Fig. 1

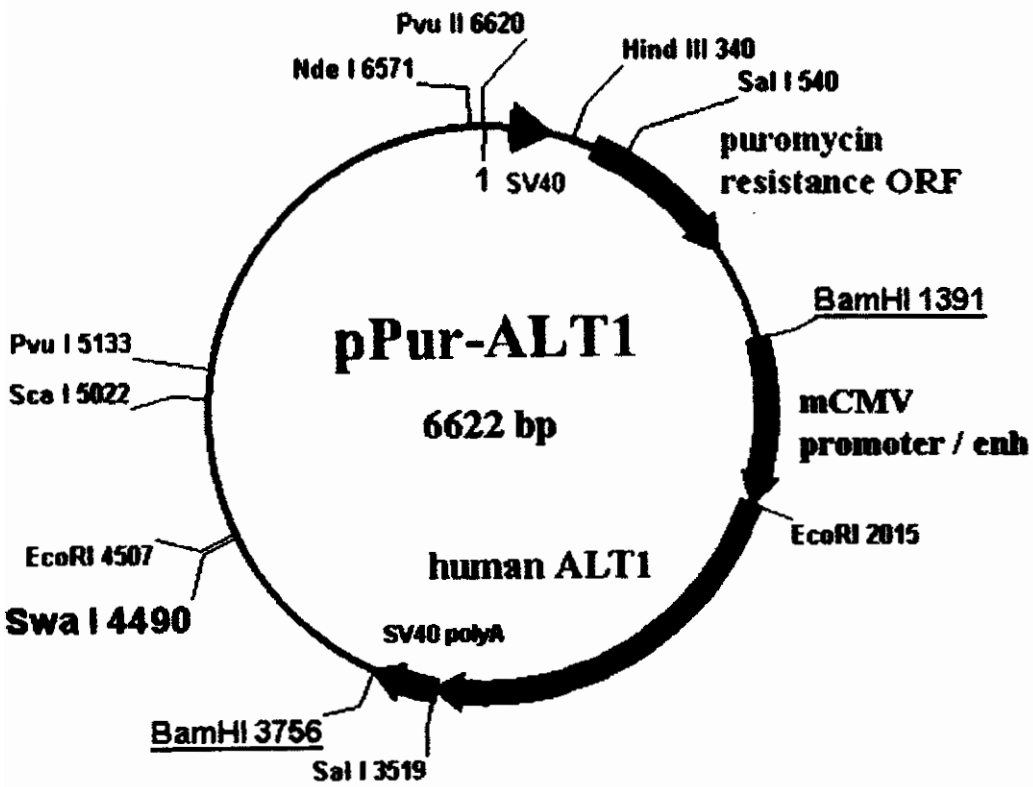

Pvu II 6620
Nde I 6571
Hind III 340
Sal I 540
puromycin
resistance ORF
1 SV40
BamHI 1391
pPur-ALT1
6622 bp
mCMV
promoter / enh
Pvu I 5133
Sca I 5022
EcoRI 2015
EcoRI 4507
human ALT1
Swa I 4490
SV40 polyA
BamHI 3756
Sal I 3519

Fig. 2

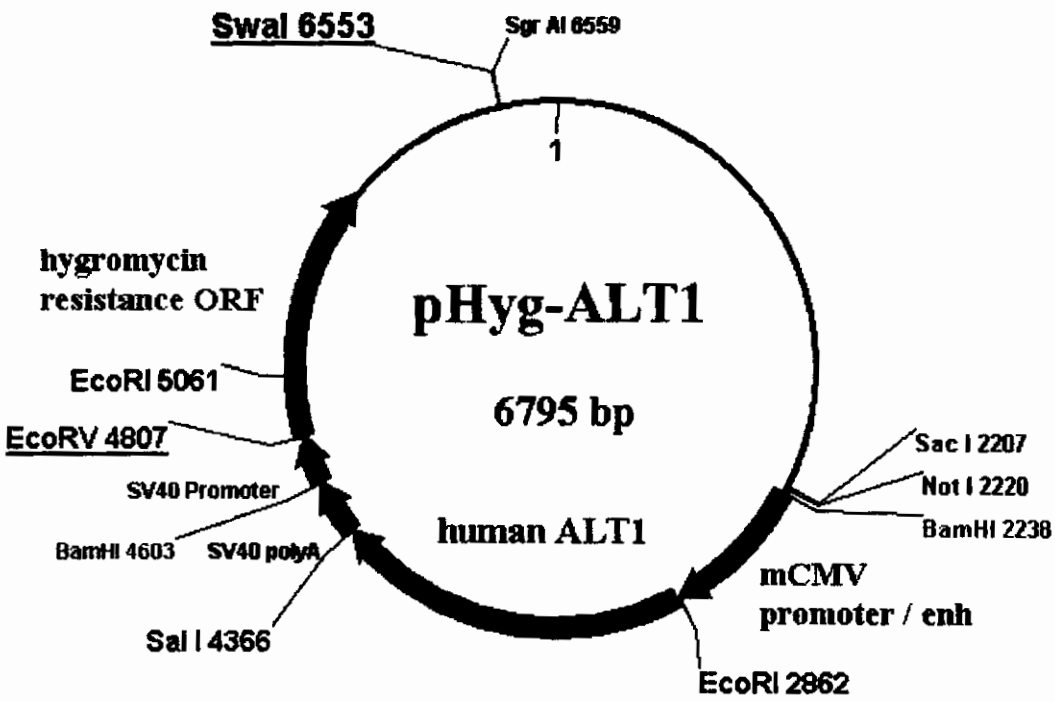

SwaI 6553
Sgr AI 6559
1
hygromycin
resistance ORF
pHyg-ALT1
6795 bp
human ALT1
EcoRI 5061
EcoRV 4807
SV40 Promoter
BamHI 4603
SV40 polyA
SalI 4366
Sac I 2207
Not I 2220
BamHI 2238
mCMV
promoter / enh
EcoRI 2862

