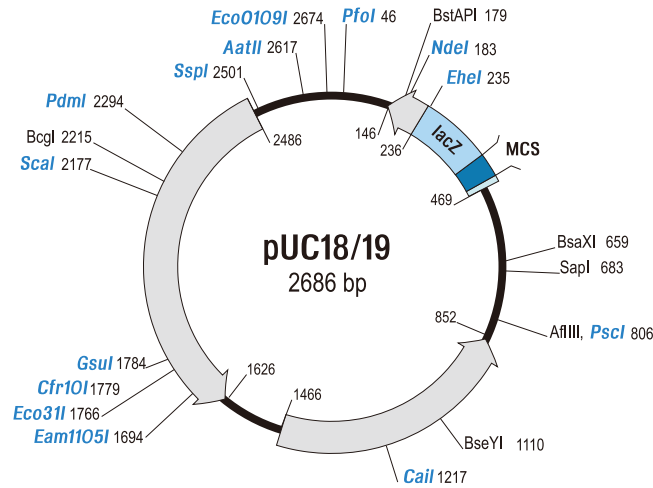


pUC18/19 Vector Map



Multiple Cloning Sites of pUC18:

M13 → 5' G TAA AAC GAC GGC CAG TGC CAA GCT TGC ATG CCT GCA GGT CGA CTC TAG AGG ATC CCC GGG TAC CGA GCT CGA ATT C
 3' C ATT TTG CTG CCG GTC ACG GTT CGA ACG TAC GGA CGT CCA GCT GAG ATC TCC TAG GGG CCC ATG GCT CGA GCT TAA G
 LacZ ← Val Val Ala Leu Ala Leu Ser Ala His Arg Cys Thr Ser Glu Leu Pro Asp Gly Pro Val Ser Ser Ser Asn

GT AAT CAT GGT CAT AGC TGT TTC CTG 3'
 CA TTA GTA CCA GTA TCG ACA AAG GAC 5'
 Thr Ile Met Thr Met
 ← M13

Multiple Cloning Sites of pUC19:

M13 → 5' G TAA AAC GAC GGC CAG TGA ATT CGA GCT CGG TAC CCG GGG ATC CTC TAG AGT CGA CCT GCA GGC ATG CAA GCT TGG
 3' C ATT TTG CTG CCG GTC ACT TAA GCT CGA GCC ATG GGC CCC TAG GAG ATC TCA GAT GGA CGT CCG TAC GTT CGA ACC
 LacZ ← Val Val Ala Leu Ser Asn Ser Ser Pro Val Arg Pro Asp Glu Leu Thr Ser Arg Cys Ala His Leu Ser Pro

CGT AAT CAT GGT CAT AGC TGT TTC CTG 3'
 GCA TTA GTA CCA GTA TCG ACA AAG GAC 5'
 Thr Ile Met Thr Met
 ← M13

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pUC18 Sequence (2686 bp)

