

Primer	Sequence (5' to 3')	Application
HPr_F1 HPr_R2	GTCGGTTGTGGACTTGGTTGTTCTG GCTTTCTCCAGTCATCCAAGTCGTTTG	SOE PCR for HPr point mutations
HPrS46D_F mid HPrS46D_R mid	CACCCATAATGTCTTTAAGGTTAACTGATTTACCTTTGTACTCAAGAGTG CCTTAAAGACATTATGGGTGTTATGAGTCTTGGTGTGG	SOE PCR for HPr S46D mutation
HPrS46A_F mid HPrS46A_R mid	CACCCATAATAGCTTTAAGGTTAACTGATTTACCTTTGTACTCAAGAGTG CCTTAAAGCTATTATGGGTGTTATGAGTCTTGGTGTGG	SOE PCR for HPr S46A mutation
HPrH15A_F mid HPrH15A_R mid	GCTGGACGTGCCGCAATACCTGTTTCTGCCACTACG CAGGTATTGCGGCACGTCCAGCAACATTGT	SOE PCR for HPr H15A mutation
HPr_LFseq HPr_L2Fseq HPr_L3Fseq HPr_RRseq HPr_R2Rseq HPr_R3Rseq	AGGCAACAGCACCATCGT CTGAGTTGCAGGGACTTTTCG TCTGCCGCTTGTTTCATCTGT GTGTTTGGATAACAGGAGCTGC AGAGTAAGGGCTGAAGAGGT AGCAAGGCGATTTTGGTGGT	HPr point mutation strains sequence verification
SmaI- HPr5'_F XhoI- HPr3'_R	GTGCAGCCCGGGCAGAAAATGCTTGAAAAAATCCTAGAAG AAAAAACTCGAGCCCTTATGCCAATCCTTCTTTTTTC	Cloning <i>ptsH</i> and promoter into pG <sup>+</sup> 9host
HPr_F0 HPr_R0	CCTTCCCCAACTTTTCGTACCA CATGTGGTGTACGGATGTCTGC	HPr point mutation strains sequence verification
ptsI_F ptsI_Rmid ptsI_Fmid ptsI_R	GGCATTGAAGAAGACACGGT GGGATCCACTAGTTCTAGAGCGTTCCTTATGCCAATCCTTCTTTTTCCATTG TAAATAACAGATTAATAAATAATAATAATCGAAAAGTCCCTGCAACTC CCAACTCGCTAGCTGATAACT	SOE PCR for <i>ptsI::spec</i>
Spec5'_R0 Spec3'_F0	CCACGGTACCATTTCTTGCTGAATAA GATGTGAGAAGAGCCATTATGGATTCCG	<i>spec<sup>R</sup></i> strains sequence verification
Cheshire_F  Cheshire_R	GGGACGCGTTGGCTTAC  GGGGCCATGGTCGATACC	CHESHIRE cassette cloning and resolved strain sequence verification
SP0058_F1 SP0058_R1sp ec SP0058_F2sp ec SP0058_R2	CTCTTCCTTGTATTCAGCGCTTG TAAATAACAGATTAATAAATAATAATAAGAAGAAAACCTGAGCTAATCGCTTG GGATCCACTAGTTCTAGAGCGCATATTTTTACCTCTATTTTCCTTCTTCCA CGGTGAGCGAAGAAGGTAGT	SOE PCR for <i>SP_0058::spec</i>
SP0058_F0 SP0058_R0 SP0058_LFseq SP0058_L2Fs eq SP0058_L3Fs eq SP0058_R3R seq SP0058_R2R seq	TGCGTCAAGGGCCTCAAGAC GAAGACTGGAAGGGCACGAGA AGCTGGGATGAGACCGATG TCCCCAACCACCAGTCCACA CACGTTCTTTCTGCCTCTG GATAAATGGAGACGGACGCAC GCATCCAACCTCCATACTCTCT	<i>SP_0058::spec</i> strain sequence verification

SP0058_Rseq	TGGCTACTTGTCCGTGGA	
lacR2_F1 lacR2_R1spec lacR2_F2spec lacR2_R2	GCAGACATCCGTACACCACA GGGATCCACTAGTTCTAGACCATGGCATGGAGCATATTATCACCTCGTTTCCTAC CAGATTAATAAAAAATTATAAGCATGCAACGCCTTAATAAACTGAAAGAGCCTGG GGTAAAGGTGAAAAAGGAAGCTCT	SOE PCR for <i>lacR2::spec</i>