Fig. 3

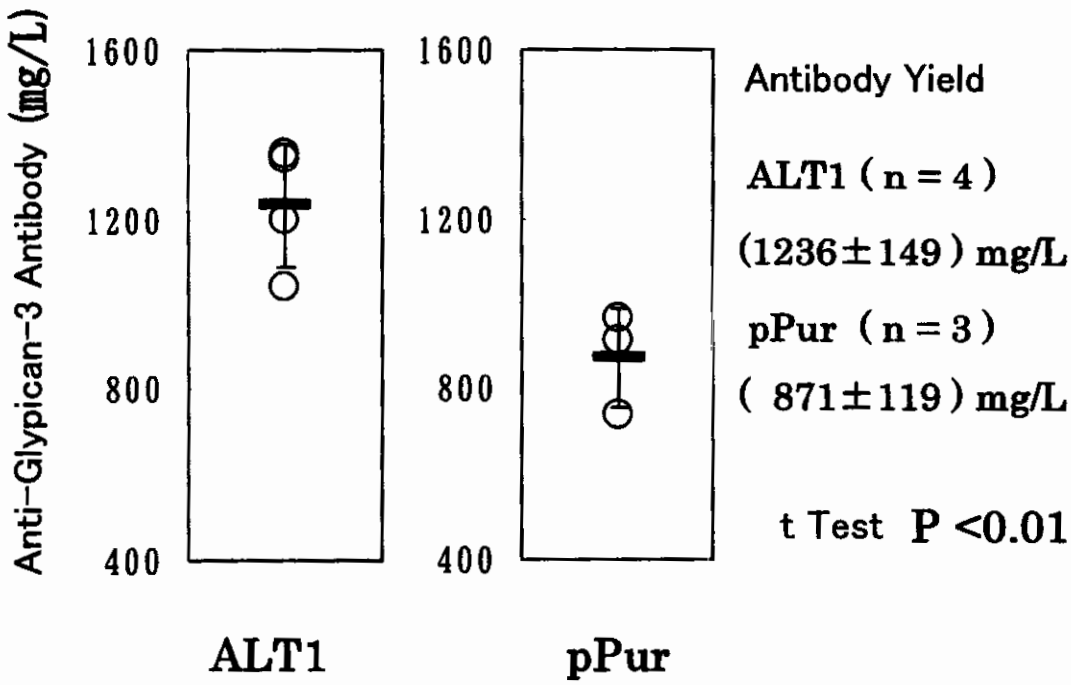

Anti-Glypican-3 Antibody (mg/L)
1600
1200
800
400
1600
1200
800
400
Antibody Yield
ALT1 (n = 4)
(1236±149) mg/L
pPur (n = 3)
(871±119) mg/L
t Test P <0.01
ALT1
pPur

Fig. 4

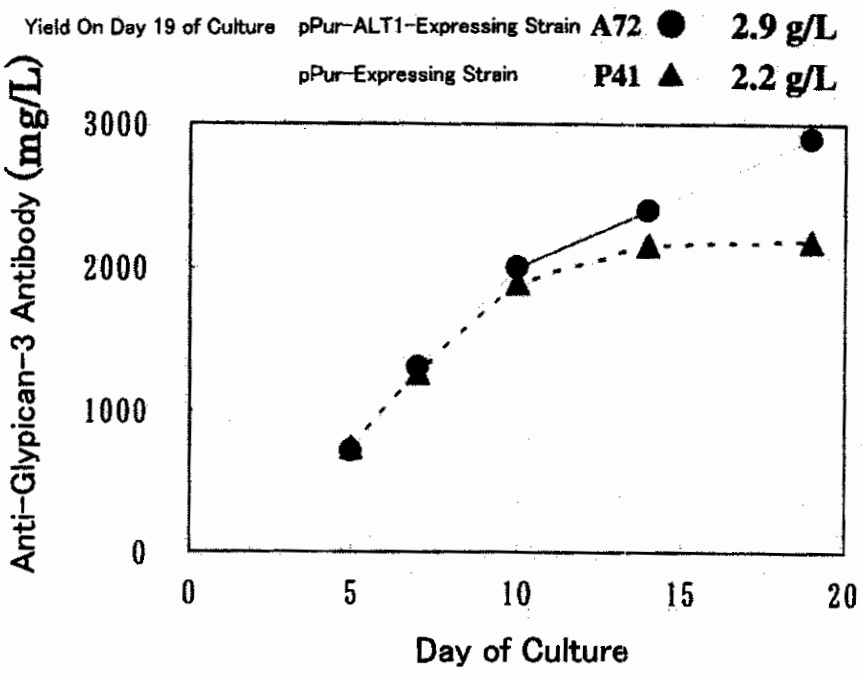

Yield On Day 19 of Culture
pPur-ALT1-Expressing Strain A72 ● 2.9 g/L
pPur-Expressing Strain P41 ▲ 2.2 g/L
Anti-Glypican-3 Antibody (mg/L)
3000
2000
1000
0
0
5
10
15
20
Day of Culture

Fig. 5

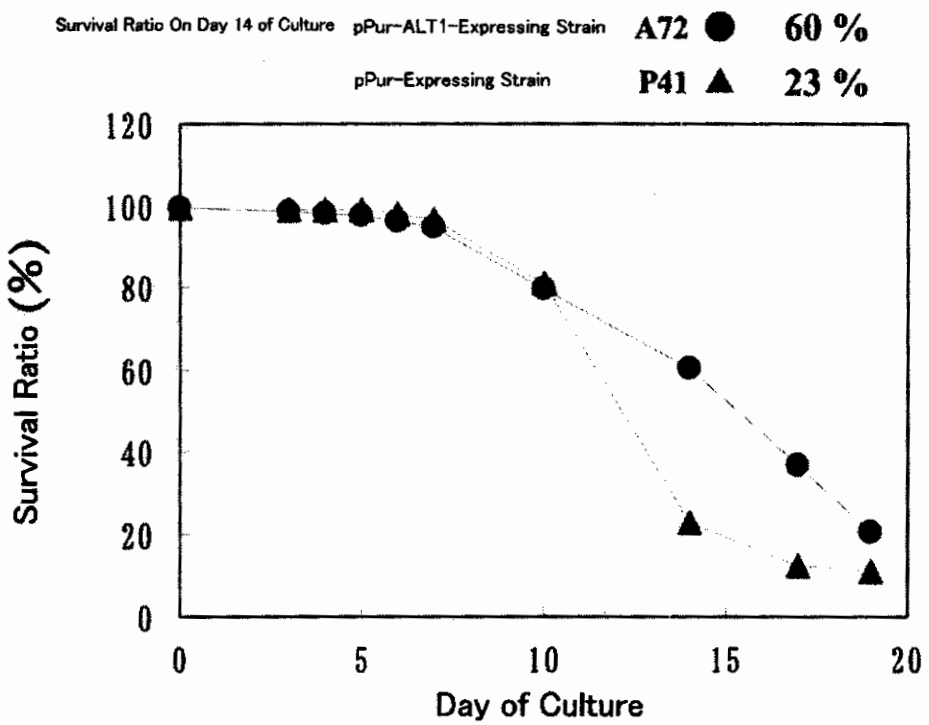

Survival Ratio On Day 14 of Culture
pPur-ALT1-Expressing Strain A72 ● 60 %
pPur-Expressing Strain P41 ▲ 23 %
Survival Ratio (%)
120
100
80
60
40
20
0
0
5
10
15
20
Day of Culture

