FIG. 1

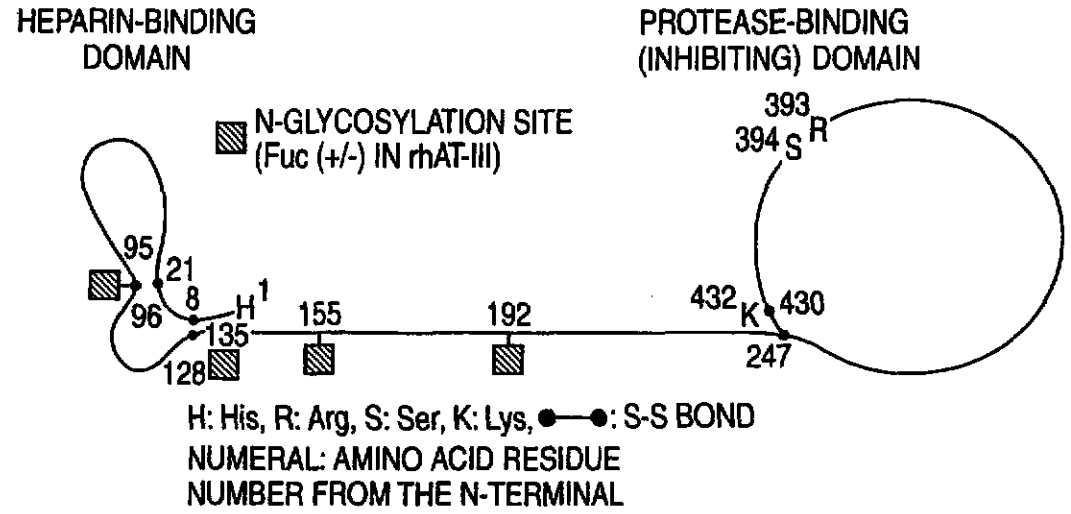

HEPARIN-BINDING
DOMAIN
PROTEASE-BINDING
(INHIBITING) DOMAIN
N-GLYCOSYLATION SITE
(Fuc (+/-) IN rhAT-III)
393
394 S
R
95
21
8
H 1
96
135
155
192
432 K
430
247
128
H: His, R: Arg, S: Ser, K: Lys, ●—●: S-S BOND
NUMERAL: AMINO ACID RESIDUE
NUMBER FROM THE N-TERMINAL

