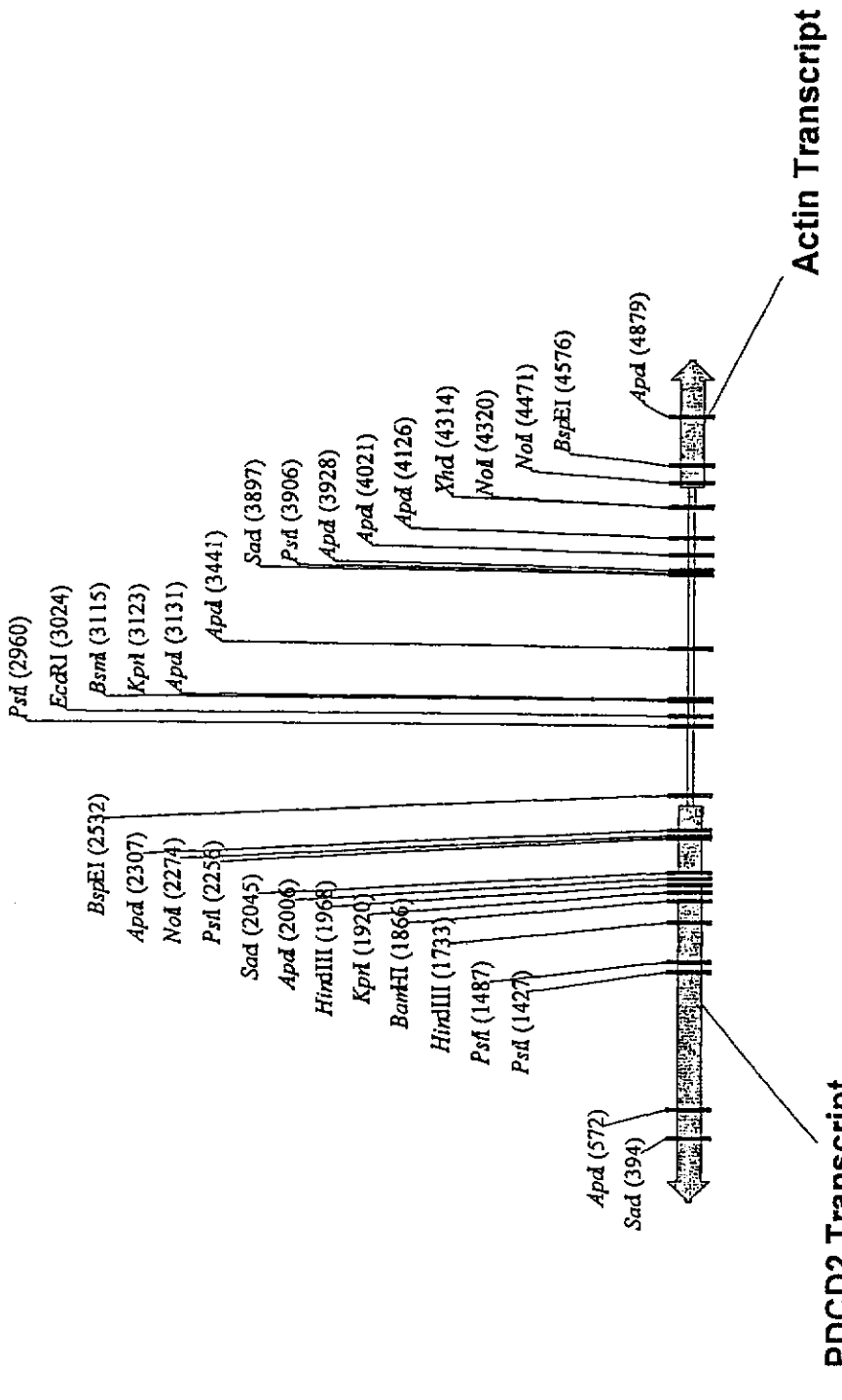


Fig 1: ARTIFICIAL UCOE Restriction map (Nco I fragment)

5232 bp

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   1  CATGGCACCT GTATTGTACT CTTATCAGTC ATTATATGGA CTTTAACTTC
      GTACCGTGGA CATAACATGA GAATAGTCAG TAATATACCT GAAATTGAAG
  51  CCCAGATATT ATTTGGGCTC CTCCATAAGA CTGTGAGCAT CTGACCACTG
      GGGTCTATAA TAAACCCGAG GAGGTATTCT GACACTCGTA GACTGGTGAC
 101  GAGTGTTGCT TCCCATTATA TCCCTGTTAT CAAGCACAAG GTCAGGCACA
      CTCACAACGA AGGGTAATAT AGGGACAATA GTTCGTGTTC CAGTCCGTGT
 151  GAGTAAGACT CAAAACATGT TTTGGAATGT ATGACTGGTA TGAACTACAA
      CTCATTCTGA GTTTTGTACA AAACCTTACA TACTGACCAT ACTTGATGTT
 201  ACCAGTAAGC TGATGTTTTC ATTTTGAGTC TATAAATCTA ATTTTGTGGT
      TGGTCATTCG ACTACAAAAG TAAAACTCAG ATATTTAGAT TAAAACACCA
 251  GGTTTTGTGT ATGGCTCAAG GCTCAAATTG TAAAATTTAA TATTATGTGA
      CCAAAACACA TACCGAGTTC CGAGTTTAAC ATTTTAAATT ATAATACACT
 301  CCAAAGAAAG TTATACCCAG AACCTCAATT TCCTCACCTT CAAAATGGGG
      GGTTTCTTTC AATATGGGTC TTGGAGTTAA AGGAGTGGAA GTTTTACCCC
 351  CAGTTTCTCA CTCATTGGTC TGCTGTCACG ATTTTAATGA GCTCATGCAC
      GTCAAAGAGT GAGTAACCAG ACGACAGTGC TAAAATTACT CGAGTACGTG
 401  AAACAGCCCT TTATATAAGG TAAGTGCTGG ATAAATGTTG GCTACTATAA
      TTTGTCGGGA AATATATTCC ATTCACGACC TATTTACAAC CGATGATATT
 451  TAAAATAAGC CTCTAAGATA CTTGGTCAGC ACAAGTACTA CCCAAGAGTA
      ATTTTATTCG GAGATTCTAT GAACCAGTCG TGTTCATGAT GGGTTCTCAT
 501  TGCACTGTAA GTAAACTGAC AAAATTGTGT ATCTAAAACT GGCCAGATGA
      ACGTGACATT CATTTGACTG TTTTAACACA TAGATTTTGA CCGGTCTACT
 551  AAGAGAAACT TTTAAGGGGC CCTTCTGCGT GCCCGACACT GTGCTAGGCA
      TTCTCTTTGA AAATTCCCCG GGAAGACGCA CGGGCTGTGA CACGATCCGT
 601  CTCACACTAT CCCGACCCGA GAAACCGATC TGCGACCCAG AGGAACTTAC
      GAGTGTGATA GGGCTGGGCT CTTTGGCTAG ACGCTGGGTC TCCTTGAATG
 651  CAAGCCTCCA GCATCTTGTG CAGCCCTACT CATGGGACCA TCTGGATACC
      GTTCGGAGGT CGTAGAACAC GTCGGGATGA GTACCCTGGT AGACCTATGG
 701  CACCCTTGTC TTTACAGGGA GCAGAACACA CCTCTTATGT GTCAGAAAAC
      GTGGGAACAG AAATGTCCCT CGTCTTGTGT GGAGAATACA CAGTCTTTTG
 751  AAAGTCCAGG AAGTATATTT TTACCTGAGG CAATATCTGA AAATTGTATG
      TTTCAGGTCC TTCATATAAA AATGGACTCC GTTATAGACT TTTAACATAC
 801  CTACAGCCTC CAAAGTGAGT CTTCCTCTCA GTACCTCTCT TCTAGGCACA
      GATGTCGGAG GTTTCACTCA GAAGGAGAGT CATGGAGAGA AGATCCGTGT
 851  TGGAGCCCTT TCTTCCAAGT ATTATGTTTA ACCACTTAAT GAATGAAGTC
      ACCTCGGGAA AGAAGGTTCA TAATACAAAT TGGTGAATTA CTTACTTCAG
 901  CTGAAACTGC TTACCCATGC TCCCTATAAT CTCTGAGTAA TCTTCCTTTT
      GACTTTGACG AATGGGTACG AGGGATATTA GAGACTCATT AGAAGGAAAA
 951  CCACAACCTC AGGCATAATC TCATCTTCTG TTTCTATTAC AATTTCAAAT
      GGTGTTGGAG TCCGTATTAG AGTAGAAGAC AAAGATAATG TTAAAGTTTA
1001  TCTGGAAAAA GGAAGTTGTG GTCTGGAATT ATATGGTCCA GATGATCTGA
      AGACCTTTTT CCTTCAACAC CAGACCTTAA TATACCAGGT CTACTAGACT
1051  AACAAAAAGG ACAGCACTAT TAGTAATCAT TTAGTTTTGA AGACAGTCTA
      TTGTTTTTCC TGTCGTGATA ATCATTAGTA AATCAAAACT TCTGTCAGAT
1101  ATAATTTGCT GTCTCTAAAG TACTATATTC CCTATAGTTC TGGCATTTTA
      TATTAAACGA CAGAGATTTC ATGATATAAG GGATATCAAG ACCGTAAAAT
1151  GATAAAGGGT CATAAATTAA ATGCCTATAT GGTGACATTA TTCAGTGATT
      CTATTTCCCA GTATTTAATT TACGGATATA CCACTGTAAT AAGTCACTAA
1201  CAGACTTCAC AGCCTTTTTT TTTTTTTTAC AAAGGTGTTC CAGGCATGAA
      GTCTGAAGTG TCGGAAAAAA AAAAAAAATG TTTCCACAAG GTCCGTACTT
1251  AAATTTTAAA GTACTATACC TTTCCTAATT TTACCTTTAA AGTTGTCCTG
      TTTAAAATTT CATGATATGG AAAGGATTAA AATGGAAATT TCAACAGGAC
1301  GAAATATCTG GGTTGACAAA GGCGATGAAA CTGAACTGAG ACTTAAAAAA
      CTTTATAGAC CCAACTGTTT CCGCTACTTT GACTTGACTC TGAATTTTTT
1351  AAGATTACCC ACCTGGTTGT GCACAAGCCT GCTTATGTCC CAATCTCCAG
      TTCTAATGGG TGGACCAACA CGTGTTCGGA CGAATACAGG GTTAGAGGTC
1401  TCTAGGGTCT GATGCTCCTT GCTGCAGTAA TATGCTTTGT GGCATCTGGA
      AGATCCCAGA CTACGAGGAA CGACGTCATT ATACGAAACA CCGTAGACCT
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FIG 2: POC 02/ACTIN ARTIFICIAL UCOE SEQUENCE