Fig. 6

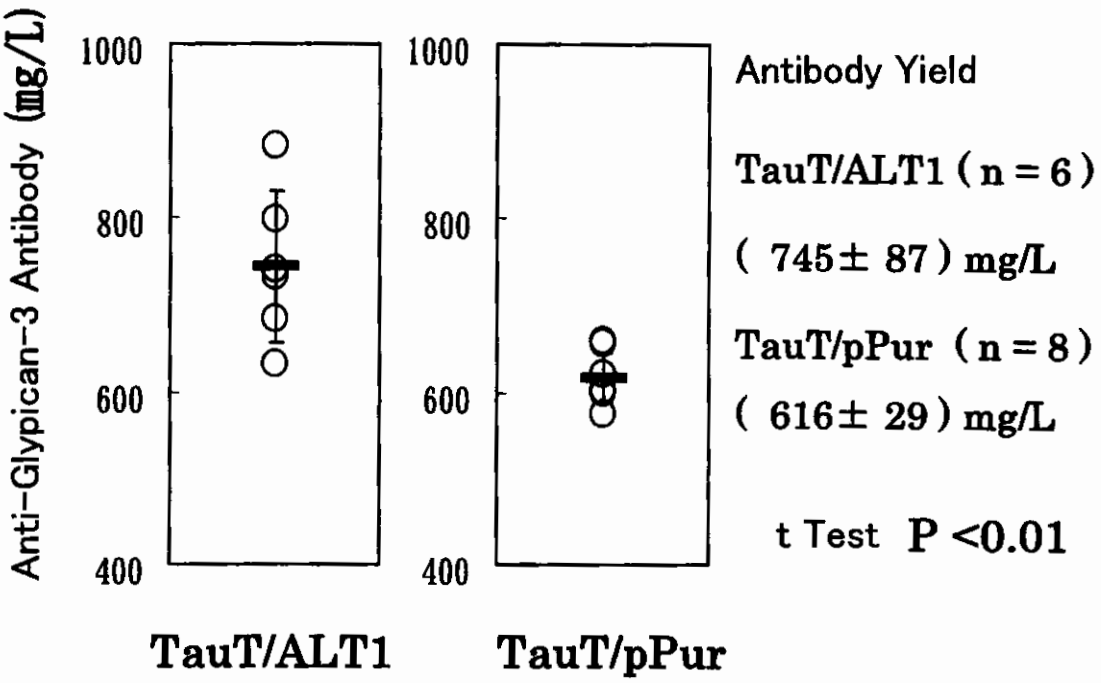

Anti-Glypican-3 Antibody (mg/L)
1000
800
600
400
1000
800
600
400
Antibody Yield
TauT/ALT1 (n = 6)
(745± 87) mg/L
TauT/pPur (n = 8)
(616± 29) mg/L
t Test P <0.01
TauT/ALT1
TauT/pPur

Fig. 7

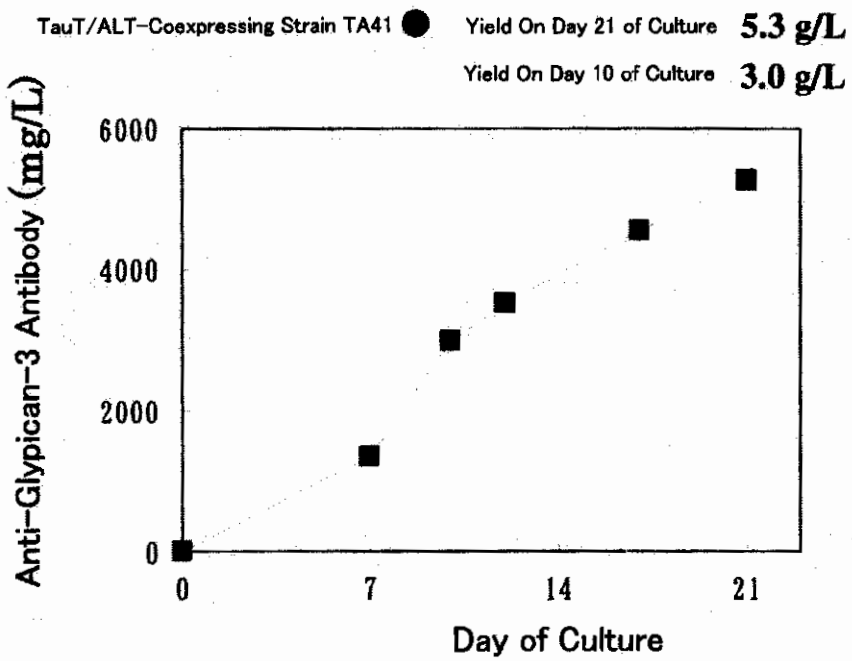

TauT/ALT-Coexpressing Strain TA41
Yield On Day 21 of Culture 5.3 g/L
Yield On Day 10 of Culture 3.0 g/L
Anti-Glypican-3 Antibody (mg/L)
6000
4000
2000
0
0
7
14
21
Day of Culture