FIG. 2

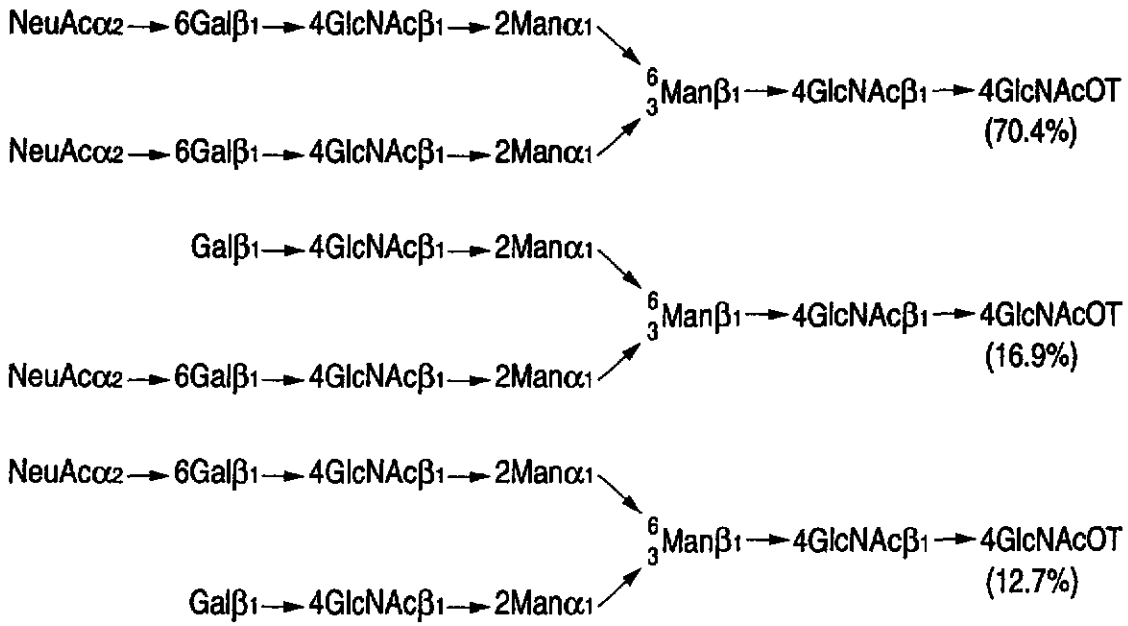

NeuAcα2→6Galβ1→4GlcNAcβ1→2Manα1
NeuAcα2→6Galβ1→4GlcNAcβ1→2Manα1
6
3 Manβ1→4GlcNAcβ1→4GlcNAcOT
(70.4%)
Galβ1→4GlcNAcβ1→2Manα1
NeuAcα2→6Galβ1→4GlcNAcβ1→2Manα1
6
3 Manβ1→4GlcNAcβ1→4GlcNAcOT
(16.9%)
NeuAcα2→6Galβ1→4GlcNAcβ1→2Manα1
Galβ1→4GlcNAcβ1→2Manα1
6
3 Manβ1→4GlcNAcβ1→4GlcNAcOT
(12.7%)