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1451  GCACGTTTTG GGGCCTAAAC AGCCACAAAC CCTGCAGAGA TGAGCACCAG
      CGTGCAAAAC CCCGGATTTG TCGGTGTTTG GGACGTCTCT ACTCGTGGTC
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      TGAATTCGAC CTCTGTGTGA CTAAGAGGAC AAAGACCCCC TCCTAAGAGT
1551  GAAGGTGGCT CATATGAGTA AAAATCGTTT TTCCTGGGTA GTTGATTCCT
      CTTCCACCGA GTATACTCAT TTTTAGCAAA AAGGACCCAT CAACTAAGGA
1601  AAAAACTAAA AAAGAATACA GAGAAAAGTT TTATCTTCAA ACAAAACAGC
      TTTTTGATTT TTTCTTATGT CTCTTTTCAA AATAGAAGTT TGTTTTGTCG
1651  AATTCACATA TTTTATCCTC TGCACGTAAA ACTGAAAATA ACAACAACAA
      TTAAGTGTAT AAAATAGGAG ACGTGCATTT TGACTTTTAT TGTTGTTGTT
1701  AAAAGAAATG AAAGTTTTTG CTTTCAGGAA TAAGCTTTTA AAATCCAGAA
      TTTTCTTTAC TTTCAAAAAC GAAAGTCCTT ATTCGAAAAT TTTAGGTCTT
1751  ACTAGATTTC GTCCGGTACA CGCAACTGAG TTGCCTCCTA GAGGTGGTTT
      TGATCTAAAG CAGGCCATGT GCGTTGACTC AACGGAGGAT CTCCACCAAA
1801  GAGTTAATCA AATTAATAAG ACTGATCGTT AAGAACGACT GCCAAAAATA
      CTCAATTAGT TTAATTATTC TGACTAGCAA TTCTTGCTGA CGGTTTTTAT
1851  CGAAAAAGCT ACTGGGATCC ATCTTTCCAA GACAATTTCT ATTATCTGAA
      GCTTTTTCGA TGACCCTAGG TAGAAAGGTT CTGTTAAAGA TAATAGACTT
1901  TTAACACCAT ACCTGGTACC CACTGATTAA AAGCTGGGGG TTACCAATGC
      AATTGTGGTA TGGACCATGG GTGACTAATT TTCGACCCCC AATGGTTACG
1951  GCGTGGGCAC AGTTAGAAGC TTATGTAGCA AAAATGAGCA CATCCTGGAA
      CGCACCCGTG TCAATCTTCG AATACATCGT TTTTACTCGT GTAGGACCTT
2001  GGGCCCGGGA GAAGGTGCTC CTGGGGCAGC GCGGAGAGGG AGCTCTGAGG
      CCCGGGCCCT CTTCCACGAG GACCCCGTCG CGCCTCTCCC TCGAGACTCC
2051  CTGGGGCGGC AGCGGTGCTT GCCGCCGTCC CCCTGGTCGC TCCCGGAATT
      GACCCCGCCG TCGCCACGAA CGGCGGCAGG GGGACCAGCG AGGGCCTTAA
2101  AACGCCGCGC ACGCGTCGGA GGCATGGCCC CGTCCCGACC CCGTTTGGCG
      TTGCGGCGCG TGCGCAGCCT CCGTACCGGG GCAGGGCTGG GGCAAACCGC
2151  GCTCACCTCG CAGGCCGGCA CAGCACGGCT GCTCGCGGCA GCAGAAGAGG
      CGAGTGGAGC GTCCGGCCGT GTCGTGCCGA CGAGCGCCGT CGTCTTCTCC
2201  AAGATGCAGC GGTGGAAGGC GTCCGGGCGG CCAGGCAGCG GCGCATACAC
      TTCTACGTCG CCACCTTCCG CAGGCCCGCC GGTCCGTCGC CGCGTATGTG
2251  CTGCAGCAGG AAGGAGAGCG GGCGGCCGCA CAGCTCGCAG GCCAGGGCCT
      GACGTCGTCC TTCCTCTCGC CCGCCGGCGT GTCGAGCGTC CGGTCCCGGA
2301  GGGGCCCCGG CAGCCCGGCC GCGCCCAGCC ATGCCGGCCG CCCGCCCACC
      CCCCGGGGCC GTCGGGCCGG CGCGGGTCGG TACGGCCGGC GGGCGGGTGG
2351  TTGCTGGGGA ACTGCTCGCT GCGCAGTCGC CACGCCGGCG CCGACTCGGC
      AACGACCCCT TGACGAGCGA CGCGTCAGCG GTGCGGCCGC GGCTGAGCCG
2401  GAAGCCCAGC TCCACAGGCC TGGCCCCGGC GGCAGCCATG CGGGGCGCGG
      CTTCGGGTCG AGGTGTCCGG ACCGGGGCCG CCGTCGGTAC GCCCCGCGCC
2451  GCTGGCGTGG GGCGCAGCCC ACAGCTGGGT CGGAAGGCGG AAATCGGGCG
      CGACCGCACC CCGCGTCGGG TGTCGACCCA GCCTTCCGCC TTTAGCCCGC
2501  CCGGGCCGGA AGGCAAGAGG CGGGCACCTT TCCGGAGGAC AGGAGGCGGA
      GGCCCGGCCT TCCGTTCTCC GCCCGTGGAA AGGCCTCCTG TCCTCCGCCT
2551  AACGCGTCTG ACGGGAGCGG TTGCAGGACC AATGCGAGGG AACGGGGCAG
      TTGCGCAGAC TGCCCTCGCC AACGTCCTGG TTACGCTCCC TTGCCCCGTC
2601  AGGAAACCTC TCGGCATCAG CCCCGCCCCT GGCGCCTCTG CCTCCGAGCC
      TCCTTTGGAG AGCCGTAGTC GGGGCGGGGA CCGCGGAGAC GGAGGCTCGG
2651  GCTTTCCTGG TGCCTCCGGG TGCTCTGGGA TGGTTCTGGT CTTTGGGAGA
      CGAAAGGACC ACGGAGGCCC ACGAGACCCT ACCAAGACCA GAAACCCTCT
2701  GTGGCAGCTG GTGACGGCGC TCCGCTCACC TCTGCACATG TCTTGCTGTG
      CACCGTCGAC CACTGCCGCG AGGCGAGTGG AGACGTGTAC AGAACGACAC
2751  GGCCTGCGGG TGGCCGCCAG GGAGGCAGAG CCCTCCCGCA AACCTTCCCT
      CCGGACGCCC ACCGGCGGTC CCTCCGTCTC GGGAGGGCGT TTGGAAGGGA
2801  GCTGGTGTCC ACCTCAGGGT GTGGGAAACC TGTGCGCTGG CCGAGTGCTA
      CGACCACAGG TGGAGTCCCA CACCCTTTGG ACACGCGACC GGCTCACGAT
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      CGGAGACGTC TTCTCAGAAA AGACAGTCAG AATTCCAGAG ACAAAATTAC
3001  TTAGTGCTGG CTTGCTGTAC CTGAATTCCA AGGGAGGAGT GTATAATGAG
      AATCACGACC GAACGACATG GACTTAAGGT TCCCTCCTCA CATATTACTC
3051  GCATGGCCAA CCCCCACTTC CCATCATTGC CTGAACTAGT TTTTCAGGTT
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3101  AACTTCAGAA TGCCCTTGGT ACCGCGGGCC CCCTCTGTGG TCCCACGCCA
      TTGAAGTCTT ACGGGAACCA TGGCGCCCGG GGGAGACACC AGGGTGCGGT
3151  CTGATCGCTG CATGCCCACC ACCTGGGTAC ACACAGTCTG TGATTCCCGG
      GACTAGCGAC GTACGGGTGG TGGACCCATG TGTGTCAGAC ACTAAGGGCC
3201  AGCAGAACGG ACCCTGCCCA CCCGGTCTTG TGTGCTACTC AGTGGACAGA
      TCGTCTTGCC TGGGACGGGT GGGCCAGAAC ACACGATGAG TCACCTGTCT
3251  CCCAAGGCAA GAAAGGGTGA CAAGGACAGG GTCTTCCCAG GCTGGCTTTG
      GGGTTCCGTT CTTTCCCACT GTTCCTGTCC CAGAAGGGTC CGACCGAAAC
3301  AGTTCCTAGC ACCGCCCCGC CCCCAATCCT CTGTGGCACA TGGAGTCTTG
      TCAAGGATCG TGGCGGGGCG GGGGTTAGGA GACACCGTGT ACCTCAGAAC
3351  GTCCCCAGAG TCCCCCAGCG GCCTCCAGAT GGTCTGGGAG GGCAGTTCAG
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3801  CACAGCCAGA GGTCCTCAGG CCCTGCTTTC AGGGCAGTTG CTCTGAAGTC
      GTGTCGGTCT CCAGGAGTCC GGGACGAAAG TCCCGTCAAC GAGACTTCAG
3851  GGCAAGGGGG AGTGACTGCC TGGCCACTCC ATGCCCTCCA AGAGCTCCTT
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      GACGTCCTCG CATGTCTTGG GTCCCGGGAC CGTGGGCACG TCTGGGACCG
3951  CCACCCCACC TGGGCGCTCA GTGCCCAAGA GATGTCCACA CCTAGGATGT
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      CGGTACGCCC CGGCTTGGCC CGTGACGGGT CGCACCCCGC GCCCCCGGTG
4101  GGCGCGCGCC CCCAGCCCCC GGGCCCAGCA CCCCAAGGCG GCCAACGCCA
      CCGCGCGCGG GGGTCGGGGG CCCGGGTCGT GGGGTTCCGC CGGTTGCGGT
4151  AAACTCTCCC TCCTCCTCTT CCTCAATCTC GCTCTCGCTC TTTTTTTTTT
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4201  TCGCAAAAGG AGGGGAGAGG GGGTAAAAAA ATGCTGCACT GTGCGGCGAA
      AGCGTTTTCC TCCCCTCTCC CCCATTTTTT TACGACGTGA CACGCCGCTT
4251  GCCGGTGAGT GAGCGGCGCG GGGCCAATCA GCGTGCGCCG TTCCGAAAGT
      CGGCCACTCA CTCGCCGCGC CCCGGTTAGT CGCACGCGGC AAGGCTTTCA
4301  TGCCTTTTAT GGCTCGAGCG GCCGCGGCGG CGCCCTATAA AACCCAGCGG
      ACGGAAAATA CCGAGCTCGC CGGCGCCGCC GCGGGATATT TTGGGTCGCC
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4351  CGCGACGCGC CACCACCGCC GAGACCGCGT CCGCCCGCGA GCACAGAGCC
      GCGCTGCGCG GTGGTGGCGG CTCTGGCGCA GGCGGGCGCT CGTGTCTCGG
4401  TCGCCTTTGC CGATCCGCCG CCCGTCCACA CCCGCCGCCA GGTAAGCCCG
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4451  GCCAGCCGAC CGGGGCATGC GGCCGCGGCC CTTCGCCCGT GCAGAGCCGC
      CGGTCGGCTG GCCCCGTACG CCGGCGCCGG GAAGCGGGCA CGTCTCGGCG
4501  CGTCTGGGCC GCAGCGGGGG GCGCATGGGG CGGAACCGGA CCGCCGTGGG
      GCAGACCCGG CGTCGCCCCC CGCGTACCCC GCCTTGGCCT GGCGGCACCC
4551  GGGCGCGGGA GAAGCCCCTG GGCCTCCGGA GATGGGGGAC ACCCCACGCC
      CCCGCGCCCT CTTCGGGGAC CCGGAGGCCT CTACCCCCTG TGGGGTGCGG
4601  AGTTCGCAGG CGCGAGGCCG CGCTCGGGCG GGCGCGCTCC GGGGGTGCCG
      TCAAGCGTCC GCGCTCCGGC GCGAGCCCGC CCGCGCGAGG CCCCCACGGC
4651  CTCTCGGGGC GGGGGCAACC GGCGGGGTCT TTGTCTGAGC CGGGCTCTTG
      GAGAGCCCCG CCCCCGTTGG CCGCCCCAGA AACAGACTCG GCCCGAGAAC
4701  CCAATGGGGA TCGCACGGTG GGCGCGGCGT AGCCCCCGTC AGGCCCGGTG
      GGTTACCCCT AGCGTGCCAC CCGCGCCGCA TCGGGGGCAG TCCGGGCCAC
4751  GGGGCTGGGG CGCCATGCGC GTGCGCGCTG GTCCTTTGGG CGCTAACTGC
      CCCCGACCCC GCGGTACGCG CACGCGCGAC CAGGAAACCC GCGATTGACG
4801  GTGCGCGCTG GGAATTGGCG CTAATTGCGC GTGCGCGCTG GGACTCAATG
      CACGCGCGAC CCTTAACCGC GATTAACGCG CACGCGCGAC CCTGAGTTAC
4851  GCGCTAATCG CGCGTGCGTT CTGGGGCCCG GGCGCTTGCG CCACTTCCTG
      CGCGATTAGC GCGCACGCAA GACCCCGGGC CCGCGAACGC GGTGAAGGAC
4901  CCCGAGCCGC TGGCGCCCGA GGGTGTGGCC GCTGCGTGCG CGCGCGCGAC
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4951  CCGGTCGCTG TTTGAACCGG GCGGAGGCGG GGCTGGCGCC CGGTTGGGAG
      GGCCAGCGAC AAACTTGGCC CGCCTCCGCC CCGACCGCGG GCCAACCCTC
5001  GGGGTTGGGG CCTGGCTTCC TGCCGCGCGC CGCGGGGACG CCTCCGACCA
      CCCCAACCCC GGACCGAAGG ACGGCGCGCG GCGCCCCTGC GGAGGCTGGT
5051  GTGTTTGCCT TTTATGGTAA TAACGCGGCC GGCCCGGCTT CCTTTGTCCC
      CACAAACGGA AAATACCATT ATTGCGCCGG CCGGGCCGAA GGAAACAGGG
5101  CAATCTGGGC GCGCGCCGGC GCCCCCTGGC GGCCTAAGGA CTCGGCGCGC
      GTTAGACCCG CGCGCGGCCG CGGGGGACCG CCGGATTCCT GAGCCGCGCG
5151  CGGAAGTGGC CAGGGCGGGG GCGACTTCGG CTCACAGCGC GCCCGGCTAT
      GCCTTCACCG GTCCCGCCCC CGCTGAAGCC GAGTGTCGCG CGGGCCGATA
5201  TCTCGCAGCT CACCATGCCG GTCGCCACCA TG
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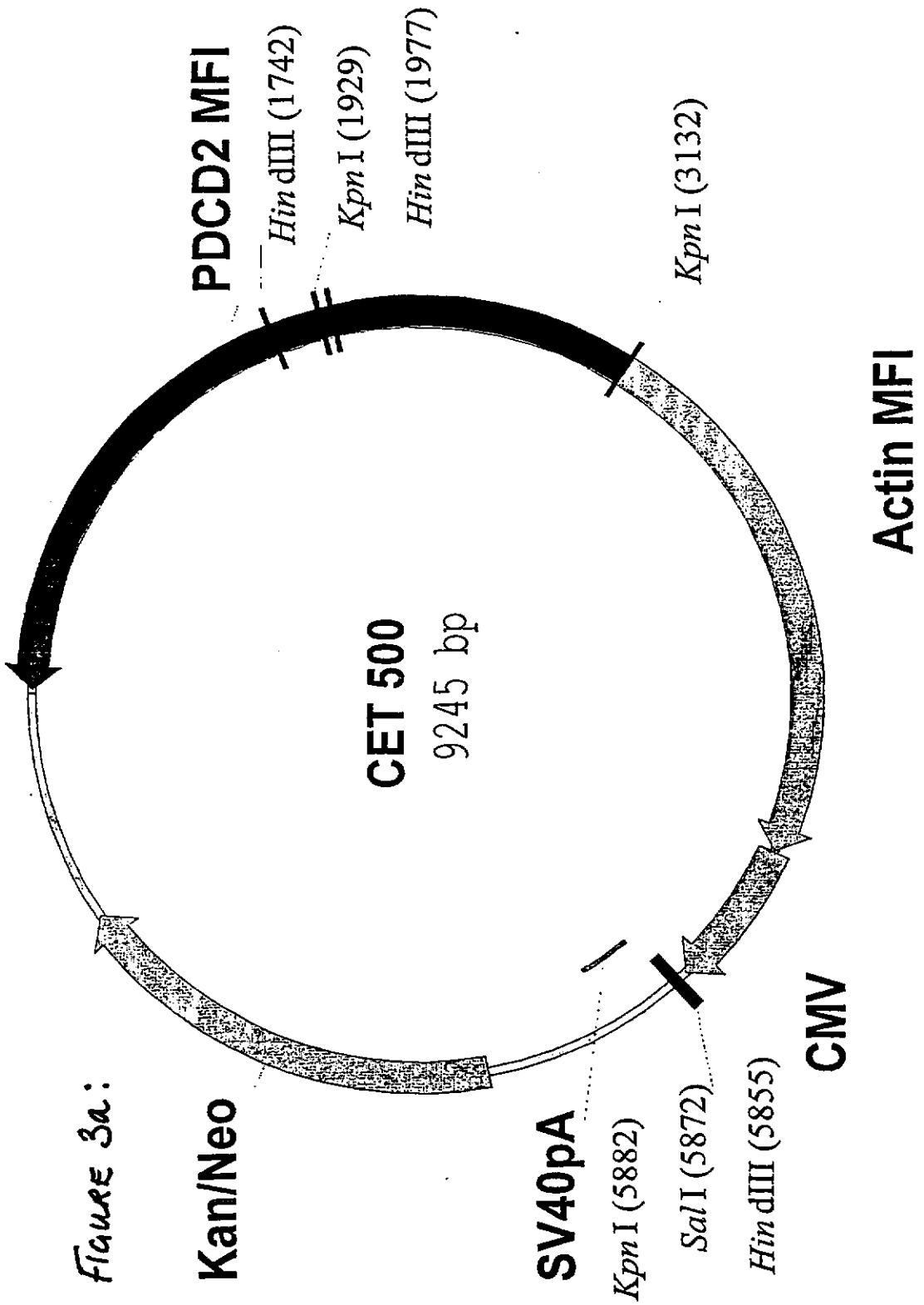