Fig. 8

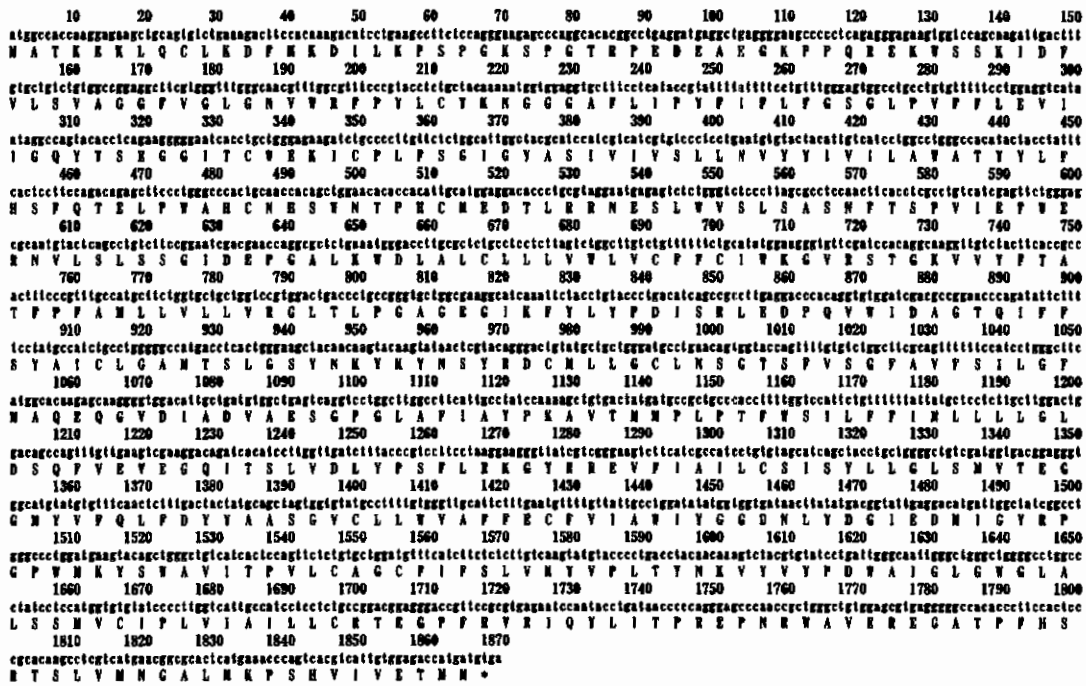


Fig. 9

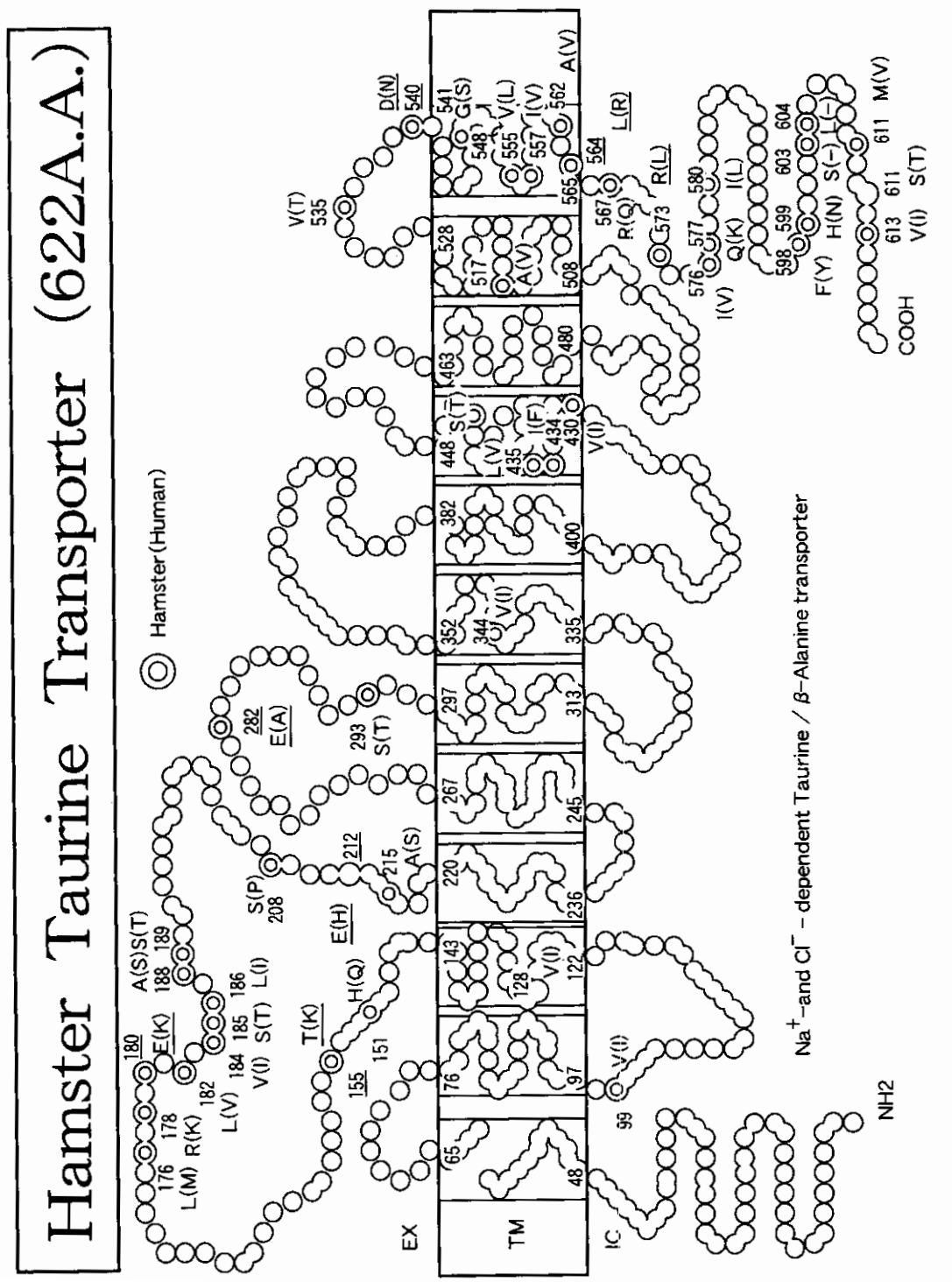

Hamster Taurine Transporter (622A.A.)
Hamster(Human)
Na+-and Cl− - dependent Taurine / β-Alanine transporter
NH2
COOH
EX
IC
TM

Fig. 10

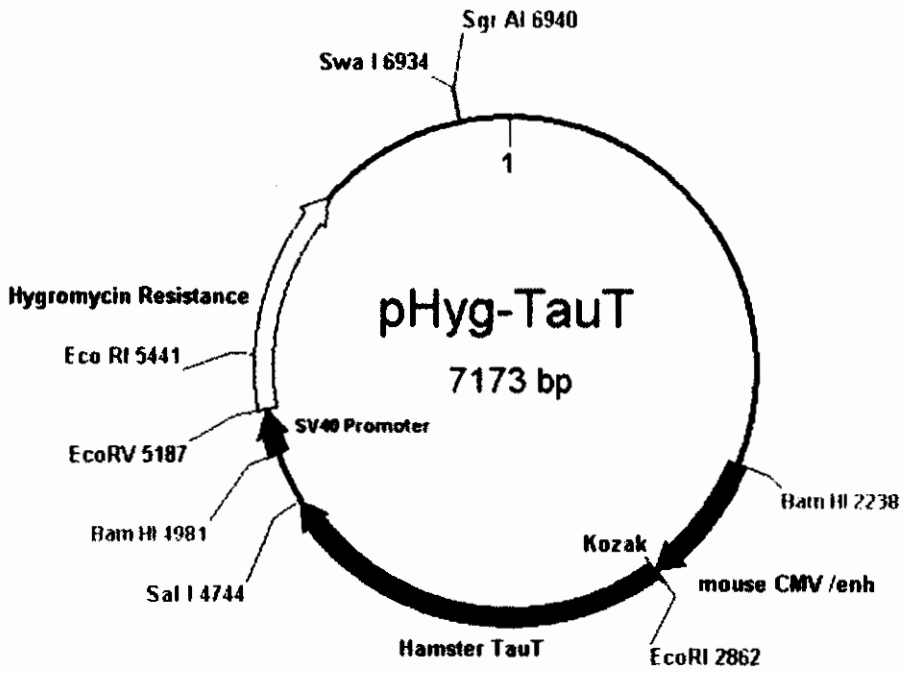

Sgr AI 6940
Swa I 6934
1
pHyg-TauT
7173 bp
Hygromycin Resistance
Eco RI 5441
SV40 Promoter
EcoRV 5187
Bam HI 4981
Sal I 4744
Hamster TauT
Kozak
mouse CMV /enh
Bam HI 2238
EcoRI 2862