FIG. 3

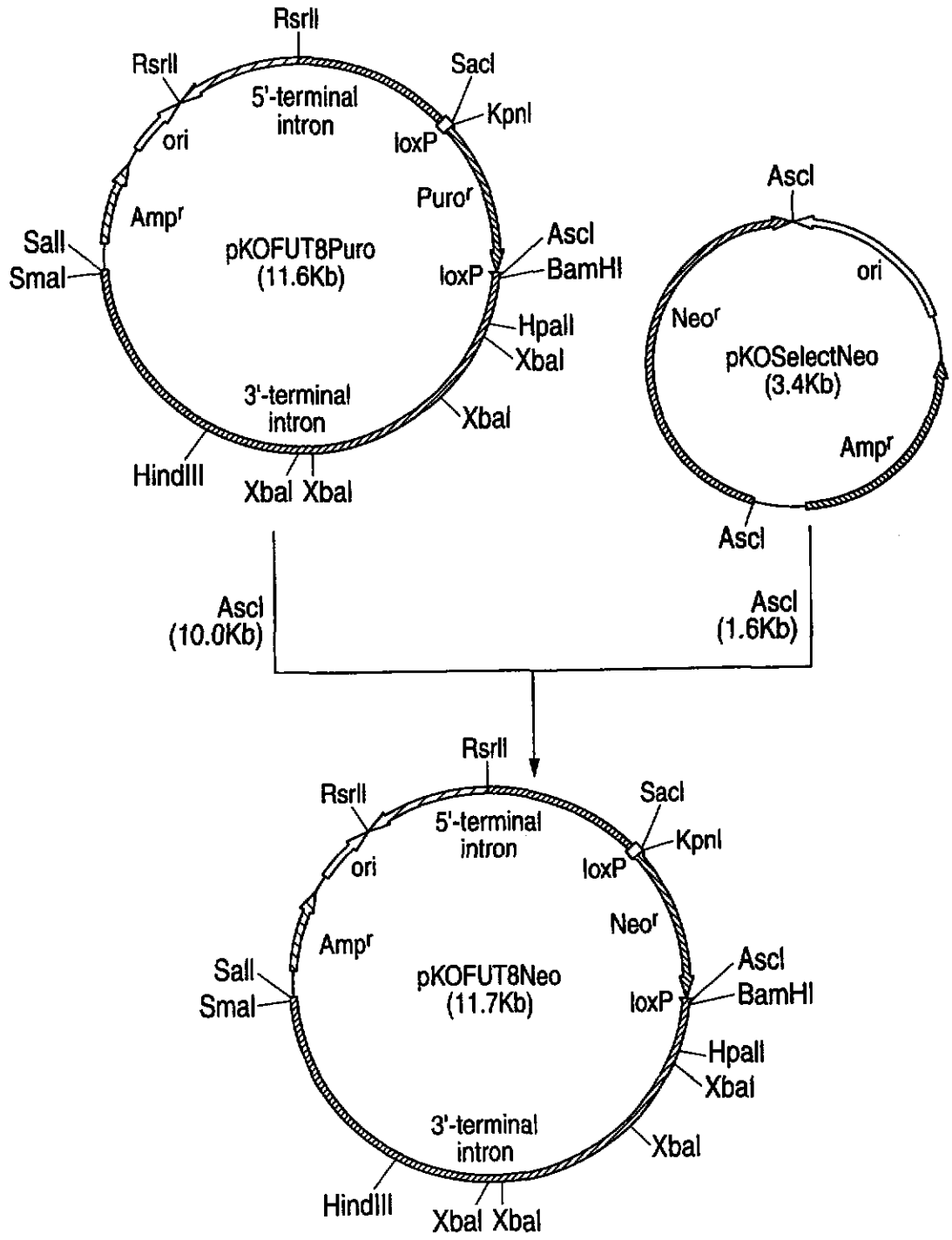

RsrII
RsrII
SacI
5'-terminal intron
KpnI
ori
loxP
Ampr
Puror
SalI
SmaI
pKOFUT8Puro (11.6Kb)
loxP
AscI
BamHI
HpaII
XbaI
3'-terminal intron
XbaI
HindIII
XbaI XbaI
AscI
ori
Neor
pKOSelectNeo (3.4Kb)
Ampr
AscI
AscI (10.0Kb)
AscI (1.6Kb)
RsrII
RsrII
SacI
5'-terminal intron
KpnI
ori
loxP
Neor
Ampr
SalI
SmaI
pKOFUT8Neo (11.7Kb)
loxP
AscI
BamHI
HpaII
XbaI
3'-terminal intron
XbaI
HindIII
XbaI XbaI