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1   TCGCGCGTTT CGGTGATGAC GGTGAAAACC TCTGACACAT GCAGCTCCCG GAGACGGTCA
61  CAGCTTGTCT GTAAGCGGAT GCCGGGAGCA GACAAGCCCG TCAGGGCGCG TCAGCGGGTG
121 TTGGCGGGTG TCGGGGCTGG CTTAACTATG CGGCATCAGA GCAGATTGTA CTGAGAGTGC
181 ACCATATGCG GTGTGAAATA CCGCACAGAT GCGTAAGGAG AAAATACCGC ATCAGGCGCC
241 ATTCGCCATT CAGGCTGCGC AACTGTTGGG AAGGGCGATC GGTGCGGGCC TCTTCGCTAT
301 TACGCCAGCT GCGGAAAGGG GGATGTGCTG CAAGGCGATT AAGTTGGGTA ACGCCAGGGT
361 TTTCCCAGTC ACGACGTTGT AAAACGACGG CCAGTGCCAA GCTTGCATGC CTGCAGGTCC
421 ACTCTAGAGG ATCCCCGGGT ACCGAGCTCG AATTCGTAAT CATGGTCATA GCTGTTTCCT
481 GTGTGAAATT GTTATCCGCT CACAATTCCA CACAACATAC GAGCCGGAAG CATAAAGTGT
541 AAAGCCTGGG GTGCCTAATG AGTGAGCTAA CTCACATTAA TTGCGTTGCG CTCACTGCCC
601 GCTTTCAGT  CGGGAAACCT GTCGTGCCAG CTGCATTAAT GAATCGGCCA ACGCGCGGGG
661 AGAGGCGGTT TGCGTATTGG GCGCTCTTCC GCTTCCTCGC TCACTGACTC GCTGCGCTCG
721 GTCGTTCCGG TCGGGCGAGC GGTATCAGCT CACTCAAAGG CGGTAATACG GTTATCCACA
781 GAATCAGGGG ATAACGCAGG AAAGAACATG TGAGCAAAAG GCCAGCAAAA GGCCAGGAAC
841 CGTAAAAAGG CCGCGTTGCT GCGGTTTTTC CATAGGCTCC GCCCCCTGA  CGAGCATCAC
901 AAAAATCGAC GCTCAAGTCA GAGGTGGCGA AACCCGACAG GACTATAAAG ATACCAGGCG
961 TTTCCCCCTG GAAGCTCCCT CGTGCGCTCT CCTGTTCCGA CCCTGCCGCT TACCGGATAC
1021 CTGTCCGCCT TTCTCCCTTC GGAAGCGTG GCGCTTCTC ATAGCTCACG CTGTAGGTAT
1081 CTCAGTTCGG TGTAGGTCGT TCGCTCCAAG CTGGGCTGTG TGCACGAACC CCCCGTTCAG
1141 CCCGACCGCT GCGCCTTATC CGGTAACTAT CGTCTTGAGT CCAACCCGGT AAGACACGAC
1201 TTATCGCCAC TGGCAGCAGC CACTGGTAAC AGGATTAGCA GAGCGAGGTA TGTAGGCGGT
1261 GCTACAGAGT TCTTGAAGTG GTGGCCTAAC TACGGCTACA CTAGAAGAAC AGTATTTGGT
1321 ATCTGCGCTC TGCTGAAGCC AGTTACCTTC GGAAAAAGAG TTGGTAGCTC TTGATCCGGC
