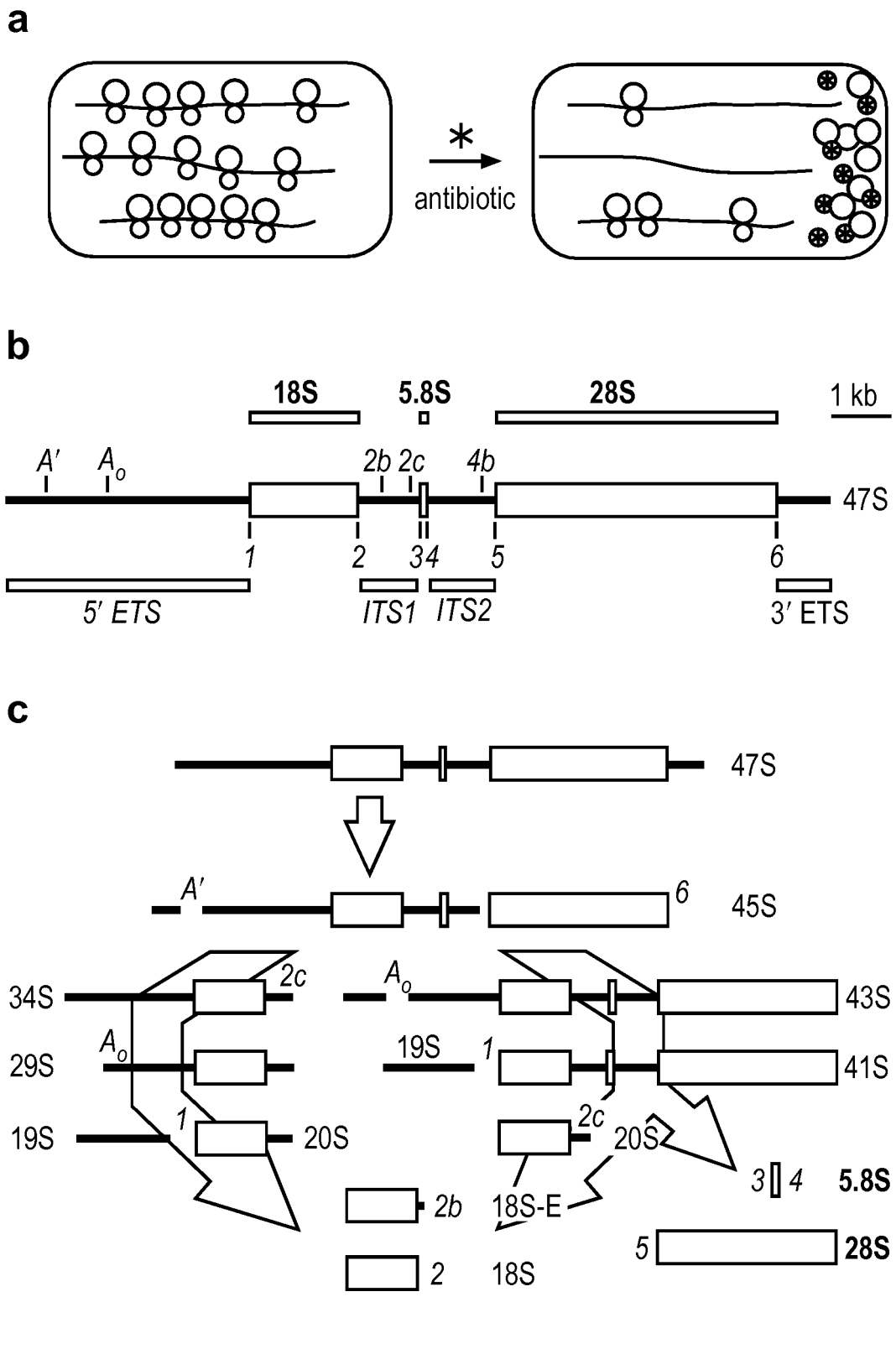

a
antibiotic
b
18S
5.8S
28S
1 kb
A′
A0
2b 2c
4b
47S
1
2
3 4
5
6
5′ ETS
ITS1
ITS2
3′ ETS
c
47S
A′
6
45S
34S
2c
A0
43S
29S
A0
19S
1
41S
19S
1
20S
2c
20S
3 4
5.8S
2b
18S-E
5
28S
2
18S

