

Original Author

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Feature Map

Name	Start	End	
Insert: 106787	2360	5839	
Ampicillin	250	1107	
pBR322_ori	1204	1954	
lacO	2222	2256	
T7-promoter	5867	5851	Reverse
f1-origin	6038	6493	

Restriction Map

Name	Sequence	5' Cut Positions
Acc65I	GGTACC	5835
Accl	GTMKAC	2745, 3196, 3630, 7298
AcII	AACGTT	435, 808, 6481
AlwNI	CAGNNNCTG	1516, 5184, 5772
ApaLI	GTGCAC	365, 1611, 2956, 6551, 7552
AseI	ATTAAT	862, 2097, 2156, 3015, 3714, 4450, 7253, 7367, 8124
BamHI	GGATCC	2359
BbsI	GAAGAC	5595, 8083(C)
BglI	GCCNNNNNGGC	919, 2550, 6023
BglII	AGATCT	4155, 4740
BlpI	GCTNAGC	4136
Bsal	GGTCTC	971
BsmBI	CGTCTC	7684, 7726(C)
BspEI	TCCGGA	7397
BspHI	TCATGA	197, 1205, 5809, 7776
BsrBI	CCGCTC	195, 1996, 2237(C), 2345, 5815(C), 6124
BsrDI	GCAATG	803, 977(C), 3477, 3937(C), 4998(C)
BsrGI	TGTACA	3125
BssHII	GCGCGC	2286, 5869
BstBI	TTCGAA	3569
BstEII	GGTNACC	4250
BstXI	CCANNNNNTGG	2335, 6972
BtsI	GCAGTG	618, 638(C), 2145, 3285(C), 4914(C)
Clal	ATCGAT	4873, 5653
EagI	CGGCCG	2340
EcoRV	GATATC	3104, 5121, 5396, 6981
HincII	GTYRAC	4369, 4415, 4522
HindIII	AAGCTT	4133, 6749
HpaI	GTTAAC	4522
KasI	GGCGCC	2478
KpnI	GGTACC	5839
MfeI	CAATTG	2501, 4495, 7122
NarI	GGCGCC	2479

Name	Sequence	5' Cut Positions
NheI	GCTAGC	5346
NotI	GCGGCCGC	2340
NsiI	ATGCAT	4808
PacI	TTAATTA	3019
PciI	ACATGT	1925, 3204
PmlI	CACGTG	103, 7306
PpuMI	RGGWCCY	114
PvuI	CGATCG	668, 4375, 5994
PvuII	CAGCTG	2105, 4008, 5963
SacI	GAGCTC	2327
SacII	CCGCGG	2334
SapI	GCTCTTC	2042(C), 8136(C)
SnaBI	TACGTA	7414
SpeI	ACTAGT	2353
SphI	GCATGC	3412, 5687
SspI	AATATT	232, 3095, 3778, 6476
SwaI	ATTTAAAT	79
XbaI	TCTAGA	2347, 7178
XmnI	GAANNNNTTC	437, 5035, 7368, 7447, 8114
AfeI	AGCGCT	no cuts
AgeI	ACCGGT	no cuts
ApaI	GGGCCC	no cuts
AscI	GGCGCGCC	no cuts
AsiSI	GCGATCGC	no cuts
AvaI	CYCGRG	no cuts
AvrII	CCTAGG	no cuts
BclI	TGATCA	no cuts
BsiWI	CGTACG	no cuts
EcoRI	GAATTC	no cuts
FseI	GGCCGGCC	no cuts
MluI	ACGCGT	no cuts
MscI	TGGCCA	no cuts
NcoI	CCATGG	no cuts
NdeI	CATATG	no cuts
NruI	TCGCGA	no cuts
PmeI	GTTTAAAC	no cuts
PshAI	GACNNNGTC	no cuts
PspOMI	GGGCCC	no cuts
PspXI	VCTCGAGB	no cuts
PstI	CTGCAG	no cuts
RsrII	CGGWCCG	no cuts
SalI	GTCGAC	no cuts
SanDI	GGGWCCC	no cuts
SbfI	CCTGCAGG	no cuts
SfiI	GGCCNNNNGGCC	no cuts
SmaI	CCCGGG	no cuts
XhoI	CTCGAG	no cuts
XmaI	CCCGGG	no cuts

