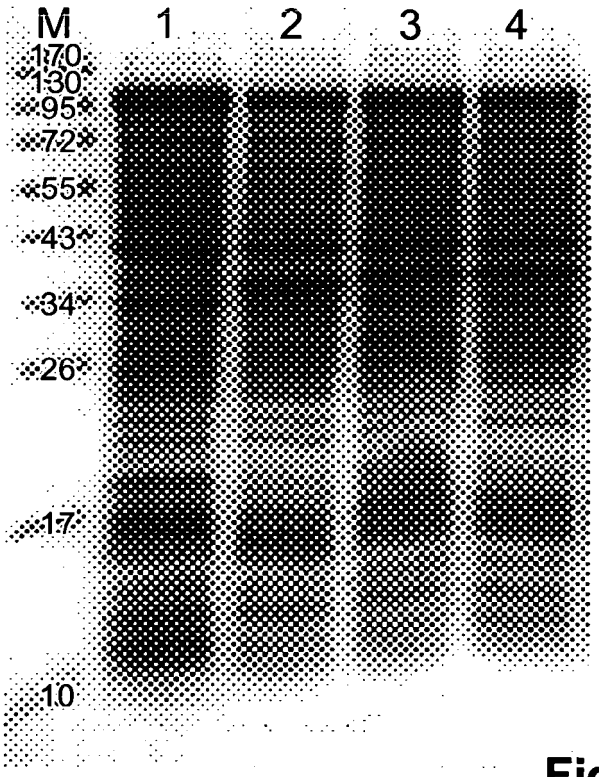
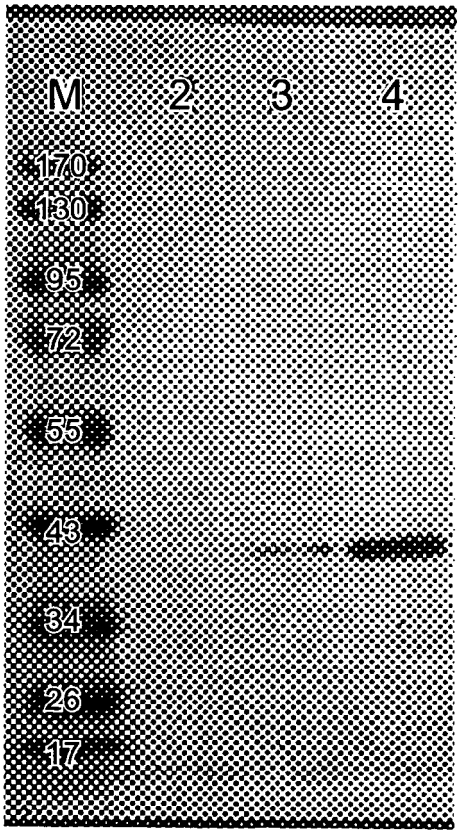



M PageRuler Prestained Protein Ladder, Fermentas
1. JM109(DE3) –
2. JM109(DE3) pDEST14-Amuc0760co
3. JM109(DE3) pDEST14-N-His-Amuc0760co
4. JM109(DE3) pDEST14-C-His-Amuc0760co

Fig. 1




M PageRuler Prestained Protein Ladder, Fermentas
1. JM109(DE3) pDEST14-Amuc0760co
2. JM109(DE3) pDEST14-N-His-Amuc0760co
3. JM109(DE3) pDEST14-C-His-Amuc0760co

