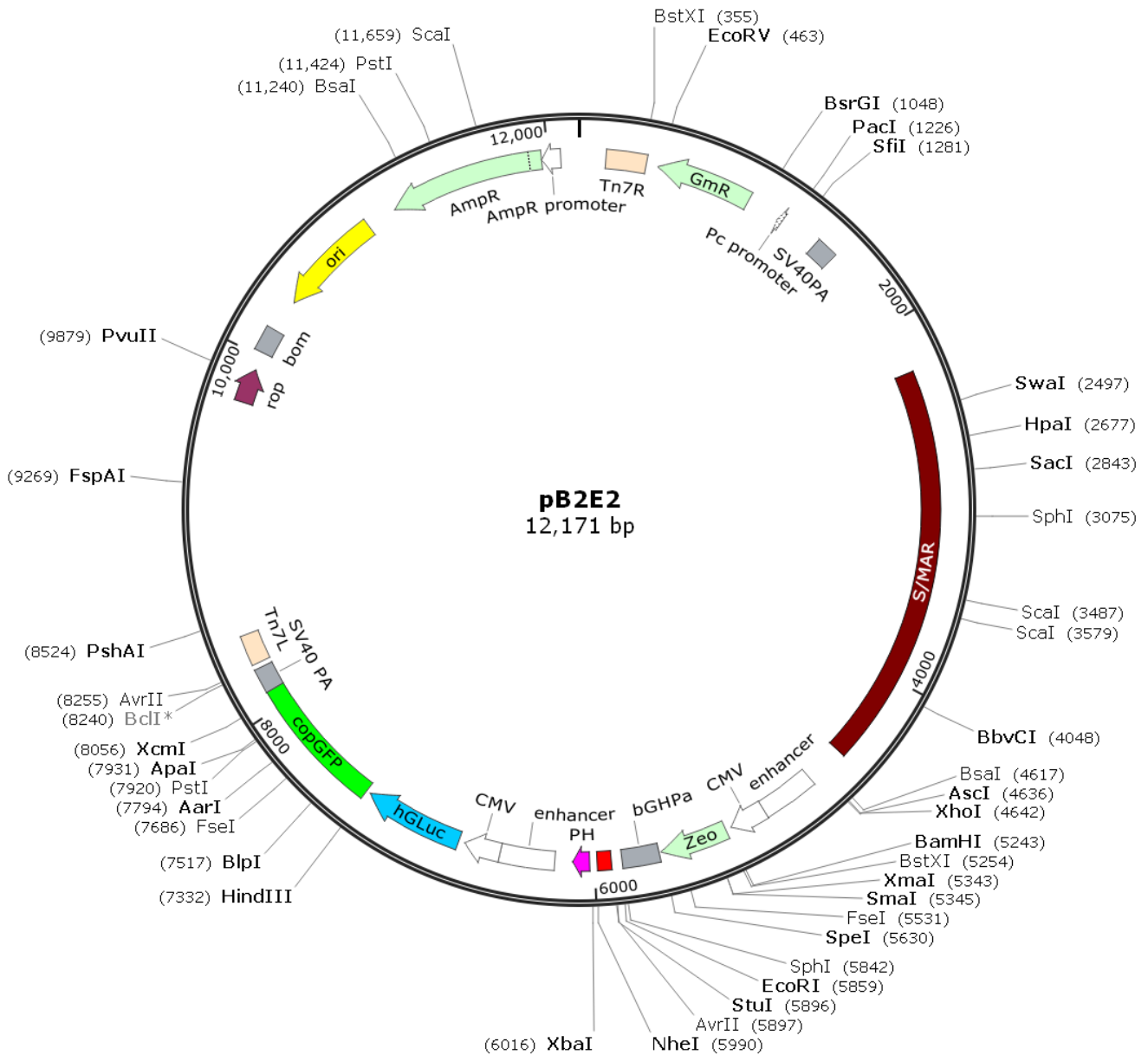


Vector: pB2E2 (based on pBG2Luc-Link)

Antibiotic Selection: AmpR and Gentamycin (GmR)

Creator(s): Hui Zhang @ Molecular Oncology Laboratory of The University of Chicago Medical Center

Date of Construction: November 6, 2023



pB2E2 Full-length Sequence and Map

gaattg
GCGAGGAAGCGGAAGAGCGCCTGATGCGGTATTTTCTCCTTACGCATCTGTGCGGTATTTACACCCGAGACCAGCCGCGTAACTGGCAAATTCGGTTACGGTTGAGTAATAAATGGATGCCCTGCGTAAGCGGGT
gtg
ggcggaacaataaagtctt
aaactgaacaaa

atagatctaaactatgacaataaagtctt
aaactagacagaatagttgtaaaactgaaatcagtc
ccagttatgctgtgaaaaagc
atactgga
actttt
gttatggtctaaagcaaacctcttca
ttttctgaagtgc
aaattgcccgtcgtat
taaagaggggcgtggccaagggc
atggttaaag

actatattc
GCGGCGTGTGTGACAATTTACCGAACCACTCCGCGGGGAAAGCCGATCTCGGCTTGAACGAATGTTAGTGCGGGTACTT
GGGTCGATATCAAAGTGCATCACTTCTTCCCGTATGCCCACTTTGTATAGAGAGCCACTGCGGGATCGTACC
GTAATCTGCTTGCACGT
AGATCACATAAGCACCAAGCGGTTGGCC
TCA
TGTGAGGAGATTGATGAGCGCGGTGGCAATGCCCTGCC
TCCGGTGC
TCCGCGGAGAC
TGCGAGATC
ATAGATCTCACTACGCGGCTGCTCAAACCTGGGCAGAACGTAAGCCGCGAGAGCGCAACAACCGCTTCTTGGT
CGAAGGCAGCAAGCGCGATGAATGTCTTACTACGGAGCAAGTTCCCGAGGTAATCGGAGTCCGCTGATGTTGGGAGT
AGGTGGCTAC
GTCTCGAAC
TCAAGAGCAGCCCGCATGGATTTGACTTGGTCAGGCGCGAGCCTACATGTGCGAATGATGCC
CATACTTGA

GCCACTAAC
TTTGGTTT
TAGGCGACTGCCCTGCTGCGTAACATCGTTGCTGCTGCATACATCGTTGCTGCTCCATAACATCAAACATCG
ACCACCGCGTAACCGCTTGTCTGCTTGGATGCCGAGGCATAGACTGTCAAAAAACAGTCATAAACAAAGCCATGAAAACCGCGACTGCG
CCGTTACCACCGCTGCGTTCGGTCAAGGTTCTGGACCAGTTGCGTGAGCGCATACGCTACTTGCATTACAGT
TTACGA
ACCGAACAGGCTT
ATG
TCAACTGGGTT
CGTGCC
TTCATCCGTTTC
CACggtTTAATTAAG
TTTCT
ctccaaaaaagcctcctcactacttctggaatagctcagag
gccgagggcgccctggcctctgcataaataaaaaaattagtcagccatggggcgagaaatgggagggaactgggagggttagggcgagg
tggggcgagttagggcgaggatagcttagagccagacatgataagatacattgatgagtttggacaaaaccaactagaatgcagtgaaaaa
aatgctttatgtgaaatttgtgatgctattgctttatgttaaccattataagctgcaataaacaagttcctctcactctctgatattc