FIG. 1

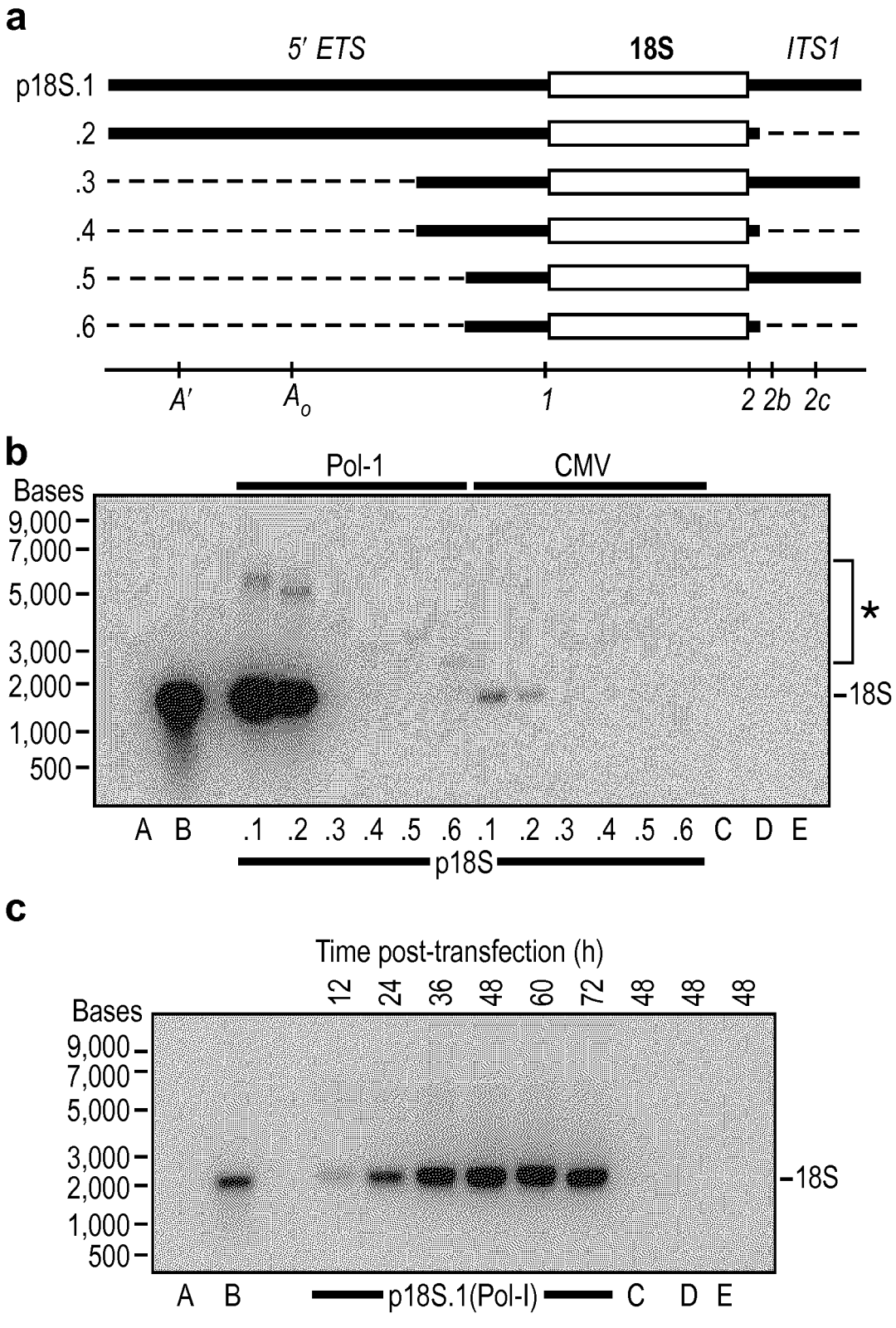

a
5′ ETS
18S
ITS1
p18S.1
.2
.3
.4
.5
.6
A′
A0
1
2 2b 2c
b
Pol-1
CMV
Bases
9,000
7,000
5,000
3,000
2,000
1,000
500
*
18S
A B .1 .2 .3 .4 .5 .6 .1 .2 .3 .4 .5 .6 C D E
p18S
c
Time post-transfection (h)
12 24 36 48 60 72 48 48 48
Bases
9,000
7,000
5,000
3,000
2,000
1,000
500
18S
A B p18S.1(Pol-I) C D E