PDCD2 MFI
Hin dIII (1742)
Kpn I (1929)
Hin dIII (1977)
Kpn I (3132)
Actin MFI
CET 500
9245 bp
Kan/Neo
SV40pA
Kpn I (5882)
Sal I (5872)
Hin dIII (5855)
CMV

Figure 3a:

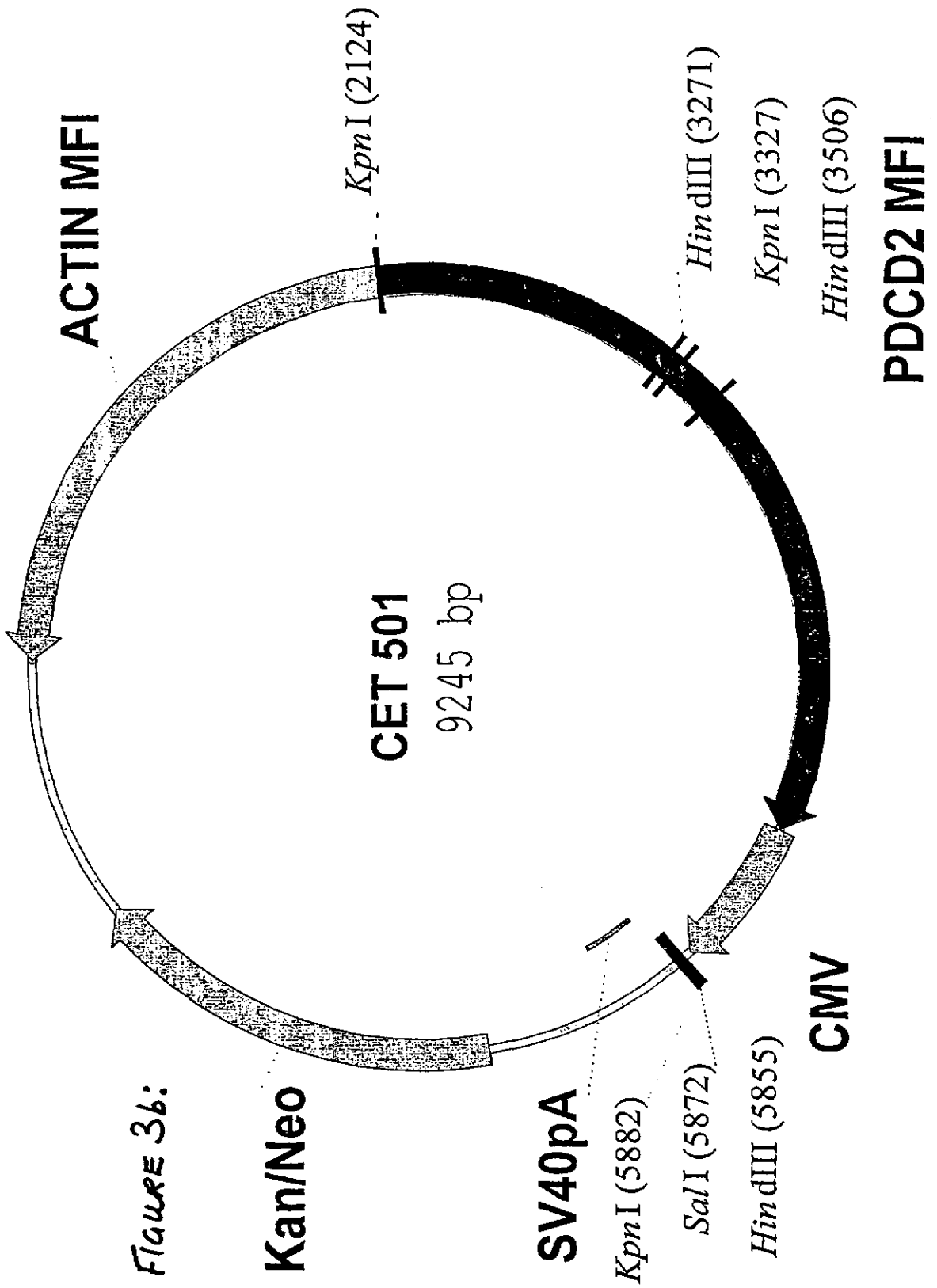

ACTIN MFI
KpnI (2124)
HindIII (3271)
KpnI (3327)
HindIII (3506)
PDCD2 MFI
CET 501
9245 bp
Kan/Neo
SV40pA
KpnI (5882)
SalI (5872)
HindIII (5855)
CMV

Figure 3b:

Figure 4
CET220 vs PDCD2/actin artificial UCOE
Median Fluorescence

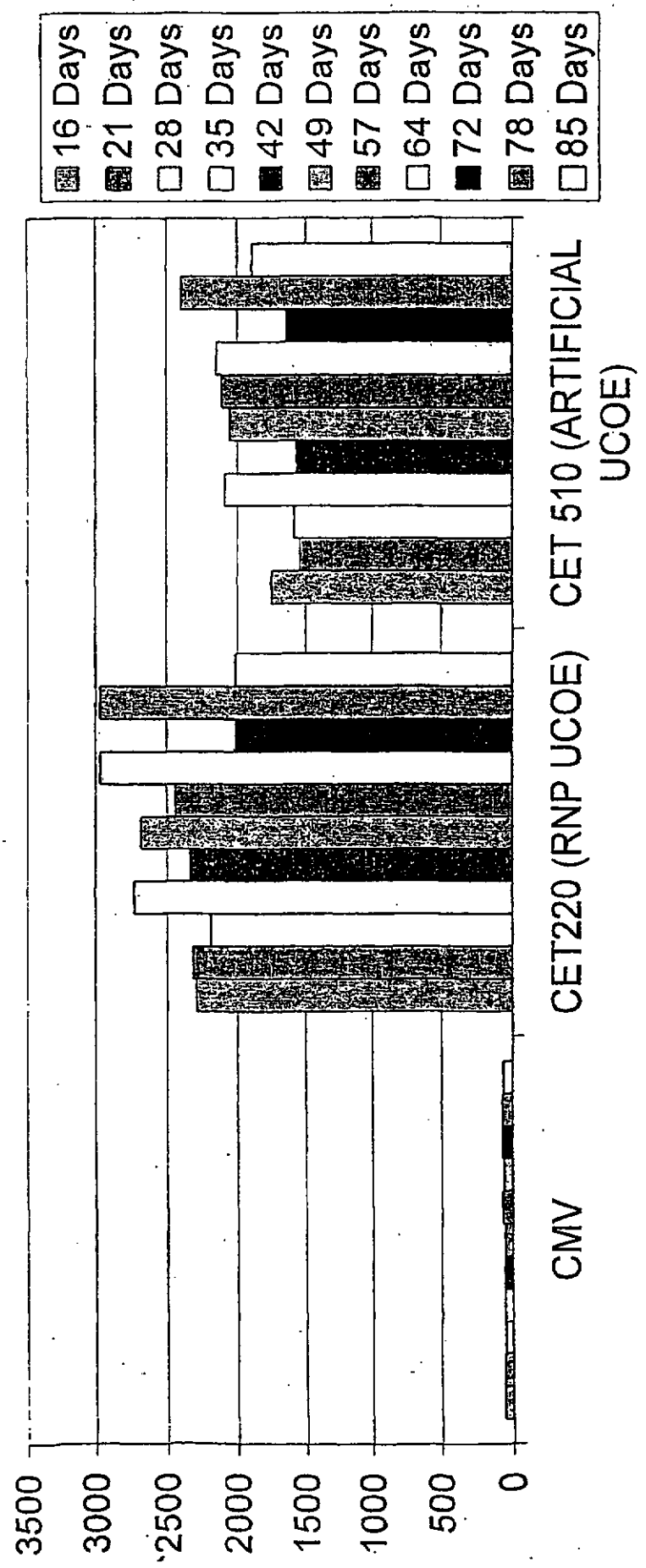
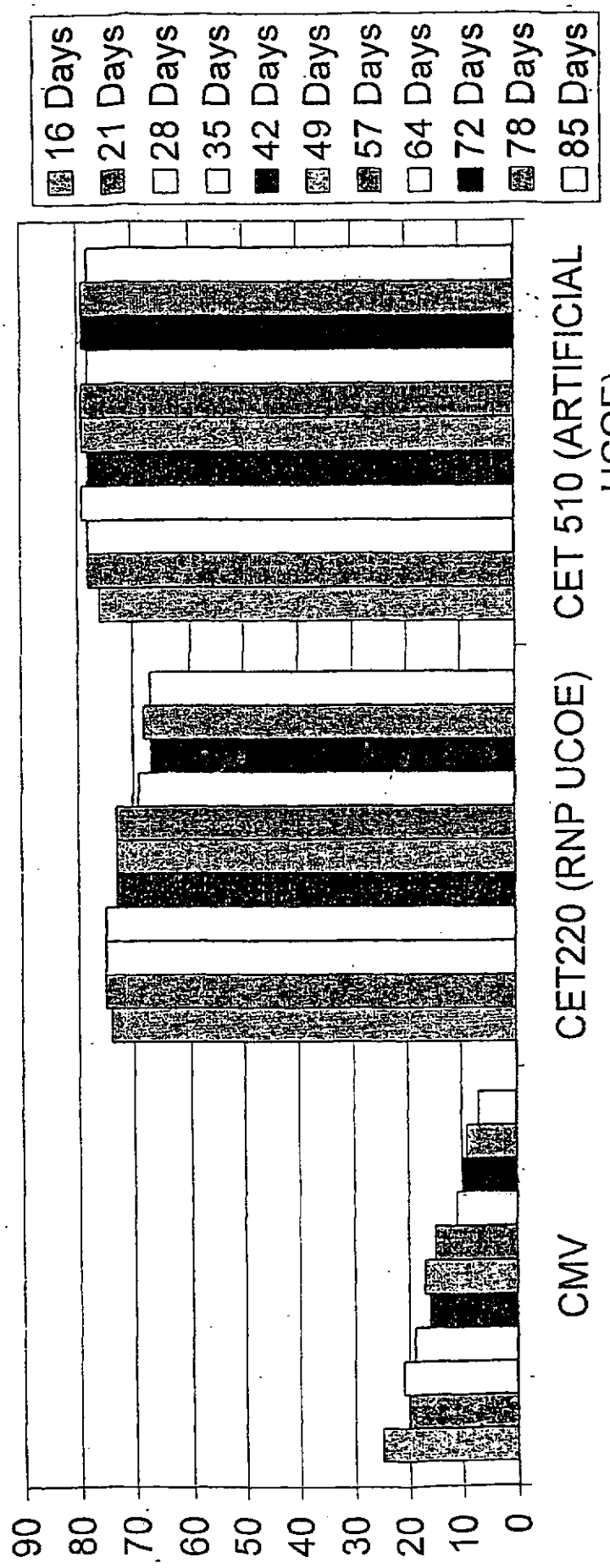


Figure 5
CET220 vs PDCD2/actin artificial UCOE
% Positive Cells



RNP/HP-1/actin artificial UCOE restriction map

(Please note that this figure is complementary to the sequence of Figure 7)

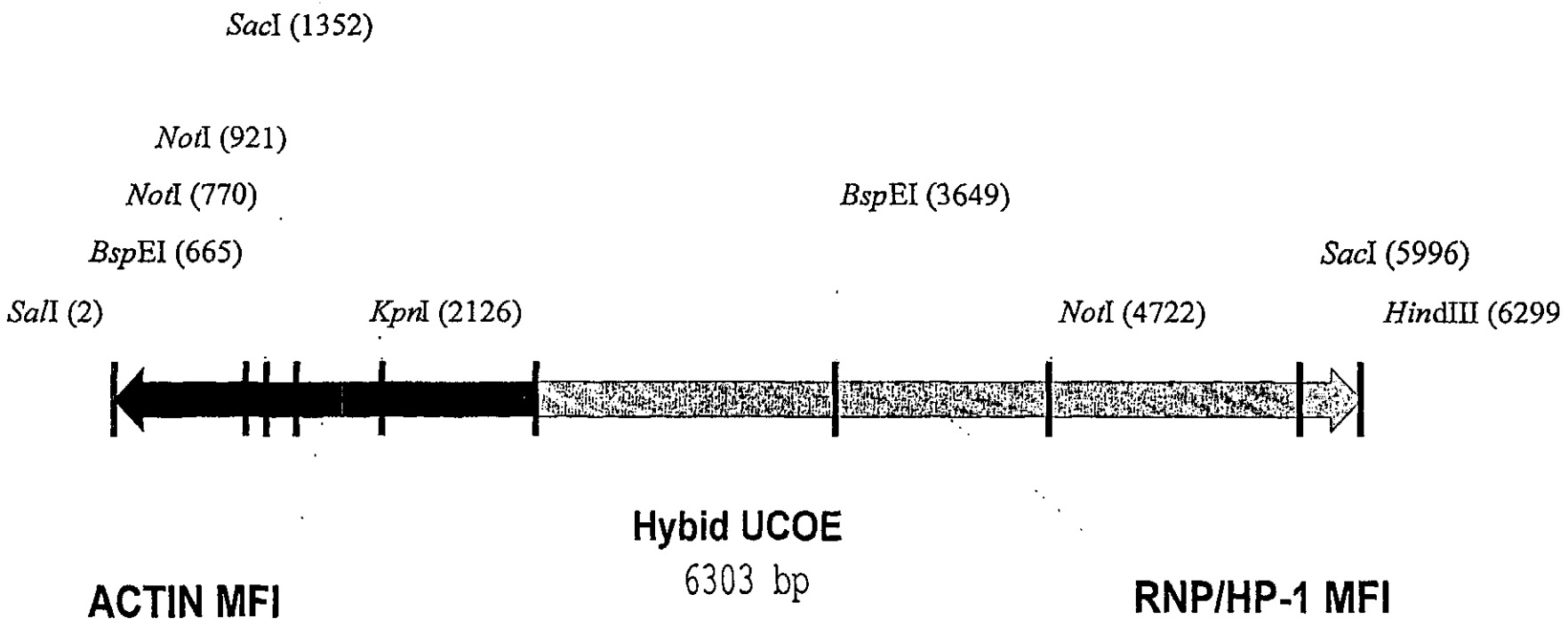


FIGURE 6:

