

410-8PCT.ST25.txt
SEQUENCE LISTING

<110> Johannes Gutenberg-Universität Mainz

<120> Use of RNA for reprogramming somatic cells

<130> 410-8PCT

<150> EP 07 024 312.6

<151> 2007-12-14

<160> 12

<170> PatentIn version 3.3

<210> 1

<211> 1411

<212> DNA

<213> Homo sapiens

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 <212> PRT
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<400> 2

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Arg Thr Trp Leu Ser Phe Gln Gly Pro Pro Gly Gly Pro Gly Ile Gly
 35 40 45

Pro Gly Val Gly Pro Gly Ser Glu Val Trp Gly Ile Pro Pro Cys Pro
 50 55 60

Pro Pro Tyr Glu Phe Cys Gly Gly Met Ala Tyr Cys Gly Pro Gln Val
 65 70 75 80

Gly Val Gly Leu Val Pro Gln Gly Gly Leu Glu Thr Ser Gln Pro Glu
 85 90 95

Gly Glu Ala Gly Val Gly Val Glu Ser Asn Ser Asp Gly Ala Ser Pro
 100 105 110

Glu Pro Cys Thr Val Thr Pro Gly Ala Val Lys Leu Glu Lys Glu Lys
 115 120 125

Leu Glu Gln Asn Pro Glu Glu Ser Gln Asp Ile Lys Ala Leu Gln Lys
 130 135 140

Glu Leu Glu Gln Phe Ala Lys Leu Leu Lys Gln Lys Arg Ile Thr Leu
 145 150 155 160

Gly Tyr Thr Gln Ala Asp Val Gly Leu Thr Leu Gly Val Leu Phe Gly
 165 170 175

Lys Val Phe Ser Gln Thr Thr Ile Cys Arg Phe Glu Ala Leu Gln Leu
 180 185 190

Ser Phe Lys Asn Met Cys Lys Leu Arg Pro Leu Leu Gln Lys Trp Val
 195 200 205

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Glu Glu Ala Asp Asn Asn Glu Asn Leu Gln Glu Ile Cys Lys Ala Glu
210 215 220

Thr Leu Val Gln Ala Arg Lys Arg Lys Arg Thr Ser Ile Glu Asn Arg
225 230 235 240

Val Arg Gly Asn Leu Glu Asn Leu Phe Leu Gln Cys Pro Lys Pro Thr
245 250 255

Leu Gln Gln Ile Ser His Ile Ala Gln Gln Leu Gly Leu Glu Lys Asp
260 265 270

Val Val Arg Val Trp Phe Cys Asn Arg Arg Gln Lys Gly Lys Arg Ser
275 280 285

Ser Ser Asp Tyr Ala Gln Arg Glu Asp Phe Glu Ala Ala Gly Ser Pro
290 295 300

Phe Ser Gly Gly Pro Val Ser Phe Pro Leu Ala Pro Gly Pro His Phe
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Gly Thr Pro Gly Tyr Gly Ser Pro His Phe Thr Ala Leu Tyr Ser Ser
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Leu Gly Ser Pro Met His Ser Asn
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<211> 1085
<212> DNA
<213> Homo sapiens

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<210> 4
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 <213> Homo sapiens

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

Met Val Trp Ser Arg Gly Gln Arg Arg Lys Met Ala Gln Glu Asn Pro
 50 55 60

Lys Met His Asn Ser Glu Ile Ser Lys Arg Leu Gly Ala Glu Trp Lys
 65 70 75 80

Leu Leu Ser Glu Thr Glu Lys Arg Pro Phe Ile Asp Glu Ala Lys Arg
 85 90 95

Leu Arg Ala Leu His Met Lys Glu His Pro Asp Tyr Lys Tyr Arg Pro
 100 105 110

Arg Arg Lys Thr Lys Thr Leu Met Lys Lys Asp Lys Tyr Thr Leu Pro
 115 120 125

Gly Gly Leu Leu Ala Pro Gly Gly Asn Ser Met Ala Ser Gly Val Gly
 130 135 140

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Val Gly Ala Gly Leu Gly Ala Gly Val Asn Gln Arg Met Asp Ser Tyr
145 150 155 160