FIG. 2

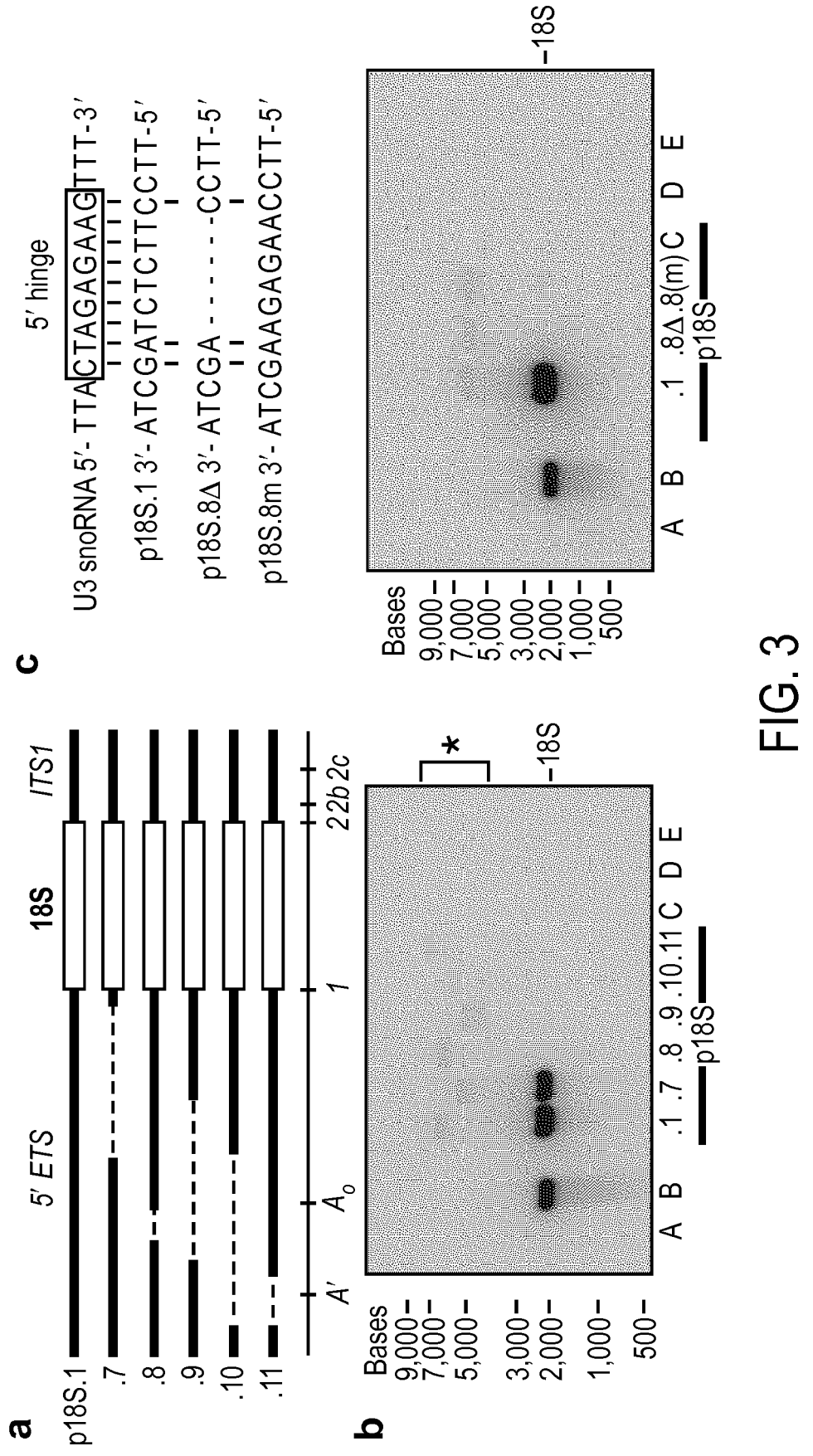

a
5′ ETS
18S
ITS1
p18S.1
.7
.8
.9
.10
.11
A′
A0
1
22b 2c
b
Bases
9,000
7,000
5,000
3,000
2,000
1,000
500
A B .1 .7 .8 .9 .10.11 C D E
p18S
18S
*
c
5′ hinge
U3 snoRNA 5′- TTACTAGAGAAGTTT-3′
p18S.1 3′- ATCGATCTCTTCCTT-5′
p18S.8Δ 3′- ATCGA - - - - - -CCTT-5′
p18S.8m 3′- ATCGAAGAGAACCTT-5′
Bases
9,000
7,000
5,000
3,000
2,000
1,000
500
A B .1 .8Δ.8(m)C D E
p18S
18S