Fig. 2

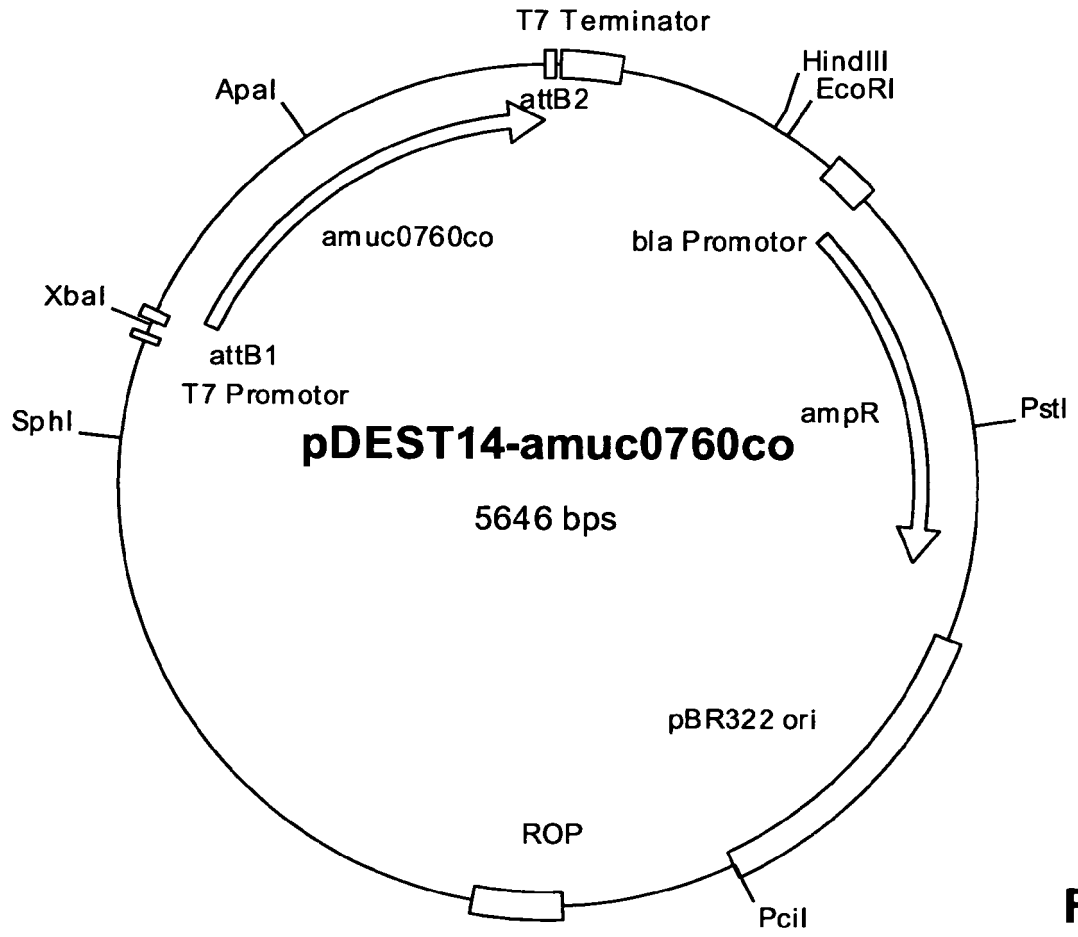

T7 Terminator
HindIII
EcoRI
ApaI
attB2
amuc0760co
bla Promotor
XbaI
attB1
T7 Promotor
SphI
ampR
PstI
pDEST14-amuc0760co
5646 bps
pBR322 ori
ROP
PciI

Fig. 3A

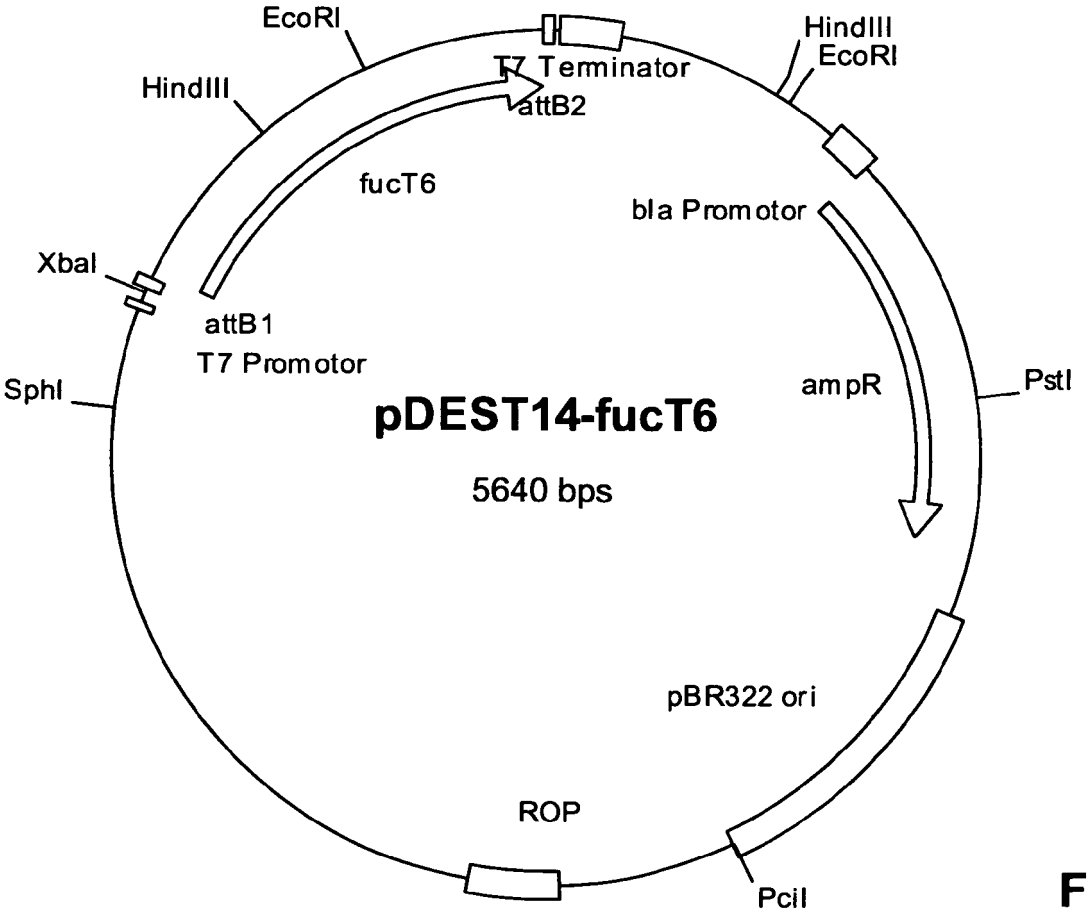

EcoRI
HindIII
T7 Terminator
HindIII
EcoRI
attB2
fucT6
bla Promotor
XbaI
attB1
T7 Promotor
SphI
ampR
PstI
pDEST14-fucT6
5640 bps
pBR322 ori
ROP
PciI