Sequence

1 CGGAAAACAA AACTATTTT TTCTTTAATT TCTTTTTTTA CTTTCTATTT TTAATTTATA
61 TATTTATATT AAAAAATTTA AATTATAATT ATTTTTATAG CACGTGATGA AAAGGACCCA
121 GGTGGCACTT TTCGGGGAAA TGTGCGCGGA ACCCCTATTT GTTTATTTTT CTAAATACAT
181 TCAAATATGT ATCCGCTCAT GAGACAATAA CCCTGATAAA TGCTTCAATA ATATTGAAAA
241 AGGAAGAGTA TGAGTATTCA ACATTTCCGT GTCGCCCTTA TTCCTTTTTT TCGGCGATT
301 TGCCTTCTCG TTTTGTCTCA CCCAGAAACG CTGGTGAAAG TAAAAGATGC TGAAGATCAG
361 TTGGGTGCAC GAGTGGGTTA CATCGAAGT GATCTCAACA GCGGTAAGAT CCTTGAGAGT
421 TTTGCCCCG AAGAACGTTT TCCAATGATG AGCACTTTTA AAGTTCTGCT ATGTGGCGCG
481 GTATTATCCC GTATTGACGC CGGGCAAGAG CAACTCGGTC GCCGCATACA CTATTCTCAG
541 AATGACTTGG TTGAGTACTC ACCAGTCACA GAAAAGCATC TTACGGATGG CATGACAGTA
601 AGAGAATTAT GCAGTGCTGC CATAACCATG AGTGATAACA CTGCGGCCAA CTTACTTCTG
661 ACAACGATCG GAGGACCGAA GGAGCTAACC GCTTTTTTGC ACAACATGGG GGATCATGTA
721 ACTCGCCTTG ATCGTTGGGA ACCGGAGCTG AATGAAGCCA TACCAAACGA CGAGCGTGAC
781 ACCACGATGC CTGTAGCAAT GGCAACAACG TTGCGCAAAC TATTAACGTC CGAACTACTT
841 ACTCTAGCTT CCCGGCAACA ATTAATAGAC TGGATGAGG CGGATAAAGT TGCAGGACCA
901 CTTCTGCGCT CGGCCCTTCC GGCTGGCTGG TTTATTGCTG ATAAATCTGG AGCCGGTGAG
961 CGTGGGTCTC GCGGTATCAT TGCAGCACTG GGGCCAGATG GTAAGCCCTC CCGTATCGTA
1021 GTTATCTACA CGACGGGGAG TCAGGCAACT ATGGATGAAC GAAATAGACA GATCGCTGAG
1081 ATAGGTGCTT CACTGATTAA GCATTGGTAA CTGTCAGACC AAGTTTACTC ATATATACTT
1141 TAGATTGATT TAAAACCTCA TTTTAAATTT AAAAGGATCT AGGTGAAGAT CCTTTTTGAT
1201 AATCTCATGA CCAAATCCC TTAACGTGAG TTTTCGTTCC ACTGAGCGTC AGACCCCGTA
1261 GAAAAGATCA AAGGATCTTC TTGAGATCCT TTTTTTCTGC GCGTAATCTG CTGCTTGCAA
