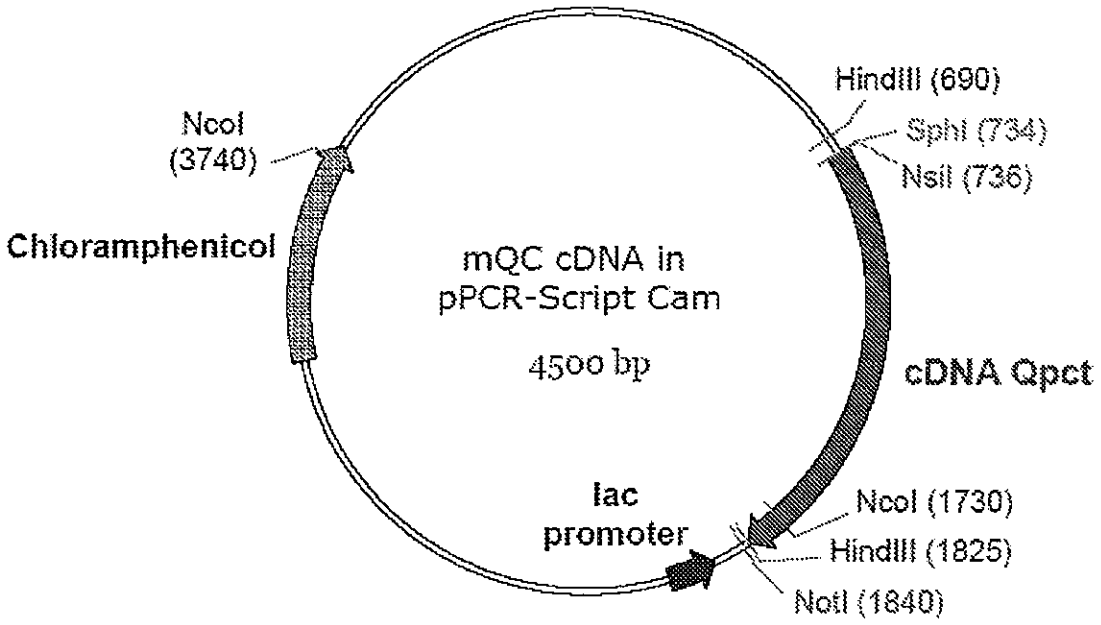
FIGURE 1

A




B

**Sequence of the vector backbone – cDNA junction:**

```
                                        SphI
                                        NsiI
701   .....TTCCTGC AGCCCGGGGG ATCCGCCCGC ATGCATGGCA GGCAGCGAAG  cDNA Qpct
      .....AAGGACG TCGGGCCCCC TAGGCGGGCG TACGTACCGT CCGTCGCTTC
                                          M  A   G  S  E..     Protein
```

FIGURE 2

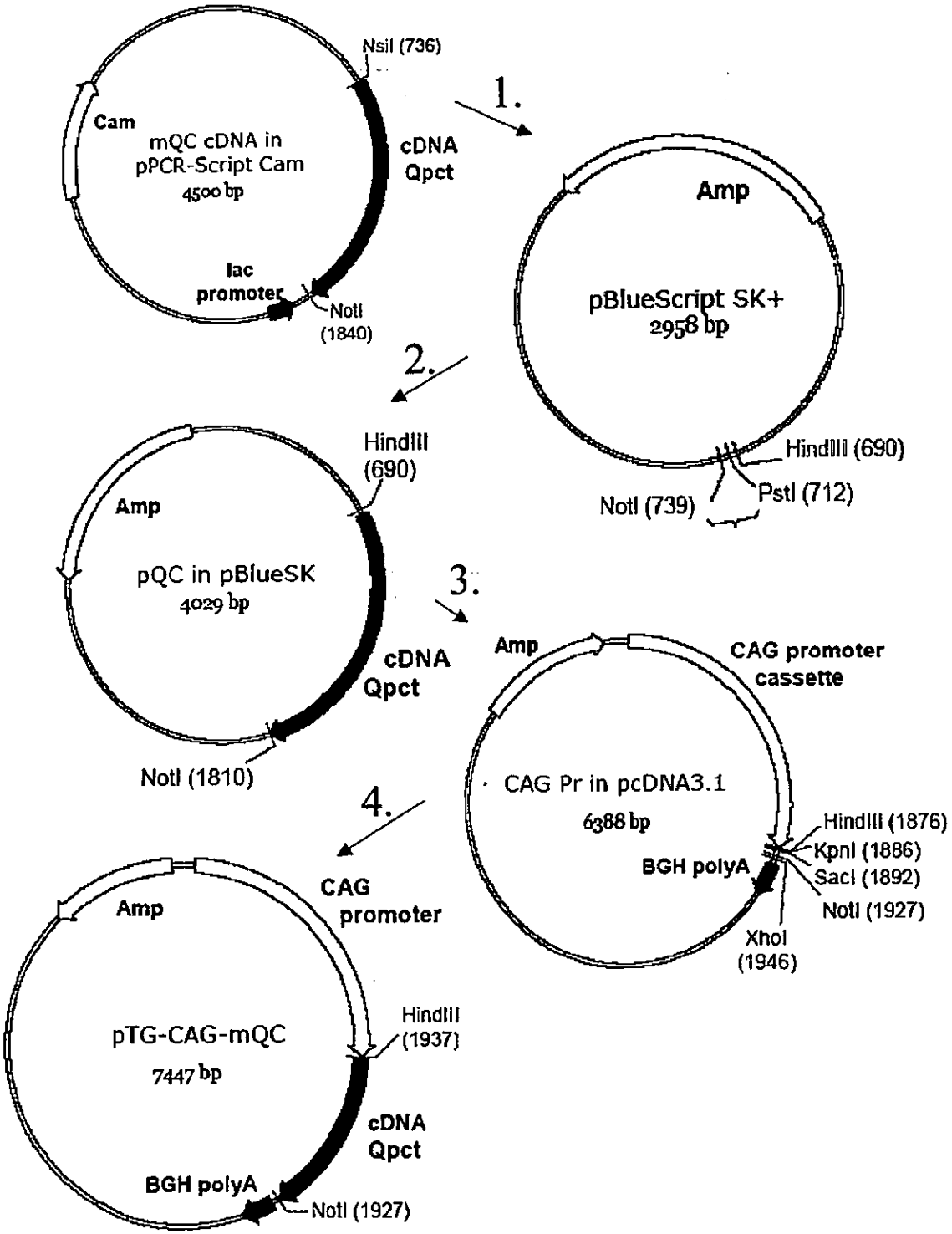
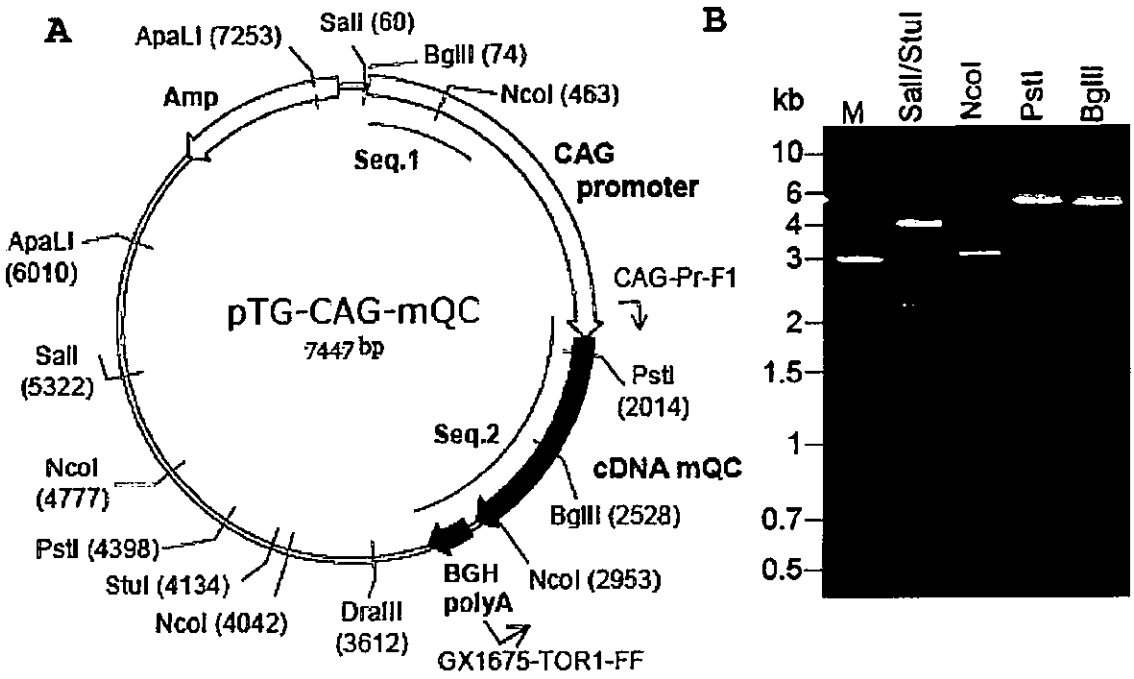

