Fig. 1

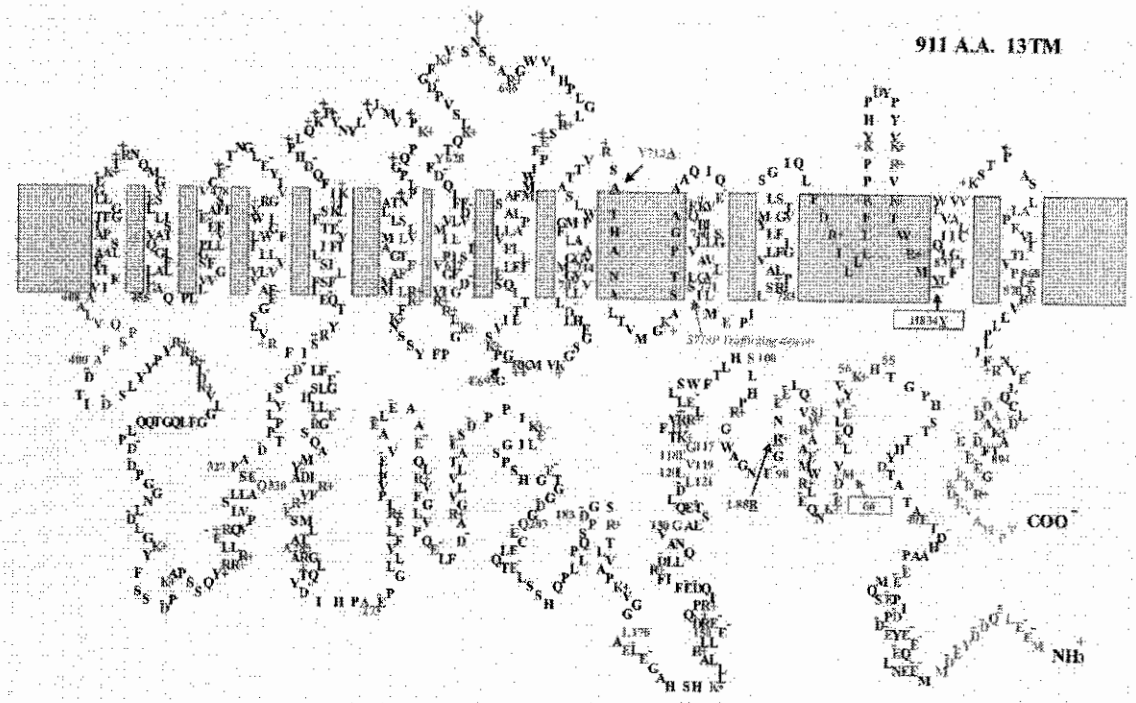


Fig. 2

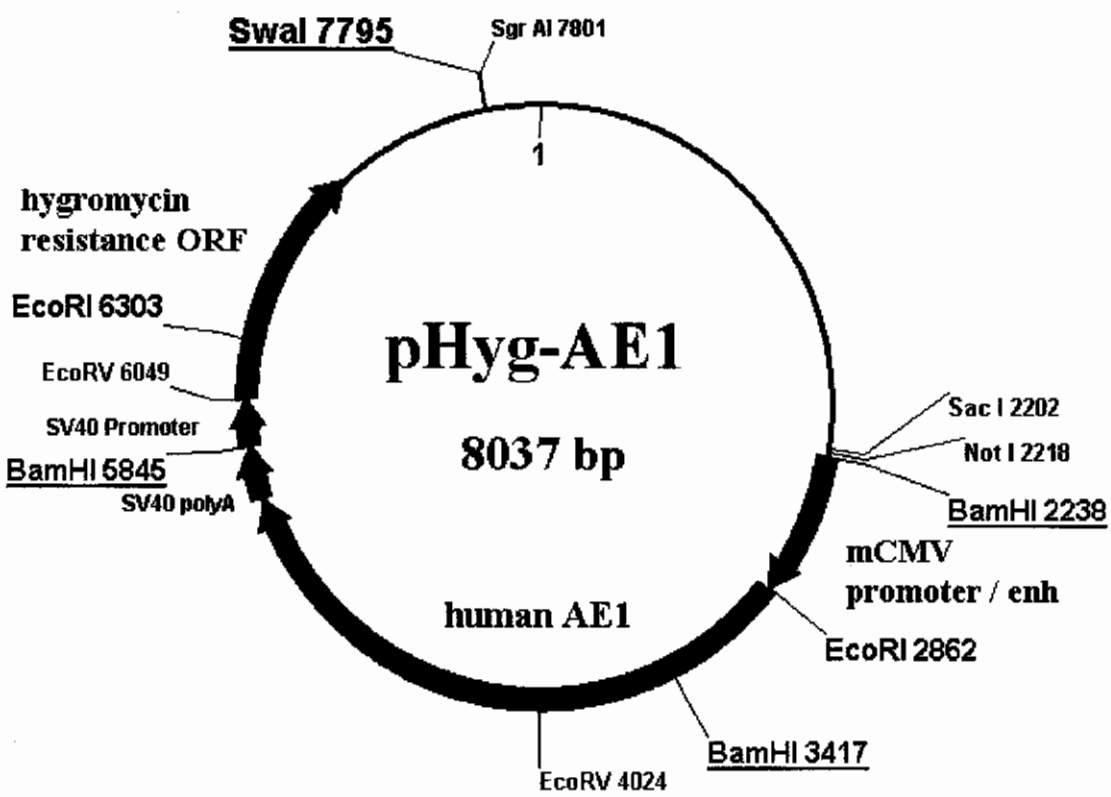

SwaI 7795
Sgr AI 7801
1
hygromycin
resistance ORF
EcoRI 6303
EcoRV 6049
SV40 Promoter
BamHI 6845
SV40 polyA
pHyg-AE1
8037 bp
human AE1
Sac I 2202
Not I 2218
BamHI 2238
mCMV
promoter / enh
EcoRI 2862