Fig. 11

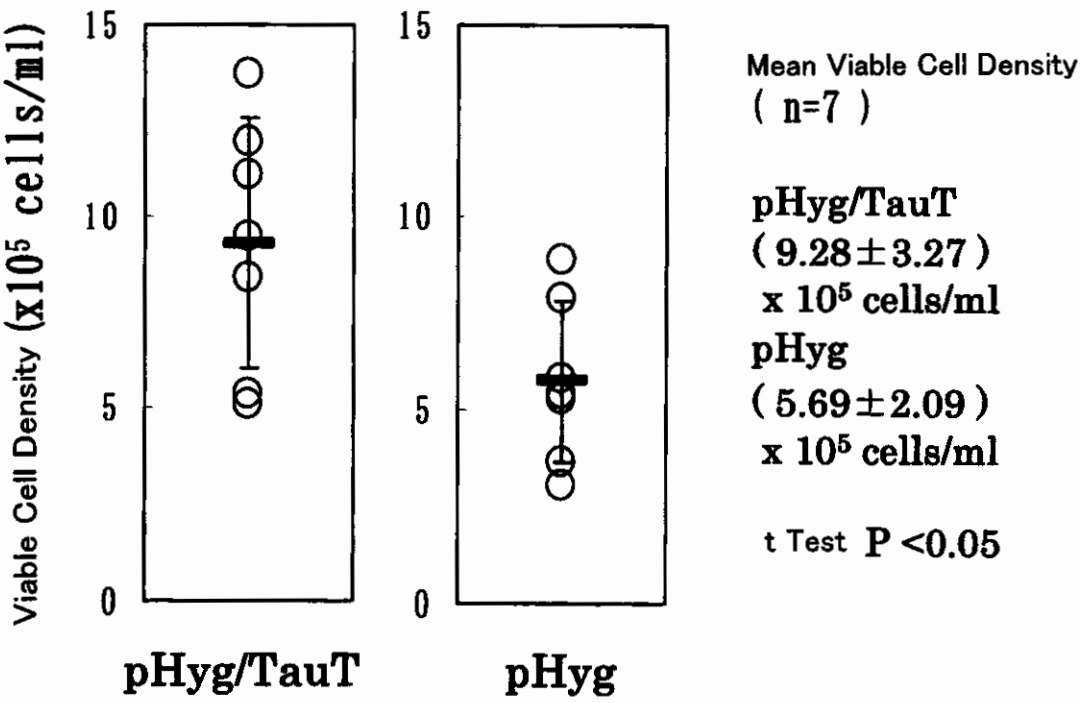
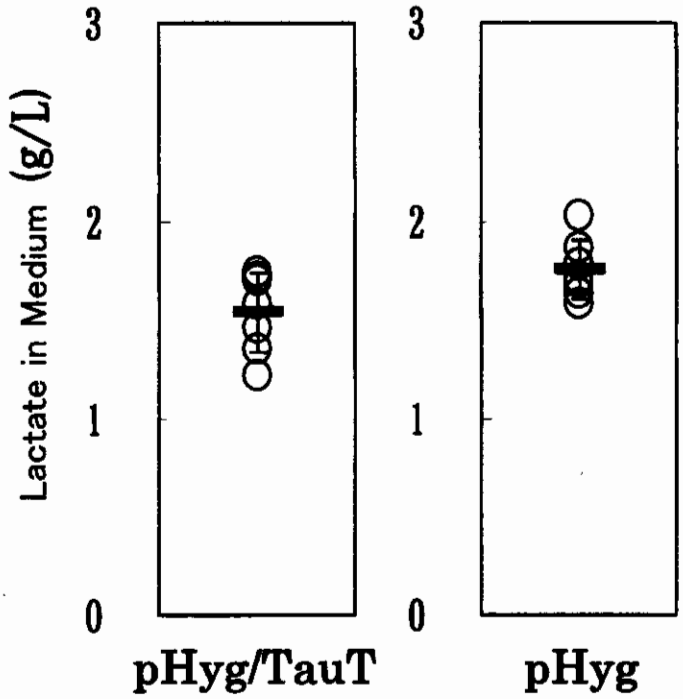

Viable Cell Density (x10⁵ cells/ml)
15
10
5
0
pHyg/TauT
pHyg
Mean Viable Cell Density
(n=7)
pHyg/TauT
(9.28±3.27)
x 10⁵ cells/ml
pHyg
(5.69±2.09)
x 10⁵ cells/ml
t Test P <0.05

Fig. 12



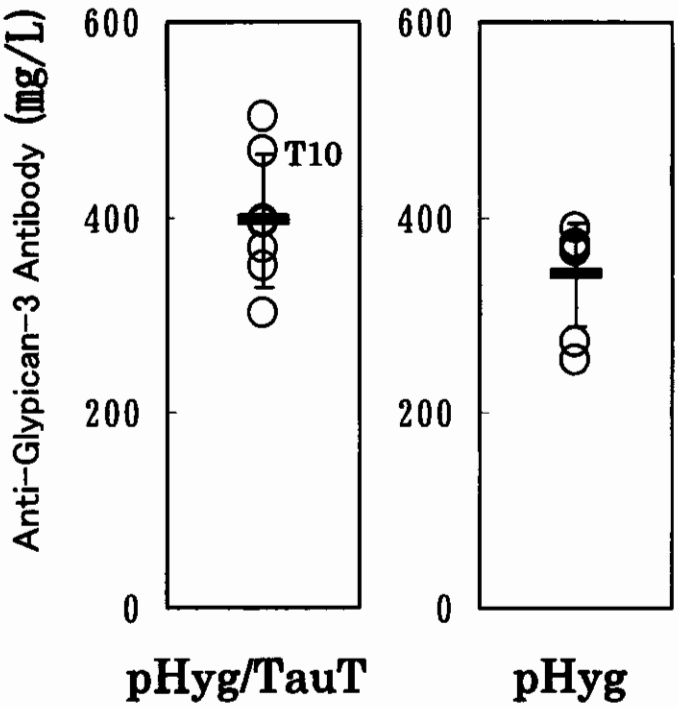
Mean Lactate Concentration
(n=7)

pHyg/TauT
(1.54±0.20) g/L

pHyg
(1.75±0.15) g/L

t Test **P <0.05**

Fig. 13



Mean Antibody Yield
(n=7)