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  51  CAAGTCAATA GGAAAAACCT CAGAGCTGAA ATCTTTATAT GCTGTACTAC
      GTTCAGTTAT CCTTTTTGGA GTCTCGACTT TAGAAATATA CGACATGATG
 101  ACAGCTGTAT TCTGGGCACT TATGAATGTT AAGGAAACCT GTCTTAAAAG
      TGTCGACATA AGACCCGTGA ATACTTACAA TTCCTTTGGA CAGAATTTTC
 151  TTAACTAGGT TAAAAAACCT CAAACGAGAG AAAGTGATAT CCAGGACCAA
      AATTGATCCA ATTTTTTGGA GTTTGCTCTC TTTCACTATA GGTCCTGGTT
 201  CTGCTACAAA CGCATAATGC AAACTAAAAA GTCACACGTA ATTTTCAATC
      GACGATGTTT GCGTATTACG TTTGATTTTT CAGTGTGCAT TAAAAGTTAG
 251  AATTATTTTT TGTTCCTAGC AAGCAGCATT AATTGCTGCT CTCATCCCAG
      TTAATAAAAA ACAAGGATCG TTCGTCGTAA TTAACGACGA GAGTAGGGTC
 301  TTCTACGGAG CTCTCCCTCC ATTCGCATGC TCCCAACTCC TAAAAAGTAG
      AAGATGCCTC GAGAGGGAGG TAAGCGTACG AGGGTTGAGG ATTTTTCATC
 351  TGGTAAAACC CAGTTCAGAT TTTTTTTCCT GTAGTTTTCA TGACTCGTAA
      ACCATTTTGG GTCAAGTCTA AAAAAAAGGA CATCAAAAGT ACTGAGCATT
 401  AAATTAAAGA AAAAATTAAC TGAAATGATC AAACTAGCTC CTATGAGACA
      TTTAATTTCT TTTTTAATTG ACTTTACTAG TTTGATCGAG GATACTCTGT
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      GTTTCGTCAG AAAACTTTAC CAATGAACAG TGCTATCAAT AAAAGTAAAA
 501  TTCAGCTAGT TTTTATTCTT AATTGTCGTC AGCACATAGG TTATCTCTAA
      AAGTCGATCA AAAATAAGAA TTAACAGCAG TCGTGTATCC AATAGAGATT
 551  ACTGAAATTA CGGATAATGT ACATTTATAA CAAGTTTTAC AAATCACTAA
      TGACTTTAAT GCCTATTACA TGTAAATATT GTTCAAAATG TTTAGTGATT
 601  CAAAAAGCAA AAACTCATTA CTTACCTCAC AATTTATCCA AACTTACCCG
      GTTTTTCGTT TTTGAGTAAT GAATGGAGTG TTAAATAGGT TTGAATGGGC
 651  ATGTCCACTA TCGATTTTAA ACAATGTTAT TTTATAAACG TGCTTAGGGT
      TACAGGTGAT AGCTAAAATT TGTTACAATA AAATATTTGC ACGAATCCCA
 701  CAAAGAAAAA TAACCAGGTA GACCCCCTTC GCTTGAGACC TTATGCTTAT
      GTTTCTTTTT ATTGGTCCAT CTGGGGGAAG CGAACTCTGG AATACGAATA
 751  CAATGTAATG TTCAACCAAG ATTGCAAACA AAATGAGAAA AGTAACAAAG
      GTTACATTAC AAGTTGGTTC TAACGTTTGT TTTACTCTTT TCATTGTTTC
 801  TTCAAATACA GAGCGGCCCA GGCCCAAAAC AGTTTTGCAC ATCAATCCAT
      AAGTTTATGT CTCGCCGGGT CCGGGTTTTG TCAAAACGTG TAGTTAGGTA
 851  ACGCATTACA GGAAGGAGCC TCTGAAGCCA TGTTTTAATC GAAGTATAAC
      TGCGTAATGT CCTTCCTCGG AGACTTCGGT ACAAAATTAG CTTCATATTG
 901  TAAGGACAAA ATCGTTATTT CACTTTCCTC GTAATCATCT ATAAAGGTCC
      ATTCCTGTTT TAGCAATAAA GTGAAAGGAG CATTAGTAGA TATTTCCAGG
 951  ATGGATCTGT CCCGTAAGGG TTAAACTTCT CAGTAACAAC ATTACTTAAA
      TACCTAGACA GGGCATTCCC AATTTGAAGA GTCATTGTTG TAATGAATTT
1001  ATGAGTCAGC TCTACAACTT AAACGGAATC CTTAAGAACA GTAAAGGATT
      TACTCAGTCG AGATGTTGAA TTTGCCTTAG GAATTCTTGT CATTTCCTAA
1051  CTGACGCGAA TATCCCTCCC CCGCCCAGAA AACCACCTTC GTCCCTGCCC
      GACTGCGCTT ATAGGGAGGG GGCGGGTCTT TTGGTGGAAG CAGGGACGGG
1101  CTCGTGGCCG ATGGCTTCCA ATTTATGTTT ATTTTGCCGC GGTTCATCTG
      GAGCACCGGC TACCGAAGGT TAAATACAAA TAAAACGGCG CCAAGTAGAC
1151  TCGTTTTACT GACTGCAGAC CCAGATAAAA CCGTTACTCA AAGGAAAAAA
      AGCAAAATGA CTGACGTCTG GGTCTATTTT GGCAATGAGT TTCCTTTTTT
1201  AAGACAGGAA AAACATAAAA TGGTTTCTTT GTCCTACGGC TCGCATTGAA
      TTCTGTCCTT TTTGTATTTT ACCAAAGAAA CAGGATGCCG AGCGTAACTT
1251  CCCGGCCCGA CGCCCTGGGT GGTGATATCT TCTCTGAAAC CGGGCCCGCA
      GGGCCGGGCT GCGGGACCCA CCACTATAGA AGAGACTTTG GCCCGGGCGT
1301  AACCCGGAGC ACCCCCCCTC CCCGCTCTTC GGTGTGGCTT CCGAACGCAA
      TTGGGCCTCG TGGGGGGGAG GGGCGAGAAG CCACACCGAA GGCTTGCGTT
1351  TGGCGCCATT TCATCGAGGG GAAGGCTGAG CGCCTTTAAT GAGGTGCGCA
      ACCGCGGTAA AGTAGCTCCC CTTCCGACTC GCGGAAATTA CTCCACGCGT
1401  GGACTCTAAA GATCCAAGCT CACAAAACAC TCCAAATCCA CCTCGAAACG
      CCTGAGATTT CTAGGTTCGA GTGTTTTGTG AGGTTTAGGT GGAGCTTTGC
```

FIGURE 7: RNP/HP-1/ACTIN ARTIFICIAL UCOE SEQUENCE.

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1451  ATATGAAAAC AGCCCGAGAA GAAAAAAAAA ATAGTTAACC ACTTCTACTT