BamHI 3417
EcoRV 4024

Fig. 3

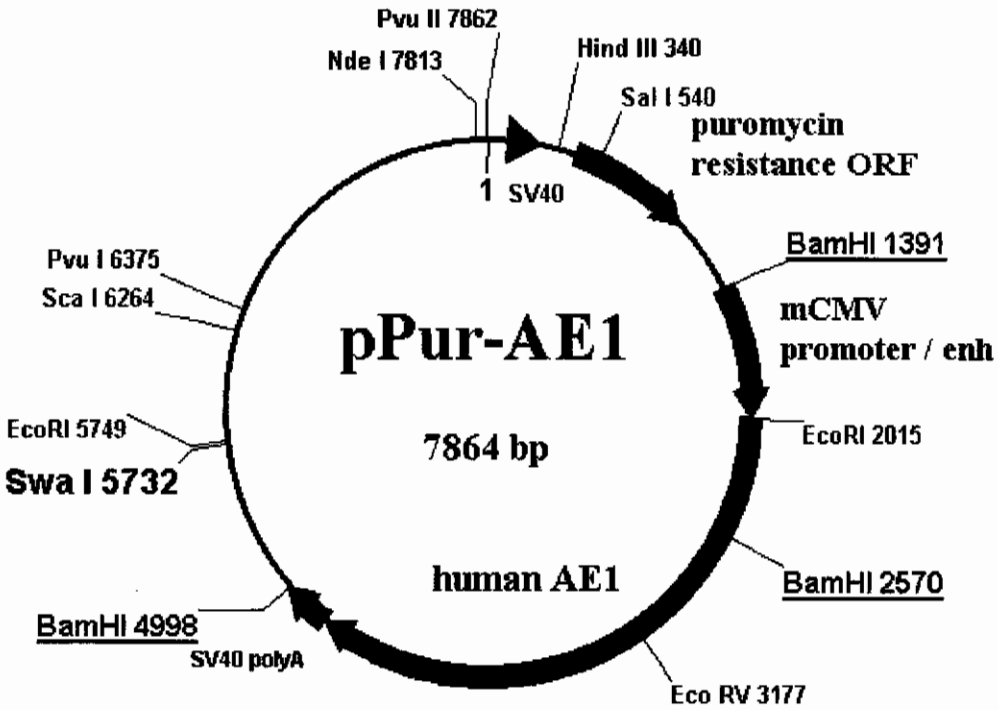

Pvu II 7862
Nde I 7813
Hind III 340
Sal I 540
puromycin
resistance ORF
1 SV40
BamHI 1391
mCMV
promoter / enh
EcoRI 2015
BamHI 2570
Eco RV 3177
SV40 polyA
BamHI 4998
Swa I 5732
EcoRI 5749
Sca I 6264
Pvu I 6375
pPur-AE1
7864 bp
human AE1