Fig. 3B

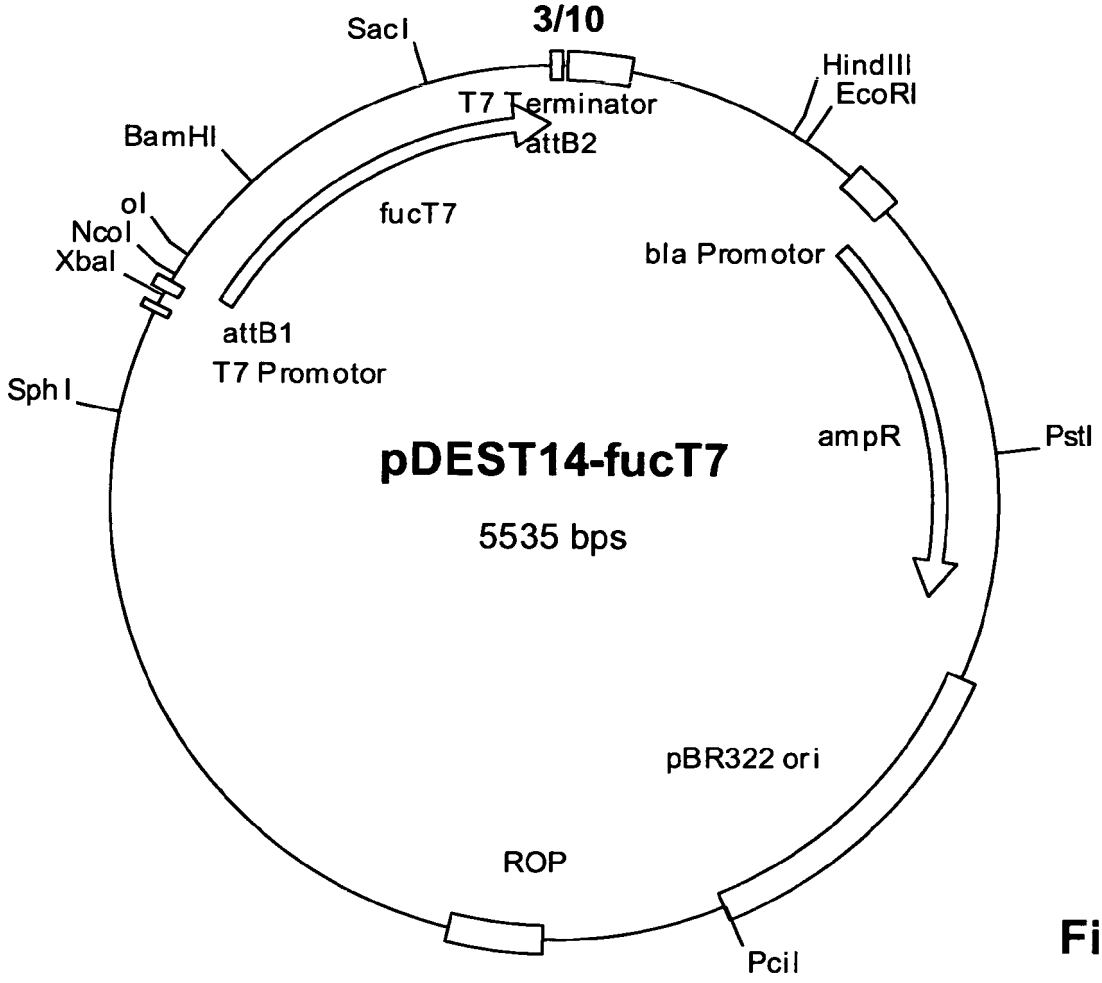

SacI
HindIII
EcoRI
T7 Terminator
attB2
BamHI
fucT7
ol
NcoI
XbaI
bla Promotor
attB1
T7 Promotor
SphI
ampR
PstI
pDEST14-fucT7
5535 bps
pBR322 ori
ROP
PciI