      TATACTTTTG TCGGGCTCTT CTTTTTTTTT TATCAATTGG TGAAGATGAA
1501  CTTGATAGAG AAAGCACACT AAGAAAATAA AAGAGTTATA AGGAAAACGC
      GAACTATCTC TTTCGTGTGA TTCTTTTATT TTCTCAATAT TCCTTTTGCG
1551  TGAGAGGAAG GCGAGCCATG AAAATGGCGG CCGCCAAATC GGTTCCCGGG
      ACTCTCCTTC CGCTCGGTAC TTTTACCGCC GGCGGTTTAG CCAAGGGCCC
1601  AGAGAGGGGG AGGGGAAGCT CCGCAGCCTC GCTCACGAGG ACCTGCTGCC
      TCTCTCCCCC TCCCCTTCGA GGCGTCGGAG CGAGTGCTCC TGGACGACGG
1651  CGCCGAAACG CTCGCCGAGG AGACGCCGTG GCCCCCGAAG CAGCGTGCTT
      GCGGCTTTGC GAGCGGCTCC TCTGCGGCAC CGGGGGCTTC GTCGCACGAA
1701  TAGAAAGGGA ATAAGAATTC CCGCCTCCGC GCCCCACTTT CACCCCAGCG
      ATCTTTCCCT TATTCTTAAG GGCGGAGGCG CGGGGTGAAA GTGGGGTCGC
1751  GGGCAGCGTC CGCCATGTGA AAGCTCCCCA TCCCCCACCC CCAGTGAAGG
      CCCGTCGCAG GCGGTACACT TTCGAGGGGT AGGGGGTGGG GGTCACTTCC
1801  GAAATGGCGC CGGGAGGCTG AGGGTGGGGA AGCTGTTTGT ACGCTCAGGC
      CTTTACCGCG GCCCTCCGAC TCCCACCCCT TCGACAAACA TGCGAGTCCG
1851  CTCCGCTCAA GACCCCGTTC ATAAACCTTA AGCCCCACTG CTACTGAATT
      GAGGCGAGTT CTGGGGCAAG TATTTGGAAT TCGGGGTGAC GATGACTTAA
1901  GGTCCGATTT CCTGCCTCTC TCCCACGGAG GCGGCTGGCC GACTTCCACT
      CCAGGCTAAA GGACGGAGAG AGGGTGCCTC CGCCGACCGG CTGAAGGTGA
1951  GAGGCGCCAA CGGCCTCGCC ATGCCCTTTT CAATAACTCA TTGATTTCAA
      CTCCGCGGTT GCCGGAGCGG TACGGGAAAA GTTATTGAGT AACTAAAGTT
2001  ACCCGTTACC TCCATCGCGG ACTCAGTCGC TTCAGCCCGA TTTCCCGCAG
      TGGGCAATGG AGGTAGCGCC TGAGTCAGCG AAGTCGGGCT AAAGGGCGTC
2051  CCGAGCGAGA TGAGAGAGAT CTCCGCGGAC GAACACGAAC CGGACTCGTC
      GGCTCGCTCT ACTCTCTCTA GAGGCGCCTG CTTGTGCTTG GCCTGAGCAG
2101  CTGGCGCTGT AGTGAGAACT GCCGCTGCTC GAGAAACAAC TCTGCGAGGA
      GACCGCGACA TCACTCTTGA CGGCGACGAG CTCTTTGTTG AGACGCTCCT
2151  GCACCTCCGC ACGGGACCCG GCGCTGCTGC TACTGCCGCT AGAGCCGCTG
      CGTGGAGGCG TGCCCTGGGC CGCGACGACG ATGACGGCGA TCTCGGCGAC
2201  CCGCCGCTTT TCTAGAACCT TCCCCCCCAC TAACGCGTCT TCCGCTACGT
      GGCGGCGAAA AGATCTTGGA AGGGGGGGTG ATTGCGCAGA AGGCGATGCA
2251  CAGGCCGTCG CGTAAACGCC CTATCCGCCG CCAATGGCGG GAAGGCTCTA
      GTCCGGCAGC GCATTTGCGG GATAGGCGGC GGTTACCGCC CTTCCGAGAT
2301  CGCCCCACCT TACGCCAAAT GCGTACTCCT CCCACCCTTG CGGCCAGAGA
      GCGGGGTGGA ATGCGGTTTA CGCATGAGGA GGGTGGGAAC GCCGGTCTCT
2351  CAGTACCCGA CGTTACTTCC GTAAATGCGC TCAATGAATT GCGGAAGGCT
      GTCATGGGCT GCAATGAAGG CATTTACGCG AGTTACTTAA CGCCTTCCGA
2401  AGAGTCCTGC TAGTTACTAC CTCTTGGAAT AGGGTCCCGG CCCCTGCCTT
      TCTCAGGACG ATCAATGATG GAGAACCTTA TCCCAGGGCC GGGGACGGAA
2451  GGCGAAGGCA GGTGAGAAAC GTCGCGCAGT TTGAAATTAA CGCCGACGGG
      CCGCTTCCGT CCACTCTTTG CAGCGCGTCA AACTTTAATT GCGGCTGCCC
2501  AGGGGCTTAA TCCGCAGCCT GGAGATCCAG CCCCCTCAAC CCGGGAGGTG
      TCCCCGAATT AGGCGTCGGA CCTCTAGGTC GGGGGAGTTG GGCCCTCCAC
2551  GTCCCTGCAG TTACGCCAAT GATAACCCCC GCCAGAAAAA TCTTAGTAGC
      CAGGGACGTC AATGCGGTTA CTATTGGGGG CGGTCTTTTT AGAATCATCG
2601  CTTCCCTTTT TGTTTTCCGT GCCCCAACTC GGCGGATTGA CTCGGCCCCT
      GAAGGGAAAA ACAAAAGGCA CGGGGTTGAG CCGCCTAACT GAGCCGGGGA
2651  TCCGGAAACA CCCGAATCAA CTTCTAGTCA AATTATTGTT CACGCCGCAA
      AGGCCTTTGT GGGCTTAGTT GAAGATCAGT TTAATAACAA GTGCGGCGTT
2701  TGACCCACCC CTGGCCCGCG TCTGTGGAAC TGACCCCTGG TGTACAGGAG
      ACTGGGTGGG GACCGGGCGC AGACACCTTG ACTGGGGACC ACATGTCCTC
2751  AGTTCGCTGC TGAAAGTGGT CCCAAAGGGG TACTAGTTTT TAAGCTCCCA
      TCAAGCGACG ACTTTCACCA GGGTTTCCCC ATGATCAAAA ATTCGAGGGT
2801  ACTCCCCCTC CCCCAGCGTC TGGAGGATTC CACACCCTCG CACCGGCGGG
      TGAGGGGGAG GGGGTCGCAG ACCTCCTAAG GTGTGGGAGC GTGGCCGCCC
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      GCTCCTTCAC CCGCCTCAGG CCAAAACCGC GGTCGGCGAC TCCGACGGTT
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2951  CCCCCTTCCC TCCCCTTGGG GACCACCGGG CGCCACGCCG CGAACGGTAA
      GGGGGAAGGG AGGGGAACCC CTGGTGGCCC GCGGTGCGGC GCTTGCCATT