Fig. 4

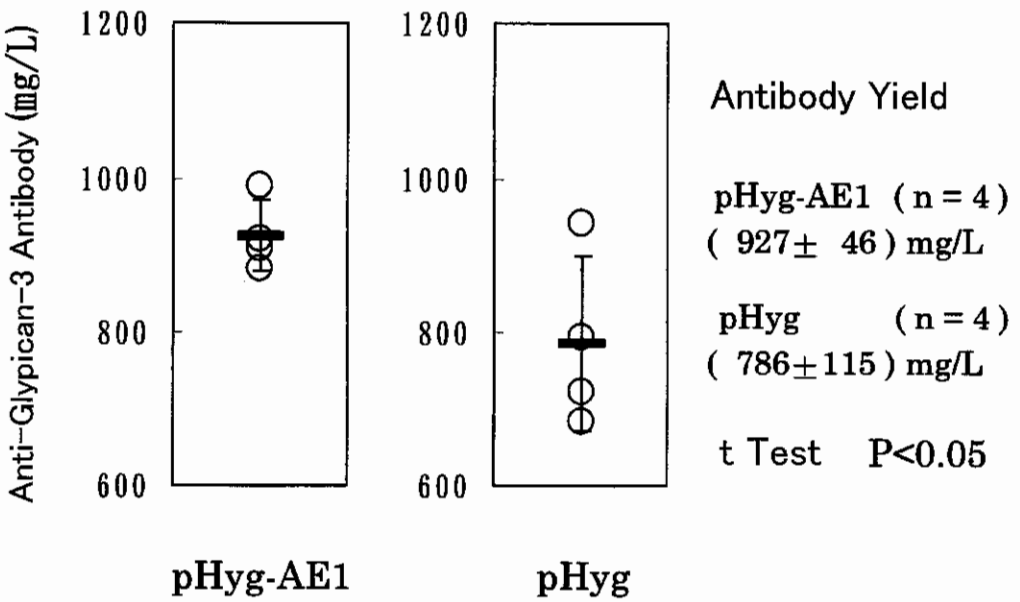
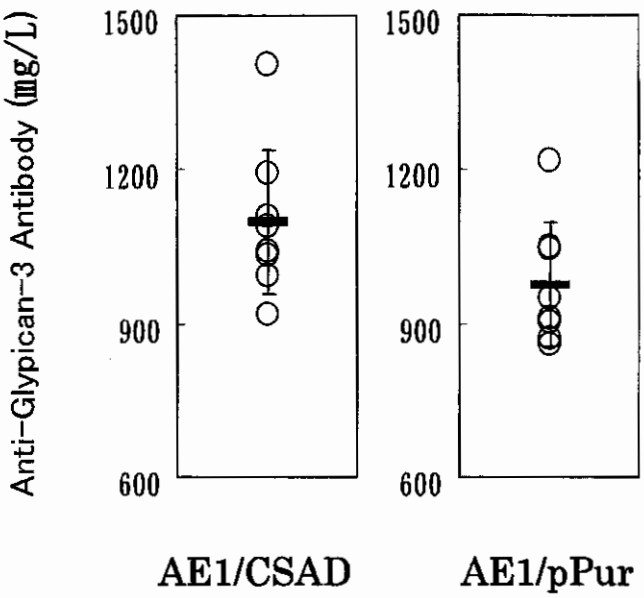

Anti-Glypican-3 Antibody (mg/L)
1200
1000
800
600
pHyg-AE1
pHyg
Antibody Yield
pHyg-AE1 (n = 4)
(927± 46) mg/L
pHyg (n = 4)
(786±115) mg/L
t Test P<0.05