FIG. 4

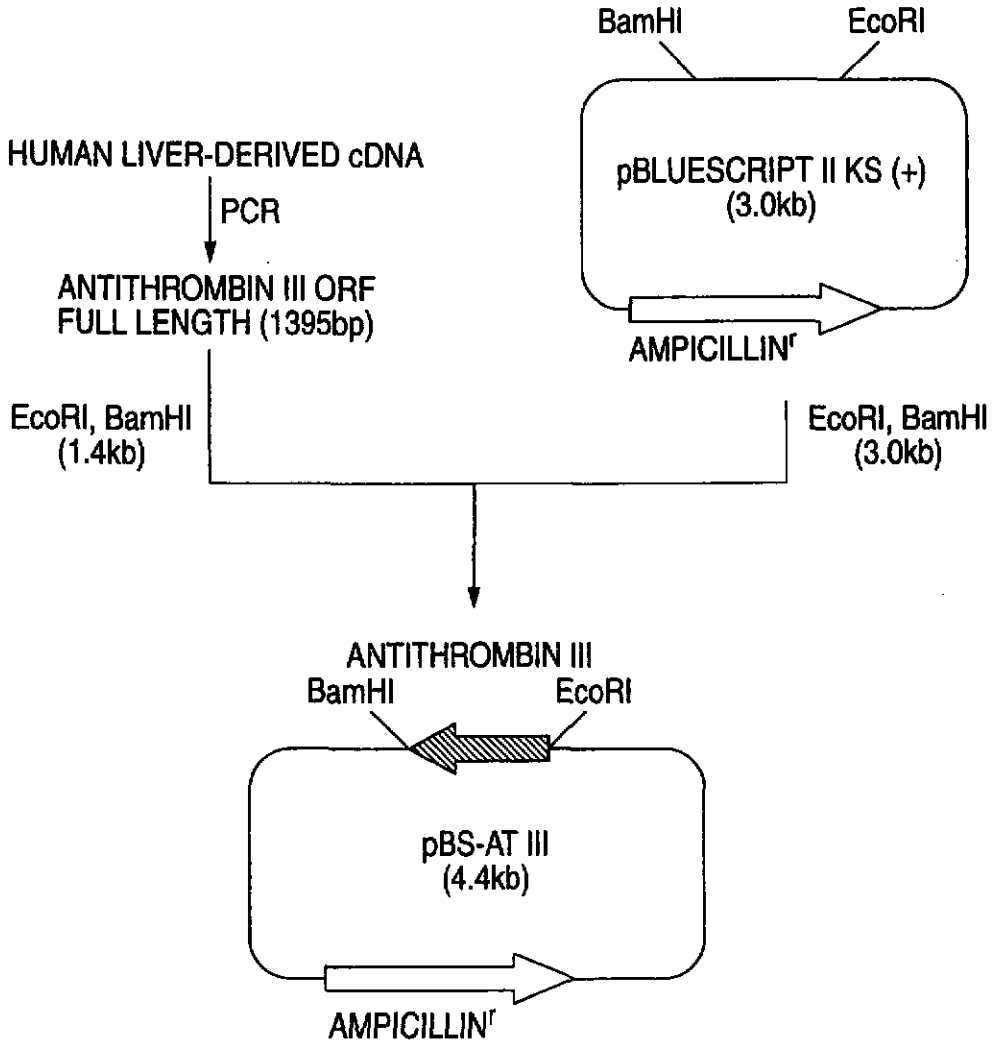

BamHI
EcoRI
pBLUESCRIPT II KS (+)
(3.0kb)
AMPICILLIN^r
HUMAN LIVER-DERIVED cDNA
PCR
ANTITHROMBIN III ORF
FULL LENGTH (1395bp)
EcoRI, BamHI
(1.4kb)
EcoRI, BamHI
(3.0kb)
ANTITHROMBIN III
BamHI
EcoRI
pBS-AT III
(4.4kb)
AMPICILLIN^r