1381 AAACAAACCA CCGCTGGTAG CGGTGGTTTT TTTGTTTGCA AGCAGCAGAT TACGCGCAGA
1441 AAAAAAGGAT CTCAAGAAGA TCCTTTGATC TTTTCTACGG GGTCTGACGC TCAGTGGAAC
1501 GAAAACTCAC GTTAAGGGAT TTTGGTCATG AGATTATCAA AAAGGATCTT CACCTAGATC
1561 CTTTTAAAT  AAAAAATGAAG TTTTAAATCA ATCTAAAGTA TATATGAGTA AACTTGGTCT
1621 GACAGTTACC AATGCTTAAT CAGTGAGGCA CCTATCTCAG CGATCTGTCT ATTTTCGTTCA
1681 TCCATAGTTG CCTGACTCCC CGTCGTGTAG ATAACTACGA TACGGGAGGG CTTACCATCT
1741 GGCCCAGTG  CTGCAATGAT ACCGCGAGAC CCACGCTCAC CGGCTCCAGA TTTATCAGCA
1801 ATAAACCAGC CAGCCGGAAG GGCCGAGCGC AGAAGTGGTC CTGCAACTTT ATCCGCCTCC
1861 ATCCAGTCTA TTAATTGTTG CCGGAAGCT  AGAGTAAGTA GTTCGCCAGT TAATAGTTTG
1921 CGCAACGTTG TTGCCATTGC TACAGGCATC GTGGTGTAC GCTCGTCGTT TGGTATGGCT
1981 TCATTCAGCT CCGGTTCCCA ACGATCAAGG CGAGTTACAT GATCCCCCAT GTTGTGCAAA
2041 AAAGCGGTTA GCTCCTTCGG TCCTCCGATC GTTGTGAGAA GTAAGTTGGC CGCAGTGTTA
2101 TCACTCATGG TTATGGCAGC ACTGCATAAT TCTCTTACTG TCATGCCATC CGTAAGATGC
2161 TTTTCTGTGA CTGGTGAGTA CTCAACCAAG TCATTCTGAG AATAGTGTAT GCGGCGACCG
2221 AGTTGCTCTT GCCCGGCGTC AATACGGGAT AATACGCGC CACATAGCAG AACTTTAAAA
2281 GTGCTCATCA TTGGAAAACG TTCTTCGGGG CGAAAACCTCT CAAGGATCTT ACCGCTGTTG
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2341 AGATCCAGTT CGATGTAACC CACTCGTGCA CCCAACTGAT CTTCAGCATC TTTTACTTTC
2401 ACCAGCGTTT CTGGGTGAGC AAAAACAGGA AGGCAAATG CCGCAAAAAA GGGAATAAGG
2461 GCGACACGGA AATGTTGAAT ACTCATACTC TTCCTTTTTC AATATTATTG AAGCATTTAT
2521 CAGGGTTATT GTCTCATGAG CGGATACATA TTTGAATGTA TTTAGAAAAA TAAACAAATA
2581 GGGGTTCCGC GCACATTTCC CCGAAAAGTG CCACCTGACG TCTAAGAAAC CATTATTATC
2641 ATGACATTAA CCTATAAAAA TAGGCGTATC ACGAGGCCCT TTCGTC
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pUC19 Sequence (2686 bp)

