ser	Tyr	Thr	Cys	Lys	Ser	Asn	Trp	His	Lys	Gly	Trp
145					150					155					160
Asn	Trp	Thr	Ser	Gly	Ile	Asn	Glu	Cys	Pro	Ala	Gly	Ala	Leu	Cys	Ser
				165					170					175	
Thr	Phe	Glu	Ser	Tyr	Phe	Pro	Thr	Pro	Ala	Ala	Leu	Cys	Glu	Gly	Leu
			180					185					190		
Trp	Ser	His	Ser	Phe	Lys	Val	Ser	Asn	Tyr	Ser	Arg	Gly	Ser	Gly	Arg
		195					200					205			

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Cys Ile Gln Met Trp Phe Asp Ser Ala Gln Gly Asn Pro Asn Glu Glu
210 215 220

Val Ala Lys Phe Tyr Ala Ala Ala Met Asn Ala Gly Ala Pro Ser Arg
225 230 235 240

Gly Ile Ile Asp Ser
245

<210> 9

<211> 205

<212> PRT

<213> Artificial

<220>

<223> Mature mutated folate receptor

<220>

<221> MISC_FEATURE

<222> (49)..(49)

<223> Xaa is any amino acid except Ala

<400> 9

Ile Ala Trp Ala Arg Thr Glu Leu Leu Asn Val Cys Met Asn Ala Lys
1 5 10 15

His His Lys Glu Lys Pro Gly Pro Glu Asp Lys Leu His Glu Gln Cys
20 25 30

Arg Pro Trp Arg Lys Asn Ala Cys Cys Ser Thr Asn Thr Ser Gln Glu
35 40 45

Xaa His Lys Asp Val Ser Tyr Leu Tyr Arg Phe Asn Trp Asn His Cys
50 55 60

Gly Glu Met Ala Pro Ala Cys Lys Arg His Phe Ile Gln Asp Thr Cys
65 70 75 80

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Leu Tyr Glu Cys Ser Pro Asn Leu Gly Pro Trp Ile Gln Gln Val Asp
85 90 95

Gln Ser Trp Arg Lys Glu Arg Val Leu Asn Val Pro Leu Cys Lys Glu
100 105 110

Asp Cys Glu Gln Trp Trp Glu Asp Cys Arg Thr Ser Tyr Thr Cys Lys
115 120 125

Ser Asn Trp His Lys Gly Trp Asn Trp Thr Ser Gly Phe Asn Lys Cys
130 135 140

Ala Val Gly Ala Ala Cys Gln Pro Phe His Phe Tyr Phe Pro Thr Pro
145 150 155 160

Thr Val Leu Cys Asn Glu Ile Trp Thr His Ser Tyr Lys Val Ser Asn
165 170 175

Tyr Ser Arg Gly Ser Gly Arg Cys Ile Gln Met Trp Phe Asp Pro Ala
180 185 190

Gln Gly Asn Pro Asn Glu Glu Val Ala Arg Phe Tyr Ala
195 200 205

<210> 10
<211> 25
<212> PRT
<213> Homo sapiens

<400> 10

Met Ala Gln Arg Met Thr Thr Gln Leu Leu Leu Leu Val Trp Val
1 5 10 15

Ala Val Val Gly Glu Ala Gln Thr Arg
20 25

<210> 11

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<211> 21
 <212> PRT
 <213> Homo sapiens

<400> 11

Met Val Trp Lys Trp Met Pro Leu Leu Leu Leu Val Cys Val Ala
 1 5 10 15

Thr Met Cys Ser Ala
 20

<210> 12
 <211> 22
 <212> PRT
 <213> Homo sapiens

<400> 12

Met Asp Met Ala Trp Gln Met Met Gln Leu Leu Leu Leu Ala Leu Val
 1 5 10 15

Thr Ala Ala Gly Ser Ala
 20

<210> 13
 <211> 232
 <212> PRT
 <213> Artificial

<220>
 <223> Mutated folate receptor

<400> 13

Ile Ala Trp Ala Arg Thr Glu Leu Leu Asn Val Cys Met Asn Ala Lys
 1 5 10 15

His His Lys Glu Lys Pro Gly Pro Glu Asp Lys Leu His Glu Gln Cys
 20 25 30

Arg Pro Trp Arg Lys Asn Ala Cys Cys Ser Thr Asn Thr Ser Gln Glu

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35

40

45

Leu His Lys Asp Val Ser Tyr Leu Tyr Arg Phe Asn Trp Asn His Cys
 50 55 60

Gly Glu Met Ala Pro Ala Cys Lys Arg His Phe Ile Gln Asp Thr Cys
 65 70 75 80

Leu Tyr Glu Cys Ser Pro Asn Leu Gly Pro Trp Ile Gln Gln Val Asp
 85 90 95

Gln Ser Trp Arg Lys Glu Arg Val Leu Asn Val Pro Leu Cys Lys Glu
 100 105 110

Asp Cys Glu Gln Trp Trp Glu Asp Cys Arg Thr Ser Tyr Thr Cys Lys
 115 120 125

Ser Asn Trp His Lys Gly Trp Asn Trp Thr Ser Gly Phe Asn Lys Cys
 130 135 140

Ala Val Gly Ala Ala Cys Gln Pro Phe His Phe Tyr Phe Pro Thr Pro
 145 150 155 160

Thr Val Leu Cys Asn Glu Ile Trp Thr His Ser Tyr Lys Val Ser Asn
 165 170 175

Tyr Ser Arg Gly Ser Gly Arg Cys Ile Gln Met Trp Phe Asp Pro Ala
 180 185 190

Gln Gly Asn Pro Asn Glu Glu Val Ala Arg Phe Tyr Ala Ala Ala Met
 195 200 205

Ser Gly Ala Gly Pro Trp Ala Ala Trp Pro Phe Leu Leu Ser Leu Ala
 210 215 220

Leu Met Leu Leu Trp Leu Leu Ser

225

230

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