Fig. 3C

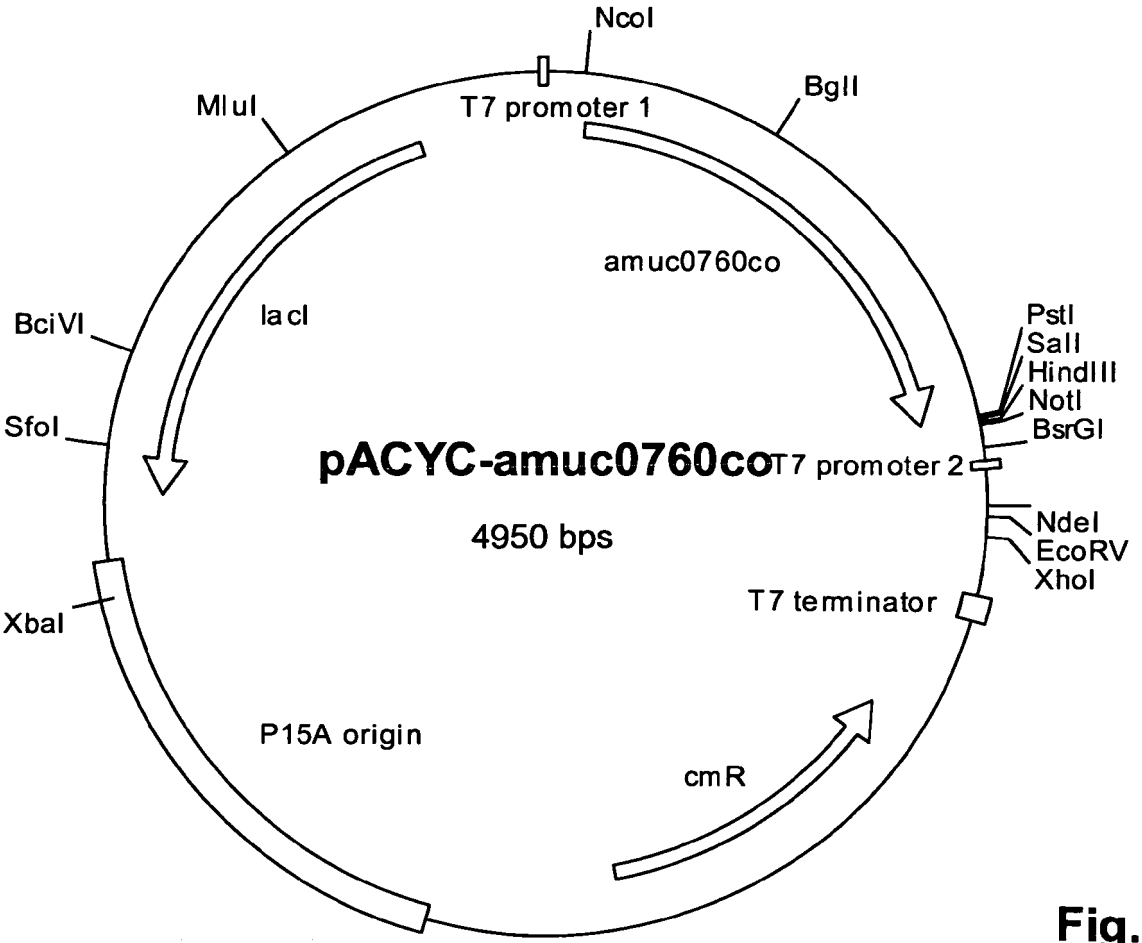

NcoI
BglII
MluI
T7 promoter 1
amuc0760co
lacI
BciVI
PstI
SalI
HindIII
NotI
BsrGI
SfoI
pACYC-amuc0760co
T7 promoter 2
4950 bps
NdeI
EcoRV
XhoI
T7 terminator
XbaI
P15A origin
cmR

Fig. 4A

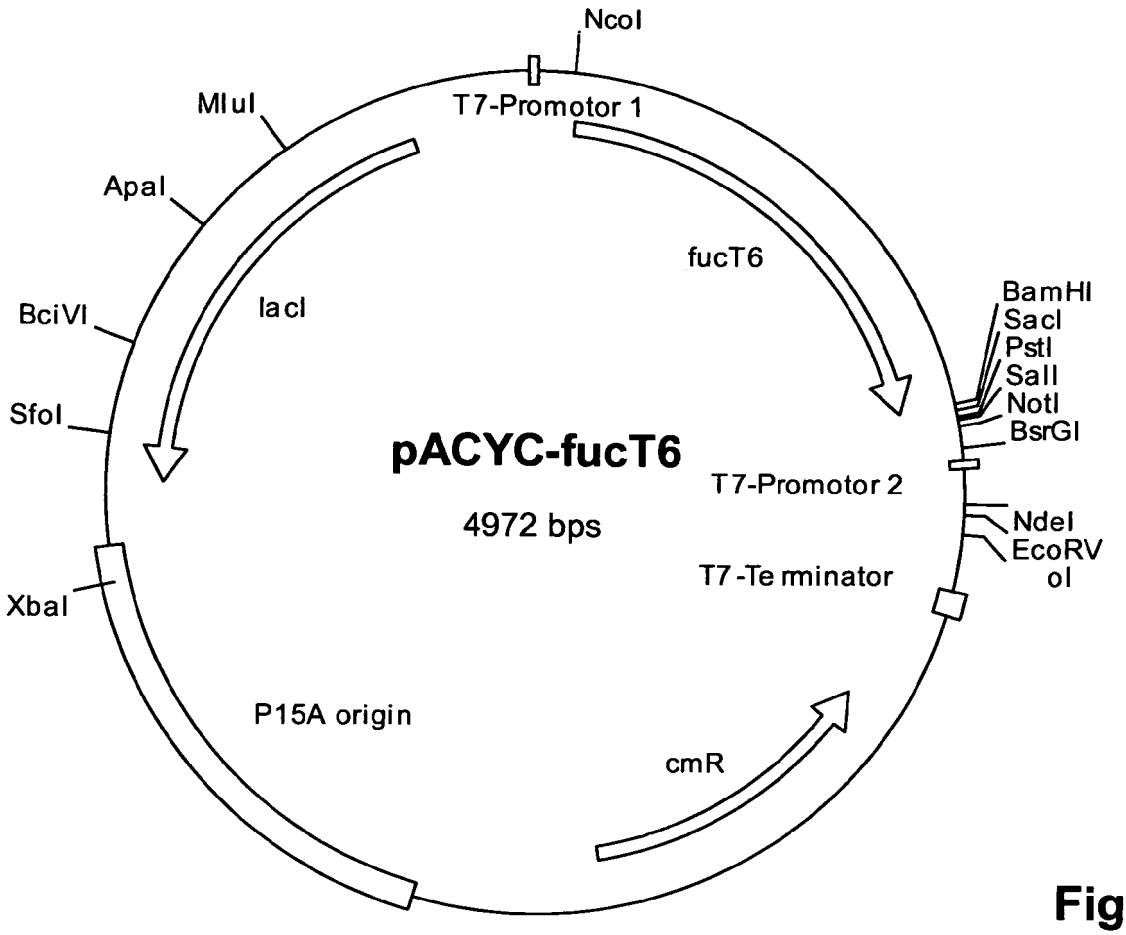

NcoI
MluI
T7-Promotor 1
ApaI
fucT6
BciVI
lacI
BamHI
SacI
PstI
SalI
NotI
BsrGI
SfoI
pACYC-fucT6
T7-Promotor 2
4972 bps
NdeI
EcoRV
T7-Te rminator
ol
XbaI
P15A origin
cmR