Fig. 5



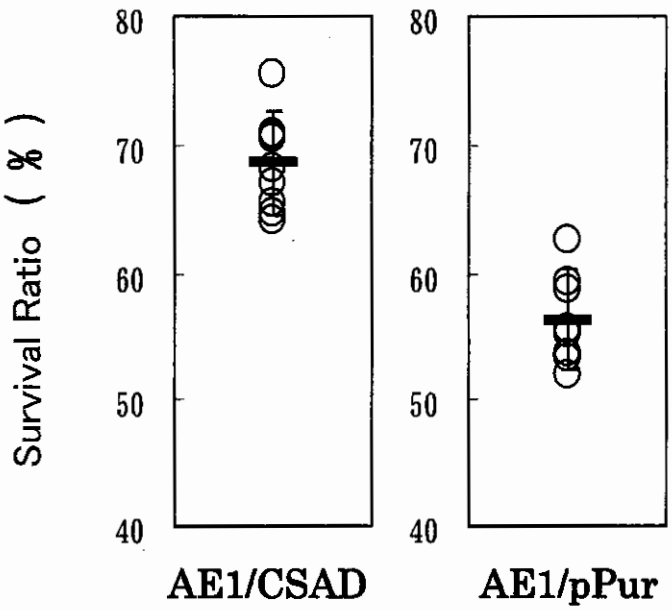
Antibody Yield

AE1/CSAD (n = 9)
(1098 ±139) mg/L

AE1/pPur (n = 8)
(975 ±122) mg/L

t Test P<0.05

Fig. 6



Survival Ratio

AE1/CSAD (n = 9)
(69 ± 4) %

AE1/pPur (n = 8)
(56 ± 4) %

t Test P<0.01

Fig. 7

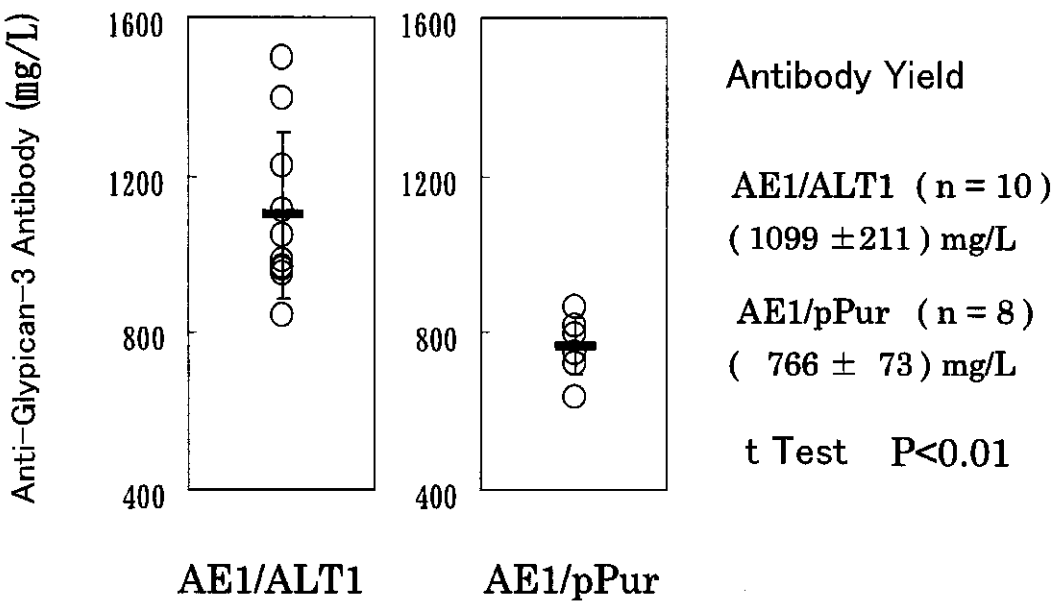

Anti-Glypican-3 Antibody (mg/L)
1600
1200
800
400
1600
1200
800
400
AE1/ALT1
AE1/pPur
Antibody Yield
AE1/ALT1 (n = 10)
(1099 ±211) mg/L
AE1/pPur (n = 8)
(766 ± 73) mg/L
t Test P<0.01

Fig. 8

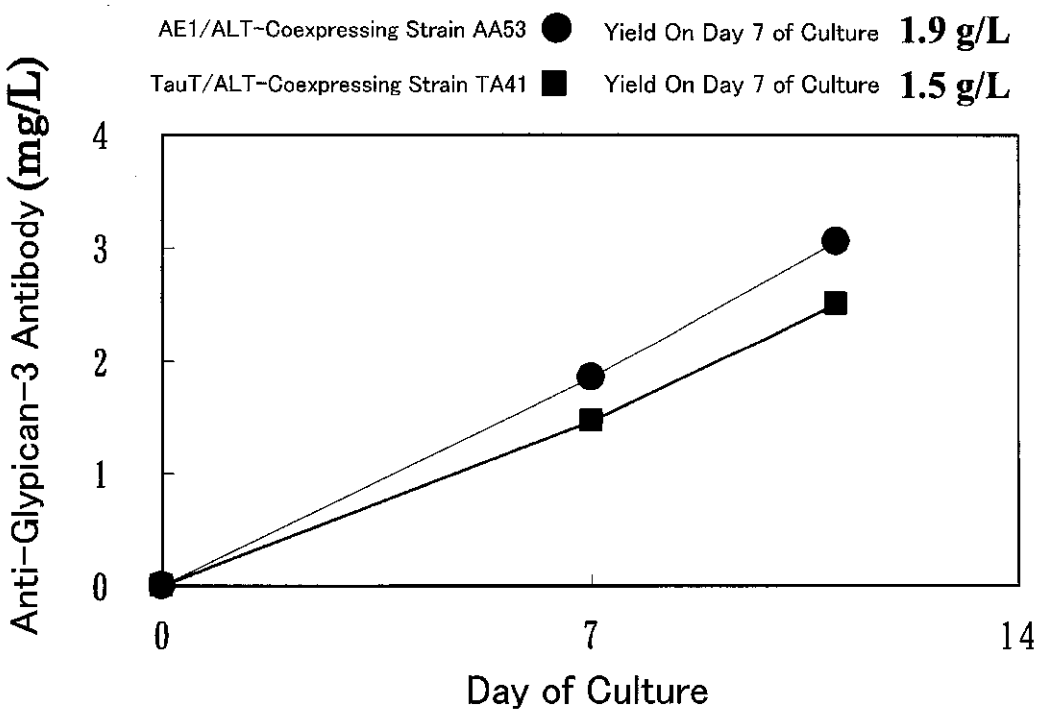

AE1/ALT-Coexpressing Strain AA53
Yield On Day 7 of Culture 1.9 g/L
TauT/ALT-Coexpressing Strain TA41
Yield On Day 7 of Culture 1.5 g/L
Anti-Glypican-3 Antibody (mg/L)
4
3
2
1
0
0
7
14
Day of Culture