NsiI (736)
Cam
mQC cDNA in
pPCR-Script Cam
4500 bp
cDNA
Qpct
lac
promoter
NotI
(1840)
1.
Amp
pBlueScript SK+
2958 bp
HindIII (690)
NotI (739)
PstI (712)
2.
HindIII
(690)
Amp
pQC in pBlueSK
4029 bp
cDNA
Qpct
NotI (1810)
3.
Amp
CAG promoter
cassette
CAG Pr in pcDNA3.1
6388 bp
HindIII (1876)
KpnI (1886)
SacI (1892)
NotI (1927)
BGH polyA
XhoI
(1946)
4.
CAG
promoter
Amp
pTG-CAG-mQC
7447 bp
HindIII
(1937)
cDNA
Qpct
BGH polyA
NotI (1927)

FIGURE 3




C

| Restriction enzyme | expected fragment size (bp) |
|---|---|
| SalI/StuI | 4074 bp / 2185 bp / 1188 bp |
| NcoI | 3133 bp / 2490 bp / 1089 bp / 735 bp |
| PstI | 5063 bp / 2384 bp |
| BglII | 4993 bp / 2554 bp |

FIGURE 4

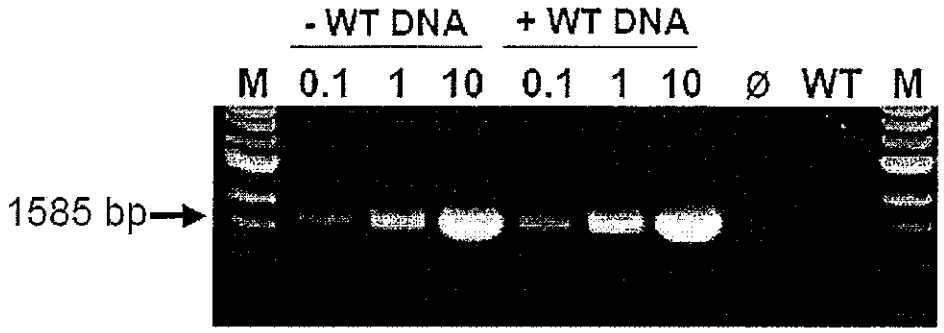


FIGURE 5

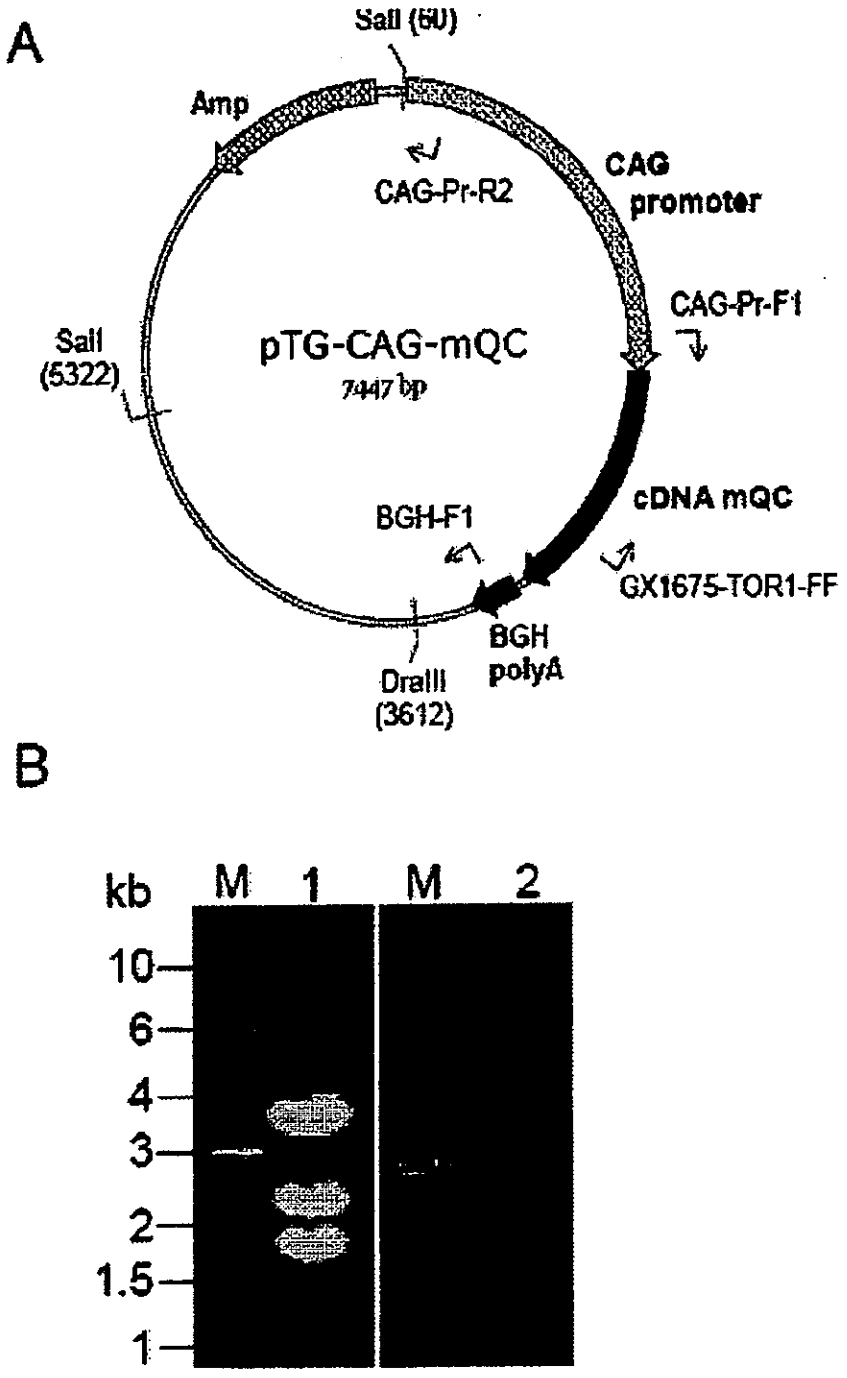
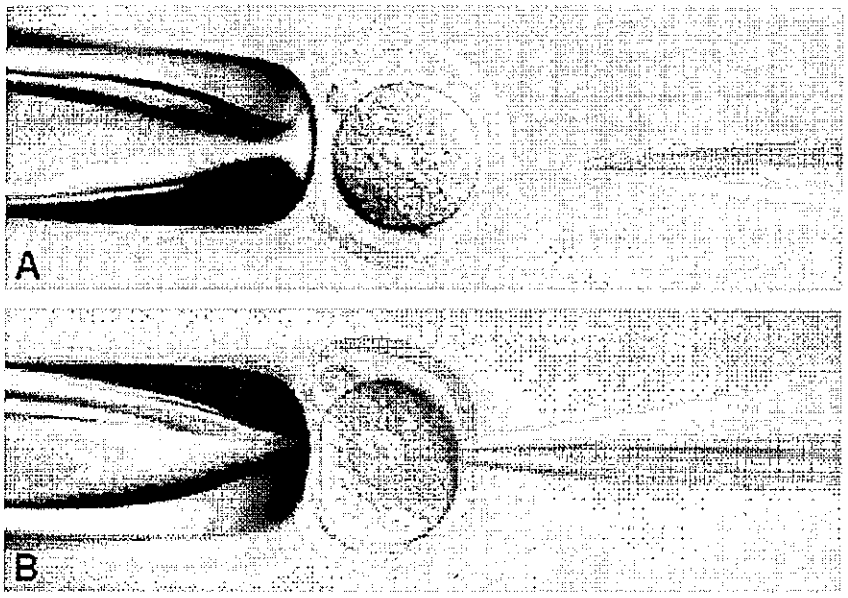

A
SalI (60)
Amp
CAG-Pr-R2
CAG promoter
CAG-Pr-F1
SalI (5322)
pTG-CAG-mQC
7447 bp
cDNA mQC
BGH-F1
GX1675-TOR1-FF
BGH polyA
DraIII (3612)
B
kb
M
1
M
2
10
6
4
3
2
1.5
1

FIGURE 6



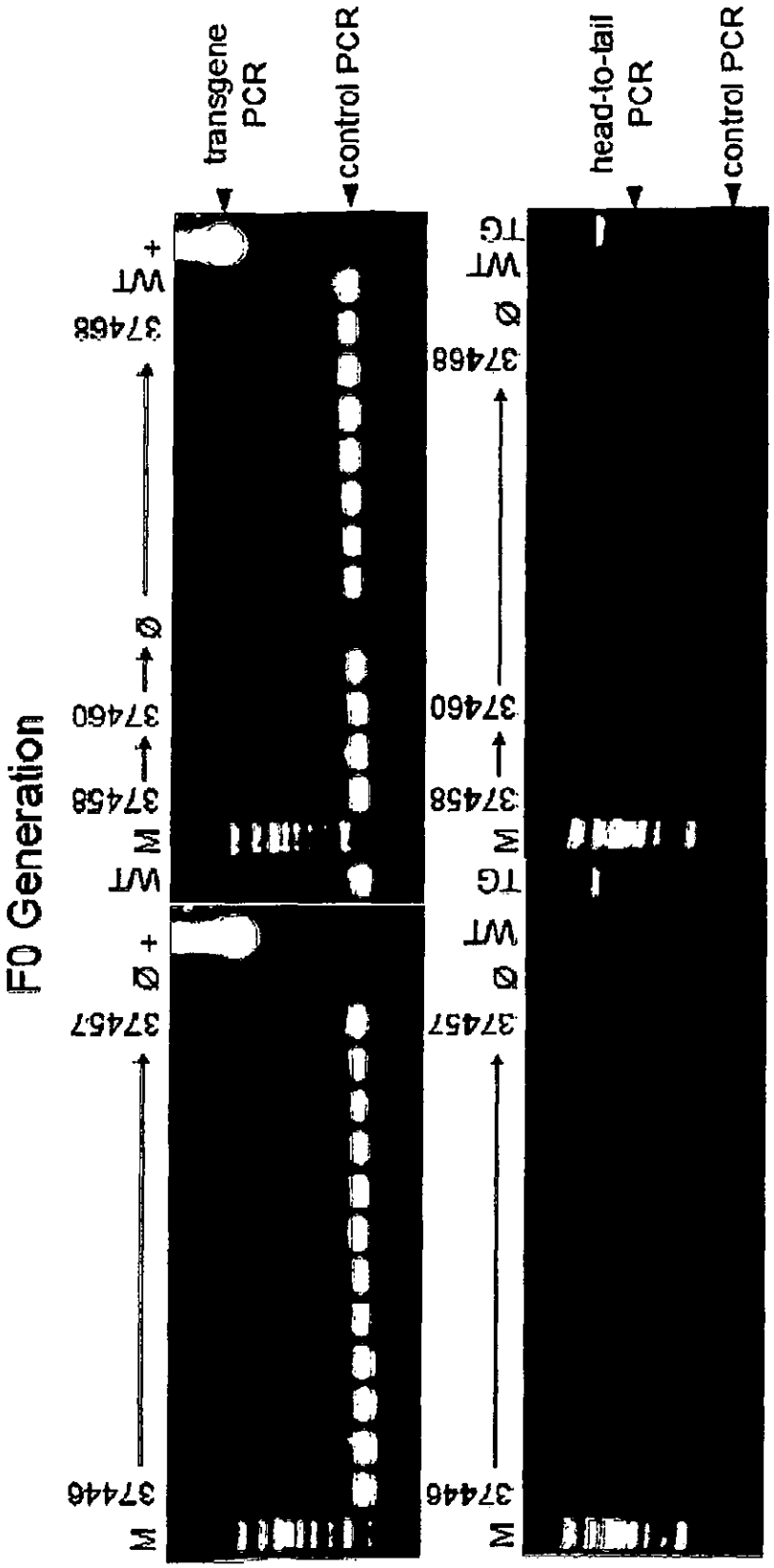

transgene PCR
control PCR
head-to-tail PCR
control PCR
F0 Generation
M
374 46
374 57
Ø
+
WT
M
374 58
374 60
Ø
374 68
+
WT
TG
M
374 46
374 57
Ø
WT
TG
M
374 58
374 60
Ø
374 68
WT
TG