FIG. 3

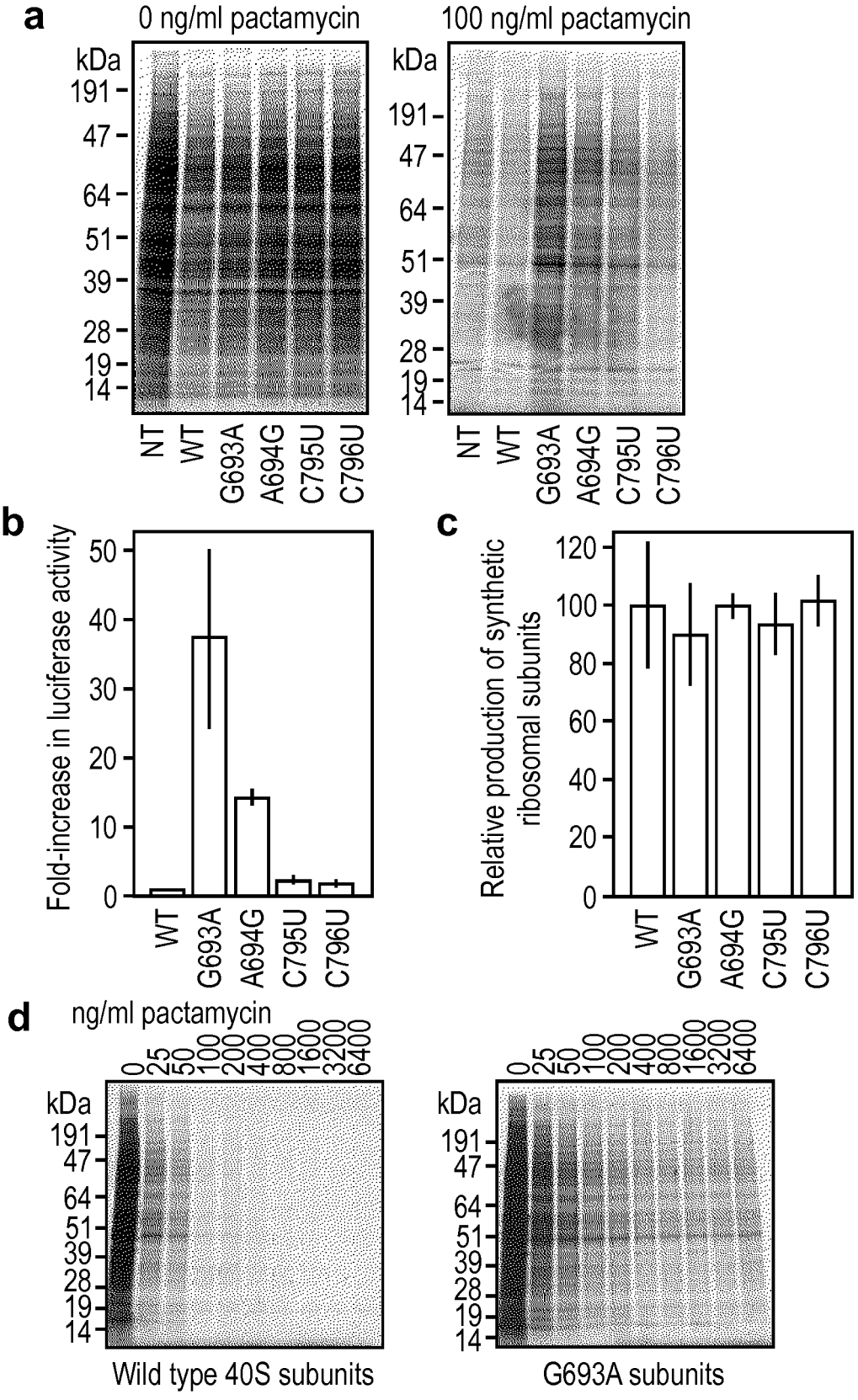

a
0 ng/ml pactamycin
100 ng/ml pactamycin
kDa
191
47
64
51
39
28
19
14
NT
WT
G693A
A694G
C795U
C796U
b
Fold-increase in luciferase activity
50
40
30
20
10
0
WT
G693A
A694G
C795U
C796U
c
Relative production of synthetic ribosomal subunits
120
100
80
60
40
20
0
WT
G693A
A694G
C795U
C796U
d
ng/ml pactamycin
0
25
50
100
200
400
800
1600
3200
6400
kDa
191
47
64
51
39
28
19
14
Wild type 40S subunits
G693A subunits