1321 ACAAAAAAAC CACCGCTACC AGCGGTGGTT TGTTTGCCGG ATCAAGAGCT ACCAACTCTT
1381 TTTCCGAAGG TAACTGGCTT CAGCAGAGCG CAGATACCAA ATACTGTCTT TCTAGTGTAG
1441 CCGTAGTTAG GCCACCACTT CAAGAACTCT GTAGCACCGC CTACATACCT CGCTCTGCTA
1501 ATCTGTAC CAGTGGCTGC TGCCAGTGGC GATAAGTCGT GTCTTACCGG GTTGGACTCA
1561 AGACGATAGT TACCGGATAA GGCGCAGCGG TCGGGCTGAA CGGGGGGTTT GTGCACACAG
1621 CCCAGCTTGG AGCGAACGAC CTACACCGAA CTGAGATACC TACAGCGTGA GCTATGAGAA
1681 AGCGCCACGC TTCCCGAAGG GAGAAAGCGG GACAGGTATC CGGTAAGCGG CAGGGTCCGA
1741 ACAGGAGAGC GCACGAGGGA GCTTCCAGGG GGAAACGCCT GGTATCTTTA TAGTCTGTG
1801 GGGTTTCGCC ACCTCTGACT TGAGCGTCGA TTTTGTGAT GCTCGTCAGG GGGGCGGAGC
1861 CTATGGAAAA ACGCCAGCAA CGCGCCTTTT TTACGGTTCC TGGCCTTTTG CTGGCCTTTT
1921 GCTCACATGT TCTTTCCTGC GTTATCCCCT GATTCTGTGG ATAACCGTAT TACCGCCTTT
1981 GAGTGAGCTG ATACCGCTCG CCGCAGCCGA ACGACCGAGC GCAGCGAGTC AGTGAGCGAG
2041 GAAGCGGAAG AGCGCCAAT ACGCAAACCG CCTCTCCCCG CGCGTTGGCC GATTCATTAA
2101 TGCAGCTGGC ACGACAGGTT TCCCAGTGG AAAGCGGGCA GTGAGCGCAA CGCAATTAAT
2161 GTGAGTTACC TCACTCATTG GGCACCCAG GCTTTACACT TTATGCTTCC GGCTCCTATG
2221 TTGTGTGGAA TTGTGAGCGG ATAACAATTT CACACAGGAA ACAGCTATGA CCATGATTAC
2281 GCCAAGCGCG CAATTAACCC TCACTAAAGG GAACAAAAGC TGGAGCTCCA CCGCGGTGGC
2341 GGCCGCTCTA GAACTAGTGG ATCCAAGAAA TGATGGTAAA TGAAATAGGA AATCAAGGAG
2401 CATGAAGGCA AAAGACAAAT ATAAGGGTCG AACGAAAAAT AAAGTGAAAA GTGTTGATAT
2461 GATGTATTTG GCTTTGCGGC GCCGAAAAAA CGAGTTTACG CAATTGCACA ATCATGCTGA
2521 CTCTGTGGCG GACCCGCGCT CTTGCCGGCC CGGCATAAC GCTGGGCGTG AGGCTGTGCC