FIGURE 7

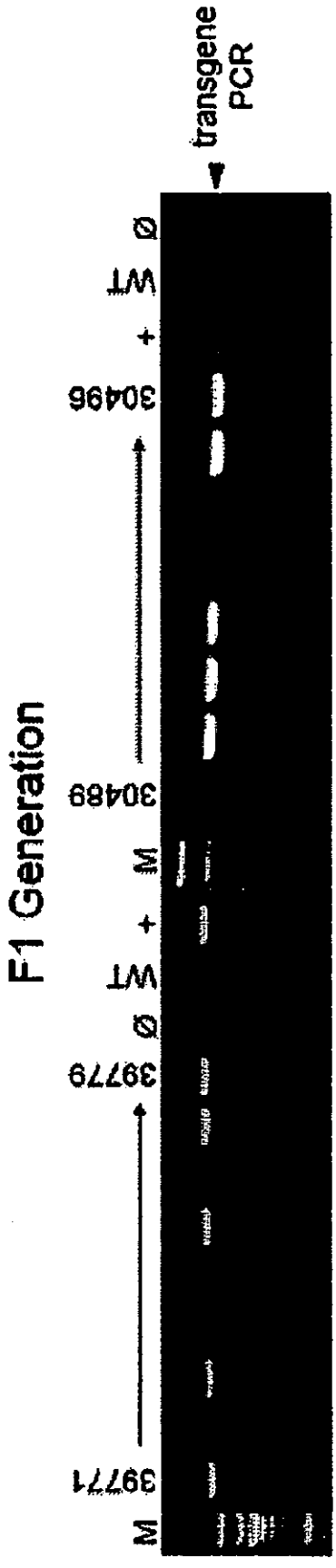

transgene PCR
F1 Generation
M
397771
397779
304489
304496
Ø
WT
+

FIGURE 8

FIGURE 9A

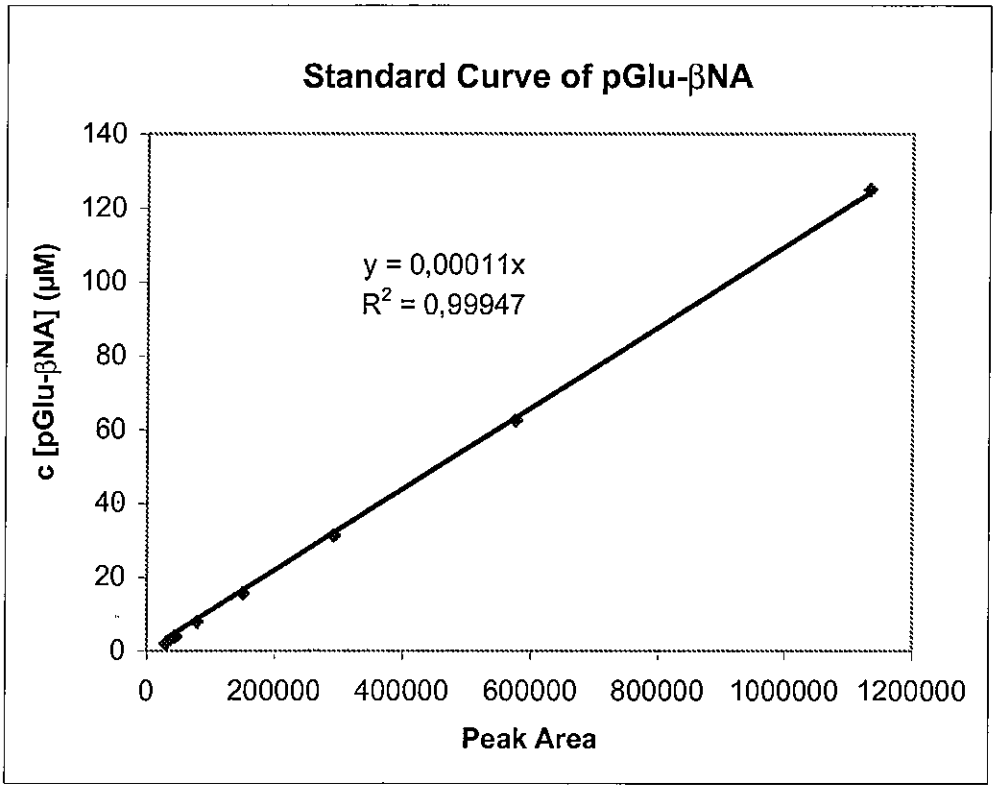

Standard Curve of pGlu-βNA
c [pGlu-βNA] (µM)
140
120
100
80
60
40
20
0
y = 0,00011x
R2 = 0,99947
0
200000
400000
600000
800000
1000000
1200000
Peak Area