FIG. 4

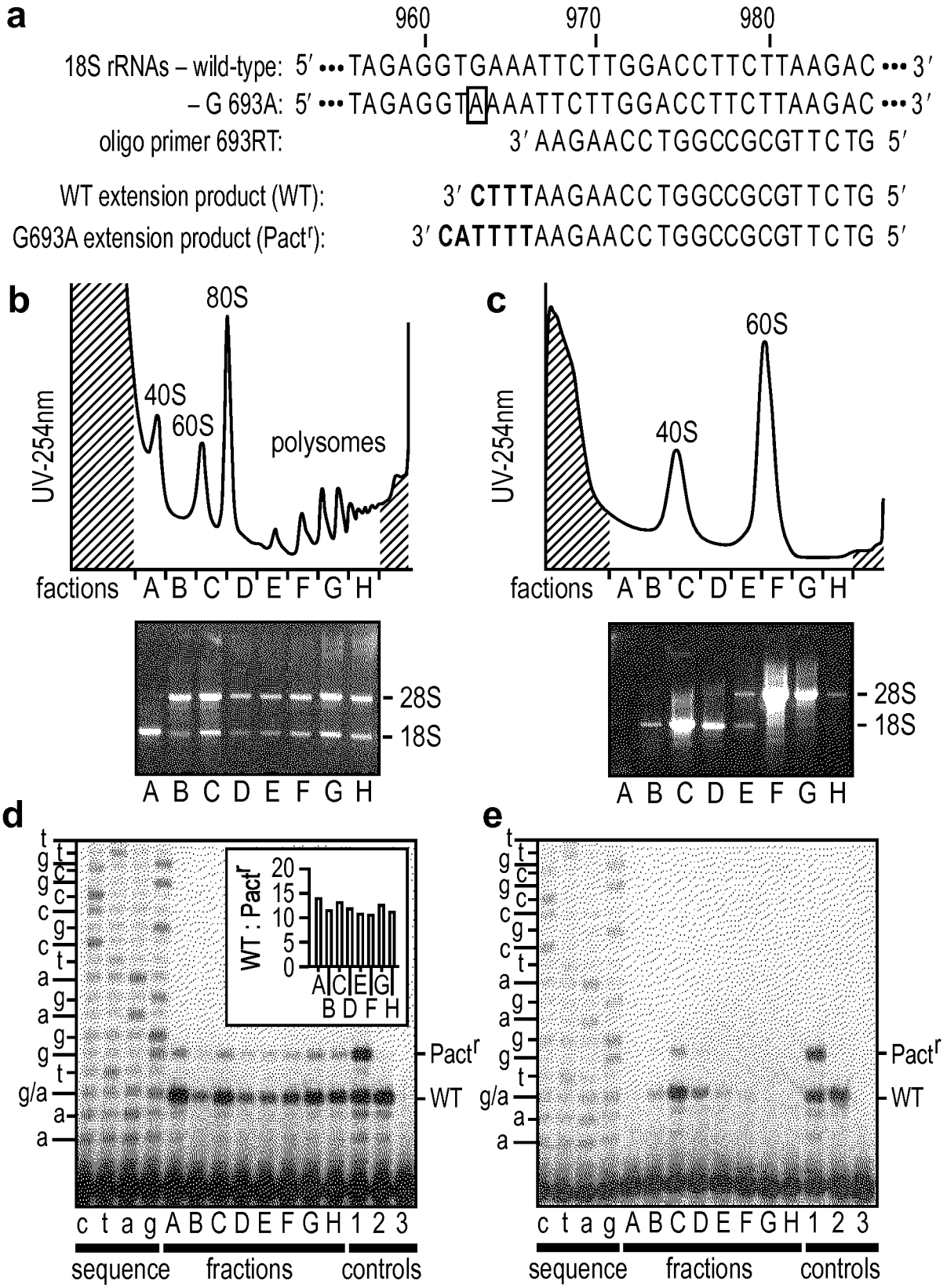

a
960
970
980
18S rRNAs – wild-type: 5′ ••• TAGAGGTGAAATTCTTGGACCTTCTTAAGAC ••• 3′
– G 693A: 5′ ••• TAGAGGTAAAATTCTTGGACCTTCTTAAGAC ••• 3′
oligo primer 693RT: 3′ AAGAACCTGGCCGCGTTCTG 5′
WT extension product (WT): 3′ CTTTAAGAACCTGGCCGCGTTCTG 5′
G693A extension product (Pactr): 3′ CATTTTAAGAACCTGGCCGCGTTCTG 5′
b
80S
40S
60S
polysomes
UV-254nm
factions A B C D E F G H
28S
18S
A B C D E F G H
c
60S
40S
UV-254nm
factions A B C D E F G H
28S
18S
A B C D E F G H
d
WT : Pactr
20
15
10
5
0
A C E G
B D F H
Pactr
WT
c t a g A B C D E F G H 1 2 3
sequence
fractions
controls
e
Pactr
WT
c t a g A B C D E F G H 1 2 3
sequence
fractions
controls