2581 CGGCGGAGTT TTTTGCCT GCATTTTCCA AGGTTTACCC TGCCTAAGG GGCAGATTG
2641 GAGAAGCAAT AAGAATGCCG GTTGGGGTTG CGATGATGAC GACCACGACA ACTGGTGTCA
2701 TTATTTAAGT TGCCGAAAGA ACCTGAGTGC ATTTGCAACA TGAGTATACT AGAAGAATGA
2761 GCCAAGACTT GCCAGACGCG AGTTTGCCGG TGGTGCGAAC AATAGAGCGA CCATGACCTT
2821 GAAGGTGTGA CGCGCATAAC CGCTAGAGTA CTTTGAAGAG GAAACAGCAA TAGGGTTGCT
2881 ACCAGTATAA ATAGACAGGT ACATACAACA CTGGAAATGG TTGTCTGTTT GAGTACGCTT
2941 TCAATTCATT TGGGTGTGCA CTTTATTATG TTACAATATG GAAGGGAAC TTTACTTCT
3001 CCTATGCACA TATATTAATT AAAGTCCAAT GCTAGTAGAG AAGGGGGTA ACACCCCTCC
3061 GCGCTCTTTT CCGATTTTTT TCTAAACCGT GGAATATTTT GGATATCCTT TTGTTGTTT
3121 CGGGTGTACA ATATGGACTT CCTCTTTTCT GGCAACCAA CCCATACATC GGGATTCCCTA
3181 TAATACCTTC GTTGGTCTAC CTAACATGTA GGTGGCGGAG GGGAGATATA CAATAGAACA
3241 GATACCAGAC AAGACATAAT GGGCTAAACA AGACTACACC AATTACTG CCTCATTGAT
3301 GGTGGTACAT AACGAATAA TACTGTAGCC CTAGACTTGA TAGCCATCAT CATATCGAAG
3361 TTTACTACC CTTTTTCCAT TTGCCATCTA TTGAAGTAAT AATAGGCGCA TGCAACTTCT
3421 TTTCTTTTTT TTTCTTTTCT CTCTCCCCG TTGTTGTCTC ACCATATCCG CAATGACAAA
3481 AAAAATGATG GAAGAGACTA AAGGAAAAA TTAACGACAA AGACAGCACC AACAGATGTC
3541 GTTGTTCAG AGCTGATGAG GGGTATCTTC GAACACACGA AACTTTTTCC TTCCTTCATT
3601 CACGCACACT ACTCTTAAT GAGCAACGGT ATACGGCCTT CTTCCAGTT ACTTGAATTT
3661 GAAATAAAAA AAGTTTCCG CTTTGTATC AAGTATAAAT AGACCAGCAA TTATTAATCT
3721 TTTGTTTCTT CGTCATTGTT CTCGTTCCCT TTCTTCCTTG TTTCTTTTTT TGCACAATAT
3781 TTCAAGCTAT ACCAAGCATA CAATCAACTA AAATGACGGC TCTCGCATAT TACCAGATCC
3841 ATCTGATCTA TACTCTCCA ATTCTAGGCC TATTAGGACT CTGACATCT CCTATCTTGA
3901 CGAAATTTGA CATCTACAAG ATAAGTATAT TGGTATTCAT TGCTTTCTCA GCTACAACAC
3961 CTTGGGACAG TTGGATTATT AGAAACGGCG CATGGACTTA CCCATCAGCT GAATCTGGAC
4021 AAGGTGTGTT TGGCACATTT CTGGATGTTT CTTATGAGGA GTACGCTTTC TTCGTTATAC
4081 AGACCGTCAT CACCGACTG GTTACGTCT TGGCAACGAG AACTTACTA CCAAGCTTAG
4141 CCTTGCCAAA GACAAGATCT TCTGCTTGT CATTGGCTCT GAAGGCGCTT ATCCCTCTTC
4201 CTATCATCTA CTGTTTACA GCACATCCAT CACCATCTCC AGACCCATTG GTTACCGATC
4261 ACTATTTCTA TATGCGTGCA TTGTCTTGT TGATAACACC ACCAACAATG TTGTTAGCAG
4321 CCCTCTCAGG TGAATATGCC TTTGATTGGA AATCTGGCAG AGCAAAGTCA ACGATCGCAG
4381 CTATTATGAT CCAACTGTT TACCTATTT GGGTTGACTA CGTTGCTGTT GGACAAGATT
4441 CATGGAGTAT TAATGATGAG AAGATCGTCG GTTGGAGATT AGGAGGCGTA TTGCCAATTG
4501 AAGAGGCTAT GTTCTTTCTG TTAACAAATC TAATGATTGT TCTAGACTT TCTGCTTGTG
4561 ACCATACGCA AGCTCTATAC TTATTGCATG GTAGAACCAT ATACGGTAAT AAGAAGATGC
4621 CATCCAGCTT TCCACTAATT ACTCCACCTG TTCTAAGCCT ATTCTTCAGT TCAAGACCTT
4681 ACTCCTCTCA ACCTAAACGA GACTTGAGT TAGCAGTCAA ACTGCTGGAA GAGAAGTCAA
4741 GATCTTTCTT TGTGGCCTCT GCTGGATTTT CTTCCGAAGT AAGAGAAAGA CTTGTAGGGC
4801 TTTATGCATT CTGTAGAGTC ACTGACGATC TCATTGATTC TCCAGAGGTG TCATCAAACC
4861 CACATGCTAC TATCGATATG GTTCTGACT TCCTTACTCT ACTCTTTGGT CCTCCACTGC
4921 ACCCAAGCCA ACCAGATAAG ATATTGTCCT CTCCATTATT ACCTCCAAGT CATCCATCCC
4981 GTCCTACAGG CATGTACCCA TTGCCACCTC CACCTTCATT ATCTCCTGCG GAACTTGTTC
5041 AATTTCTGAC GGAAAGAGTG CCTGTCCAAT ACCACTTTGC CTTTAGATTG CTTGCTAAGT
5101 TACAAGGGTT GATTCCAAGA TATCCATTGG ACGAACTATT GAGAGGTTAC ACTACTGACT
5161 TGATATTTCC TTTATCCACA GAAGCTGTGC AGGCTCGTAA GACTCCTATT GAAACAAC TG