Figure 9B

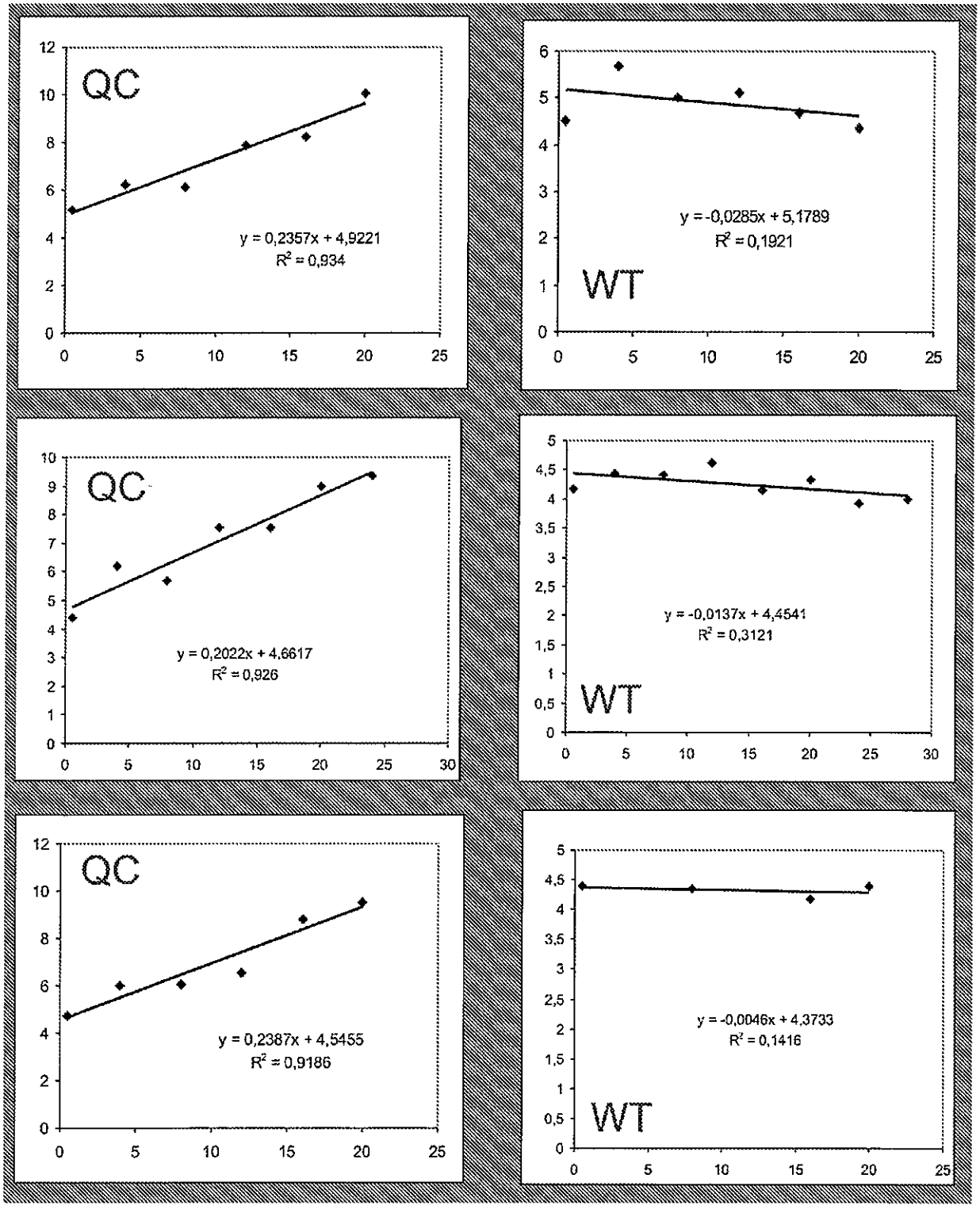
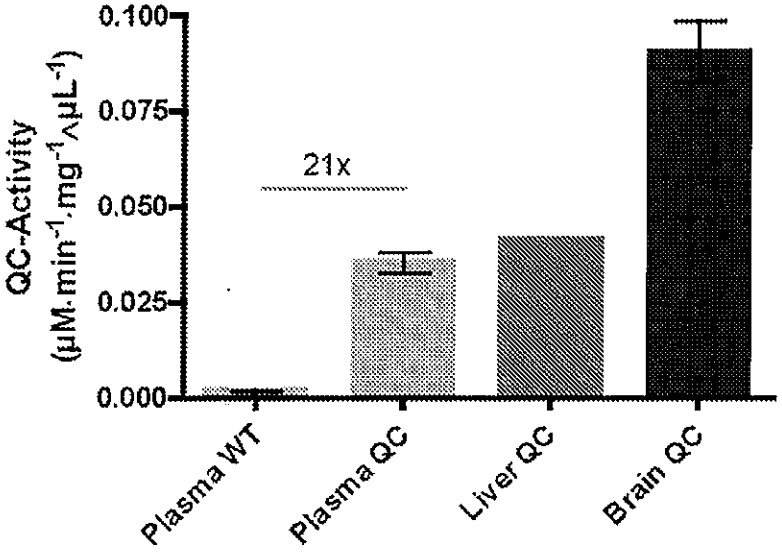

QC
y = 0,2357x + 4,9221
R² = 0,934
WT
y = -0,0285x + 5,1789
R² = 0,1921
QC
y = 0,2022x + 4,6617
R² = 0,926
WT
y = -0,0137x + 4,4541
R² = 0,3121
QC
y = 0,2387x + 4,5455
R² = 0,9186
WT
y = -0,0046x + 4,3733
R² = 0,1416