Fig. 9

```
        10         20         30         40         50         60         70         80         90        100        110        120
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M  A  D  S  K  P  L  N  A  L  D  G  D  P  V  A  V  E  S  L  L  R  D  V  F  G  I  V  V  D  E  A  I  R  K  G  T  S  A  S
       130        140        150        160        170        180        190        200        210        220        230        240
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E  K  V  C  E  W  K  E  P  E  E  L  K  H  L  L  D  L  E  L  Q  S  Q  G  E  S  Q  E  Q  I  L  E  R  C  R  A  V  I  H  Y
       250        260        270        280        290        300        310        320        330        340        350        360
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S  V  K  T  G  H  P  R  F  F  N  Q  L  F  S  G  L  D  P  H  A  L  A  G  R  I  I  T  E  S  L  N  T  S  Q  Y  T  Y  E  I
       370        380        390        400        410        420        430        440        450        460        470        480
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A  P  V  F  V  L  M  E  E  E  V  L  K  K  L  R  A  L  V  G  W  N  S  G  D  G  V  F  C  P  G  G  S  I  S  N  M  Y  A  M
       490        500        510        520        530        540        550        560        570        580        590        600
aacctggcccgctatcagcgctacccagactgcaagcaaagaggcctccgggccctgccgccttggctctcttcacttcaaaggagtgtcactactccatcagtaagggagctgctttt
N  L  A  R  Y  Q  R  Y  P  D  C  K  Q  R  G  L  R  A  L  P  P  L  A  L  F  T  S  K  E  C  H  Y  S  I  S  K  G  A  A  F