FIG. 5

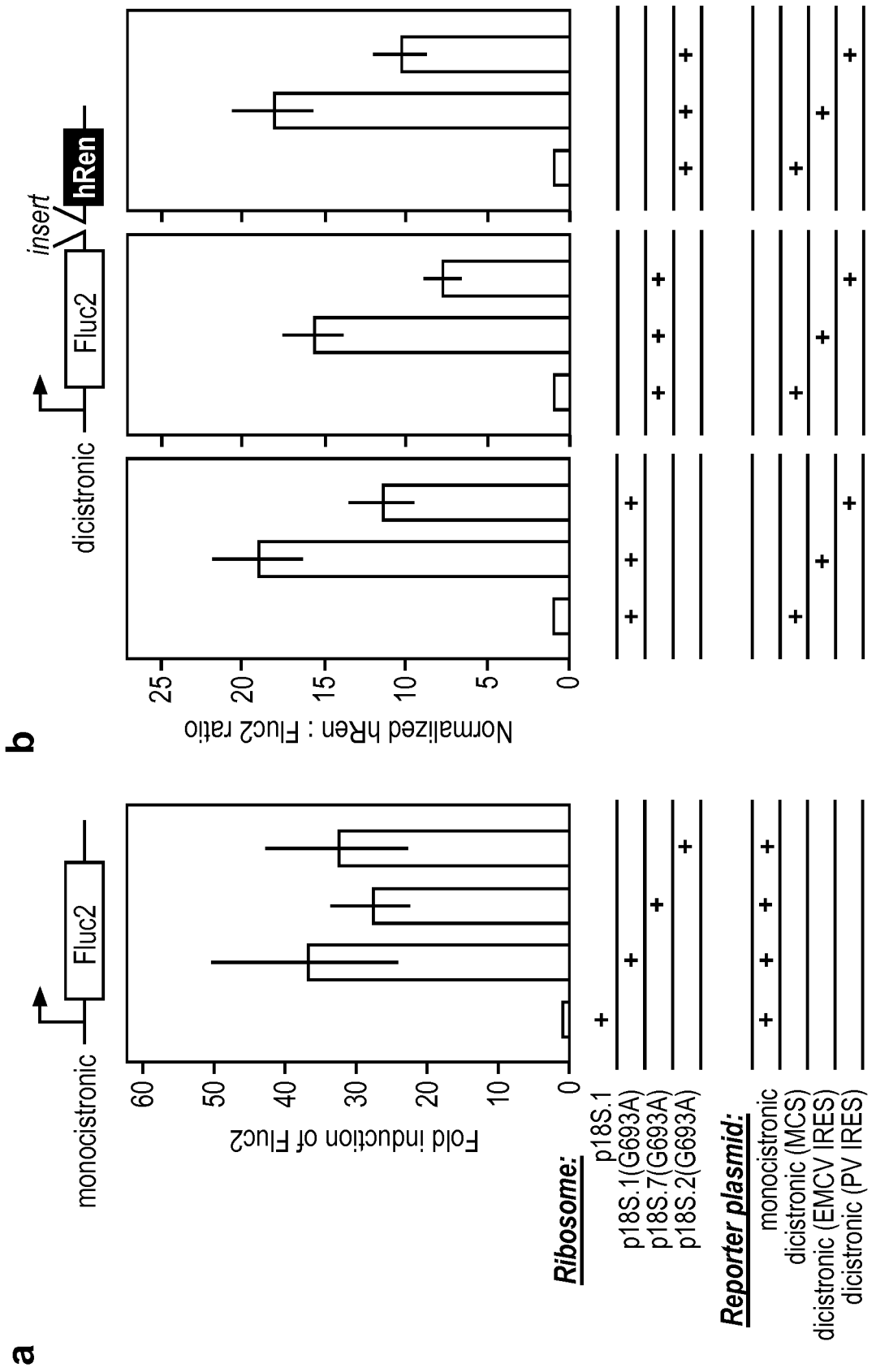

a
monocistronic
Fluc2
Fold induction of Fluc2
0
10
20
30
40
50
60
Ribosome:
p18S.1
p18S.1(G693A)
p18S.7(G693A)
p18S.2(G693A)
Reporter plasmid:
monocistronic
dicistronic (MCS)
dicistronic (EMCV IRES)
dicistronic (PV IRES)
b
dicistronic
Fluc2
insert
hRen
Normalized hRen : Fluc2 ratio
0
5
10
15
20
25