FIGURE 10 A and B

A




B

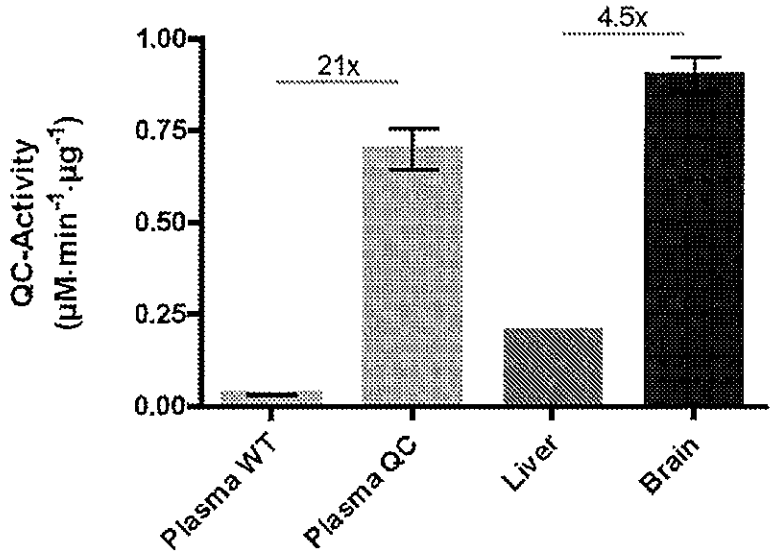


Figure 10C

C

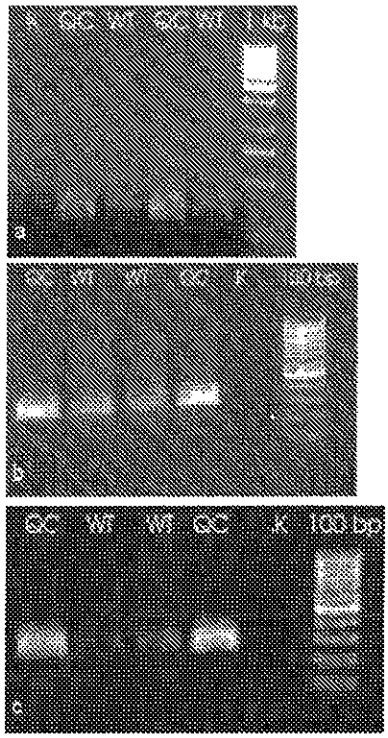


Figure 10D

D

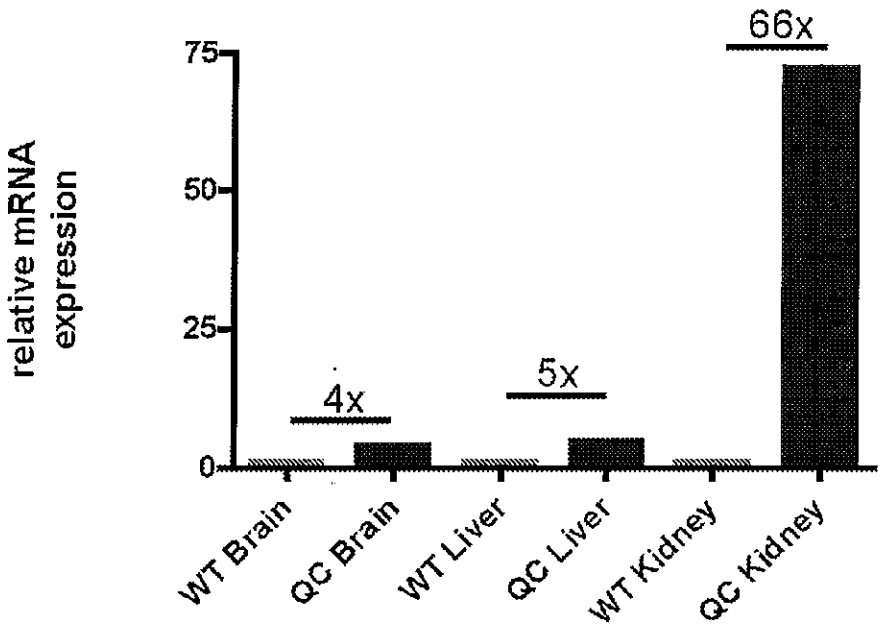

relative mRNA expression
75
50
25
0
4x
5x
66x
WT Brain
QC Brain
WT Liver
QC Liver
WT Kidney
QC Kidney

Figure 11

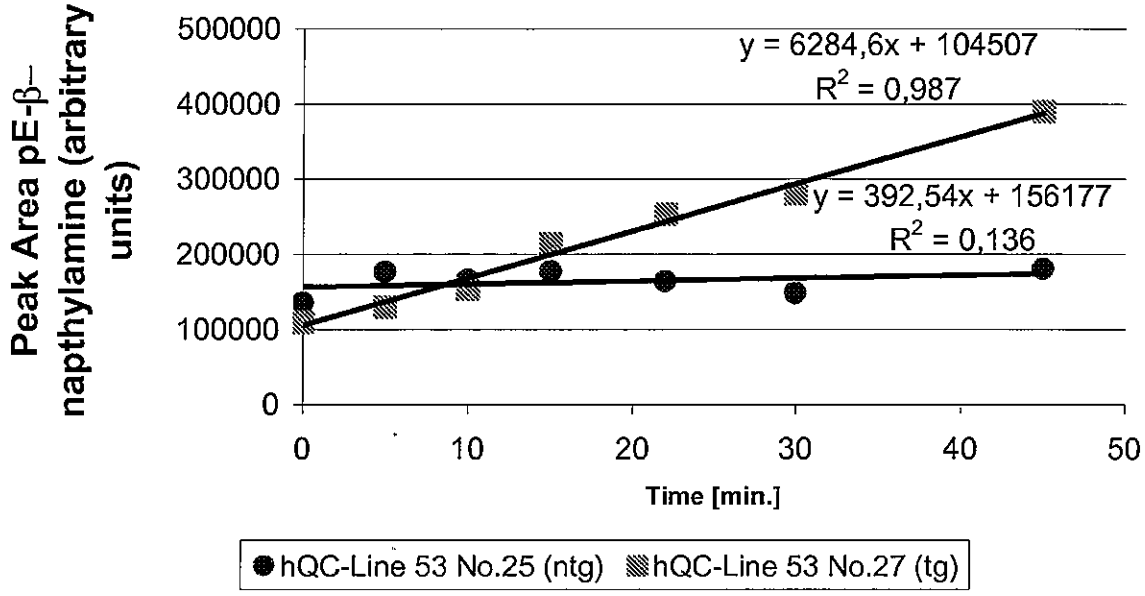

Peak Area pE-β-naphthylamine (arbitrary units)
500000
400000
300000
200000
100000
0
0
10
20
30
40
50
Time [min.]
y = 6284,6x + 104507
R2 = 0,987
y = 392,54x + 156177
R2 = 0,136
hQC-Line 53 No.25 (ntg)
hQC-Line 53 No.27 (tg)

Figure 12

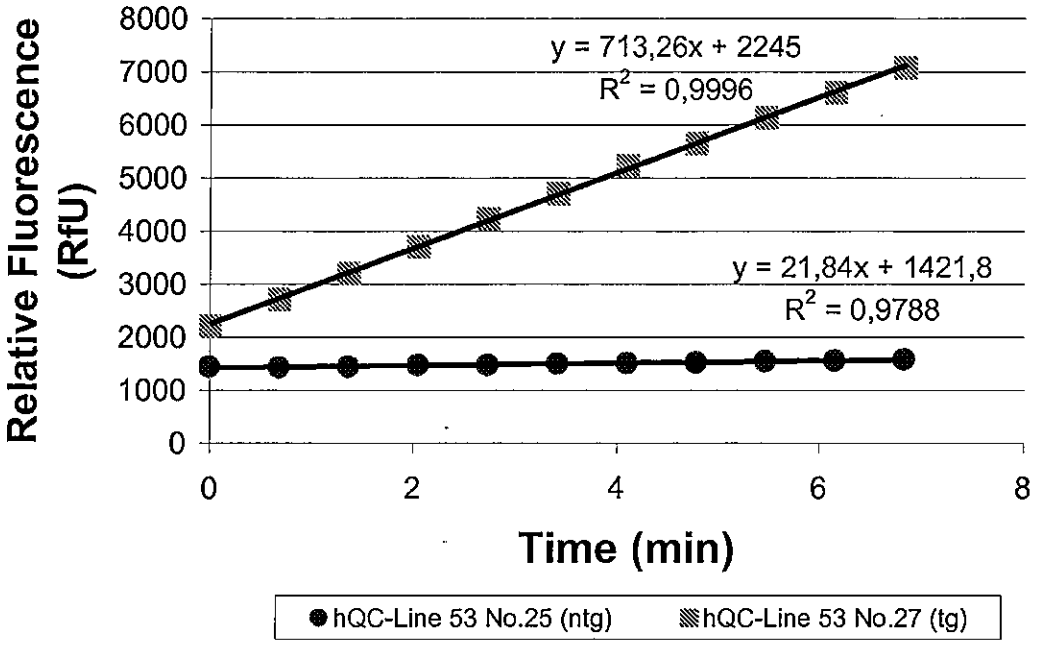

Relative Fluorescence (RfU)
8000
7000
6000
5000
4000
3000
2000
1000
0
y = 713,26x + 2245
R2 = 0,9996
y = 21,84x + 1421,8
R2 = 0,9788
0
2
4
6
8
Time (min)
hQC-Line 53 No.25 (ntg)
hQC-Line 53 No.27 (tg)