lacR2_F0 lacR2_R0 lacR2_Fseq lacR2_Rseq	ACGACTTGGATGACTGGAGAAAAG CTAGGTCGCTATTCAGCTGAAAC CTGAGTTTCCGCTACTTTCTTG AGCTGAATCTGGGAAAAGTGGA	<i>lacR2::spec</i> strain sequence verification
SP1773_F SP1773_Rmid lacR2comp_F lacR2comp_R SP1773_Fmid SP1773_Rmid	ACACCAAGTTGCCCAGAAG GACCATGCTTATTTTAAACTAAGCAAC GTTGCTTAGTTTAAAATAAGCATGGTCTACTCTTCGAAAATCAAATTCAAACCAC G ACGGTAAGCCAACGCGTCCCCCAATTTCTCAAAAAAGTTAAATCTTATATTTA GTA GGTATCGACCATGGCCCCTGAAAGAATAATTATGCATAAAAAATAGGAATATAAA C GCCAGAAAAAACAGCAGCA	SOE PCR for <i>lacR2</i> complementation <i>in</i> <i>trans</i> into the natural locus SP_1773
SP1773_F0 SP1773_R0	ACACCAAGTTGCCCAGAAG ACCGAATCTACACCTTCACCTG	<i>lacR2</i> complementation <i>in</i> <i>trans</i> resolved strain sequence verification
galR_F1 galR_R1spec galR_F2spec galR_R2	CACCACAACGTGACCATCT GGGATCCACTAGTTCTAGACCATGGCATGAGCCATAAAATCCTCCTTGAT CAGATTAATAAAAAATTATAAGCATGCAACGCAAGAATAGGATAACATAAAAAAC GAA GTGTTGGAGGTAAGAAGTAGGCAG	SOE PCR for <i>galR::spec</i>
galR_F0 galR_R0 galR_LFseq galR_L2Fseq galR_L3Fseq galR_R3Rseq galR_R2Rseq galR_RRseq	CGTCGAGTTTTCCTGCCT TCGGCGGGTCTCTTTTGT GCTCAAACCAGCAAATCGGA ACACCTTCTCCCACTCGT GCCCCATAACCAATAGCAAAC GTTTCGTGCGTGCGTTTGT ACCTAGAACTCACCAAACCCA GCTGTTTGGGTGGCTTTTTTCT	<i>galR::spec</i> strain sequence verification
PlacAmut_F PlacAmut_Rmid PlacAmut_Fmid PlacAmut_R	CGACACGTGGTTATGCAAG CTTTTGTGTTTACATATTTATTTTTACTTTTTATAAACTTCTATCTCAAAC CC GTTTTATAAAAAAGTAAAAAATAAATATGTAAAACAAACAAAAGCTGTTGACTT CT CTTCAACTGATCCTGCCCA	SOE PCR for LacR-2 operator mutant in tagatose- 6-phosphate operon promoter region
PlacAmut_F0 PlacAleft_Fseq PlacAright_Rseq PlacAmut_R0	GCGTGGGGACTTTGTGACT ATCCCAGCAATGAGCGTT CCAAATCCTCAGAACTTCTCT CTTACACGCGTTCTTTCCATGA	LacR-2 operator mutant (PlacA*) strain sequence verification
mphR- kanTER_F kanUP_R	CGCAGGCTATTCTGGTGGCCGGAAGGCGAAGCGGCATGCATTTACGTTGATTAG AAGAACTCGTCAAGAAGGCG CGCAAGGGCTGCTAAAGGA	SOE PCR for all <i>E.</i> <i>coli lacZ</i> promoter fusion strains
kan-P0645_F	TCCTTTAGCAGCCCTTGCGTAAACAAAATAAAAAATATAAAAAAAGAGACAAAA AAGAAC	SOE PCR for <i>P<sub>SP 0645</sub> - lacZ E.</i>

lacZ-P0645_R	CAGTCACGACGTTGTAAAACGACGGCCAGTGAATCCGTAATCATGGTCATAAGT TTTTCCCTTCTTTCCATTAACCTTTATG	<i>coli</i> promoter fusion strain