pHyg/TauT
(397±69) mg/L

pHyg
(342±55) mg/L

Fig. 14

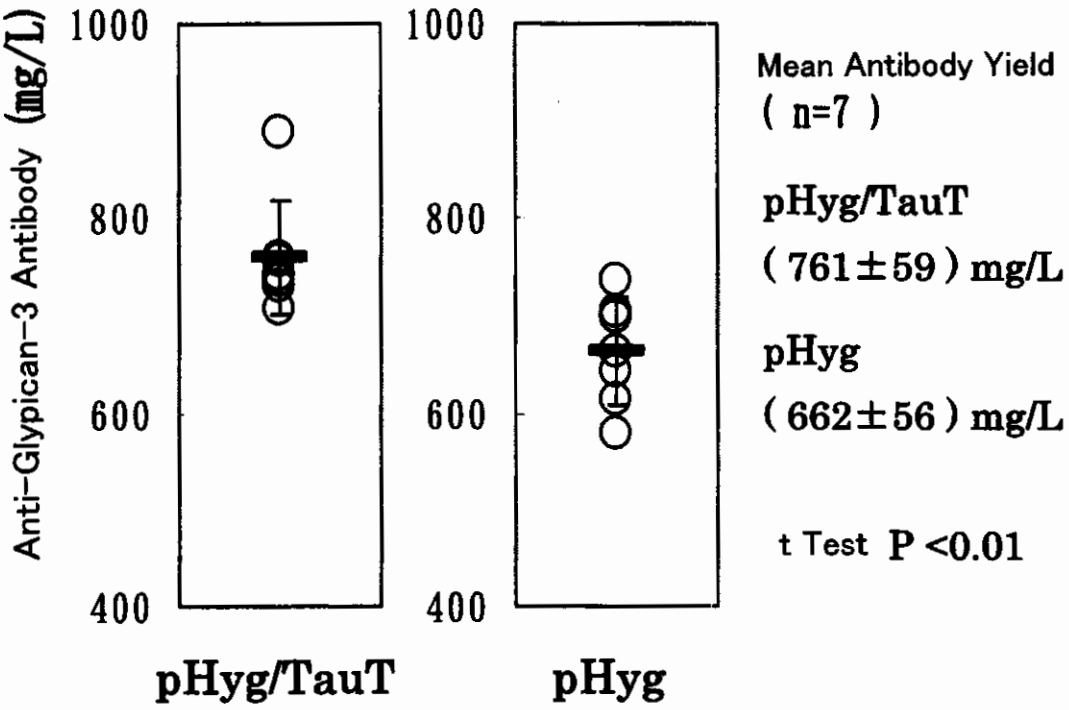

Anti-Glypican-3 Antibody (mg/L)
1000
800
600
400
1000
800
600
400
pHyg/TauT
pHyg
Mean Antibody Yield
(n=7)
pHyg/TauT
(761±59) mg/L
pHyg
(662±56) mg/L
t Test P <0.01

Fig. 15

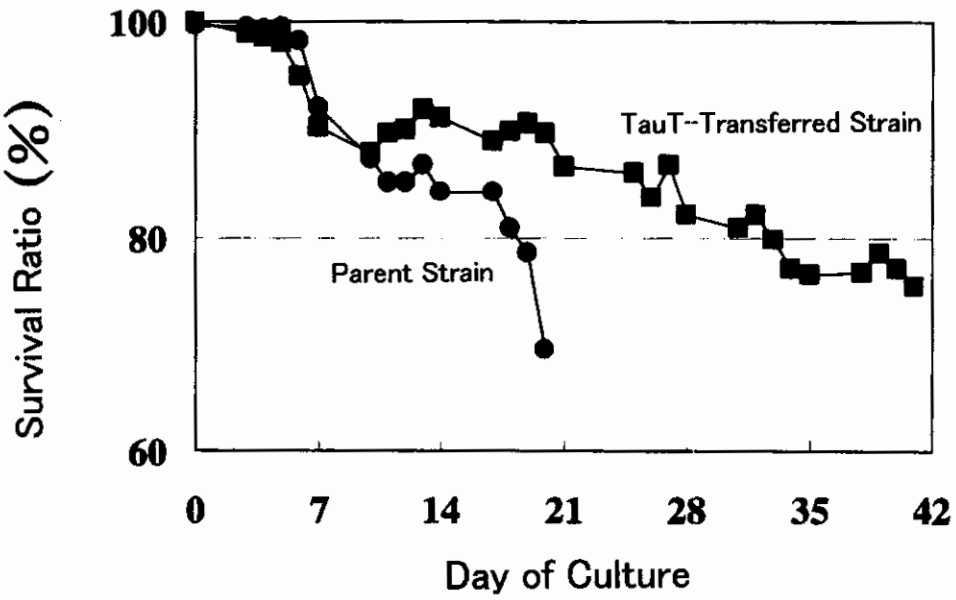

Survival Ratio (%)
100
80
60
TauT--Transferred Strain
Parent Strain
0
7
14
21
28
35
42
Day of Culture

Fig. 16

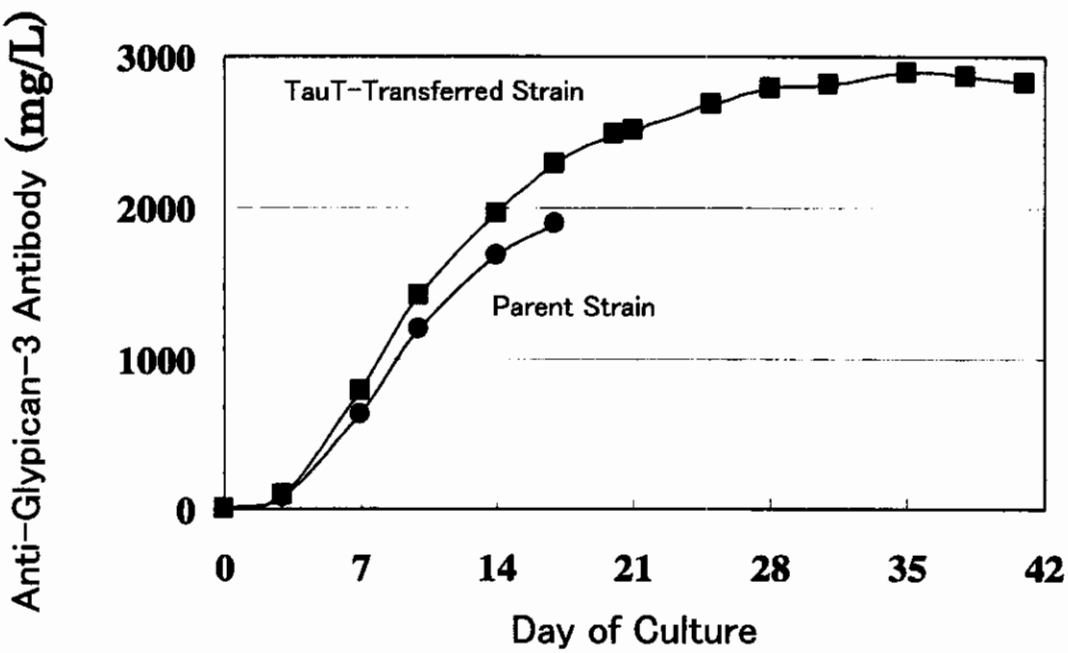

Anti-Glypican-3 Antibody (mg/L)
3000
2000
1000
0
TauT-Transferred Strain
Parent Strain
0
7
14
21
28
35
42
Day of Culture