Figure 13A

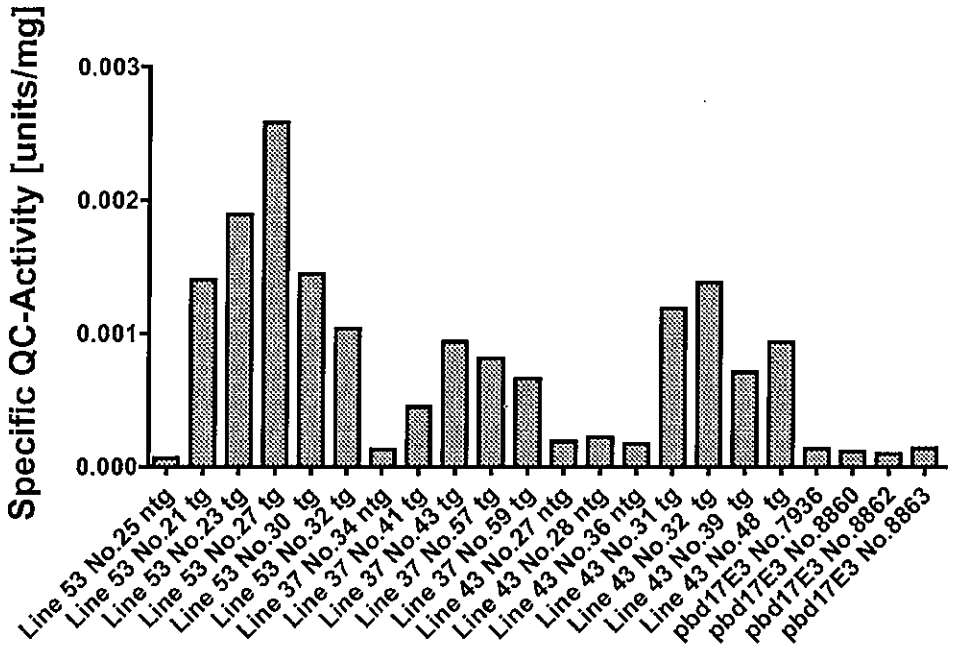

Specific QC-Activity [units/mg]
0.003
0.002
0.001
0.000
Line 53 No.25 ntg
Line 53 No.21 tg
Line 53 No.23 tg
Line 53 No.27 tg
Line 53 No.30 tg
Line 53 No.32 tg
Line 37 No.34 ntg
Line 37 No.41 tg
Line 37 No.43 tg
Line 37 No.57 tg
Line 37 No.59 tg
Line 43 No.27 ntg
Line 43 No.28 ntg
Line 43 No.36 ntg
Line 43 No.31 tg
Line 43 No.32 tg
Line 43 No.39 tg
Line 43 No.48 tg
pbd17E3 No.7936
pbd17E3 No.8860
pbd17E3 No.8862
pbd17E3 No.8863

Figure 13B

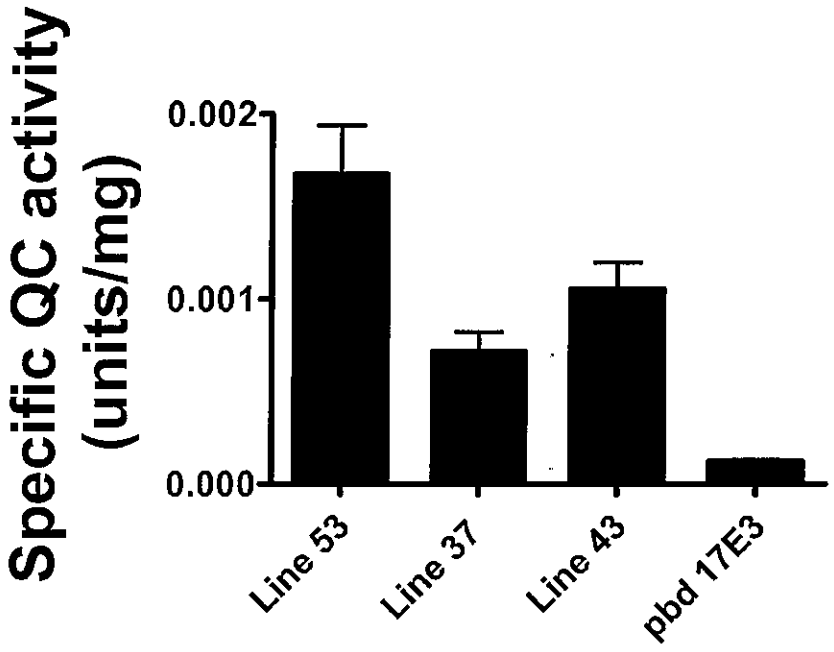

Specific QC activity
(units/mg)
0.002
0.001
0.000
Line 53
Line 37
Line 43
pbd 17E3