FIG. 5

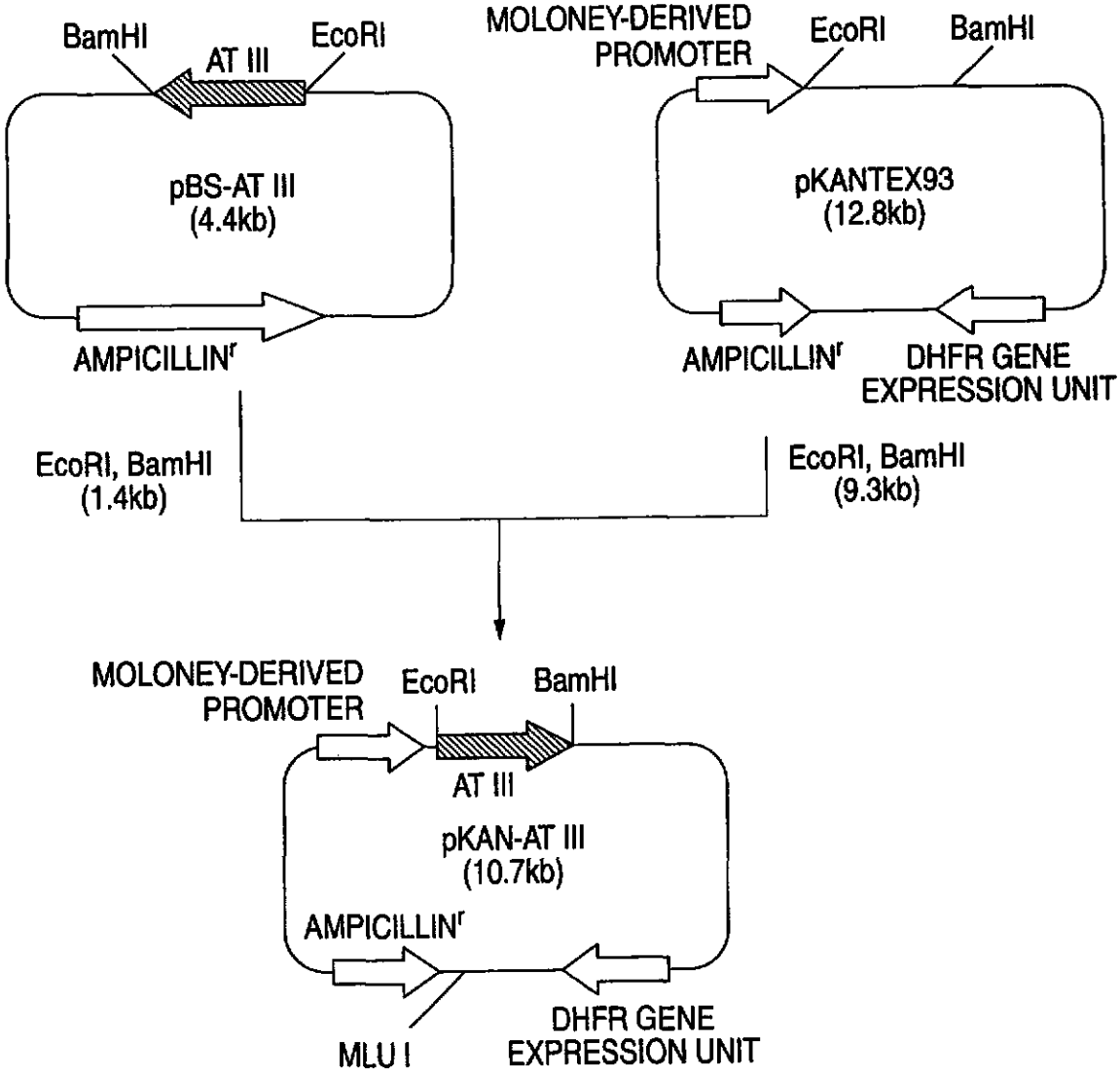

BamHI
AT III
EcoRI
pBS-AT III
(4.4kb)
AMPICILLIN^r
MOLONEY-DERIVED
PROMOTER
EcoRI
BamHI
pKANTEX93
(12.8kb)
AMPICILLIN^r
DHFR GENE
EXPRESSION UNIT
EcoRI, BamHI
(1.4kb)
EcoRI, BamHI
(9.3kb)
MOLONEY-DERIVED
PROMOTER
EcoRI
BamHI
AT III
pKAN-AT III
(10.7kb)
AMPICILLIN^r
MLU I
DHFR GENE
EXPRESSION UNIT