atctctttgcaagtataaactcaactgaataaagaatgacatgaactactctgtagagattttccacactgactgaaagggctgagggat
tctctagtaccagactcacacaacagacgagcgacacactacttgaagcactcaaggcaagctcaggcgaggcgcccaaggggagat
ccgactcgtctgagggcgaagggcggagacgagggaagggccgagagcggcgagcaggcgaggcgggaaggaaaggtccgctggattgagggcc
gaagggacgtagcagaaggacgtcccgcgcagaatccaggtggcaacacaggcgagcagcaaggaaaggacgatgatttccccgacaaca
ccacggaattgtcagtgcccaacagccgagccctgtccagcagcgggcaaggcaggcgccgatgagttccgctggcaatagggagggg
gaaagcgaaagtcccggaaaggagctgacaggtgggcaatgcccacaccagtggggggtgctgagcaaacacagtgacacaccagcca
cgttgctgacaacgggcccacaactcctcataagagacagcaaccaggattatacaaggaggagaaaaatgaaagccatacgggaagcaa
tagcatgatacaaaaggtcaaaagcagcgtatccacatagcgtaaaagggaacacatagttagaataccagtc
aatcttccacaattttgtaatccagagctctagcagcaaggtcgccacgcacaagatcaatattacaatcagtc
atctctcttttagcaataaaaaaggtgaaa
aattacattttaaaaatgacaccatagacgatgtatgaaaataatctacttgaaaataatctaggcaaaagaagtgcaagactgttacca
gaaaacttacaattgtaaatgagaggttagtgaagatttaaatgaatgaagatctaaataaacttataaattgtgagagaaattaatgaa
tgtctaagttaatgcagaaacggagagacataactatattcagactaaaagacttaatatgtgaaggtatatttcttccacataaat
ttgtagtc
aatatgttccccc
aaaaaagctgtttgttaacttgccaacctcattct
aaaaatgtatataagaagcccaaaaagacaataaca
aaatattctgtgagaacaatgggaaagaatgttccactaaatacaagatttagagcaaaagcagtgagtggtgggtagagacagtgag
gctgataaaaatagatgagtagagacagaacagaccctatgtatgtgtaagtgcctatgaaaaaatatggcatttacaattgggaaatag
atgactcttttcttttttagaaaaacagggaaatataatttataatgttaaaaaataaaagggaaccatagtcataccatacacaaaaa
attccagtgaaattataagctctaaatggagaagggcaaaactttaaactcttttagaaaaataatataagaagc
atgcatgacttcagtgtagagaaaaatttcttatgactcaaaagcctaaaccacaagaaagattgttaattagattgcatgaatataa
agacttatttttaaaattaa
aaaaccattaaagaaagtcagggccatagaatgacagaaaatatttgcaacaccccgtagaaagagaattgtaatatgcagattata
aaaaaga
agtcttacaatcagtaaaaaataaaactagacaaaaatgtgaacagatgaagagaaaactctaaataatcattacacatgagaaaactcaa