Fig. 17

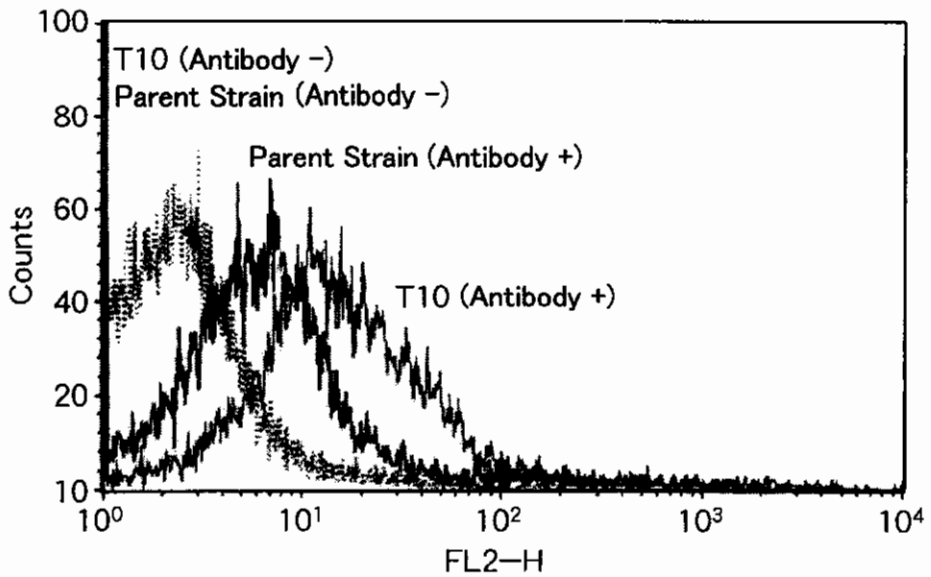

100
80
60
40
20
10
Counts
T10 (Antibody −)
Parent Strain (Antibody −)
Parent Strain (Antibody +)
T10 (Antibody +)
10⁰
10¹
10²
10³
10⁴
FL2−H

Fig. 18

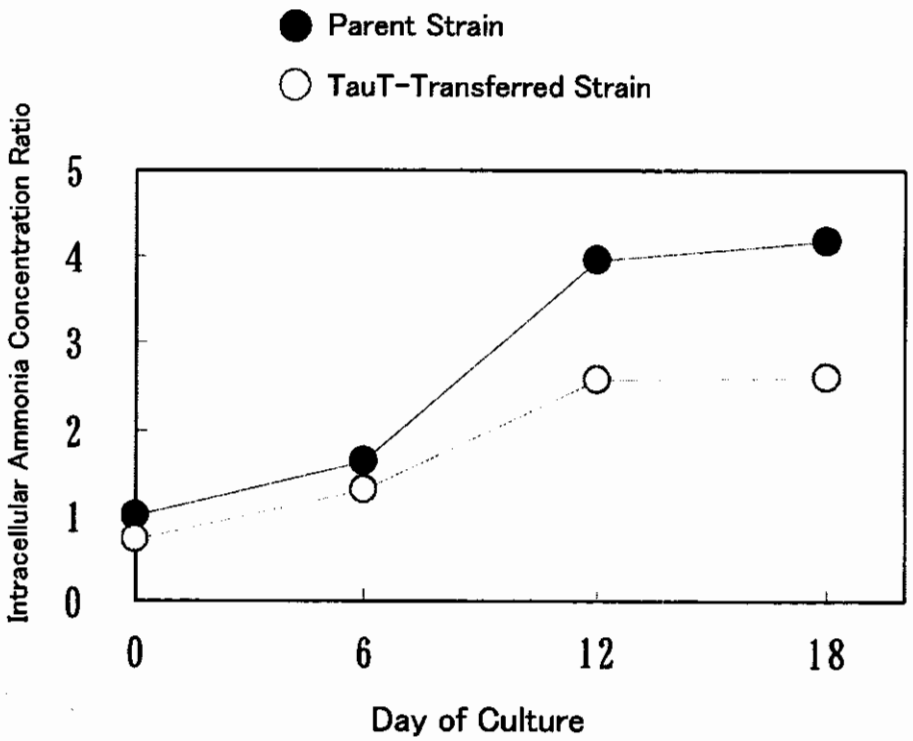
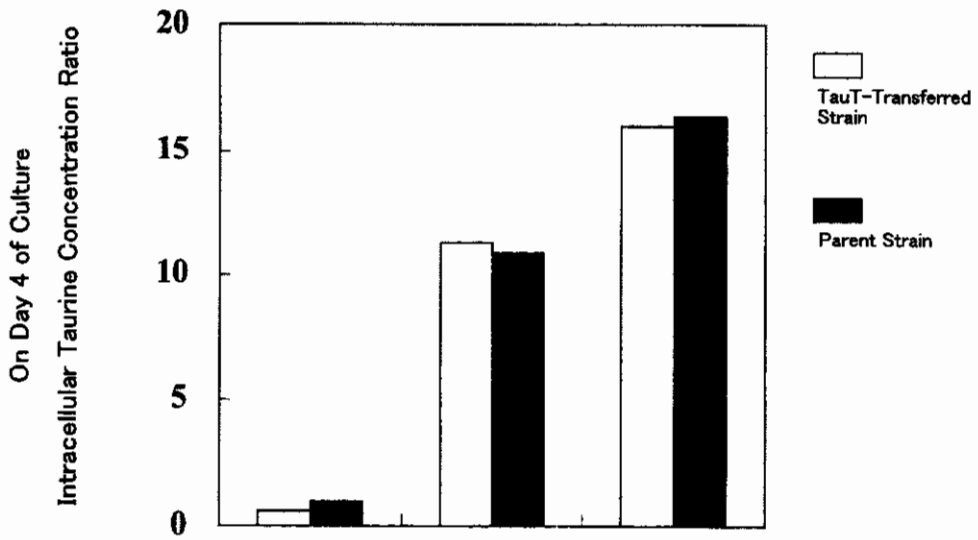
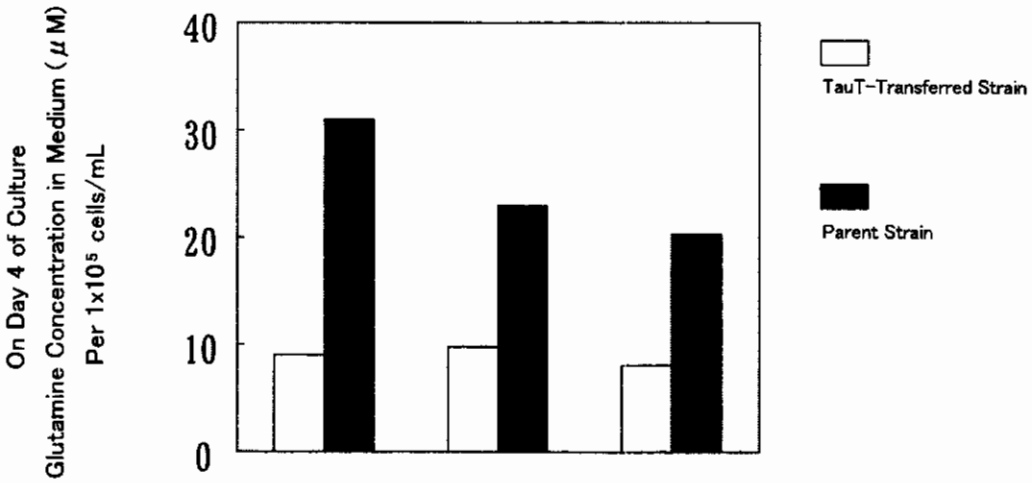