5221 CCGATCTGTT GGATTACGGA CTTTGTGTGG CAGGTTGAGT AGCCGAATTG TTAGTGTACC
5281 TGTCTTGGGC ATCTGCGCCA TCCCAAGTTC CAGCCACTAT TGAAGAGAGG GAAGCAGTAC
5341 TTGTTGCTAG CCGAGAAATG GGTACTGCAC TTCAATTAGT AAACATAGCT AGAGATATCA
5401 AAGGTGACGC AACAGAAGGT AGATTCTACC TTCCACTTTC CTTCTTTGGT CTAAGAGATG
5461 AAAGTAAACT TGCCATACCT ACAGATTGGA CAGAACCAAG ACCTCAAGAT TTCGATAAAC
5521 TATTATCTTT ATCTCCTTCA AGTACTCTCC CTAGTTCAA TGCCTCTGAA TCTTTCAGAT
5581 TTGAATGGAA GACTTATTCA TTACCATTAG TGGCCTACGC AGAGGATTTG GCTAAACATT
5641 CATACAAAGG TATCGATAGA CTACCAACAG AAGTTCAAGC CGGCATGCGA GCAGCCTGCG
5701 CTTCCTACTT ACTCATCGGA AGAGAAATCA AAGTTGTCTG GAAAGGCGAT GTCGGTGAGA
5761 GAAGGACAGT TGCTGGATGG AGAAGAGTAC GGAAAGTCTT GAGTGTGGTC ATGAGCGGAT
5821 GGAAGGGCA GTAAGGTACC CAATTCGCCC TATAGTGAGT CGTATTACGC GCGCTCACTG
5881 GCCGTGTTTT TACAACGTCG TGACTGGGAA AACCCCTGGCG TTACCCAACCT TAATCGCCTT
5941 GCAGCACATC CCCCTTTTCG CAGCTGGCGT AATAGCGAAG AGGCCCGCAC CGATCGCCCT
6001 TCCCAACAGT TGCGCAGCCT GAATGGCGAA TGGCGCGACG CGCCCTGTAG CGGCGCATT
6061 AGCGCGGCGG GTGTGGTGGT TACGCGCAGC GTGACCGCTA CACTTGCCAG CGCCCTAGCG
6121 CCCGCTCCTT TCGCTTTCTT CCCTTCCTTT CTCGCCACGT TCGCCGGCTT TCCCCGTCAA
6181 GCTCTAAATC GGGGGCTCCC TTTAGGGTTC CGATTTAGTG CTTTACGGCA CCTCGACCCC
6241 AAAAACTTG ATTAGGGTGA TGGTTCACGT AGTGGGCCAT CGCCCTGATA GACGGTTTTT
6301 CGCCCTTTGA CGTTGGAGTC CACGTTCTTT AATAGTGGAC TCTTGTTCCTA AACTGGAACA
6361 AACTCAACC CTATCTCGGT CTATTCTTTT GATTTATAAG GGATTTTGCC GATTTCGGCC
6421 TATTGGTTAA AAAATGAGCT GATTTAACAA AAATTTAACG CGAATTTTAA CAAAATATTA
6481 ACGTTTACAA TTTCTGATG CGGTATTTTC TCCTTACGCA TCTGTGCGGT ATTTACACCC
6541 GCATAGGCAA GTGCACAAAC AATACTTAAA TAAATACTAC TCAGTAATAA CCTATTTCTT
6601 AGCATTTTTG ACGAAATTTG CTATTTTGTT AGAGTCTTTT ACACCATTTG TCTCCACACC
6661 TCCGCTTACA TCAACACCAA TAACGCCATT TAATCTAAGC GCATCACCAA CATTTTCTGG
6721 CGTCAGTCCA CCAGCTAACA TAAAATGTAA GCTTTCGGGG CTCTCTTGCC TTCCAACCCA