tctcagaataacagagaactatcattgcataatacactaaattagagaaatataaaaaggctaagtaacatctgtggcaatattgatggtata
taaccttgatagatgtagtagagacaagactttaccctatgggcttctccccaaaccctaccaccagtaataatcagcaaaaataact
ttaaaaaccattaccctatactaccagctactcctcaaaactgtcaaggtcatcaaaaaataagaaaagctgaggaactgtcaaaaactaa
gaggaacccaaggagacatgagaattataatgtaatgtggcattctgaatgagatccagaaacagaaaaagaaacagtagctaaaaaactaat
gaaatataaataaagtttgaaacttagtttttttaaaaaagagtagcattaacacggcaaaagccatttccatatttcttgaacattaa
gtacaagtctataaataaaaaatttttaaatgtagctggaacattgccagaaacagaagtacaacagctatctgtgctgtcgcctaacta
tccatagctgattggtc
aaaatgagatacatcaacgctcctccatgtttttgttttcttttaaatgaaaaacttattttttaaagag
agtttcaggttcagatagcaaaatgagaggaaggtacacattcaagctgaggaagtttctctattcctagtttactgagagatgcatcag
aatggggtgtaaaatttctcaaatgctttttctgtgctcatcaaatagaccatgtgattttctctttaaactggtgagggagcaaaattac
gttaattgattttcaaacggtgaaaccaccttacatatactggaataaattctacttggtggtgtatatttttgatacattcttggt
tctttttgctaataattttgtgaaaatggttgtatctttgttcagtagagatattgggtctgtgttttcttttctgtaatgtcattttct
agttccggtat
aaagtaagctggcctagtg
aatgatttaggaagtat
tccctctgctctgtctctgaaagagattgtgaaaggtg
atacaatttttttctttaaataattgataggatcatcaggcaccgggcttgggggcatgcaccagggtgcgaggtccttcgggcacctc
gacgtcggcggtagcgggtgaaagcagcggcctcgtagaagggagggttgcggggcgagggtctccaggaaggcgggccacccggcgcg
CTCGAGagatctGTCGACTAATAGTAATCAATTACGGGGTCAATGTTTCATAGCCCATATATGGAGTTCCCGCTTACATAACTTACGGTAA
ATGGCCCGCCTGGCTGACCGCCCAACGACCCCGCCATTGACGTCAATAATGACGTATGTTCCCATAGTAACGCCAATAGGGACTTTCCA
TTGACGTCAATGGGTGGAGTATTTACGGTAAACTGCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTACGCCCCCTATTGACGTC
AATGACGGTAAATGGCCCGCCTGGCATTATGCCAGTACATGACCTTATGGGACTTTTCTACTTGGCAGTACATCTACGTATTAGTCATCG
CTATTACCATGGTGATGCGGTTTTGGCAGTACATCAATGGGCGTGGATAGCGGTTTTGACTACGGGGATTTCCAAGTCTCCACCCCATGGA
CGTCAATGGGAGT
TTGTTTGGCACAAAATCAACGGGACTTTCCAAAATGTCGTAACAACCTCCGCCCATTTGACGCAATGGGCGGTAG