       610        620        630        640        650        660        670        680        690        700        710        720
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L  G  L  G  T  D  S  V  R  V  V  K  A  D  E  R  G  K  M  I  P  E  D  L  E  R  Q  I  S  L  A  E  A  E  G  S  V  P  F  L
       730        740        750        760        770        780        790        800        810        820        830        840
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V  S  T  T  S  G  T  T  V  L  G  A  F  D  P  L  D  A  I  A  D  V  C  Q  R  H  G  L  W  L  H  V  D  A  A  W  G  G  S  V
       850        860        870        880        890        900        910        920        930        940        950        960
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L  L  S  R  T  H  R  H  L  L  D  G  I  Q  R  A  D  S  V  A  W  N  P  H  K  L  L  G  A  G  L  Q  C  S  A  L  L  L  R  D
       970        980        990       1000       1010       1020       1030       1040       1050       1060       1070       1080
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T  S  N  L  L  K  R  C  H  G  S  Q  A  S  Y  L  F  Q  Q  D  K  F  Y  D  V  A  L  D  T  G  D  K  V  V  Q  C  G  R  R  V
      1090       1100       1110       1120       1130       1140       1150       1160       1170       1180       1190       1200
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D  C  L  K  L  W  L  M  W  K  A  Q  G  G  Q  G  L  E  R  R  I  D  Q  A  F  A  L  T  R  Y  L  V  E  E  I  K  K  R  E  G
      1210       1220       1230       1240       1250       1260       1270       1280       1290       1300       1310       1320