Ala His Met Asn Gly Trp Ser Asn Gly Ser Tyr Ser Met Met Gln Asp
165 170 175

Gln Leu Gly Tyr Pro Gln His Pro Gly Leu Asn Ala His Gly Ala Ala
180 185 190

Gln Met Gln Pro Met His Arg Tyr Asp Val Ser Ala Leu Gln Tyr Asn
195 200 205

Ser Met Thr Ser Ser Gln Thr Tyr Met Asn Gly Ser Pro Thr Tyr Ser
210 215 220

Met Ser Tyr Ser Gln Gln Gly Thr Pro Gly Met Ala Leu Gly Ser Met
225 230 235 240

Gly Ser Val Val Lys Ser Glu Ala Ser Ser Ser Pro Pro Val Val Thr
245 250 255

Ser Ser Ser His Ser Arg Ala Pro Cys Gln Ala Gly Asp Leu Arg Asp
260 265 270

Met Ile Ser Met Tyr Leu Pro Gly Ala Glu Val Pro Glu Pro Ala Ala
275 280 285

Pro Ser Arg Leu His Met Ser Gln His Tyr Gln Ser Gly Pro Val Pro
290 295 300

Gly Thr Ala Ile Asn Gly Thr Leu Pro Leu Ser His Met
305 310 315

<210> 5
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410-8PCT.ST25.txt

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<210> 6
 <211> 305
 <212> PRT
 <213> Homo sapiens

<400> 6

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Glu	Asn	Tyr	Pro	Ser	Leu	Gln	Met	Ser	Ser	Ala	Glu	Met	Pro	His	Thr	35	40	45	
Glu	Thr	Val	Ser	Pro	Leu	Pro	Ser	Ser	Met	Asp	Leu	Leu	Ile	Gln	Asp	50	55	60	
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Glu	Lys	Ser	Val	Ala	Lys	Lys	Glu	Asp	Lys	Val	Pro	Val	Lys	Lys	Gln	85	90	95	
Lys	Thr	Arg	Thr	Val	Phe	Ser	Ser	Thr	Gln	Leu	Cys	Val	Leu	Asn	Asp	100	105	110	
Arg	Phe	Gln	Arg	Gln	Lys	Tyr	Leu	Ser	Leu	Gln	Gln	Met	Gln	Glu	Leu	115	120	125	
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Leu	Pro	Met	Trp	Ser	Asn	Gln	Thr	Trp	Asn	Asn	Ser	Thr	Trp	Ser	Asn	195	200	205	
Gln	Thr	Gln	Asn	Ile	Gln	Ser	Trp	Ser	Asn	His	Ser	Trp	Asn	Thr	Gln	210	215	220	
Thr	Trp	Cys	Thr	Gln	Ser	Trp	Asn	Asn	Gln	Ala	Trp	Asn	Ser	Pro	Phe	225	230	235	240
Tyr	Asn	Cys	Gly	Glu	Glu	Ser	Leu	Gln	Ser	Cys	Met	Gln	Phe	Gln	Pro	245	250	255	

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Asn Ser Pro Ala Ser Asp Leu Glu Ala Ala Leu Glu Ala Ala Gly Glu
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Gly Leu Asn Val Ile Gln Gln Thr Thr Arg Tyr Phe Ser Thr Pro Gln
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Thr Met Asp Leu Phe Leu Asn Tyr Ser Met Asn Met Gln Pro Glu Asp
290 295 300

Val
305

<210> 7
<211> 780
<212> DNA
<213> Homo sapiens

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<210> 8
<211> 209
<212> PRT
<213> Homo sapiens

<400> 8

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Ala Glu Glu Ala Pro Glu Glu Ala Pro Glu Asp Ala Ala Arg Ala Ala
20 25 30

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Asp Glu Pro Gln Leu Leu His Gly Ala Gly Ile Cys Lys Trp Phe Asn
35 40 45

Val Arg Met Gly Phe Gly Phe Leu Ser Met Thr Ala Arg Ala Gly Val
50 55 60

Ala Leu Asp Pro Pro Val Asp Val Phe Val His Gln Ser Lys Leu His
65 70 75 80

Met Glu Gly Phe Arg Ser Leu Lys Glu Gly Glu Ala Val Glu Phe Thr
85 90 95

Phe Lys Lys Ser Ala Lys Gly Leu Glu Ser Ile Arg Val Thr Gly Pro
100 105 110

Gly Gly Val Phe Cys Ile Gly Ser Glu Arg Arg Pro Lys Gly Lys Ser
115 120 125

Met Gln Lys Arg Arg Ser Lys Gly Asp Arg Cys Tyr Asn Cys Gly Gly
130 135 140

Leu Asp His His Ala Lys Glu Cys Lys Leu Pro Pro Gln Pro Lys Lys
145 150 155 160

Cys His Phe Cys Gln Ser Ile Ser His Met Val Ala Ser Cys Pro Leu
165 170 175

Lys Ala Gln Gln Gly Pro Ser Ala Gln Gly Lys Pro Thr Tyr Phe Arg
180 185 190

Glu Glu Glu Glu Glu Ile His Ser Pro Thr Leu Leu Pro Glu Ala Gln
195 200 205

Asn

<210> 9
<211> 2639
<212> DNA
<213> Homo sapiens

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<210> 10
<211> 470
<212> PRT
<213> Homo sapiens