CGTGTACGGTGGGAGGCTATATAAGCAGAGCTGGTTTAGTGAACCGTCAGATCCGGATCCaccaccATGGCCAAGTTGACCAGTGCCTT
CCGGTCTCACCGCGCGGCTGCGCCGGAGCGGTTCAGTTCTGAGCCGACCGGCTCGGGTCTCCCGGGACTCGTGGAGGACGACTTCG
CCGGTGTGGTCCGGGACGACGTGACCCTGTTTCATCAGCGCGGTCCAGGACCAGGTGGTGCCGGACAACACCTTGGCCTGGGTGTGGGTGCG
CGGCTGGACGAGCTGTACGCCGAGTGGTTCGAGGTCGTGTCCACGAACCTCCGGGACCGCTCCGGGCCGGCCATGACCGAGATCGGCGAG
CAGCCGTGGGGCGGGAGTTGCCCTGCGCACCCGCGCCGCAACTGCGTGACTTCGTGGCCGAGGAGCAGGACTGAAC
TAGTcctcgac
tgtgccttctagttgccagccatctgttttggccctccccctgcttctctgaccctggaaggtgccactcccaggtgcttctcctaa
taaaatgaggaattgcctgcctgctgagtaggtgctcattcttcttctgggggtgggtggggcaggacagcaaggtgggaggatggg
aagcaatagcaggtcgtgggatAAGCTATTgAATTCAGGATAACAGGGTAAATGTCGAATTAATAGCCCTAGG
ATGCATACATAAC
AGGAAGAAAAATGC
CCCGGTTAC
CAGGGC
AATTAATTAATCAAC
CGTA
ACCGATTTTGCAGGTTACGGCGGCTAGC
TTATTACCCCTG

TTATCCCTA**TC**TAGAggtcgacATCATGGAGATAATTAATAATGATAACCATCTCGCAAATAAATAAGTATTTTACTGTTTTCTGTAACAGTTT
TGTAAATAAAAAACCTATAAATattccggtattattcataccgtcccaccatcggggcg**GGATCTCGAC**TAATAGTAATCAATTACGGGGTC
ATTAGTTCATAGCCCATATATGGAGTTCGCGTACATAACTACGGTAAATGGCCCGCTGGCTGACCGCCCAACGACCCCCGCCATTG
ACGTCAATAATGACGTATGTTCCTATAGTAACGCCAATAGGACTTTCATGTGACGTCAATGGTGGAGTATTTACGGTAACTGCCCAT
TGGCAGTACATGAAGTGTATCATATGCCAAGTACGCCCCATTAGCTCAATGACGGTAAATGGCCCGCTGGCATATAGCCAGTACAT
GACCTTATGGGACTTTCTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGTATGCGGTTTTGGCAGTACATCAATGGG
CGTGGATAGCGGTTTACTCACGGGGATTTCCAAGTCTCCACCCATTGACGTCAATGGGAGTTTGTGGCACCAAAATCAACGGGACT
TTCCAAAATGTGTAACAACCTCGCCCCATTGACGCAAATGGGCGGTAGGCGGTACGGTGGGAGGTCTATATAAGCAGAGCTggtttagt
gaaccgtcagatcc**GGATCT**accacc**ATG**GGAGTCAAAGTCTGTGGCCCTGATCTGCATCGCTGTGGCCGAGGCCAAGCCACCGAGAA
CAACGAAGACTTCAACATCTGTGGCCGTGGCCAGCAACTCGCGACCACGGATCTCGATGCTGACCGCGGGAAGTTGCCCGGCAAGAAGCTC
CGCTGAGGTGCTCAAAGAGATGGAAGCAATGCCCGAAAAGCTGGCTGCACAGGGGCTGTCTGATCTGCCTGTCCACATCAAGTGC