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F  E  L  V  M  E  P  E  F  V  N  V  C  P  W  F  V  P  P  S  L  R  G  K  K  E  S  P  D  Y  S  X  R  L  S  Q  V  A  P  V
      1330       1340       1350       1360       1370       1380       1390       1400       1410       1420       1430       1440
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L  K  E  R  M  V  K  K  G  S  M  M  I  G  Y  Q  P  H  G  T  R  A  N  P  F  P  R  M  V  V  A  N  P  T  L  T  Q  A  D  I  D
      1450       1460       1470       1480
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Fig. 10

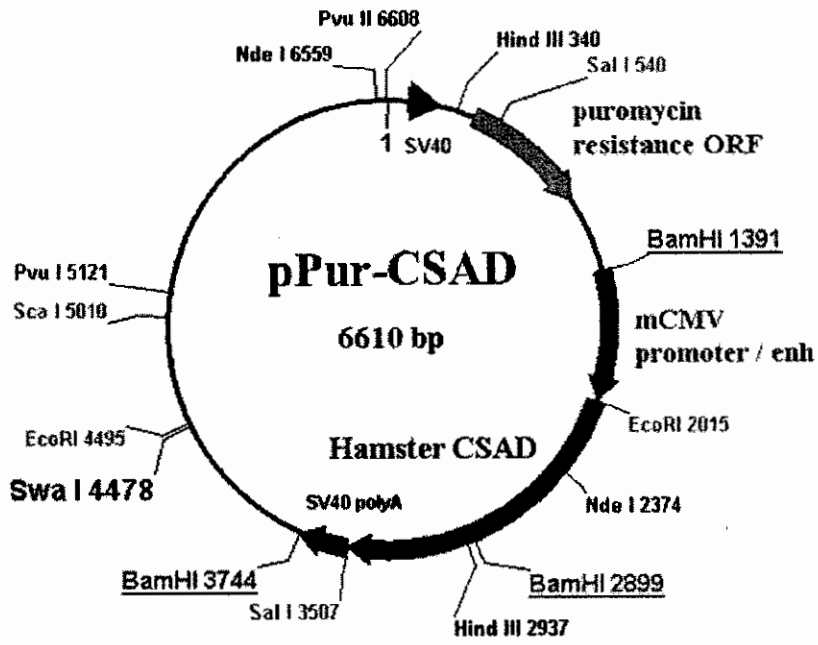


Fig. 11

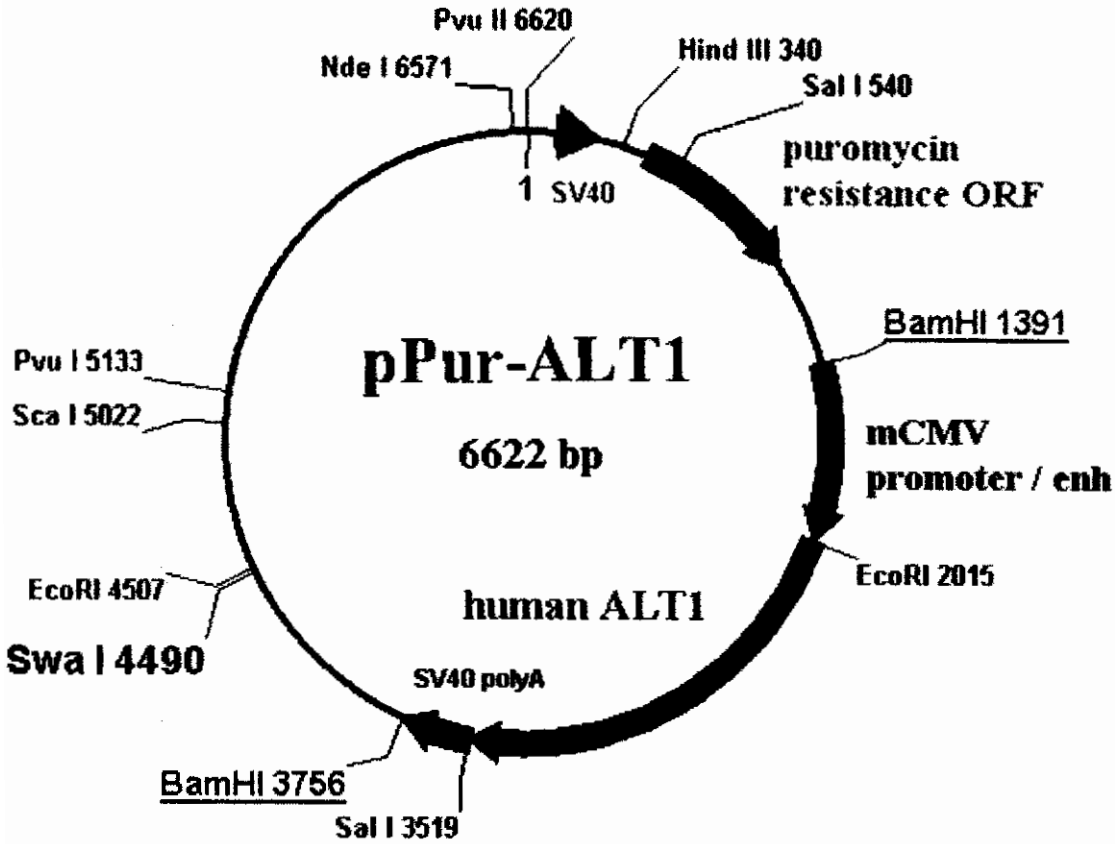

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Hind III 340
Sal I 540
puromycin
resistance ORF
1 SV40
BamHI 1391
pPur-ALT1
6622 bp
Pvu I 5133
Sca I 5022
mCMV
promoter / enh
EcoRI 2015
EcoRI 4507
human ALT1
Swa I 4490
SV40 polyA
BamHI 3756
Sal I 3519

Fig. 12

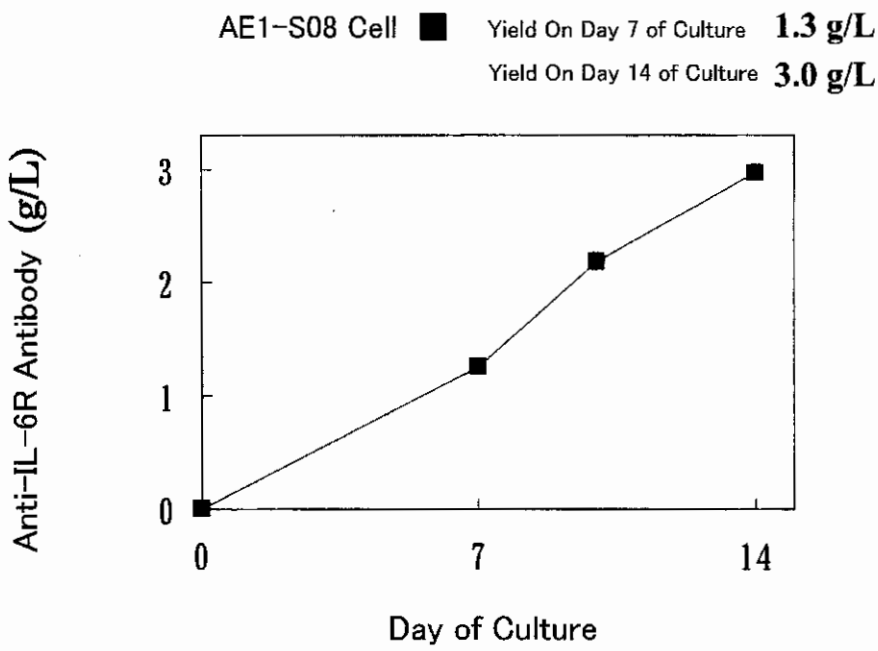


Fig. 13

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     160       170       180       190       200       210       220       230       240       250       260       270       280       290       300
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V  L  S  V  A  G  G  F  V  G  L  G  N  V  W  R  F  P  V  L  C  Y  K  N  G  G  G  A  F  L  F  P  Y  F  I  F  L  F  G  S  G  L  P  V  F  F  L  E  V  I
     310       320       330       340       350       360       370       380       390       400       410       420       430       440       450