Fig. 4B

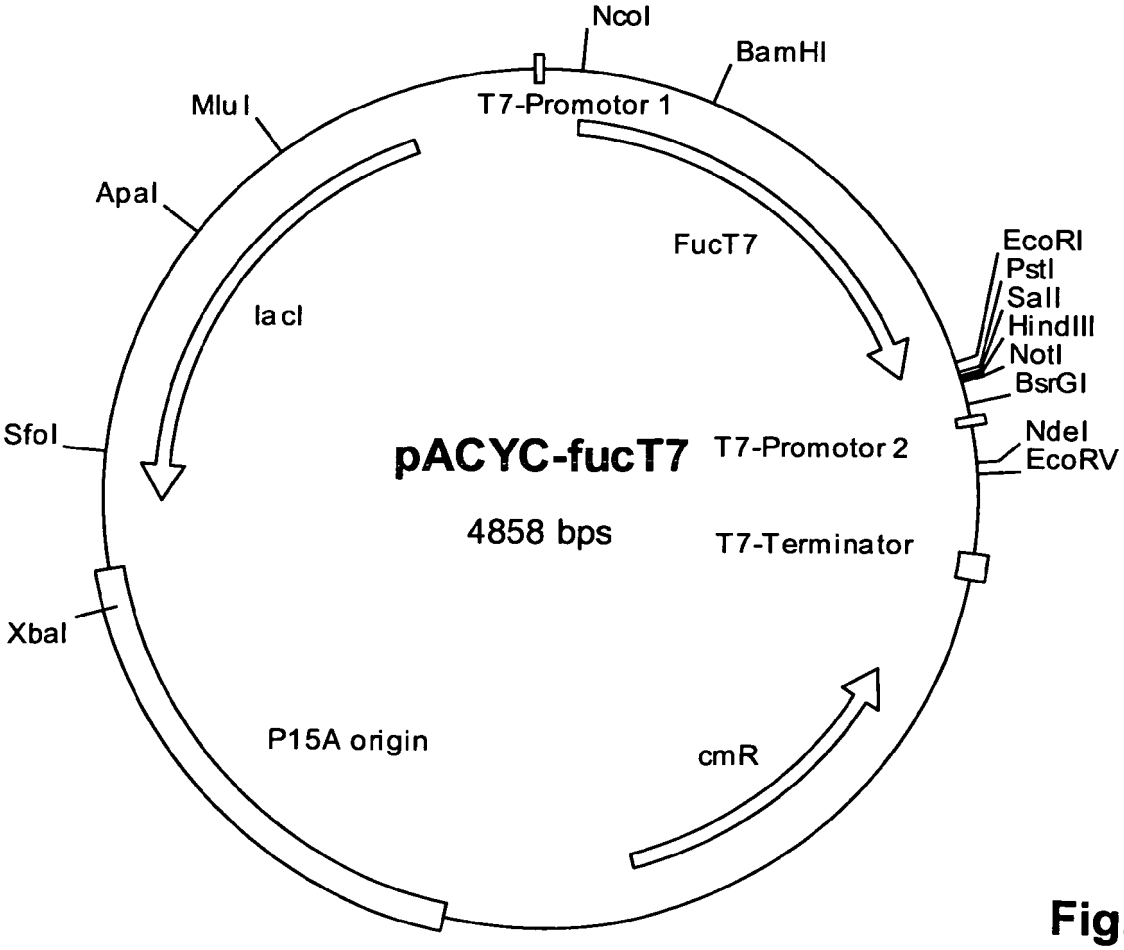

NcoI
BamHI
MluI
T7-Promotor 1
ApaI
FucT7
EcoRI
PstI
SalI
lacI
HindIII
NotI
BsrGI
SfoI
pACYC-fucT7
T7-Promotor 2
NdeI
EcoRV
4858 bps
T7-Terminator
XbaI
P15A origin
cmR

Fig. 4C

Sequence of gene *amuc0760co*:

ATGAAAACGCTGAAAATTAGCTTTCTGCAAAGCACCCCGGATTTCGGCCGTGAGGGTATGCTGCAACTGCTGA
AATCTCGCTATCATGTGGTTGAAGATGATAGTGATTTTGATTACCTGGTGGCGACGCCGTGGTTCTATGTTAAC
CGTGAAGCCTTTTACGATTTCCTGGAACGCGCACCGGGCCATATTACCGTGATGTATGGTTGCCACGAAGCGA
TCGCCCCGGATTTTATGCTGTTCGATTATTACATTGGCCTGGACACCGTGCCGGGTAGCGATCGTACCGTTAAA
CTGCCGTATCTGCGCCATCACCTGGAAGAAGTTCATGGCGGTAAAGAAGGCCTGGATGCACATGCCCTGCTGG
CCAGCAAAACGGGTTTTTGTAACTTCATCTACGCCAATCGTAAATCTCATCCGAACCGCGATGCAATGTTTCAC
AAACTGAGTGCGTTTCGTTTCGTGAATAGCCTGGGCCCGCATCTGAACAATACCCCGGGCGATGGTCACCGTG
CGGAAGATTGGTATGCCAGCTCTATTCGCATGAAAAAACCGTACAAATTTTCTATCGCCTTCGAAAACGCATGG
TACCCGGGTTACACCAGCGAAAAAATCGTTACGTCTATGCTGGCCGGCACCATTCCGATCTATTGGGGTAATCC
GGATATTAGCCGTGAATTTAACAGTGCGAGCTTTATCAATTGCCATGATTTTCCGACGCTGGATGATGCGGCG
GCGTATGTGAAAAAAGTTGATGAAGATGATAACCTGTGGTGTGAAATTATGAGCCGCCCGTGGAAAACCCCG
GAACAGGAAGCACGTTTTCTGGAAGAAACCGAACGCGAAACGGCGAAACTGTATAAAATCTTCGATCAGAGT
CCGGAAGAAGCCCGTCGCAAAGGCGATGGTACCTGGGTGAGCTATTACCAGCGTTTTCTGAAACGTGGTCATC
GTATGCAGCTGGCCTGGCGTCGCCTGAAAAATCGCCTGCGTCGCTAA

Sequence of protein Amuc0760co:

MKTLKISFLQSTPDFGREGMLQLLKSRYHVVEDDSDFDYLVATPWFYVNREAFYDFLERAPGHITVMYGCHEAIAP
DFMLFDYYIGLDTVPGSDRTVKLPYLRHHLEEVHGGKEGLDAHALLASKTGFCNFIYANRKSHPNRDAMFHKLSAFR
FVNSLGPHLNNTPGDGHRAEDWYASSIRMKKPYKFSIAFENAWYPGYTSEKIVTSMLAGTIPIYWGNPDISREFNSA
SFINCHDFPTLDDAAAYVKKVDEDDNLWCEIMSRPWKTPEQEARFLEETERETAKLYKIFDQSPEEARRKGDGTWV
SYYQRFLKRGHRMQLAWRRLKNRLRR

**Fig. 5**

Sequence of gene *fucT6*:

ATGTGTGATTGCTTGTCTATCATATTGTTAGTCAAAATGAAAAAGATTTATTTGAAATTTGTTGATTTTTGGGAT
GGATTTGATACTATTTCTAACTTTATTGTGGATGCTTTGTCCATTCAATACGAAGTAGTACTATCTAATGAGCCA
GATTATTTATTCTATTCATGTTTTGGAACGTCACATTTAGAATATGATTGTATAAAAATCATGTTTATAGGTGAA
AATATAGTTCCTGATTTTAACGTTTGTGATTATGCCATAGGTTTTAATTATATTGATTTTGGGGACCGTTACTTG
AGGTTGCCTTTATATGCTATATATGATGGATTTTCAAACTTGCAGAATAAAAAGATTGATGTAAATAAAGCTTT
AGACCGTAAATTTTGTAGTATTGTTGTTTCAAATAATAAATGGGCAGATCCTATTCGTGAGACTTTCTTTAAATT
ACTATCTAGTTATAAGAAAGTAGACTCTGGTGGAAGAGCTTGGAATAATATAGGAGGACCTGTTGATAATAAA
TTGGATTTTATTAGCCAATATAAGTTTAATATTGCTTTTGAAAATAGTAGGGTACTGGGATATACAACAGAAAA
AATAATGGAACCTATGCAGGTGAATTCTATTCCAGTATATTGGGGAAATCCTTTGGTTGGTAAAGATTTTAATG
TGGACTCCTTTGTAAATGCTCATGATTTTGATTCTTTAGAAAGATTAGTTGAGTATATTATAGAATTGGATTCTT
CAAAGGATAAATATCTGGAAATGTTGGAAAAACCTTGGCTTCTCGATAAGACATATTTGGATTGGAAACAATT
GCTGTTAAATTTTATTAATAATATTATGATGAAATCATATAAGGATGCGAAGTATTTGGTTAATTATGGTCATGC
TGGAAAGTATAGAAATGAACAACGCTTTTGGGGGAGATGTGAACGTAAATTTAAACTTCAAAGAATTATTGAA
TATTATTCTCAATTGTTTGATAGAAAATAA

Sequence of protein FucT6:

MCDCLSIILLVKMKKIYLKFVDFWDGFDTISNFIVDALSIQYEVVLSNEPDYLFYSCFGTSHLEYDCIKIMFIGENIVPDF
NVCDYAIGFNYIDFGDRYLRLPLYAIYDGFSNLQNKKIDVNKALDRKFCSIVVSNNKWADPIRETFFKLLSSYKKVDSG
GRAWNNIGGPVDNKLDFISQYKFNIAFENSRVLGYTTEKIMEPMQVNSIPVYWGNPLVGKDFNVDSFVNAHDFDS
LERLVEYIIELDSSKDKYLEMLEKPWLLDKTYLDWKQLLLNFINNIMMKSYKDAKYLVNYGHAGKYRNEQRFWGRC
ERKFKLQRIIEYYSQLFDRK

**Fig. 6**

Sequence of gene *fucT7*:

ATGGATATATTGATTCTTTTTTATAATACGATGTGGGGATTTCCACTCGAGTTCCGAAAGGAAGATTTACCTGG
GGGCTGTGTGATAACGACTGATCGAAACCTCATTGCAAAGGCGGATGCTGTGGTTTTCCATTTGCCCGATTTGC
CTTCGGTGATGGAGGATGAAATCGATAAGCGGGAAGGACAGCTTTGGGTGGGATGGAGTCTGGAATGTGAA
GAGAATTATAGTTGGACGAAGGATCCCGAGTTCAGAGAGAGTTTTGACTTATGGATGGGGTATCATCAGGAG
GATGATATTGTGTATCCTTATTATGGACCGGATTATGGGAAGATGCTGGTTACGGCACGGAGGGAAAAGCCTT
ATAAGAAGAAGGCATGTATGTTTATTTCGAGTGATATGAACCGGAGTCATCGACAAGAGTATCTTAAGGAATT
GATGCAGTATACCGACATCGATTCGTATGGGAAACTATACCGTAATTGTGAATTACCTGTTGAGGATCGGGGA
CGGGATACACTTCTTAGTGTGATCGGGGATTATCAGTTTGTGATAAGTTTTGAGAATGCGATAGGGAAGGATT
ATGTGACAGAAAAGTTTTTCAATCCTTTGTTGGCCGGTACTGTTCCGGTCTATCTGGGAGCTCCCAATATTCGG
GAATTTGCTCCGGGAGAAAATTGTTTTCTGGATATTTGTACTTTCGATTCTCCCGAGGGAGTAGCCGCTTTTAT
GAATCAATGCTATGATGACGAGGCATTGTATGAACGTTTTTATGCATGGAGGAAACGGCCTTTATTATTGTCGT
TTACAAAAAAGTTAGAGCAAGTCCGGAGCAATCCGTTAATCAGGCTTTGCCAAAAAATACACGAACTAAAATT
GGGAGGGATATGA