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61 CGACAGGTTT CCCGACTGGA AAGCGGGCAG TGAGCGCAAC GCAATTAATG TGAGTTAGCT
121 CACTCATTAG GCACCCCAGG CTTTACTACTT TATGCTTCCG GCTCGTATGT TGTGTGGAAT
181 TGTGAGCGGA TAACAATTTT ACACAGGAAA CAGCTATGAC CATGATTACG CCAAGCTTGC
241 ATGCCTGCAG GTCGACTCTA GAGGATCCCC GGGTACCGAG CTCGAATTCA CTGGCCGTCG
301 TTTTACAACG TCGTGACTGG GAAAACCCCTG GCGTTACCCA ACTTAATCGC CTTGCAGCAC
361 ATCCCCCTTT CGCCAGCTGG CGTAATAGCG AAGAGGCCCG CACCGATCGC CCTTCCAAC
421 AGTTGCGCAG CCTGAATGGC GAATGGCGCC TGATGCGGTA TTTTCTCCTT ACGCATCTGT
481 GCGGTATTTT ACACCGCATA TGGTGCCTC TCAGTACAAT CTGCTCTGAT GCCGCATAGT
541 TAAGCCAGCC CCGACACCCG CCAACACCCG CTGACGCGCC CTGACGGGCT TGTCTGCTCC
601 CGGCATCCGC TTACAGACAA GCTGTGACCG TCTCCGGGAG CTGCATGTGT CAGAGGTTTT
661 CACCGTCATC ACCGAAACGC GCGAGACGAA AGGGCCTCGT GATACGCCTA TTTTATAGG
721 TTAATGTCAT GATAATAATG GTTCTTAGA CGTCAGGTGG CACTTTTCGG GGAAATGTGC
781 GCGGAACCCC TATTTGTTTA TTTTCTTAAA TACATTCAA TATGTATCCG CTCATGAGAC
841 AATAACCCTG ATAAATGCTT CAATAATATT GAAAAAGGAA GAGTATGAGT ATTCAACATT
901 TCCGTGTGCG CCTTATTCCC TTTTTTGCGG CATTTTGCCT TCCTGTTTTT GCTCACCCAG
961 AAACGCTGGT GAAAGTAAAA GATGCTGAAG ATCAGTTGGG TGCACGAGTG GGTTACATCG
1021 AACTGGATCT CAACAGCGGT AAGATCCTTG AGAGTTTTCG CCCCGAAGAA CGTTTTCCAA
1081 TGATGAGCAC TTTTAAAGTT CTGCTATGTG GCGCGGTATT ATCCCGTATT GACGCCGGC
1141 AAGAGCAACT CGGTCGCCGC ATACACTATT CTCAGAATGA CTTGGTTGAG TACTCACCAG
1201 TCACAGAAAA GCATCTTACG GATGGCATGA CAGTAAGAGA ATTATGCAGT GCTGCCATAA
1261 CCATGAGTGA TAACACTGCG GCCAACTTAC TTCTGACAAC GATCGGAGGA CCGAAGGAGC
1321 TAACCGCTTT TTTGCACAAC ATGGGGGATC ATGTAACCTG CTTGATCGT TGGGAACCGG
1381 AGCTGAATGA AGCCATACCA AACGACGAGC GTGACACCAC GATGCCTGTA GCAATGGCAA
1441 CAACGTTGCG CAAACTATTA ACTGGCGAAC TACTTACTCT AGCTTCCCGG CAACAATTAA
1501 TAGACTGGAT GGAGGCGGAT AAAGTTGCAG GACCACTTCT GCGCTCGGCC CTTCCGGCTG
1561 GCTGGTTTAT TGCTGATAAA TCTGGAGCCG GTGAGCGTGG GTCTCGCGGT ATCATTGCAG
1621 CACTGGGGCC AGATGGTAAG CCCTCCCGTA TCGTAGTTAT CTACACGACG GGGAGTCAGG
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1681	CAACTATGGA	TGAACGAAAT	AGACAGATCG	CTGAGATAGG	TGCCTCACTG	ATTAAGCATT
1741	GGTAACTGTC	AGACCAAGTT	TACTCATATA	TACTTTAGAT	TGATTTAAAA	CTTCATTTTT
1801	AATTTAAAAG	GATCTAGGTG	AAGATCCTTT	TTGATAATCT	CATGACCAAA	ATCCCTTAAC
1861	GTGAGTTTTC	GTTCCACTGA	GCGTCAGACC	CCGTAGAAAA	GATCAAAGGA	TCTTCTTGAG
1921	ATCCTTTTTT	TCTGCGCGTA	ATCTGCTGCT	TGCAAACAAA	AAAACCACCG	CTACCAGCGG
1981	TGGTTTGTTT	GCCGGATCAA	GAGCTACCAA	CTCTTTTTTCC	GAAGGTAAct	GGCTTCAGCA
2041	GAGCGCAGAT	ACCAAATACT	GTTCTTCTAG	TGTAGCCGTA	GTTAGGCCAC	CACTTCAAGA
2101	ACTCTGTAGC	ACCGCCTACA	TACCTCGCTC	TGCTAATCCT	GTTACCAGTG	GCTGCTGCCA
2161	GTGGCGATAA	GTCGTGTCTT	ACCGGGTTGG	ACTCAAGACG	ATAGTTACCG	GATAAGGCGC
2221	AGCGGTCGGG	CTGAACGGGG	GGTTCGTGCA	CACAGCCCAG	CTTGGAGCGA	ACGACCTACA
2281	CCGAACTGAG	ATACCTACAG	CGTGAGCTAT	GAGAAAGCGC	CACGCTTCCC	GAAGGGAGAA
2341	AGGCGGACAG	GTATCCGGTA	AGCGGCAGGG	TCGGAACAGG	AGAGCGCACG	AGGGAGCTTC
2401	CAGGGGGAAA	CGCCTGGTAT	CTTTATAGTC	CTGTCGGGTT	TCGCCACCTC	TGACTTGAGC
2461	GTCGATTTTT	GTGATGCTCG	TCAGGGGGGC	GGAGCCTATG	GAAAAACGCC	AGCAACGCGG
2521	CCTTTTTTACG	GTTCCTGGCC	TTTTGCTGGC	CTTTTGCTCA	CATGTTCTTT	CCTGCGTTAT
2581	CCCCTGATTC	TGTGGATAAC	CGTATTACCG	CCTTTGAGTG	AGCTGATACC	GCTCGCCGCA
2641	GCCGAACGAC	CGAGCGCAGC	GAGTCAGTGA	GCGAGGAAGC	GGAAGA	

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