FIG. 6

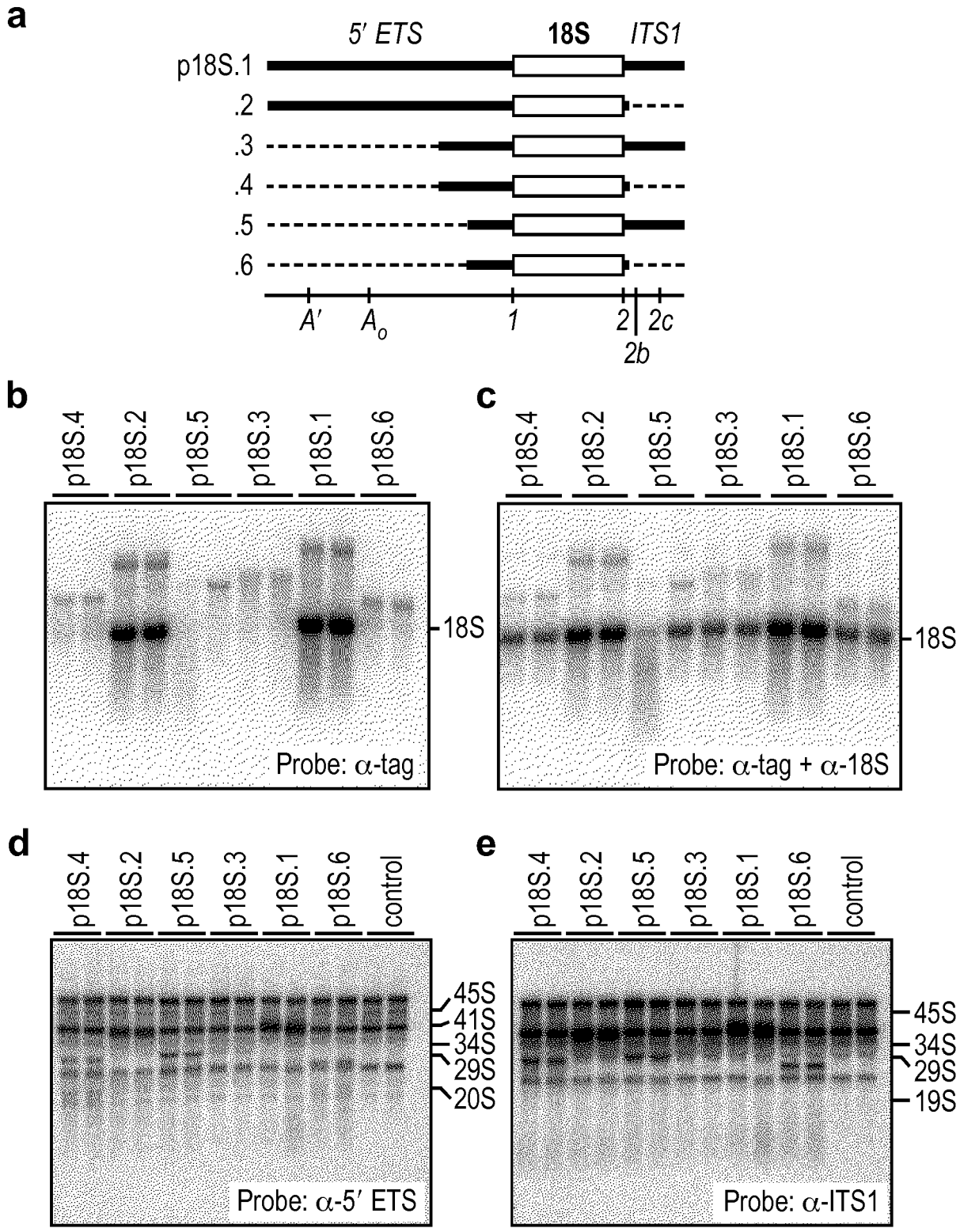

a
5′ ETS
18S
ITS1
p18S.1
.2
.3
.4
.5
.6
A′
A0
1
2
2c
2b
b
p18S.4
p18S.2
p18S.5
p18S.3
p18S.1
p18S.6
18S
Probe: α-tag
c
p18S.4
p18S.2
p18S.5
p18S.3
p18S.1
p18S.6
18S
Probe: α-tag + α-18S
d
p18S.4
p18S.2
p18S.5
p18S.3
p18S.1
p18S.6
control
45S
41S
34S
29S
20S
Probe: α-5′ ETS
e
p18S.4
p18S.2
p18S.5
p18S.3
p18S.1
p18S.6
control
45S
34S
29S
19S
Probe: α-ITS1