CGCCCAAGATGAAGAAGTTTCAATCCAGGACGCTGCCACACCTACGAAGCGACAAAGAGTCCGACAGGGCGGCATGCCGAGGCGATCGT
CGACATTCCTGAGATTCTGGGTTCAAGGACTTGGAGCCCATGGAGCAGTTCATCGCACAGGTGATCTGTGTGGACTGCACAACCTGGC
TGCCCTCAAAGGGCTTGCCAACGTGCAGTGTCTGACCTGCTCAAGAAGTGGTGGCCGACCGCTGTGCGACCTTTGCCAGCAAGATCCAGG
GCCAGGTGGACAAGATCAAGGGGGCCGGTGGTGACggagggcggcgatcagaagcttcc**ATGG**GAGAGCGACGAGAGCGGCCATGTGCCCGC
CATGGAGATCGAGTGCAGCATCACCGGCACCTGAACCGCGTGGAGTTCGAGCTGGTGGGCGGCGGAGAGGGCACCCCCAAGCAGGGCCGC
ATGACCAACAAGATGAAGAGCACCAAAGGGCCCTGACCTTCAGCCCTACTGCTGAGCCACGTGATGGGCTACGGCTTCTACCATTCCG
GACCTACCCAGCGGCTACGAGAACCCTTCTGACCGCATCAACAACCGGGCTACACCAACCCCGCATCGAGAAGTACGAGGACCGG
CGGCGTGTGCAGTGTGAGCTTACGCTACCGCTACGAGGCCGGCCGCTGATCGGCGACTTCAAGGTGGTGGGCACCGGCTTCCCCGAGGAC
AGCGTGTATCTTACCAGACAAGATCATCCGAGCAACGCCACCGTGGAGCACCCTGCACCCCATGGGCGATAACGTGCTGGTGGGCAGCTTCG
CCCGCACCTTACGCTGCGCAGCGGCGGCTACTACAGCTTCGTGGTGGACAGCCACATGCATCTCAAGAGCGCCATCCACCCAGCATCCT
GCAGAACGGGGCCCCATGTTCCGCTTCCGCGCGTGGAGGAGCTGCACAGCAACACCGAGCTGGGCATCGTGGAGTACCAGCACGCCTT
AAGACCCCATCGCCTTCGCCAGATCCCGCGCTCAGTCTCCAATCTGCCGTGGACGGCACCGCCGGACCCCGGCTCCACCCGATCTCGCT
AAGAT**aac**TTGTTTATTGACGCTATAAATGGTTACAAATAAAGCAATAGCATCACAAATTTCAAATAAAGCATTTTTTTCATCGTATC
TAGTTGTGGTTTGTCCAACATCATCAATGTATCTAATCATCTGATCTGATCAACTTTGAGCCTTAGGATCCgaaccagataagtga
aatctagttccaaactatlttgtcattlttaatttctgtattagcttacgacgctacaccagttcccatctatlttgtcactcttccta
aataatccttaaaaactccatttccaccctcccagttcccaactatlttgtccgcccacaGCGGGGCATTTTTCTTCCTG**TCGA**
CCGATGCCCTTGAGAGCCTTCAACCCAGTCAGCTCCTTCCGGTGGGCGGGGCATGACTATCGTCCGCGCACTTATGACTGTCTTCTTTA
TCATGCAACTCGTAGGACAGGTGCCGGCAGCGCTCTGGGTCATTTTCCGGCAGGACCGCTTTCGCTGGAGCGGACGATGATCGGCCTGTC
GCTTGGCGTATTCGGAATCTTGCACGCCCTCGCTCAAGCCTTCTGCTACCTGCTCCCGCCACCAACGTTTCGGCGAGAAGCAGGCCATTATC
GCCGGCATGGCGGCC**gggccc**ACGCGCTGGGTACGCTTGTGGCT**ccgga**CGCAGGCTGGATGGCTTCCCATTATGATTCTTCT
CGCTTCCGGCGCATCGGATCCCGCGTTCAGGCCATGCTGTCCAGCGAGGTAGATGACGACCATCAGGACAGCTTACAGGATTCGCTC