kan-PlacR2_F lacZ-PlacR2_R	TTTAGCAGCCCTTGCCTAACCTCGATATTTTTGTTTTTTGTTT CAGTCACGACGTTGTAAAACGACGGCCAGTGAATCCGTAATCATGGTCATCATA TTATCACCTCGTTTCTAC	SOE PCR for <i>P<sub>lacR-2</sub>-lacZ E. coli</i> promoter fusion strain
kan-P0916_F lacZ-P0916_R	TCCTTTAGCAGCCCTTGCCTCTGTGCCTTTCTTGTGTTTGT CAGTCACGACGTTGTAAAACGACGGCCAGTGAATCCGTAATCATGGTCATCAAA ACATACTCCTTTCAATATTTTTAGGACC	SOE PCR for <i>P<sub>SP0916</sub>-lacZ E. coli</i> promoter fusion strain
kan-P1199_F lacZ-P1199_R	TCCTTTAGCAGCCCTTGCCTAACCTCGATATTTTTGTTTTTTGTTT CAGTCACGACGTTGTAAAACGACGGCCAGTGAATCCGTAATCATGGTCATGCTT GCTACCTGATCAAAAAGTTATTC	SOE PCR for <i>P<sub>SP 1199</sub>-lacZ E. coli</i> promoter fusion strain
kan-PlacA_F lacZ-PlacA_R	TCCTTTAGCAGCCCTTGCCTAACCTCGATATTTTTGTTTTTTGTTT CAGTCACGACGTTGTAAAACGACGGCCAGTGAATCCGTAATCATGGTCATGCTT GCTACCTGATCAAAAAGTTATTC	SOE PCR for <i>PlacZ-lacZ E. coli</i> promoter fusion strain
kan-PlacAopdel_F lacZ-PlacAopdel_R	CTTCCTTTAGCAGCCCTTGCCTAACCTCGATATTTTTGTTTTTTGTTT CAGTCACGACGTTGTAAAACGACGGCCAGTGAATCCGTAATCATGGTCATATTG TATACTCCTTTTTATTTTTTCTATGC	SOE PCR for <i>PlacZ-lacZ E. coli</i> promoter fusion strain
mhpR_F lacZ_R lacZprom_Fs eq lacZprom_Rs eq	CGCAGGCTATTCTGGTGG AGTCACGACGTTGTAAAACGAC GAACAGGCAGCGGAAAAGCA AGCTGGCGAAAGGGGGATGT	Sequence verification for all <i>E. coli lacZ</i> promoter fusion strains
5'SmaI-lacR2_F 3'EcoRI-lacR2_R	CCTGGTCCCAGGAAACGAGGTGATAATATGCTCAAACAAG GTGCTCGAATTCTTAAGGCTGATGACTTTAATGTGTTTAGATAGC	For cloning <i>lacR2</i> and promoter region into pDL993
rpli_FqRT rpli_RqRT	CGACCATCTGGACCAACTTT CTAGCCAAAGAAGCGACTGC	For qRT-PCR of housekeeping gene <i>rpli</i> (SP_2204)
bgaA_FqRT bgaA_RqRT	CAACCCACAACCCTGCTAGT TTTCGAGCTTCTGGGTGAGT	For qRT-PCR of <i>bgaA</i>
lacA_FqRT lacA_RqRT	CAGATGCTGCAGGTTTGTAGA GCAGCAACCATTCTTTGAT	For qRT-PCR of <i>lacA</i>
lacC_FqRT lacC_RqRT	TGGCAAGCATGTAGTCTTGG CAATCCCTGCAAACAAAGGT	For qRT-PCR of <i>lacC</i>
bgaC_FqRT bgaC_RqRT	TGTCGATGGTCAGTGGGTTA TTCCCTTACGTTGCGTATCC	For qRT-PCR of <i>bgaC</i>
galK_FqRT galK_RqRT	TCTCGGTGCTCGTATGACAG CACCTGCAACTTCAGCGATA	For qRT-PCR of <i>galK</i>
galR_FqRT galR_RqRT	CTGAAGAGCTGGGCTACACC CCCAATCACTTCCTCGCTTA	For qRT-PCR of <i>galR</i>
SP1199_FqRT T SP1199_RqRT T	TTGGAAGAACGAGAAATTGTCA CATTTGCAAGTCCTTTCTAGA	For qRT-PCR of SP_1199
lacR2_FqRT lacR2_RqRT	TTCGAACCAACTCCCTTTTG TTACGACGCGGATATTGTCA	For qRT-PCR of <i>lacR-2</i>