FIG. 7

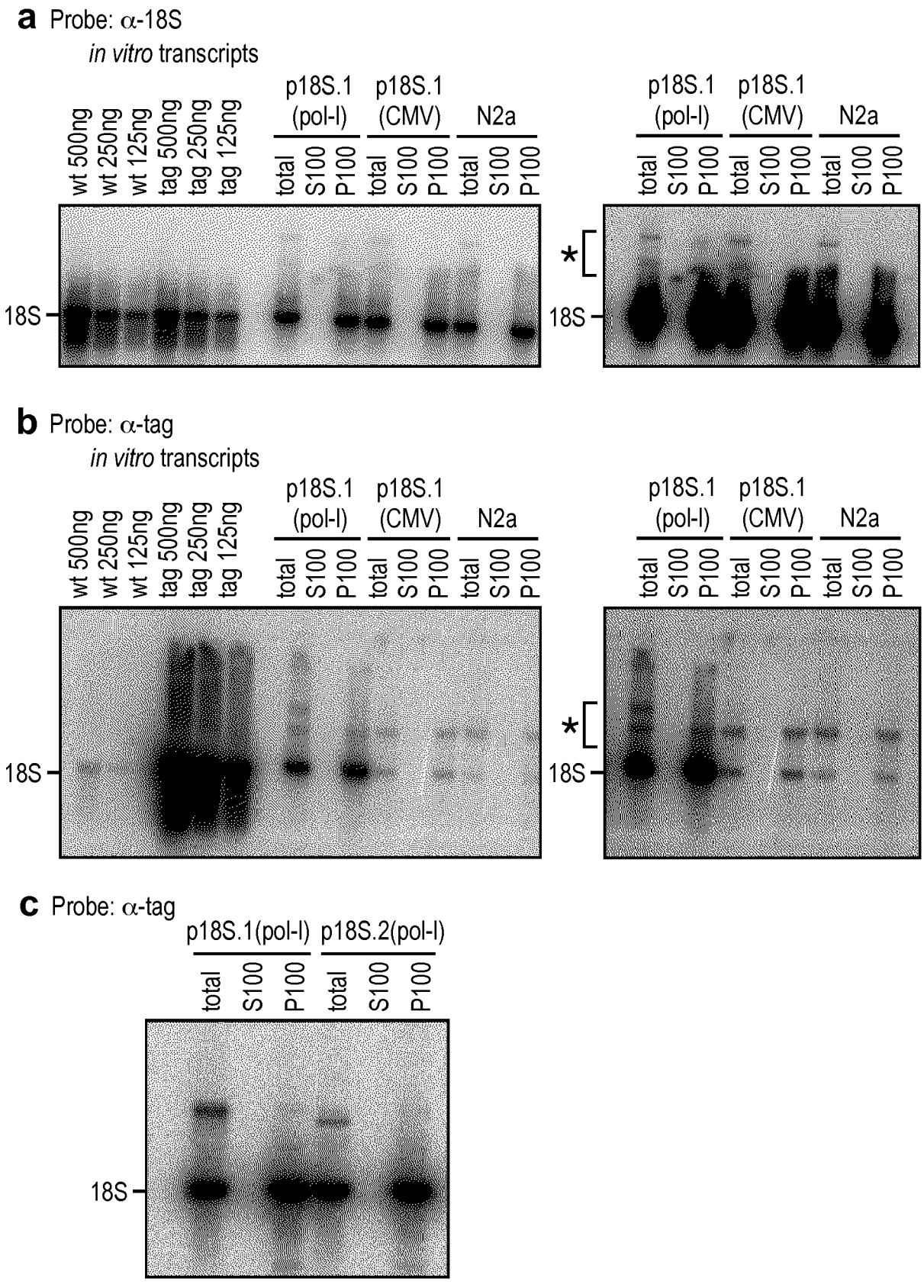

a Probe: α-18S
in vitro transcripts
wt 500ng
wt 250ng
wt 125ng
tag 500ng
tag 250ng
tag 125ng
p18S.1 (pol-I)
p18S.1 (CMV)
N2a
total
S100
P100
18S
*
b Probe: α-tag
in vitro transcripts
c Probe: α-tag
p18S.1(pol-I)
p18S.2(pol-I)

FIG. 8

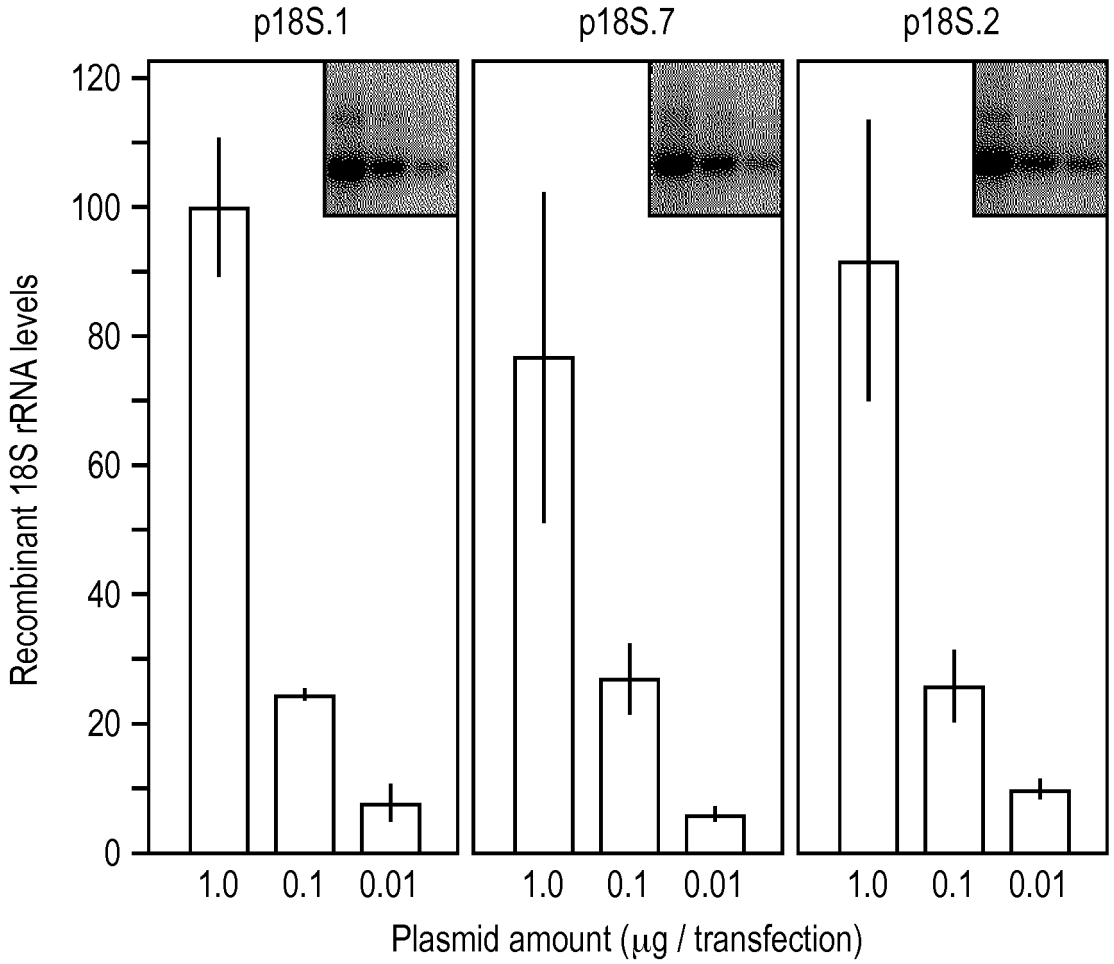

p18S.1
p18S.7
p18S.2
120
100
80
60
40
20
0
Recombinant 18S rRNA levels
1.0
0.1
0.01
1.0
0.1
0.01
1.0
0.1
0.01
Plasmid amount (μg / transfection)

FIG. 9