GCGGCTCTTACCAGCCTAATTCGATCATTGGACCGCTGATCGTACGGCGATTTATGCCGCTCGGCGAGCACATGGAACGGGTGGCAT
GGATTGTAGGCGCCGCTTATACCTTGTCTGCCTCCCCGCTTGCCTCGCGGTGCATGGAGCCGGCCACCTCGACCTGAATGGAAGCCGG
CGGCACCTCGTAAACGATTACCACTCCAAGAAATGGAGCAATCAATCTTGCAGGAACTGTGAATGCCAAACCAACCCCTTGGCAGA
ACATATCCATCGCGTCCGCCATCTCCAGCAGCCGACCGCGCATCTCGGGCAGCGTGGGTCTGGCCACGGGTGCGCATGATCGTGTCT
CCTGTCTGTTGAGGACCCGGCTAGGCTGGCGGGGTGCTTACTGTTAGCAGAATGAATCACCGATACCGGAGCGAACGTTGAAGCGACTGC
TGCTGCAAAACGCTCTGCGACTGAGCAACAACATGAATGGTCTTCGGTTTTCCGTTTTCGTTAAAGTCTGGAACCGGAAAGTACGAGC
GCACCATTATGTTCCGGATCTGCATCGCAGGATGCTGCTGGCTACCCTGTGGAACACCTACATCTGTATTAACGAAGCGCTGGCATTGACC
CTGAGTGATTTTTCTCTGGTCCCGCGCATCCATACCGCCAGTTGTTTACCCTCACAACTCCAGTAACCGGGCATGTTTATCATCAGTA
ACCGTATCGTGAAGCATCCTCTCTGTTTTCATCGGTATCATTACCCCATGAACAGAAATCCCCCTTACACGGAGGCATCAgtgaccaaac
aggaaaaaaccccttaacatggcccgtttatcagaagccagacattaacgcttctggagaaactcaacgagctggacgcgatgaaca
ggcagacatctgtgaatcgcttcaagaccagctgatgagcttaccgagctgctcgcgcttccggtgatgacggtgaaaacctctga
cacatgcagctcccggagacggtcacagcttgtctgtaagcggatgccggagcagacaagccgctcaggcgcgctcagcgggtgttggcg
ggtgtccggcgcagcgtaccagctacgtagcgtacgaggtgacgcttaactatgcccgtacagagcagattgtactgaga
gtgcaccatagcgggtgtaataaccgacagatgcgtaaggagaaaaataaccgctcagggcgtcttccgcttctcgtcactgactcgc
tgcgctcggctcgttccgctgcccggagcggatcagctcactcaaaggcggtaatacgggttatccacagaatcaggggataaacgcaggaaa
gaacatgtgagcaaaaggccagcaaaaggccaggaaccgtaaaaggccgcttgcgtggcgtttttccataggtccgccccctgacgag
catcacaanaaatcgacgctcaagtcagaggtggcgaaaccgacaggaactataaagataaccaggcgtttccccctggaagctccctcgtgc
gctctcctgttccgacctgcccgttaccggatacctgtccgcttctcctctcgggaagcgtggcgcttctcatagctcagcgtgtgag
tatctcagttcgggtagctcgtcgtcgaagctggctgtgtgcagcaaccctcagccgagccgctgcgcttatccggtaac
tactgtcttgatccaaccggtaagacacgacttatcccaactggcagcagccactggtaacaggattagcagagcgaggtatgtaggcg
gtgctacagagttcttgaagtggtggcctaactacggctacactagaaggacagttatgggtatctgcgctcgtgtaagccagttacctt