Sequence of protein FucT7:

MDILILFYNTMWGFPLEFRKEDLPGGCVITTDRNLIAKADAVVFHLPDLPSVMEDEIDKREGQLWVGWSLECEENY
SWTKDPEFRESFDLWMGYHQEDDIVYPYYGPDYGKMLVTARREKPYKKKACMFISSDMNRSHRQEYLKELMQYT
DIDSYGKLYRNCELPVEDRGRDTLLSVIGDYQFVISFENAIGKDYVTEKFFNPLLAGTVPVYLGAPNIREFAPGENCFL
DICTFDSPEGVAAFMNQCYDDEALYERFYAWRKRPLLLSFTKKLEQVRSNPLIRLCQKIHELKLGGI

**Fig. 7**

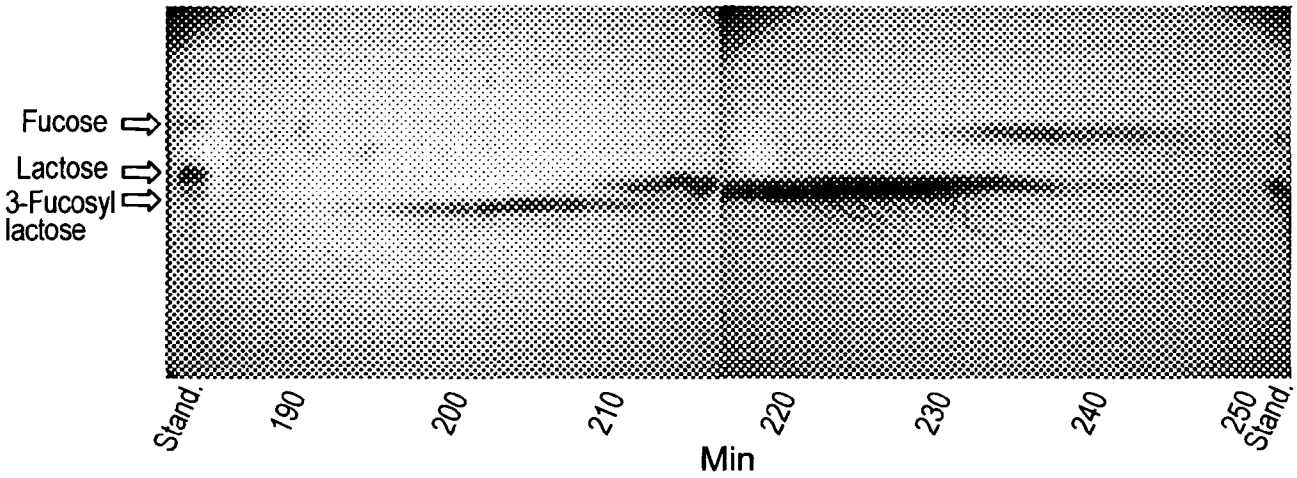

Fucose
Lactose
3-Fucosyl lactose
Stand.
190
200
210
220
230
240
250
Stand.
Min

Fig. 8

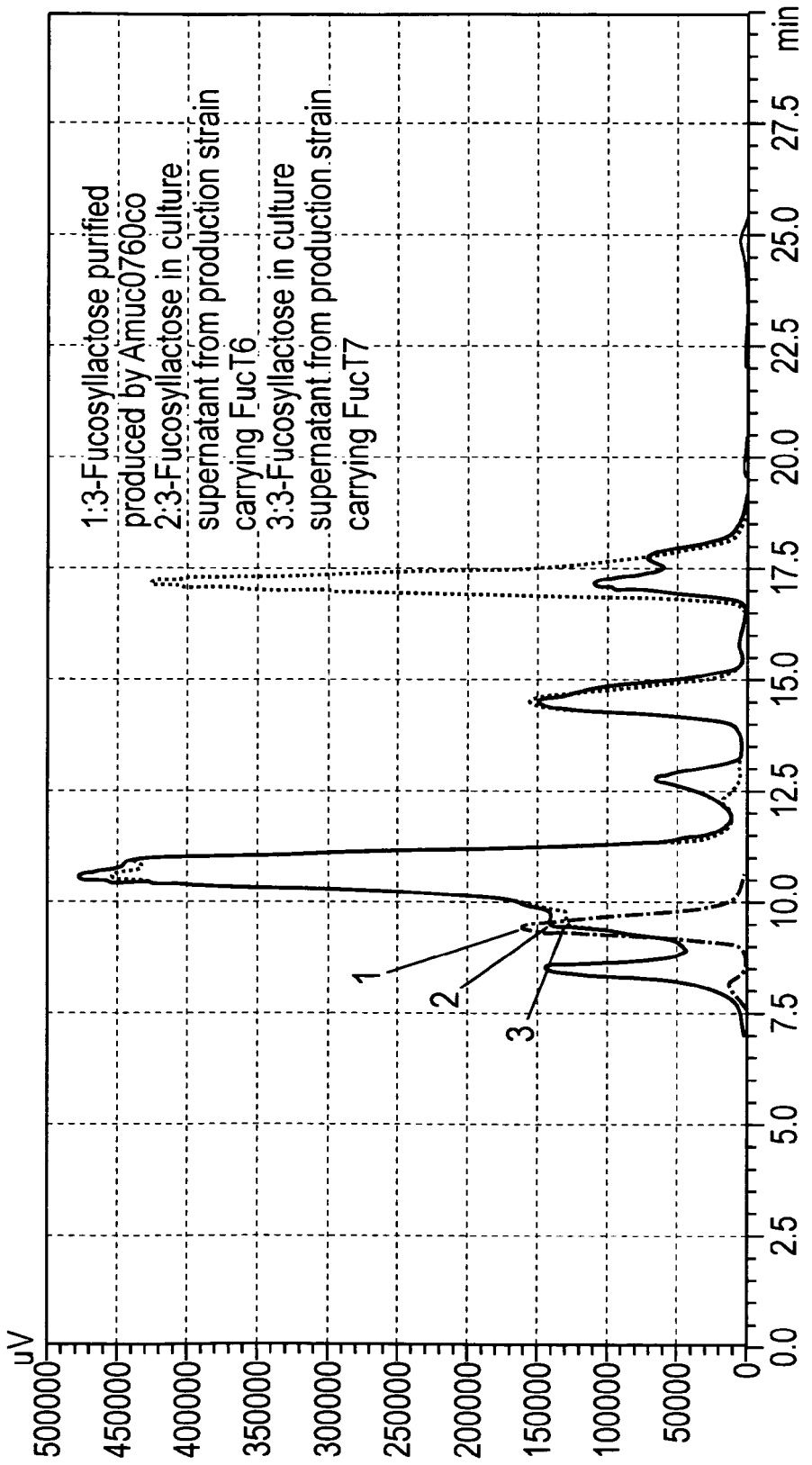

1:3-Fucosyllactose purified
produced by Amuc0760co
2:3-Fucosyllactose in culture
supernatant from production strain