6781 GTCAGAAATC GAGTTCCAAT CAAAAGTTC ACCTGTCCCA CCTGCTTCTG AATCAAACAA
6841 GGAATAAAC GAATGAGGTT TCTGTGAAGC TGCACTGAGT AGTATGTTGC AGTCTTTTGG
6901 AAATACGAGT CTTTAAATAA CTGGCAAACC GAGGAACTCT TGGTATTCTT GCCACGACTC
6961 ATCTCCATGC AGTTGGACGA TATCAATGCC GTAATCATTG ACCAGAGCCA AAACATCCTC
7021 CTTAGGTTGA TTACGAAACA CGCCAACCAA GTATTTGCGA GTGCCTGAAC TATTTTTATA
7081 TGCTTTTACA AGACTTGAAA TTTTCCTTGC AATAACCGGG TCAATTGTTT TCTTCTATT
7141 GGCACACAT ATAATACCCA GCAAGTCAGC ATCGGAATCT AGAGCACATT CTGCGGCCCTC
7201 TGTGCTCTGC AAGCCGCAA CTTTCACCAA TGGACCAGAA CTACCTGTGA AATTAATAAC
7261 AGACATACTC CAAGCTGCCT TTGTGTGCTT AATCACGTAT ACTCACGTGC TCAATAGTCA
7321 CCAATGCCCT CCCTCTTGGC CCTCTCCTTT TCTTTTTTCG ACCGAATTA TTTCTAATCG
7381 GCAAAAAAAG AAAAGCTCCG GATCAAGATT GTACGTAAGG TGACAAGCTA TTTTTCAATA
7441 AAGAATATCT TCCACTACTG CCATCTGGCG TCATAACTGC AAAGTACACA TATATTACGA
7501 TGCTGTCTAT TAAATGCTTC CTATATTATA TATATAGTAA TGTCGTTTAT GGTGCACTCT
7561 CAGTACAATC TGCTCTGATG CCGCATAGTT AAGCCAGCCC CGACACCCGC CAACACCCGC
7621 TGACGCGCCC TGACGGGCTT GTCTGTCTCC GGCATCCGCT TACAGACAAG CTGTGACCGT
7681 CTCCGGGAGC TGCATGTGTC AGAGGTTTTT ACCGTCATCA CCGAAACGCG CGAGACGAAA
7741 GGGCCTCGTG ATACGCCTAT TTTTATAGGT TAATGTCATG ATAATAATGG TTTCTTAGGA
7801 CGGATCGCTT GCCTGTAAC TACACGCGCC TCGTATCTTT TAATGATGGA ATAATTTGGG

7861 AATTACTCT GTGTTTATTT ATTTTATGT TTTGTATTG GATTTTAGAA AGTAAATAAA
7921 GAAGGTAGAA GAGTTACGGA ATGAAGAAAA AAAAATAAAC AAAGGTTTAA AAAATTTCAA
7981 CAAAAGCGT ACTTACATA TATATTTATT AGACAAGAAA AGCAGATTAA ATAGATATAC
8041 ATTGATTAA CGATAAGTAA AATGTAAAAT CACAGGATTT TCGTGTGTGG TCTTCTACAC
8101 AGACAAGATG AAACAATTTC GCATTAATAC CTGAGAGCAG GAAGAGCAAG ATAAAAGGTA
8161 GTATTTGTTG GCGATCCCC TAGAGTCTTT TACATCTT

Only the synthesized DNA fragment (in red) has been sequence verified. We do not guarantee the vector sequence.