FIG. 6

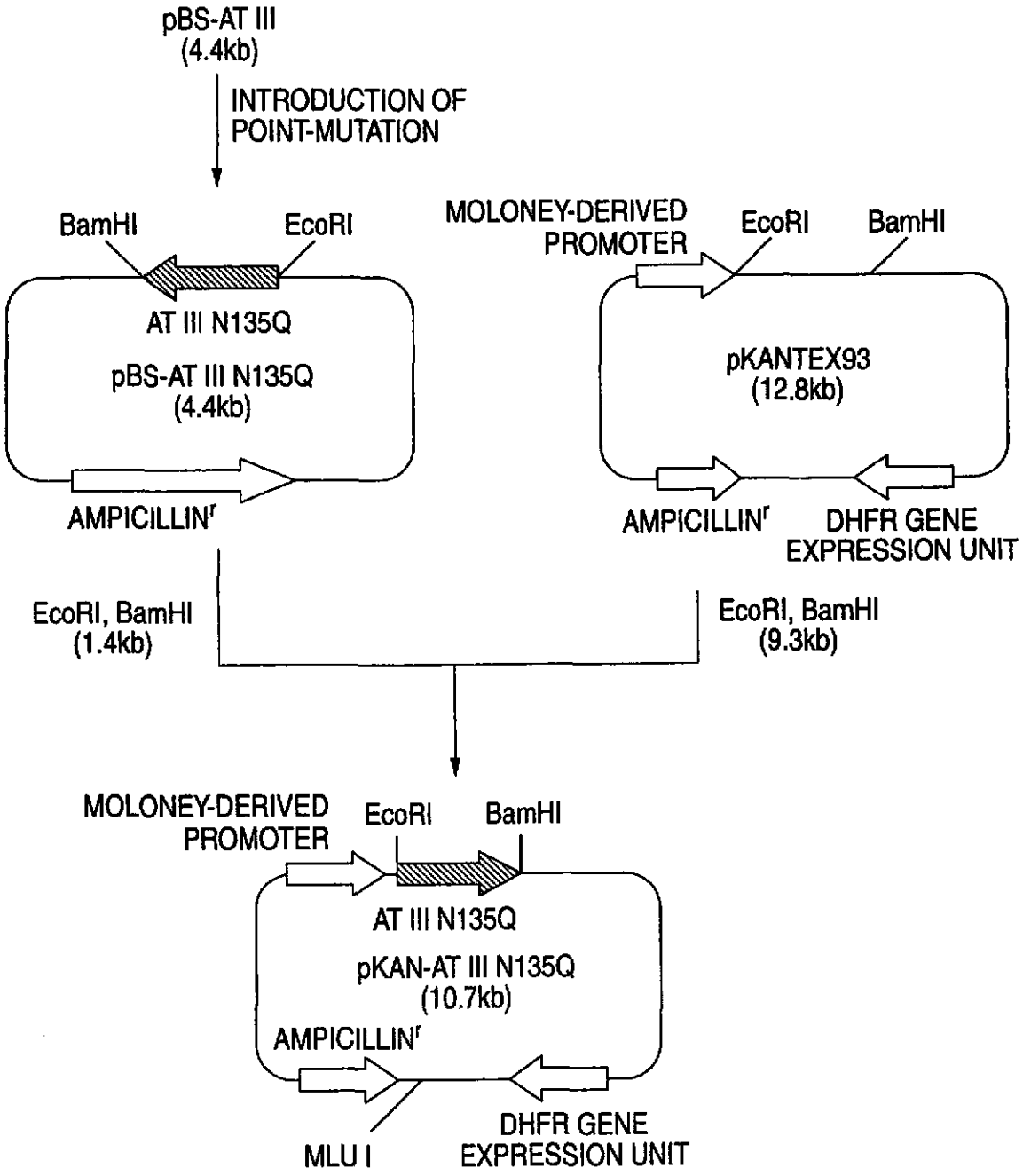

pBS-AT III
(4.4kb)
INTRODUCTION OF
POINT-MUTATION
BamHI
EcoRI
AT III N135Q
pBS-AT III N135Q
(4.4kb)
AMPICILLIN^r
MOLONEY-DERIVED
PROMOTER
EcoRI
BamHI
pKANTEX93
(12.8kb)
AMPICILLIN^r
DHFR GENE
EXPRESSION UNIT
EcoRI, BamHI
(1.4kb)
EcoRI, BamHI
(9.3kb)
MOLONEY-DERIVED
PROMOTER
EcoRI
BamHI
AT III N135Q
pKAN-AT III N135Q
(10.7kb)
AMPICILLIN^r
MLU I
DHFR GENE
EXPRESSION UNIT

FIG. 7

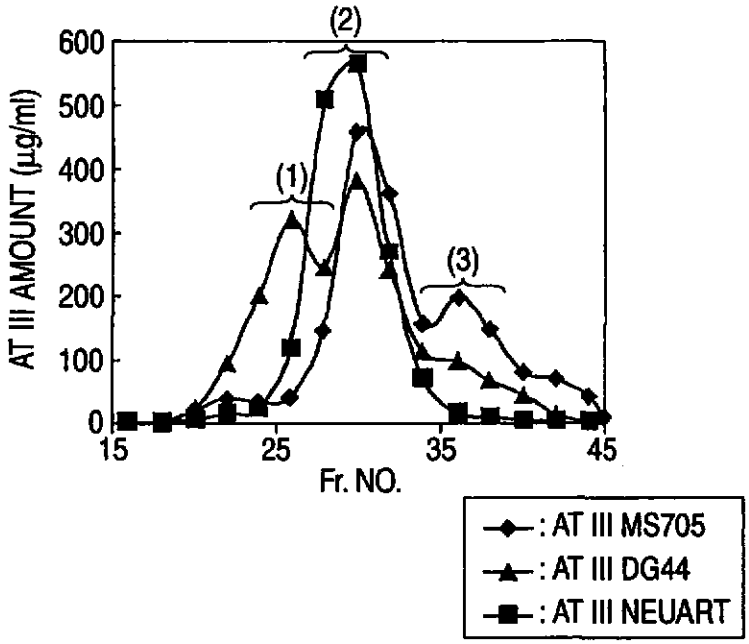
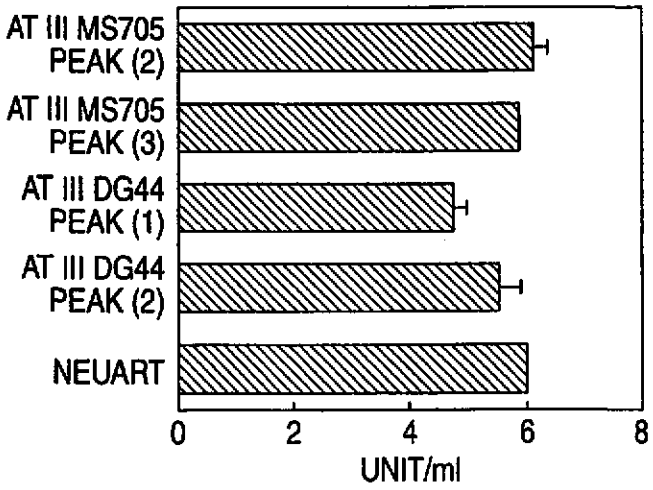

(2)
600
500
400
300
200
100
0
(1)
(3)
AT III AMOUNT (μg/ml)
15
25
35
45
Fr. NO.
: AT III MS705
: AT III DG44
: AT III NEUART

FIG. 8


AT III MS705
PEAK (2)
AT III MS705
PEAK (3)
AT III DG44
PEAK (1)
AT III DG44
PEAK (2)
NEUART
0
2
4
6
8
UNIT/ml