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I  G  Q  Y  T  S  E  G  G  I  T  C  W  E  K  I  C  P  L  F  S  G  I  G  Y  A  S  I  V  I  V  S  L  L  N  V  Y  Y  I  V  I  L  A  W  A  T  Y  Y  L  F
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R  N  V  L  S  L  S  S  G  I  D  E  P  G  A  L  K  W  D  L  A  L  C  L  L  V  W  L  V  C  F  F  C  I  W  K  G  V  R  S  T  G  K  V  V  Y  F  T  A
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    1210      1220      1230      1240      1250      1260      1270      1280      1290      1300      1310      1320      1330      1340      1350
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D  S  Q  F  V  E  V  E  G  Q  I  T  S  L  V  D  L  Y  P  S  F  L  R  K  G  Y  R  R  E  V  F  I  A  I  L  C  S  I  S  Y  L  L  G  L  S  M  V  T  E  G
    1360      1370      1380      1390      1400      1410      1420      1430      1440      1450      1460      1470      1480      1490      1500
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    1510      1520      1530      1540      1550      1560      1570      1580      1590      1600      1610      1620      1630      1640      1650
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Fig. 14

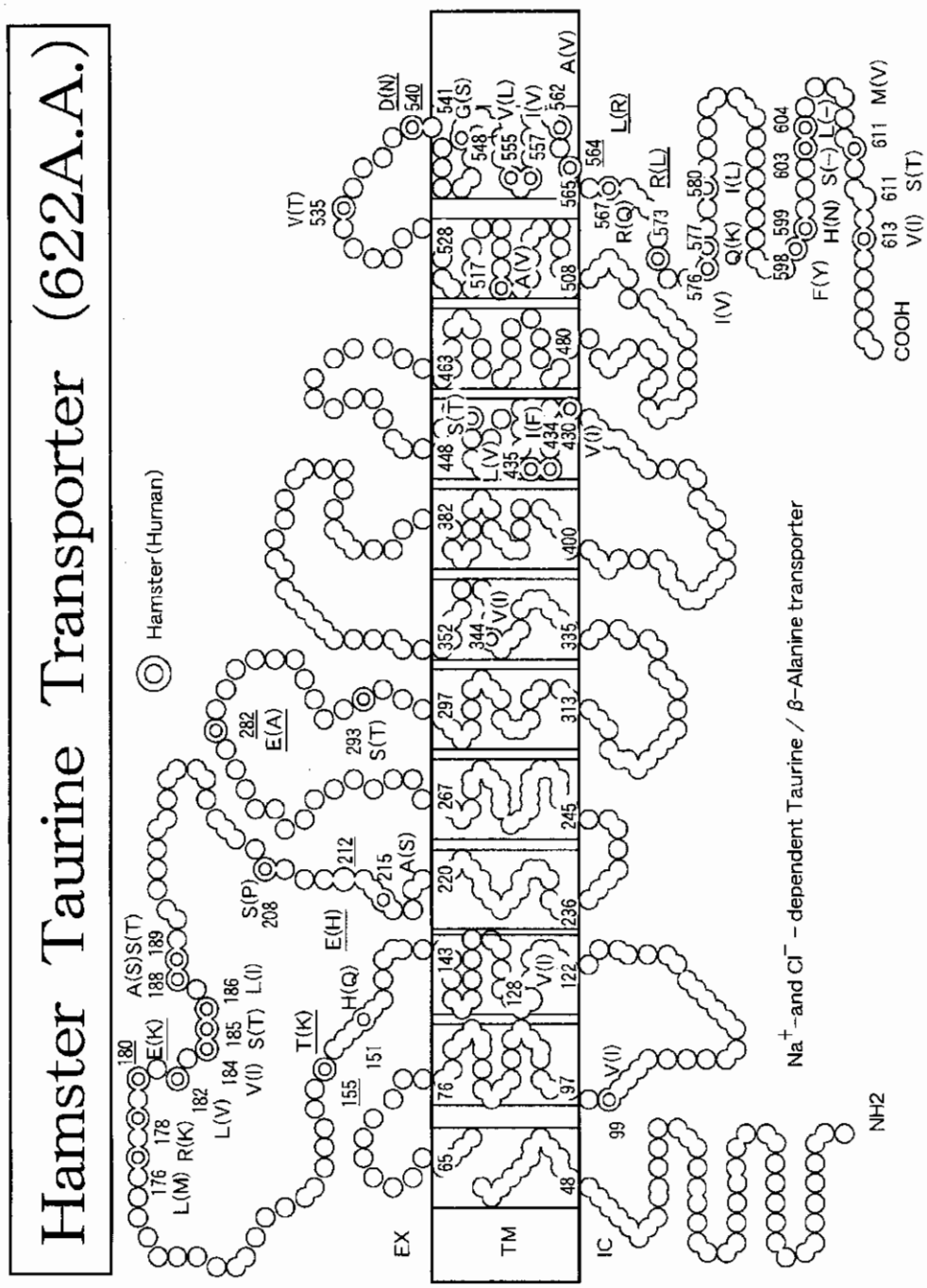
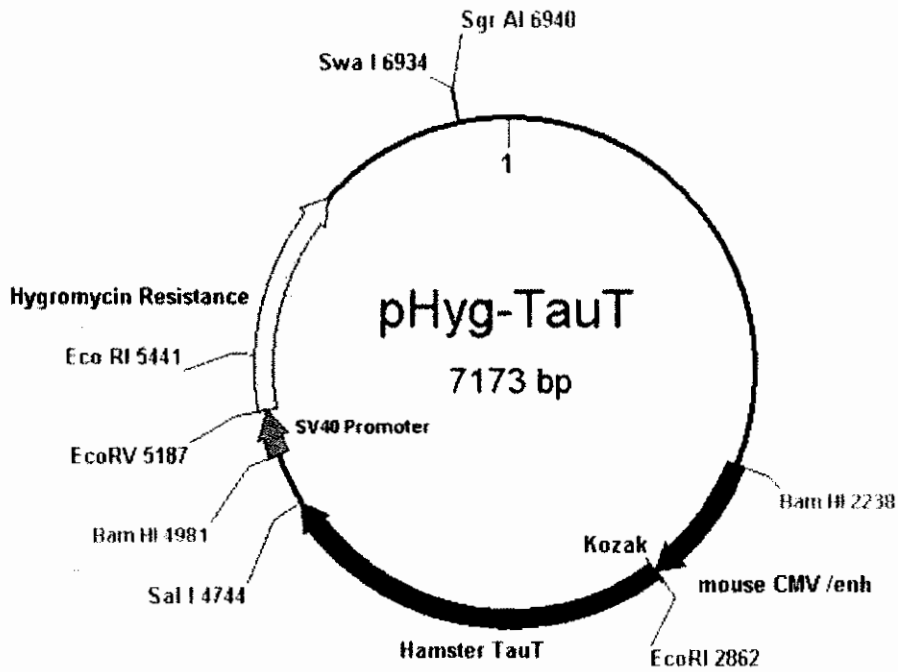

Hamster Taurine Transporter (622A.A.)
Hamster(Human)
Na+-and Cl− - dependent Taurine / β-Alanine transporter
NH2
COOH
EX
TM
IC

Fig. 15


Sgr AI 6940
Swa I 6934
1
pHyg-TauT
7173 bp
Hygromycin Resistance
Eco RI 5441
SV40 Promoter
EcoRV 5187
Bam HI 4981
Sal I 4744
Hamster TauT
Kozak
mouse CMV /enh
Bam HI 2238
EcoRI 2862