cggaaaaagagttggtagctcttgatccggcaaacaaaccaccgctggtagcgggtggttttttggttgcaagcagcagattacgcgcaga
aaaaaaggatctcaGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGA
GATTATCAAAAAGGATCTTACCTAGATCCTTTTAAATTAATAATGAAGTTTAAATCAATCTAAAGTATATATAGTAAACTTGGTCTGA
CAGTTACCAATGCTTAATCAGTGAAGCACCATCTCAGCGATCTGTCTATTTCGTTACCATCCATAGTTCGCTGACTCCCCGCTGCTGATATA
ACTACGATACCGGAGGCTTACCATCTGGCCAGTGTGCAATCCGCGAGTACCACGCTCACCGGCTCCAGATTATCAGCAATAA
ACCAGCCAGCCGGAAGGGCCGAGCGCAGAAGTGGTCTGCAACTTTATCCGCTCCATCCAGTCTATTAATTGTTGCCGGGAAGCTAGAGT
AAGTAGTTCGCCAGTAAATAGTTTGGCAACGTTGTTGCCATTGCTGCAGGCATCGTGGTGTACGCTCGTCTGTTGGTATGGCTTCATTC
AGCTCCGGTTCCCAACGATCAAGCGAGTTACATGATCCCCATGTTGTGCAAAAAGCGGTTAGCTCCTTCGGTCTCCGATCGTTGTCA
GAAGTAAGTTGCCCGCAGTGTATCACTCATGGTATGGCAGCACTGCATAATTCTCTTACTGTATGCCATCCGTAAGATGCTTTTTCTGT
GACTGGTGAAGTCAACCAAGTCAATCTGAGAATAGTGTATGCGGCGACCCGAGTGTCTTGGCCGGCTCAACACGGGATAATACCGCG
CCATATAGCAGAACTTTAAAGTGTCTCATCTTGGAAAACGTTCTTCGGGGCGAAAACCTCAAGGATCTACCCTGTTGAGATCCAGTT
CGATGTAAACCACTCGTGACCCAACTGATCTTCAGCATCTTTTACTTTCCACAGCCTTTCTGGGTGAGCAAAAACAGGAAGGCAAAAATGC
CGCAAAAAGGGAATAAGGGCGACCGAAAATGTTGAATACTCATACTCTTCTTTTTCAATATTATTGAAGCATTTATCAGGGTTATTGT
CTCATGAGCGGATACATATTTGAATGTATTTAGAAAATAAACAATAGGGGTTCCGCGCACATTTCCCCGAAAAGTGCCACCTgacgctT
AAGAAACCATTATTATCATGACATTAACCTATAAAAATAGGCGTATCACGAGGCCCTTTCGCTTCAA

Zero Cutters

Enzyme	Cuts	Recognition Sequence
Acc65I	0	GGTACC
AflIII	0	CTTAAG
AgeI	0	ACCGGT
AleI	0	CACNNNNGTG
AsiSI	0	GCGATCGC
BsiWI	0	CGTACG
BspDI	0	ATCGAT
BstBI	0	TTCGAA
BstEII	0	GGTNACC
Bsu36I	0	CCTNAGG
ClaI	0	ATCGAT
EcoNI	0	CCTNNNNNAGG
I-CeuI	0	TAACTATAACGGTCCTAAGGTAGCGAA
KpnI	0	GGTACC
MfeI	0	CAATTG
MluI	0	ACGCGT
NotI	0	GCGGCCGC
PI-PspI	0	TGGCAAACAGCTATTATGGGTATTATGGGT
PI-SceI	0	ATCTATGTCGGGTGCGGAGAAAGAGGTAATGAAATGG
PmeI	0	GTTTAAAC
PspXI	0	VCTCGAGB
RsrII	0	CGGWCCG
SbfI	0	CCTGCAGG
SrfI	0	GCCCGGGC