Fig. 19



	[A]	[B]	[C]
Initial Glutamine Concentration (μM)	7000	7000	7000
Initial Taurine Concentration (μM)	0	1000	5000

Fig. 20



	[A]	[B]	[C]
Initial Glutamine Concentration (μM)	7000	7000	7000
Initial Taurine Concentration (μM)	0	1000	5000

Fig. 21

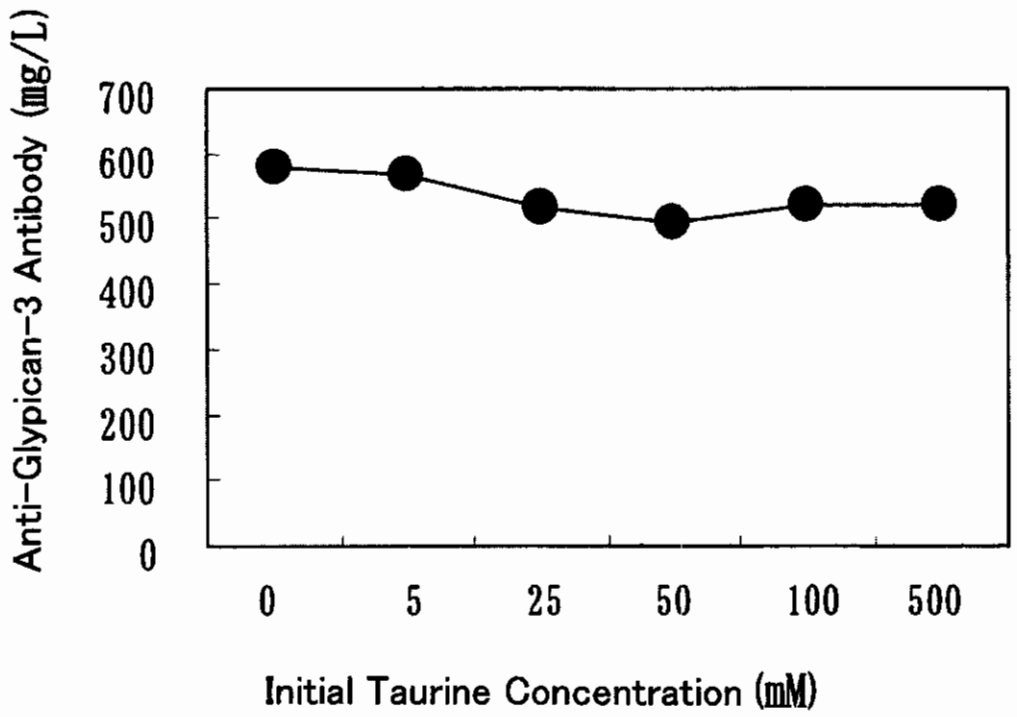
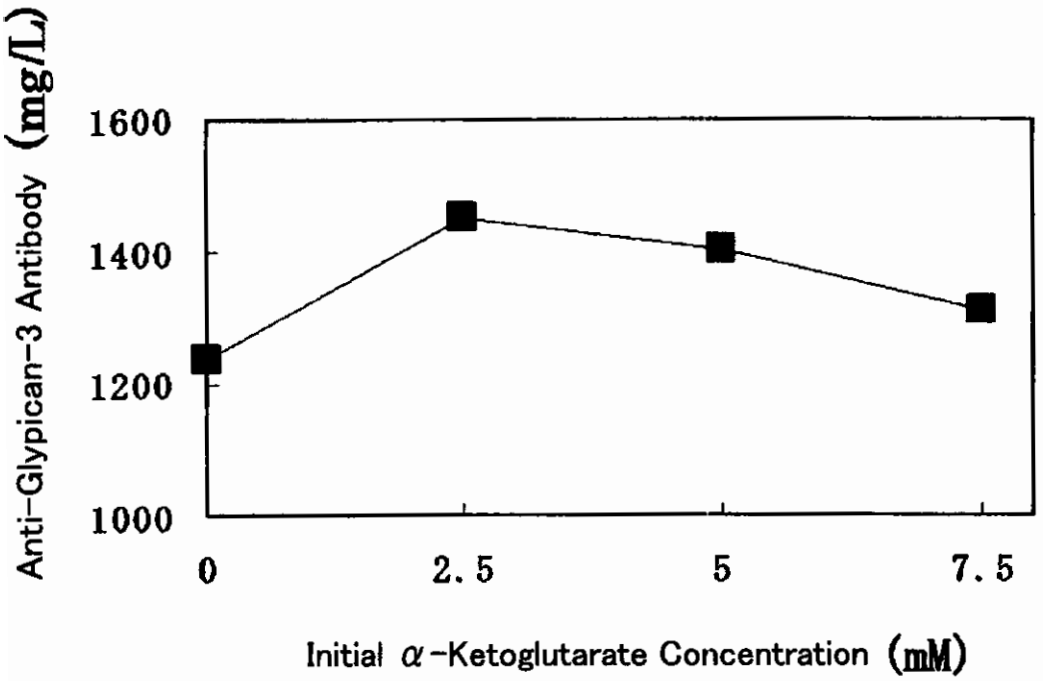


Fig. 22


Anti-Glypican-3 Antibody (mg/L)
1600
1400
1200
1000
0
2.5
5
7.5
Initial α-Ketoglutarate Concentration (mM)