Figure 14

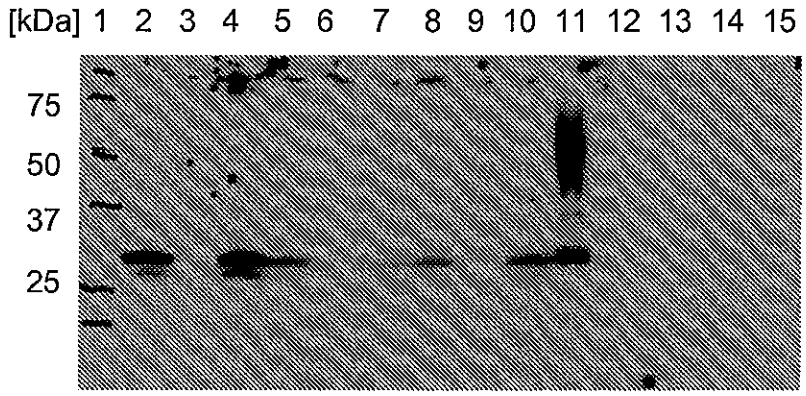


Figure 15

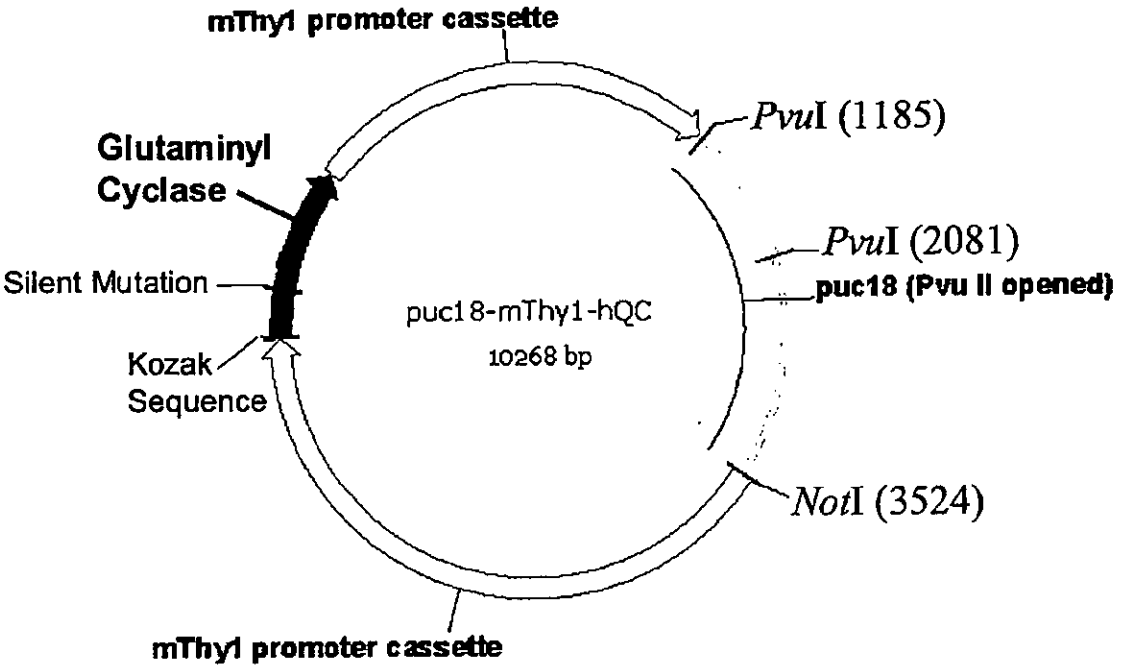
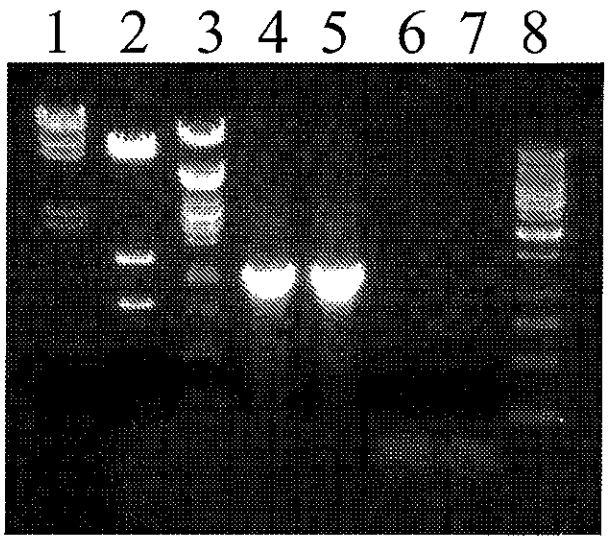

mThy1 promoter cassette
PvuI (1185)
Glutaminyl Cyclase
PvuI (2081)
Silent Mutation
puc18 (Pvu II opened)
puc18-mThy1-hQC
10268 bp
Kozak Sequence
NotI (3524)
mThy1 promoter cassette

Figure 16



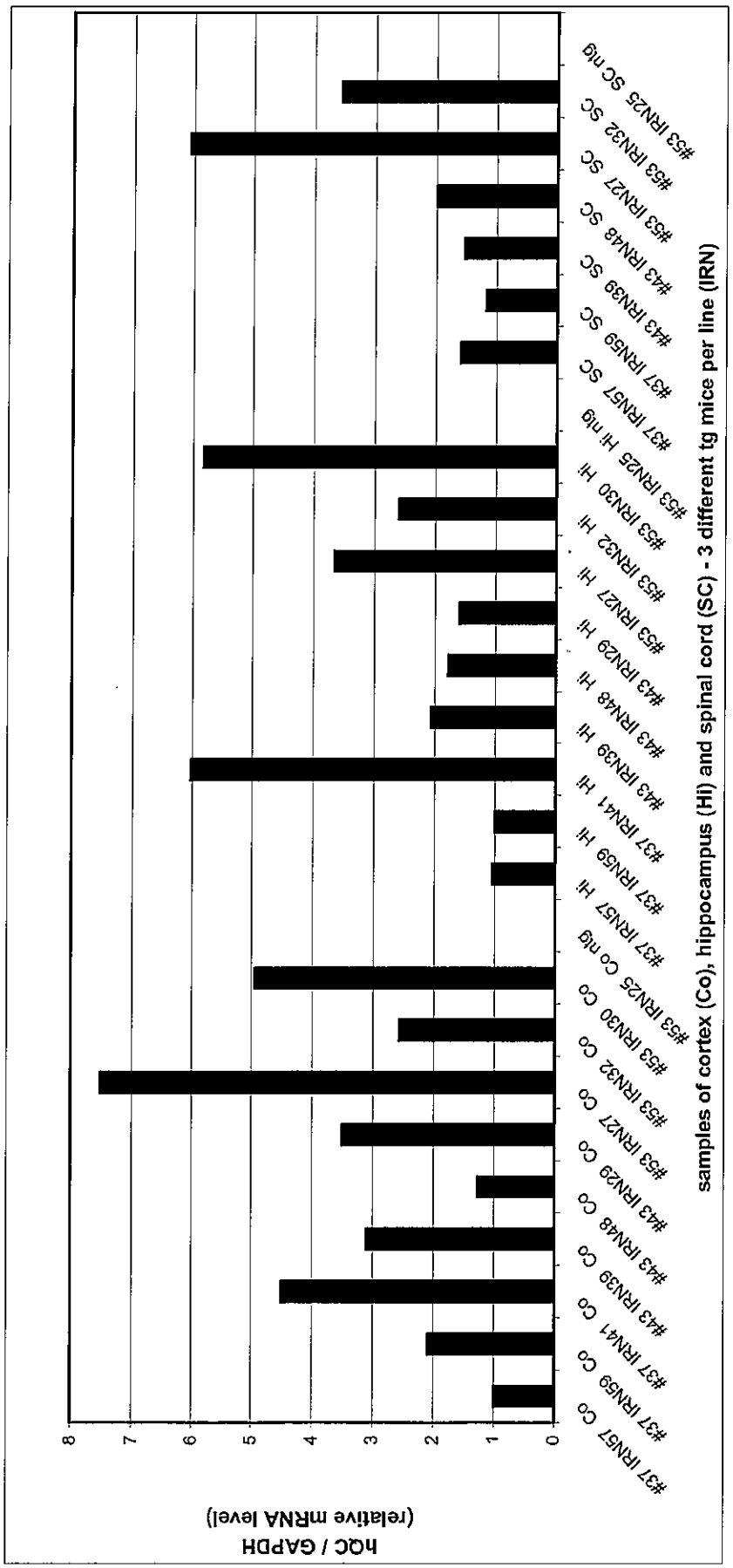

hQC / GAPDH
(relative mRNA level)
0
1
2
3
4
5
6
7
8
samples of cortex (Co), hippocampus (Hi) and spinal cord (SC) - 3 different tg mice per line (IRN)
#37 IRN57 Co
#37 IRN59 Co
#37 IRN41 Co
#43 IRN39 Co
#43 IRN48 Co
#43 IRN29 Co
#53 IRN27 Co
#53 IRN32 Co
#53 IRN30 Co
#53 IRN25 Co nlg
#37 IRN57 Hi
#37 IRN59 Hi
#37 IRN41 Hi
#43 IRN39 Hi
#43 IRN48 Hi
#43 IRN29 Hi
#53 IRN27 Hi
#53 IRN32 Hi
#53 IRN30 Hi
#53 IRN25 Hi nlg
#37 IRN57 SC
#37 IRN59 SC
#43 IRN39 SC
#43 IRN48 SC
#53 IRN27 SC
#53 IRN32 SC
#53 IRN25 SC nlg

Figure 17