

M13 Fwd (-20) Primer Binding Site

531 GACGTTGTAA AACGACGGCC AGTCTTAAGC TCGGGCCCCA AATAATGATT TTATTTTGAC TGATAGTGAC
CTGCAACATT TTGCTGCCGG TCAGAATTCG AGCCCGGGGT TTATTACTAA AATAAACTG ACTATCACTG

651 attL1

601 CTGTTTCGTTG CAACAAATTG ATGAGCAATG CTTTTTTATA ATG CCA ACT TTG TAC AAA AAA GCA
GACAAGCAAC GTTGTTTAAC TACTCGTTAC GAAAAAATAT TAC GGT TGA AAC ATG TTT TTT CGT

2835

GNN ---ELEMENT 1--- ACA ACT TTG TAT ACA AAA GTT GAACGAGAAA CGTAAAATGA TATAAATATC
CNN --- TGT TGA AAC ATA TGT TTT CAA CTTGCTCTTT GCATTTTACT ATATTTATAG

attR5

2878 AATATATTA AATTAGATTTT GCATAAAAAA CAGACTACAT AATACTGTAA AACACAACAT ATCCAGTCAC
TTATATAATT TAATCTAAAA CGTATTTTTT GTCTGATGTA TTATGACATT TTGTGTTGTA TAGGTCAGTG

2948 TATGAATCAA CTACTTAGAT GGTATTAGTG ACCTGTACTG CAGGGCGGCC GCGATATCCC CTATAGTGAG
ATACTTAGTT GATGAATCTA CCATAATCAC TGGACATGAC GTCCCGCCGG CGCTATAGGG GATATCACTC

M13 Reverse Primer Binding Site

3018 TCGTATTACA TGGTCATAGC TGTTTCCTGG
AGCATAATGT ACCAGTATCG ACAAAGGACC