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<400> 10

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```

Asn Arg Trp Arg Glu Glu Leu Ser His Met Lys Arg Leu Pro Pro Val
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```

Leu Pro Gly Arg Pro Tyr Asp Leu Ala Ala Ala Thr Val Ala Thr Asp
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```

```

Leu Glu Ser Gly Gly Ala Gly Ala Ala Cys Gly Gly Ser Asn Leu Ala
65          70          75          80

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```

Pro Leu Pro Arg Arg Glu Thr Glu Glu Phe Asn Asp Leu Leu Asp Leu
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```

Asp Phe Ile Leu Ser Asn Ser Leu Thr His Pro Pro Glu Ser Val Ala
          100          105          110

```

```

Ala Thr Val Ser Ser Ser Ala Ser Ala Ser Ser Ser Ser Ser Pro Ser
          115          120          125

```

```

Ser Ser Gly Pro Ala Ser Ala Pro Ser Thr Cys Ser Phe Thr Tyr Pro
          130          135          140

```

```

Ile Arg Ala Gly Asn Asp Pro Gly Val Ala Pro Gly Gly Thr Gly Gly
145          150          155          160

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```

Gly Leu Leu Tyr Gly Arg Glu Ser Ala Pro Pro Pro Thr Ala Pro Phe

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165

170

175

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Glu Leu Leu Arg Pro Glu Leu Asp Pro Val Tyr Ile Pro Pro Gln Gln
 195 200 205

Pro Gln Pro Pro Gly Gly Gly Leu Met Gly Lys Phe Val Leu Lys Ala
 210 215 220

Ser Leu Ser Ala Pro Gly Ser Glu Tyr Gly Ser Pro Ser Val Ile Ser
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Val Ser Lys Gly Ser Pro Asp Gly Ser His Pro Val Val Val Ala Pro
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Tyr Asn Gly Gly Pro Pro Arg Thr Cys Pro Lys Ile Lys Gln Glu Ala
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Val Ser Ser Cys Thr His Leu Gly Ala Gly Pro Pro Leu Ser Asn Gly
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His Arg Pro Ala Ala His Asp Phe Pro Leu Gly Arg Gln Leu Pro Ser
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Arg Thr Thr Pro Thr Leu Gly Leu Glu Glu Val Leu Ser Ser Arg Asp
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Cys His Pro Ala Leu Pro Leu Pro Pro Gly Phe His Pro His Pro Gly
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Pro Asn Tyr Pro Ser Phe Leu Pro Asp Gln Met Gln Pro Gln Val Pro
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Pro Leu His Tyr Gln Glu Leu Met Pro Pro Gly Ser Cys Met Pro Glu
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Glu Pro Lys Pro Lys Arg Gly Arg Arg Ser Trp Pro Arg Lys Arg Thr
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Ala Thr His Thr Cys Asp Tyr Ala Gly Cys Gly Lys Thr Tyr Thr Lys
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Ser Ser His Leu Lys Ala His Leu Arg Thr His Thr Gly Glu Lys Pro
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Tyr His Cys Asp Trp Asp Gly Cys Gly Trp Lys Phe Ala Arg Ser Asp
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420

425

430

Glu Leu Thr Arg His Tyr Arg Lys His Thr Gly His Arg Pro Phe Gln
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Ile Gln Asp Cys Met Trp Ser Gly Phe Ser Ala Ala Ala Lys Leu Val
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Ser Glu Lys Leu Ala Ser Tyr Gln Ala Ala Arg Lys Asp Ser Gly Ser
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Pro Asn Pro Ala Arg Gly His Ser Val Cys Ser Thr Ser Ser Leu Tyr
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Leu Gln Asp Leu Ser Ala Ala Ala Ser Glu Cys Ile Asp Pro Ser Val
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Val Phe Pro Tyr Pro Leu Asn Asp Ser Ser Ser Pro Lys Ser Cys Ala
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