carrying FucT6
3:3-Fucosyllactose in culture
supernatant from production strain
carrying FucT7
uV
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.0
22.5
25.0
27.5
min
1
2
3

Fig. 9A

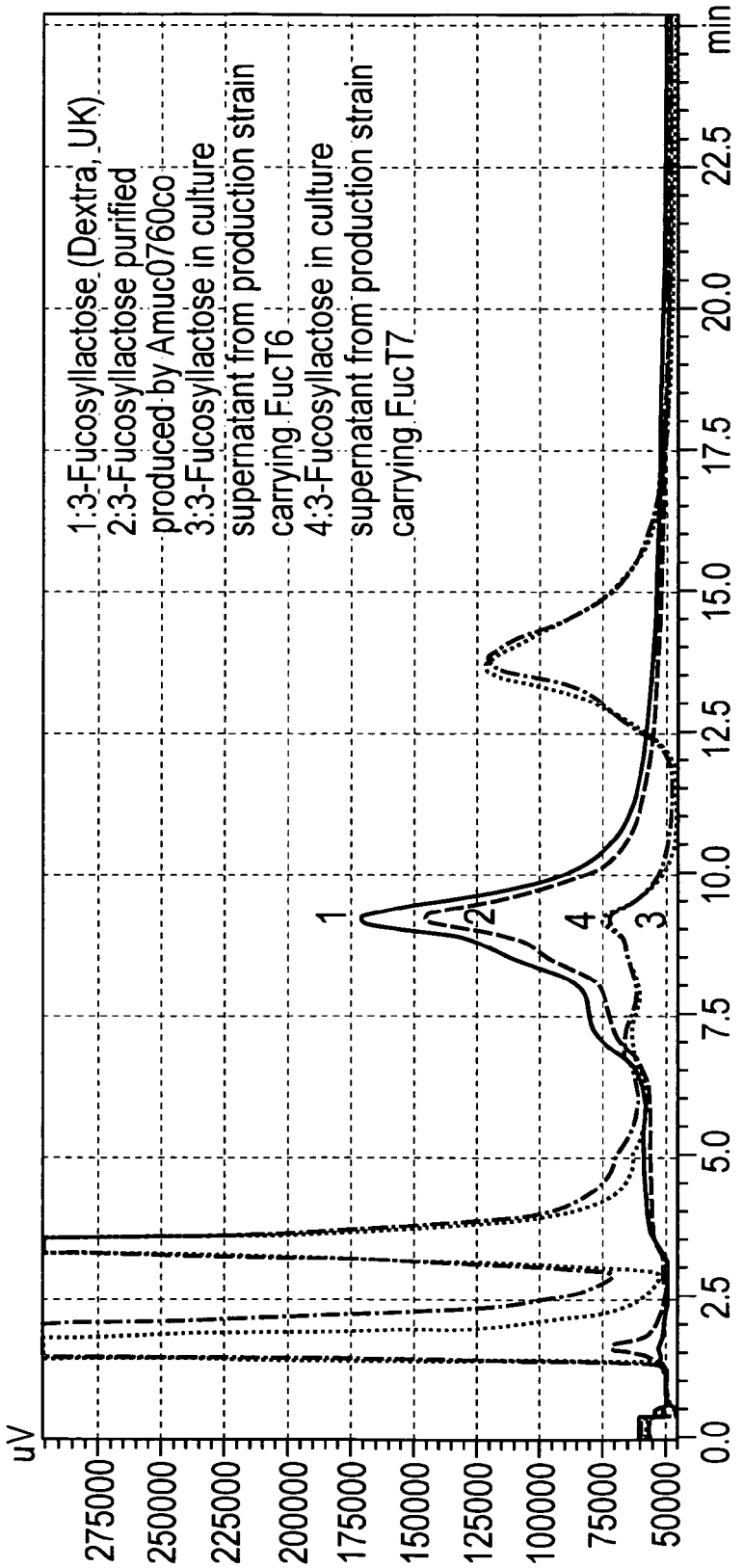

1:3-Fucosyllactose (Dextra, UK)
2:3-Fucosyllactose purified produced by Amuc0760co
3:3-Fucosyllactose in culture supernatant from production strain carrying FucT6
4:3-Fucosyllactose in culture supernatant from production strain carrying FucT7
uV
275000
250000
225000
200000
175000
150000
125000
100000
75000
50000
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.0
22.5
min
1
2
4
3

Fig. 9B