3001  GTGCCGCGGT CGTCGGCGCC TCCGCCCTCC CCCTAGGGCC CCAATTCCCA
      CACGGCGCCA GCAGCCGCGG AGGCGGGAGG GGGATCCCGG GGTTAAGGGT
3051  GCGGGCGCGG CGCCGGCCCC TCCCCCCGCC GCGCGCGCGC CCGCTGCCCC
      CGCCCGCGCC GCGGCCGGGG AGGGGGGCGG CGCGCGCGCG GGCGACGGGG
3101  GCCCTTCGTG GCCGCCCGGC GTGGGCGGTG CCACCCCTCC CCCCGGCGGC
      CGGGAAGCAC CGGCGGGCCG CACCCGCCAC GGTGGGGAGG GGGGCCGCCG
3151  CCCGCGCGCA GCTCCCGGCT CCCTCCCCCT TCGGATGTGG CTTGAGCTGT
      GGGCGCGCGT CGAGGGCCGA GGGAGGGGGA AGCCTACACC GAACTCGACA
3201  AGGCGCGGAG GGCCGGAGAC GCTGCAGACC CGCGACCCGG AGCAGCTCGG
      TCCGCGCCTC CCGGCCTCTG CGACGTCTGG GCGCTGGGCC TCGTCGAGCC
3251  AGGCGGTGAA GTCGGTGGCT TTCCTTCTCT CTAGCTCTCG CTCGCTGGTG
      TCCGCCACTT CAGCCACCGA AAGGAAGAGA GATCGAGAGC GAGCGACCAC
3301  GTGCTTCAGA TGCCACACGC GTCCCGGGGG CCCGGTTCTC CGCTCCCCTC
      CACGAAGTCT ACGGTGTGCG CAGGGCCCCC GGGCCAAGAG GCGAGGGGAG
3351  CCCTCCCCTT CTCGCCGGAC CCCGCGCCGG GAGCTGCGGG AAGGAGTGGA
      GGGAGGGGAA GAGCGGCCTG GGGCGCGGCC CTCGACGCCC TTCCTCACCT
3401  GGGTCGGGCG GTGGCCTCGC GGCTGGCCTG GCGCGCGGCC AGCCCGGTAG
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3651  CGGCGCGCGG CCGGCTGTCC CGAGGCTGCG GCGACCGCCA GTTAACGTGG
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3701  CCGCGCGGGG GTAGGCGCGT GCGGTGTGGC GCAGTGCCCT TGAGCCCCCG
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3751  TGCCGCGGCC TTTGTTTCTC CCCGCGGATG CGCTGACCAC GAGGCCCGCG
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3851  CAGCGGCGGG GGTCGGGAGC GGGTGTTTGC AAGAGGTGAT TCTTTTTTCA
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3901  AAGTGTCACG AAACGGGGTT GAAGCATCTT AAGTTTTTTC CTTTTGTTAT
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3951  TTAATTACCG ATTGGAAAGA GGGAGGGTTT CTGAGCAGAA ACCAAGTTGG
      AATTAATGGC TAACCTTTCT CCCTCCCAAA GACTCGTCTT TGGTTCAACC
4001  GATTGCAGAA CAGAGAAGAT TCACAGTGCT TTACCGTTGT GAGTTGTTTG
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4051  GGTAATCGTG CCTGGTTTTA AACCGAAAGG ATTGTCCTTT AAAAATGGAA
      CCATTAGCAC GGACCAAAAT TTGGCTTTCC TAACAGGAAA TTTTTACCTT
4101  CATGGACTTT ATTATAAATG GGACTTAGAT TGGAAAAGAC ATTGGTCCCC
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4151  TATTTTAAGC CATGTGAAGC TGTTTTAGGT ACCGCGGGCC CCCTCTGTGG
      ATAAAATTCG GTACACTTCG ACAAAATCCA TGGCGCCCGG GGGAGACACC
4201  TCCCACGCCA CTGATCGCTG CATGCCCACC ACCTGGGTAC ACACAGTCTG
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4251  TGATTCCCGG AGCAGAACGG ACCCTGCCCA CCCGGTCTTG TGTGCTACTC
      ACTAAGGGCC TCGTCTTGCC TGGGACGGGT GGGCCAGAAC ACACGATGAG
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4451  GGCAGTTCAG CTGTGGCTGC GCATAGCAGA CATACAACGG ACGGTGGGCC
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4501  CAGACCCAGG CTGTGTAGAC CCAGCCCCCC CGCCCCGCAG TGCCTAGGTC
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4651  TCCTTCCCAG GGCTGCGGCT GGGTAGGTTT GTAGCCTTCA TCACGGGCCA
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4751  CTGCGACTCT AATGGCCGCA AGCCACCTGA CTCCCCCAAC ACCACACTCT
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4801  ACCTCTCAAG CCCAGGTCTC TCCCTAGTGA CCCACCCAGC ACATTTAGCT
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4851  AGCTGAGCCC CACAGCCAGA GGTCCTCAGG CCCTGCTTTC AGGGCAGTTG
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4901  CTCTGAAGTC GGCAAGGGGG AGTGACTGCC TGGCCACTCC ATGCCCTCCA
      GAGACTTCAG CCGTTCCCCC TCACTGACGG ACCGGTGAGG TACGGGAGGT
4951  AGAGCTCCTT CTGCAGGAGC GTACAGAACC CAGGGCCCTG GCACCCGTGC
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5001  AGACCCTGGC CCACCCCACC TGGGCGCTCA GTGCCCAAGA GATGTCCACA
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5051  CCTAGGATGT CCCGCGGTGG GTGGGGGGCC CGAGAGACGG GCAGGCCGGG
      GGATCCTACA GGGCGCCACC CACCCCCCGG GCTCTCTGCC CGTCCGGCCC
5101  GGCAGGCCTG GCCATGCGGG GCCGAACCGG GCACTGCCCA GCGTGGGGCG
      CCGTCCGGAC CGGTACGCCC CGGCTTGGCC CGTGACGGGT CGCACCCCGC
5151  CGGGGGCCAC GGCGCGCGCC CCCAGCCCCC GGGCCCAGCA CCCCAAGGCG
      GCCCCCGGTG CCGCGCGCGG GGGTCGGGGG CCCGGGTCGT GGGGTTCCGC
5201  GCCAACGCCA AAACTCTCCC TCCTCCTCTT CCTCAATCTC GCTCTCGCTC
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5251  TTTTTTTTTT TCGCAAAAGG AGGGGAGAGG GGGTAAAAAA ATGCTGCACT
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5351  TTCCGAAAGT TGCCTTTTAT GGCTCGAGCG GCCGCGGCGG CGCCCTATAA
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5451  GCACAGAGCC TCGCCTTTGC CGATCCGCCG CCCGTCCACA CCCGCCGCCA
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5551  GCAGAGCCGC CGTCTGGGCC GCAGCGGGGG GCGCATGGGG CGGAACCGGA
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5651  ACCCCACGCC AGTTCGCAGG CGCGAGGCCG CGCTCGGGCG GGCGCGCTCC
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5701  GGGGGTGCCG CTCTCGGGGC GGGGGCAACC GGCGGGGTCT TTGTCTGAGC
      CCCCCACGGC GAGAGCCCCG CCCCCGTTGG CCGCCCCAGA AACAGACTCG
5751  CGGGCTCTTG CCAATGGGGA TCGCACGGTG GGCGCGGCGT AGCCCCCGTC
      GCCCGAGAAC GGTTACCCCT AGCGTGCCAC CCGCGCCGCA TCGGGGGCAG
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5801    AGGCCCGGTG GGGGCTGGGG CGCCATGCGC GTGCGCGCTG GTCCTTTGGG
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5851    CGCTAACTGC GTGCGCGCTG GGAATTGGCG CTAATTGCGC GTGCGCGCTG
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5901    GGACTCAATG GCGCTAATCG CGCGTGCGTT CTGGGGCCCG GGCGCTTGCG
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6001    CGCGCGCGAC CCGGTCGCTG TTTGAACCGG GCGGAGGCGG GGCTGGCGCC
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6051    CGGTTGGGAG GGGGTTGGGG CCTGGCTTCC TGCCGCGCGC CGCGGGGACG
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6101    CCTCCGACCA GTGTTTGCCT TTTATGGTAA TAACGCGGCC GGCCCGGCTT
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6251    GCCCGGCTAT TCTCGCAGCT CACCATGCCG GTCGCCACCA TGATACCGTC
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6301    GAC
        CTG
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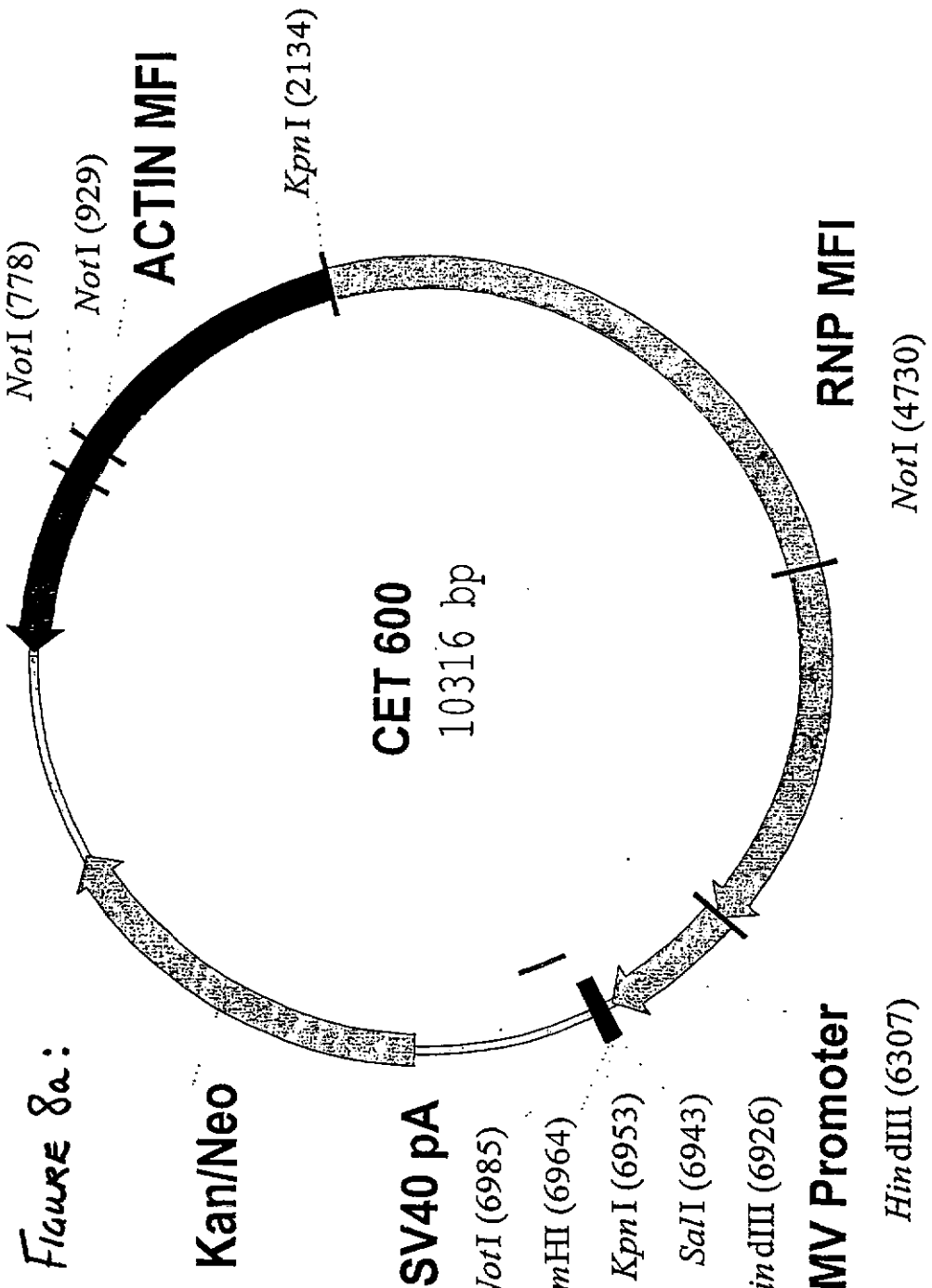

CET 600
10316 bp
ACTIN MFI
NotI (778)
NotI (929)
KpnI (2134)
RNP MFI
NotI (4730)
CMV Promoter
HindIII (6307)
SalI (6943)
KpnI (6953)
BamHI (6964)
NotI (6985)
SV40 pA
Kan/Neo

Figure 8a:

18 MAR 2005

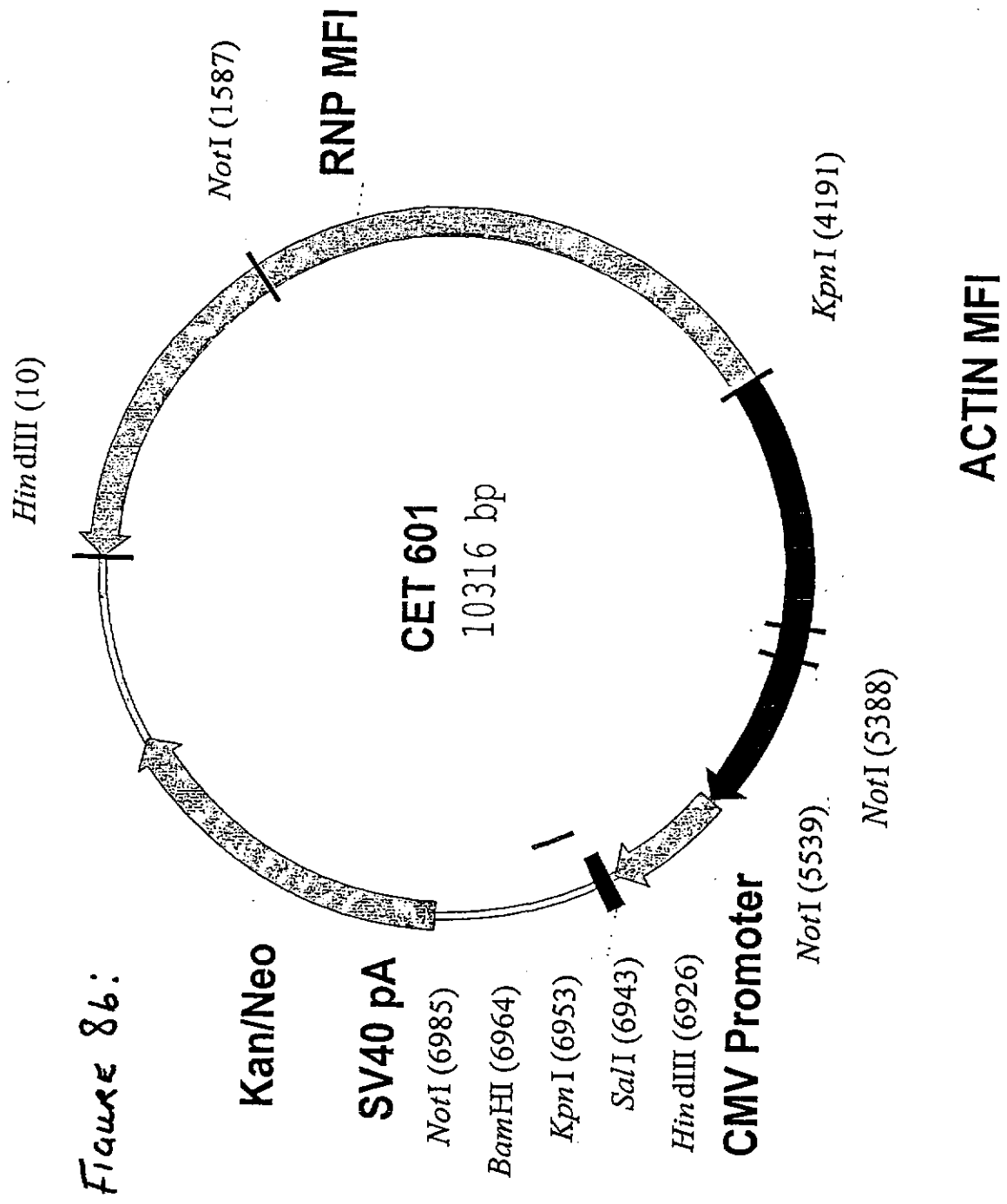


Figure 86:

18 MAR 2005

Figure 9
Comparison of RNP UCOE with RNP/HP-1/actin artificial UCOE
EGFP Expression in CHO Cells
Median Fluorescence

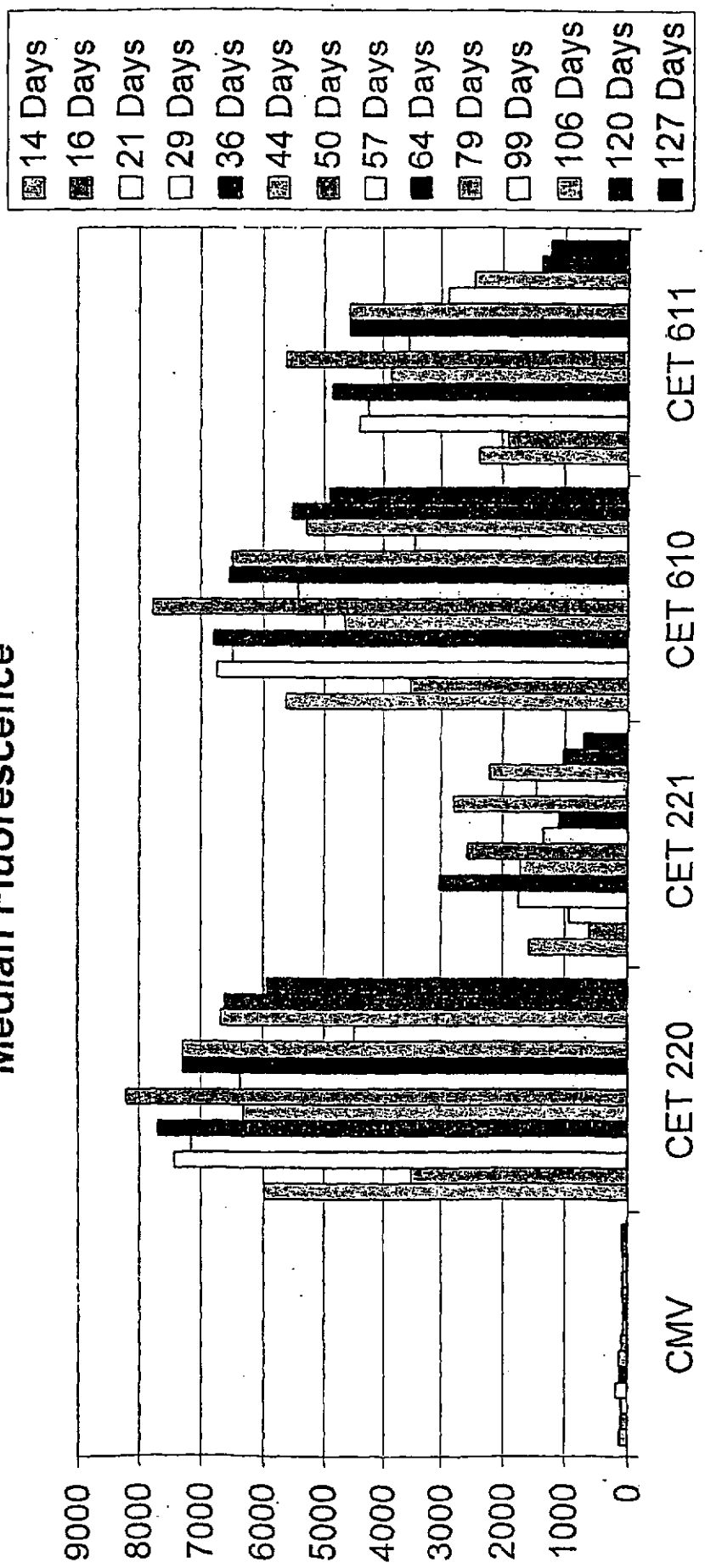
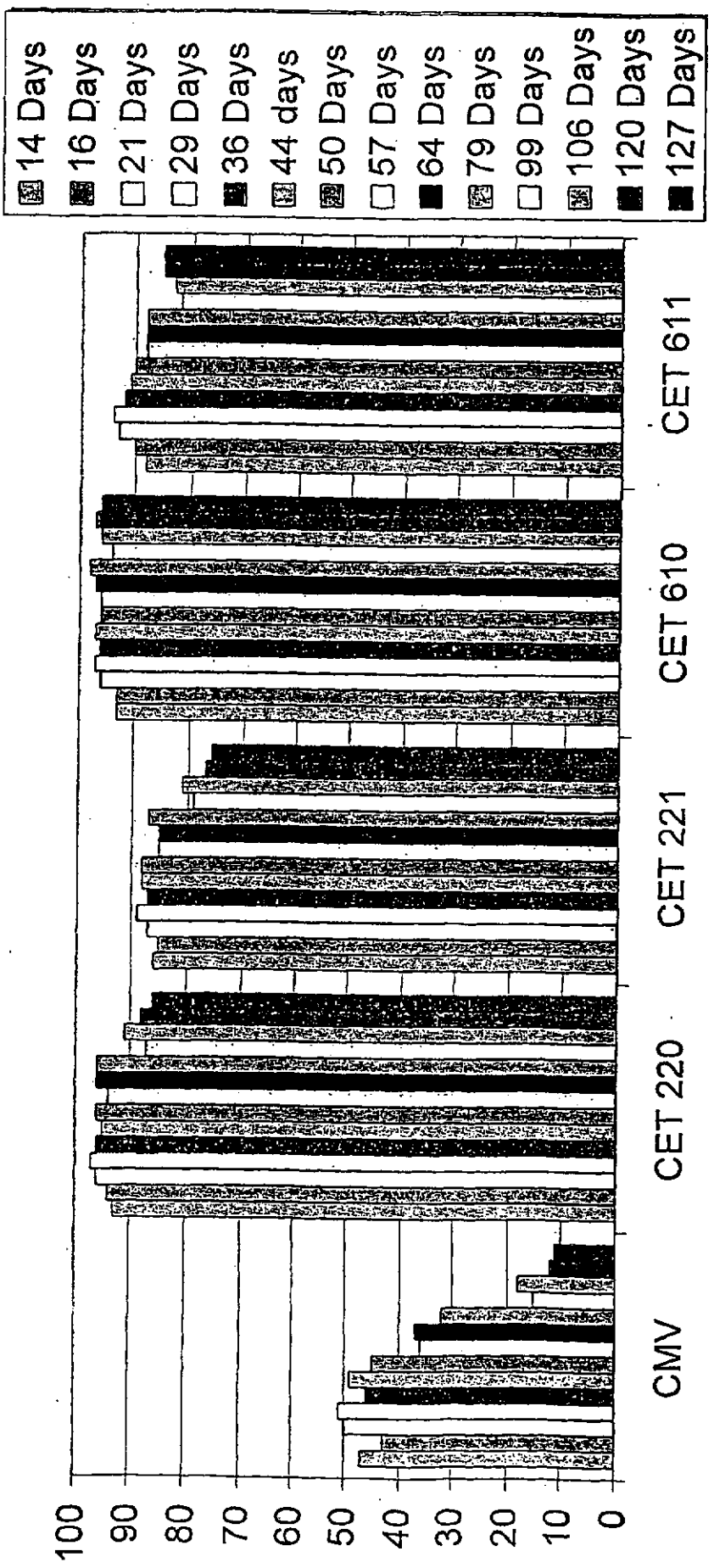


Figure 10
Comparison of RNP UCOE with RNP/HP-1/actin artificial UCOE EGFP Expression in CHO Cells
% Positive Cells



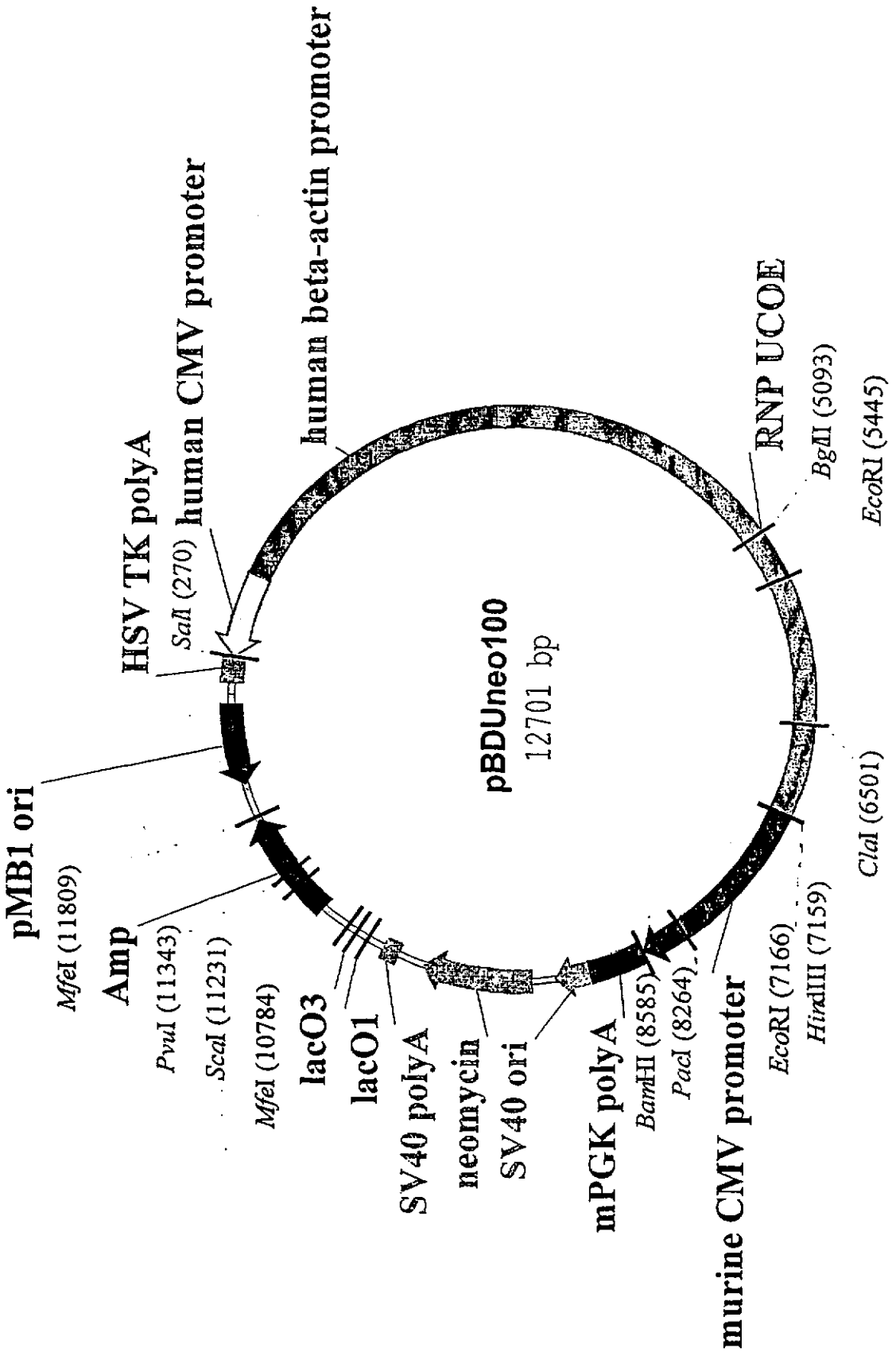

pBDUneo100
12701 bp
pMB1 ori
MfeI (11809)
Amp
PvuI (11343)
ScaI (11231)
MfeI (10784)
lacO3
lacO1
SV40 polyA
neomycin
SV40 ori
mPGK polyA
BamHI (8585)
PacI (8264)
murine CMV promoter
EcoRI (7166)
HindIII (7159)
ClaI (6501)
RNP UCOE
BglII (5093)
EcoRI (5445)
human beta-actin promoter
human CMV promoter
HSV TK polyA
SalI (270)

Figure IIa:

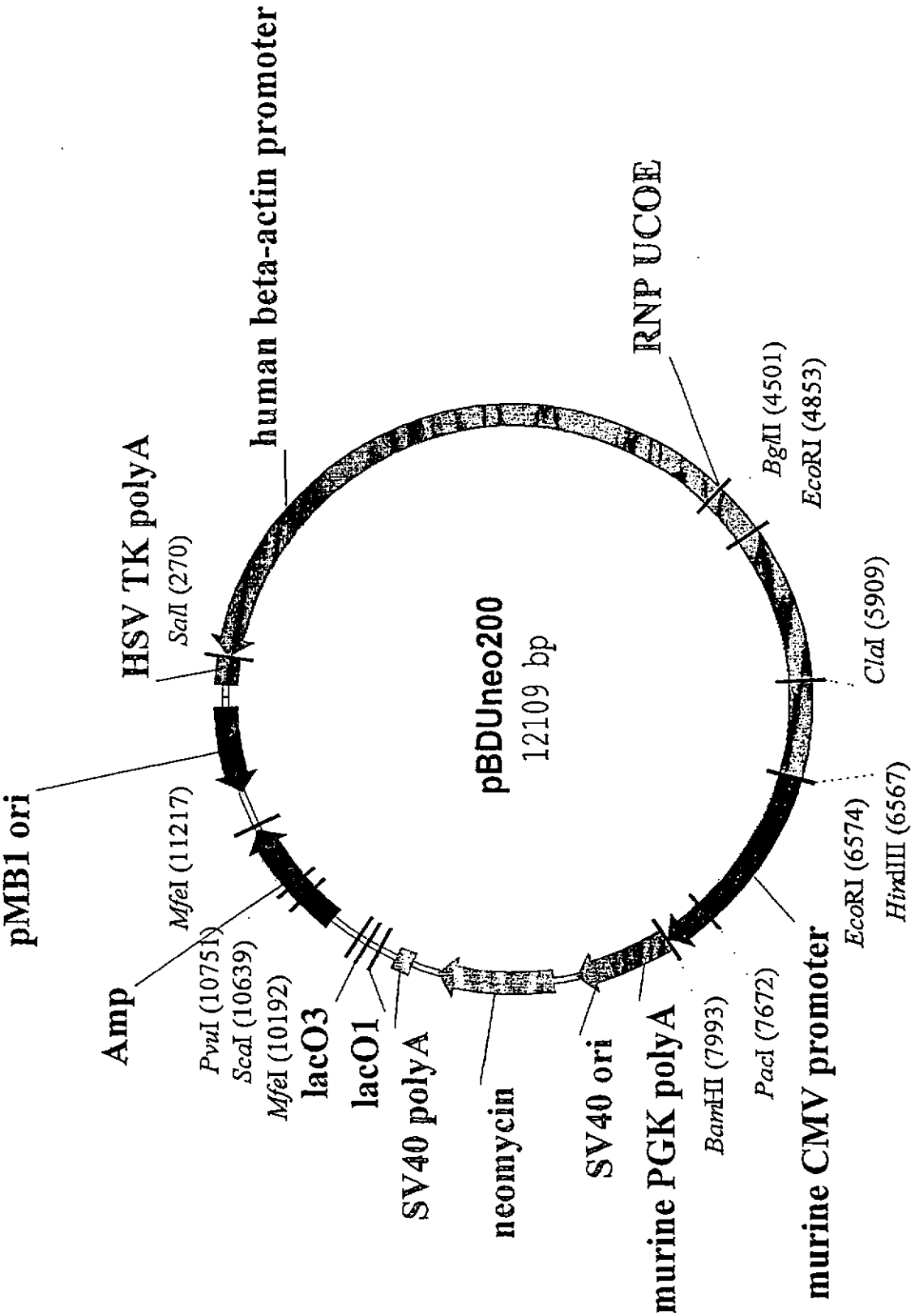

pBDUneo200
12109 bp
human beta-actin promoter
HSV TK polyA
SalI (270)
RNP UCOE
BglII (4501)
EcoRI (4853)
ClaI (5909)
HindIII (6567)
EcoRI (6574)
PacI (7672)
BamHI (7993)
murine CMV promoter
murine PGK polyA
SV40 ori
neomycin
SV40 polyA
lacO1
lacO3
MfeI (10192)
ScaI (10639)
PvuI (10751)
Amp
MfeI (11217)
pMB1 ori

Figure 11b:

1 8 MAR 2005

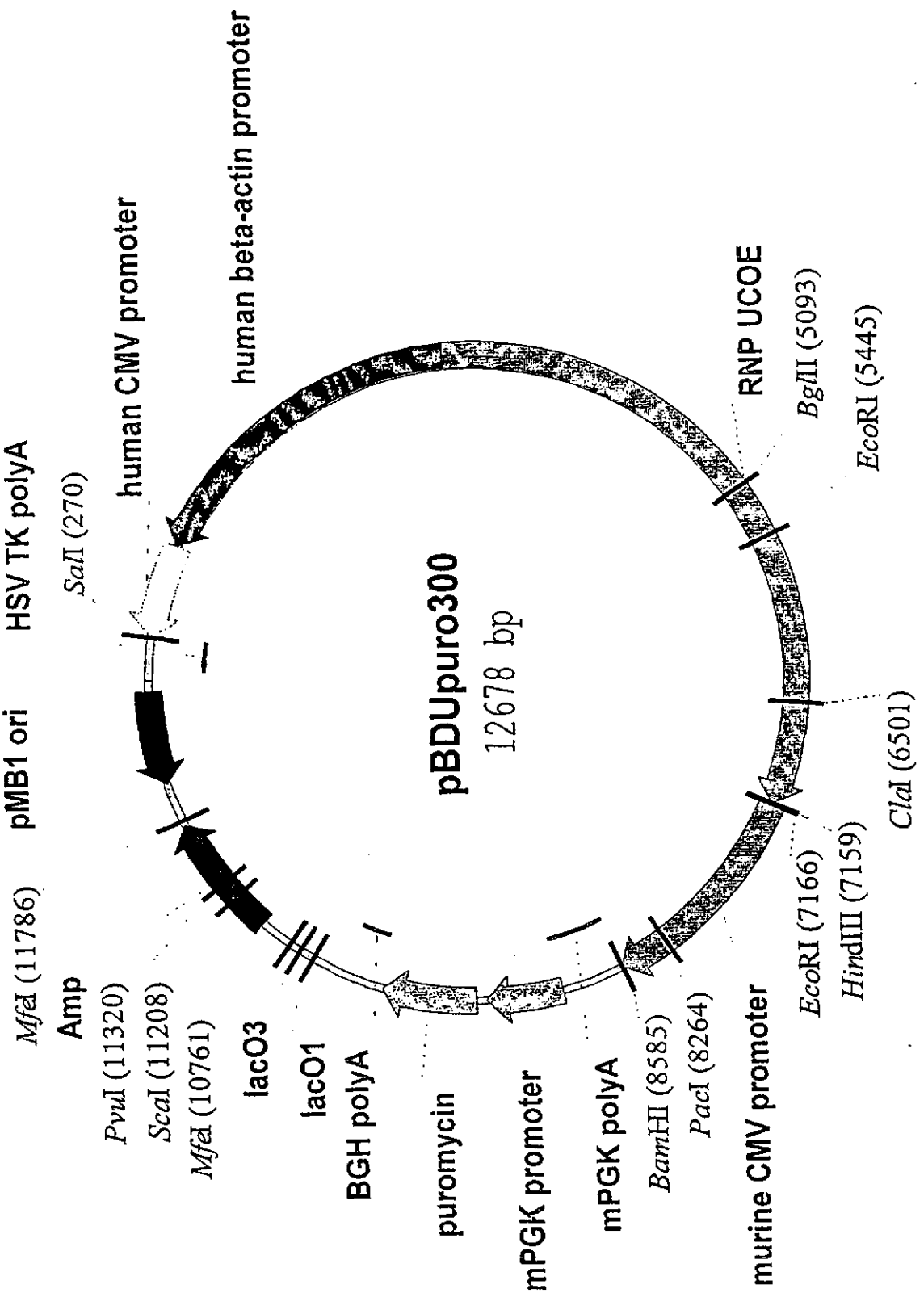


Figure 11c:

18 MAR 2005

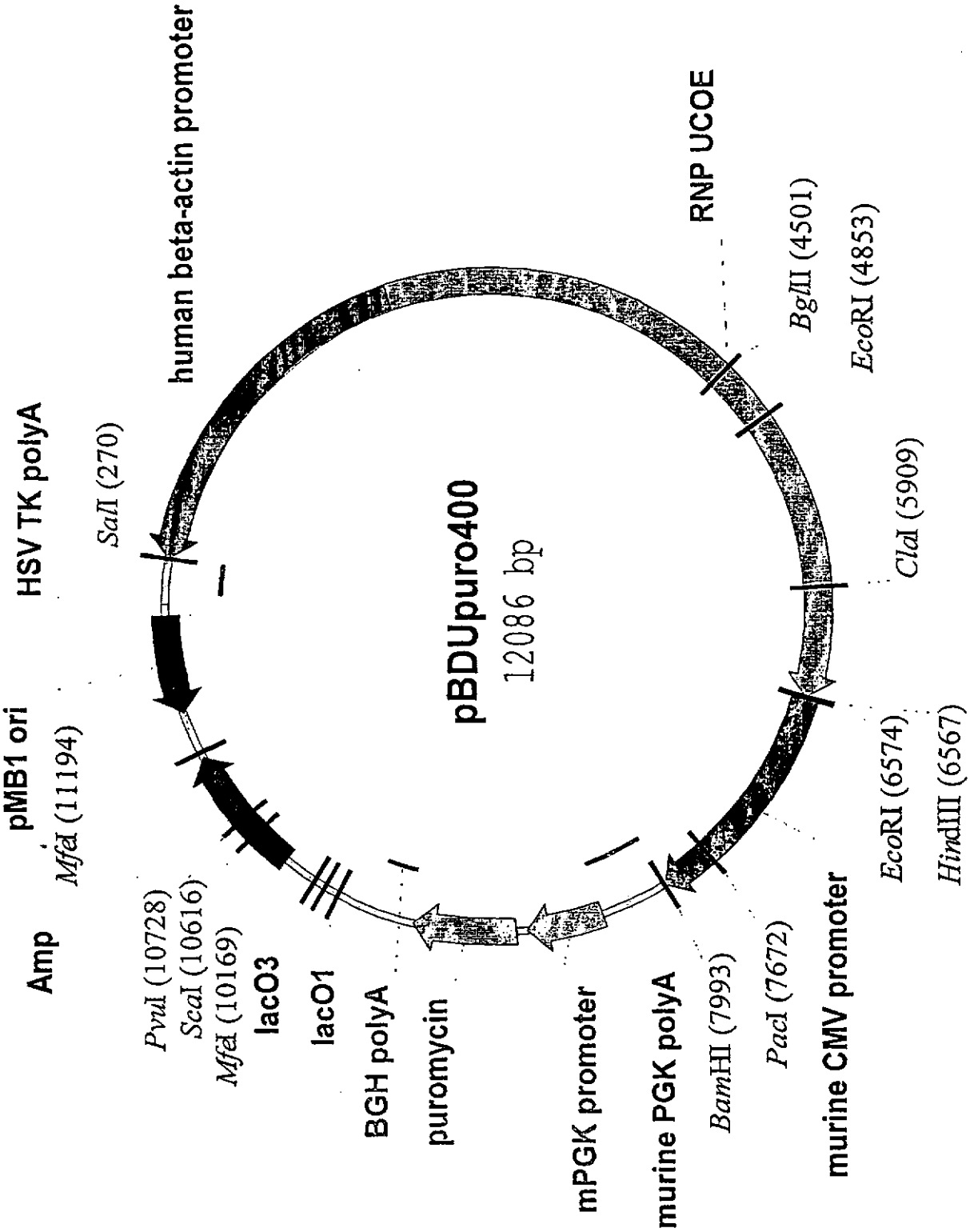


Figure 11d: