Sat-01

|  |  |
| --- | --- |
| Upstream Primers (5’-3’) | Downstream Primers (5’-3’) |
| TCTTAGTTACCTGTTCCCAAAT | CCGAGAAGCGATACCATAC |

序列

GTGTATTATGTGGGCGACGAAAAGTAAAGTCTGTTTATTTTCTTTCTCTCGTTTGCAGTGTGCACTCTTAGTTACCTGTT

CCCAAATTCTATATTTTCTCGCGCAGTCGCATTACGCGTTGCAGGGTACTTCTGGAGAGCCTTCCCAGCGTTTTGGCGGT

GCCTGTGGGCGGCTCTCAGGTGCATGGGGCGACCGTACATATTTTAATTTTTGGCAGAGATCTCGTCTTTTCGCGAGCGT

CGTCGTCGCCGCCGCACGCACGCAGTACACATGTGTGCAGATACGCACAGCCATTCAGATGGTGAAGAGTAAACTGTATA

GGAAGCTGTAGGACGGCGGTGTAAGCTCGCGTGTCACTCGCGCCGGCCGGGCGTAACTCGCGCCGGCCTGCCGCGGCTGT

CACTGGCGCTGGGCAGAGTTCCCTTTCGAAATGCAAAGCACAGTCACACAGGCGACCCCTGCTCCGTAATTGGCGTTCTT

CTCGCCGCCCCTGCTCTTCCAATGTGTTTCAATTTGTCGCCTCGCGTCGGCACTTTGAATCACCTTGTGTCGTTCTCAGA

GGTACAGGGCATACACATGGGGCTTATAGGAGGCGCCATGGGGCCCGTATGGTATCGCTTCTCGGCCTTTTGGCTAAGAT

CAAAGTGTAGTATCTGTTCTTATCAGCTTAATATCTGATACGTCCTGCATCGCAGGACCAGAATATTAAACTCATTTTTG

GCTCTTGACGGAGTGCTAGGGGCTTGCTCCACCTCTGTCGCGGGTTGGCCCGGCATTGCAGTACCGCCGGGATCGGCCCA

CCTAAAAACAATTCAAACAAAGCTGGAAATGAAATTAATAATTCTGCAGTGATCGGATATTATGCTGTTGTCAAAACATG

TTTTGTTTTCCTATTCCCTTGCT

Sat-02

|  |  |
| --- | --- |
| Upstream Primers (5’-3’) | Downstream Primers (5’-3’) |
| TCGCATCAACCAAATCTC | TGTACCGTTAGTGGAAAGC |

AATACCTGTAGAAAACACGTGCGCCTTACTCACCGCTACCTGTCCCACAGAGAGTGCATGTGTGTGGCGGACTCTAAGCT

CTGCAGGTGCACGGCGGATGGCCAGCTGGACGGGACGAGAGGTGTCGTCCTCGGGAACTGGAAGTCGCCCCAGCCCACGG

AGGGCCGGAGTGACCACACCGCCGATGCCAGAGGGTCGCATCAACCAAATCTCCTTCATTTACCACTTGAACTTCCCTGG

TAGGTCCACAAGCAGGCAGTGGCCCTGTGGCGCAATGGATAACGCGTCTGACTACGGATCAGAAGATTCCAGGTTCGAAT

CCTGGCAGGGTCGTCATTTTGCTAGGTGGAGGTAAGTACTTAGGCAACAGTTGTCGTGCAGGTCAGTGTTACTCGTGCTG

TGTCTCGCAGTTGCTTGCCGAGTCCATTCGCGGTAAATACGGCCGCCCACAAGCGTCAGCGTAGCGTCAGCTGAGCTAAG

TTGAGCCAAGTCGAGCCGACACAAGGTGTTTCTCAATTACAATCAGGCGTATGACAGCAACTCAAACAACACCCTCCATG

TAGCATGCTCGAGGGGCGACGTTCGAAAGTCTAGCAGAGTGGCGCAGTGGAAGCGTGCTGGGCCCATAACCCAGAGGTCC

GTGGATCGAAACCACGCTCTGCTAAAATTTATTTGGTCTCCTATTACTTCGAGACCAATTATTAAGCCGAAAAGAAACCG

CTTACTGCTAGCTCAGCACTGCAAAAGGTTAGTCTGTAATTCTGAAATGACCTCATCGTGCAGAAGGGAATTCGAAAAGT

CACTTTCGAAGCTGAAGTAAGTTTTGTACCATTTTCACTCCTGGGTCAGAATTTCATTTTTCTTCTGGCCCAGACCAGCA

GCATTTGCGCAGTCTTACAGTGGTAAAATCGCATCTCCCCGGCGGGGAATCGAACCCCGGTCTCCCGCGTGACAGGCGGG

GATACTGACCACTATACTACCGAGGAACACGCCGCATGTGTCACGAATACTCTCTACTGTTTGTAAAGGGGGTGTTTCCT

CTCAAACCTGTCATCCGGAGGCCATCAGAGGTTTGCTGCCACAAAATAAAACTATGCCCCAGGTGAGGCTCGAACTCACA

ACCCCGGCATTGCTCACGGCTACTGCCTTATAAGTACCGTGCGCTAACCAATTGCGCCACTGGGGCTACGTCCCGCTGCT

TTCCACTAACGGTACACTACTCACTTTAAGGCAAGTGCTTACTGCCAGGAACACTGCATGTCATCCTCACCTATGGCCGT

ACTGCAACTTTAGTTAACTGCCTACGAATGCTTAGTACTATTCCCGTTTCATTGCCTCAGCTCATTTGCAAATCGGCCGC

TTCTCTTCAACG

Sat-03

|  |  |
| --- | --- |
| Upstream Primers (5’-3’) | Downstream Primers (5’-3’) |
| TCACTGTGGTTGTTGTAT | ATTCTAAGGGGAGTTGTT |

TGTCACTGTGGTTGTTGTATTAGAGACCAATTTGCAATTATCTCATGCAACTGGGATGTTGATTGAAACTGCTCCTCACG

GACATCTTCCCTGATGAAGCAGTACAACATCGACATACTATAGCGGCTGCAAGGCAGAGTGATGAGCCTCGGAAGGAAGC

AAGAGGTATTCACCTCCTACTAACCATCTCATCCATATAAAAGCAACAACTCCCCTTAGAATAAATTCAATTTGTTAAAT

AATAGATAATTATCTATATAGTTTGTTCACGTT

Sat-04

|  |  |
| --- | --- |
| Upstream Primers (5’-3’) | Downstream Primers (5’-3’) |
| GCATCGCATATCGACCAGGCACT | CCATTACACCACGGAACCAGACG |

CGTAAAGGCTCTTCATCTTGCAGTTGAAGACCCACCCTTTCGGTATTAATCCTAGTGGCAAAAGCCATATCTTCGACAGC

AATGCCGATTCTTGTGCGGACTGCACTTCATATTTTGCATTGCATGGTCCCACCTTGAACTCGGTGTATACCTTTCACCA

AAACTCCGCGCCACAGTCGCGAAAACGATCCCGAACGATTTCAGGCAGGTTCCACCGAGATTCGAACTCGGATCGCTGGA

TTCAAAGTCCAGAGTGCTAACCATTACACCACGGAACCAGACGTGCTTGCCATGTCCTCATGCCTCCTCTTCAAGTCATG

CAGCCAGGCTCGCTTGATATGAAATGAGTTACGGACGCAGATTACTGTCGAAAAGTTTCATCGAATGACGATATTTTCAC

TGTCCTGGGATGAAATGATATCACAGAGGTGAAGCAGATCTTTGAGAATCCGAATACAATAGCGAGAGAGTAGCTACTGT

GGTAGGTCCAGGCTTAGGAAAGCTGTTAAAGTGCCTGGTCGATATGCGATGCTGCAGTTAGTAACTGTGGCAAGATCTCT

TCGAGTTGCGAAGCGCACAGAGCAAGTTGTGTGCGGCCTGTTGGTCTAGGGGTATGATTCCTGCTTTGGGTGCAGGAGGT

CCCGGGTTCAAATCCCGGACAGGCCCTTCTTTTACCTGACGCGTCGTGGGTCTCTAATACTGTTGTAGGTAGGAAGATGA

AACCTCTGTTCAGGAGTCTAGCATGTGTGAGTTATGTGAAACGTGATTCTTATGCCAGGATATAGCTCTCTTAGTTTACT

TCAATGTAGTCAAGAAAACCGGCAACTGAGATGATTCTCCACGTTGCTCTGAAGCTAGTGTATAGCTCACATAGACTCGT

CACATGCCTCATTATGTAGCACCGAAAAAGGGTAAGATGTGGTAT

Sat-05

|  |  |
| --- | --- |
| Upstream Primers (5’-3’) | Downstream Primers (5’-3’) |
| GATACCTGGCTTTCACCC | CACAACGCAATGTCCTAAC |

AGGGACGTCGAACTGTACCGTTCTTTCACGACTGAAAGTAGGCGCTGTTTGGTCAGGTGAGCAATTGCGTAATTACAGAT  
GTCCTGCACATGACACATCGAAAAGCGAATGATTGCTACTGTCCAGAGCACGGAAGTTTCGTATCTTGGGGAAAGAACAT  
TTGGCCTTCCGGTGTGGTCTAGTGGCTAGGATACCTGGCTTTCACCCAGGAGGCTCGGGTTCGATTCCCGGCACCGGAAT  
CGCACATTTTTGTCGCTCCCTATATGCGACTTGTCTGGACTTTGCTCGGCTGACGCTCCGCTGACGCTTGCAGAAGGTAC  
CCTAAGTATCGTTTCATGATAACAACTGACGGCGAGAGAGATGCGAAATGTCATTTAAACACGAGATGTCGACCGAGACT  
TCACGGCACTTTGTGCGACACTGAGAGCCGGCCGTTCCTGTGTGTCGACACTTGCAGCCTCAAGTGGGCTTGCGGCGGCT  
GTCGCCATGGCCGTGATCGTCTAGTGGTTAGGACATTGCGTTGTGGCCGCAATAACCCAGGTTCGAATCCTGGTCACGGC  
AATTTTGAAATCATTTTGCTTTGCTGCCACGGCAGCTTGTGACTATGTACTAATGTTGAAATCACAGCACTCCCTTCAGT  
TTCATTCACGTTCTGATGGGCGCTGTTCGCCCTATAGTTTCGACGCCGACCGTTATTGGCGCCTCCCAGAACGCAGAAAG  
TTGATTTAGATTTTAATCTGTAGTCGAAAGAGGCAGTTGTTGGAGAAGAGATGGATGAGCAGCTAATCGCAGCAGGAATG  
TTCTCGGCTGTTCGCGTTCACTGTTCGCAAAAGCTGCGATCAGATACGCACAACCAGTCTGCAGGTAGCGTGGCCGAGCG  
GTCTAAGGCGCTGGTTTAAGGCACCAGTCTCTTCGGAGGCGTGGGTTCGAATCCCACCGCTGCCACGTGCGTGAGTTTTT  
CCCTCTCGAAGATAGTCGTCGTCAGCACCTGCTTAGGGAAGAGTGCAACCGAGTGGGAGTCCAAGTTTTCTTGCGATCTG  
GGTTGGTGCAACGAGACGACGGTGGGACACCTGTCAATAGCTTGAAACGAACGCAGAGAAAAGTGTCACGGGAGTGGCGT  
GGTACCCAAGTCGGCGAGGCAGTGACG

LTR-01-5444

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| --- | --- |
| Upstream Primers (5’-3’) | Downstream Primers (5’-3’) |
| GCGTAGCGGCAGTGCTTTCTCAT | CGTTAAAGGCTTGTGGTCGGTGA |

ATAAACATGGTTGAGGCCGCAACGCCTGAGCACTTGCTCACGACTTTTCTTCAGTTTCAGAGTGAGCAATTCCGCAAGAT  
GCAGGAGGCCCAAAGCCAGCAACTCGCCTCTCTGCAGAACACGTTTTTAGAGGCCCTCCGCGCCCTAGAAACGAGACAAA  
CTGCTACCACTCCTGCCGCCCCCACACCTGCAGTGCCGCCCTTCCGTCAGTACGACGCCGAGAACGAGGAATGGAACGAC  
TACCGGATGCAGCTTGAGCAGCACTTCACGGCGTACCGGATCACAGGTGAATCGCGCCGCTGCTTTTTGCTTGCATGGTT  
AGGTCCCTCGTCATTACAAATTTTGAAGAAACTCTTCCCCGATAAGTCCCCAGATGCGTGTGACTACAGTGTACTTATTC  
AGGCATTAGACAAATACTTTGACAGTCAAGTGCATGTTACTGCGGCACGATACAAATTTTTTCGGCTTAAAAAGAGGCAG  
GATCAGTCATATCGTGAGTGGTTAGCAGATTTAAAGGGCATGACAAGACATTGTAAATTTGAATGTGAACATGGTGGTTC  
CTTTGCCGACCAAATGATTCGTGACTCTATAATTCAAAATGTGCAGGACTCACGAATTCGCTCAAAATTGCTCAGGCTCC  
CTAATCCTACATTGCAGGAAGTGTGTGACATAATTGAGGGACAAGAAACTTATTATCACGCAGAGACAGATATGTACAAT  
TCATGTCCGCAAATTTCGCGAGTAAGCACTCATAGCCAAGCCACACGGAAAGGTAAACATGCTCGCGGCCGTACAGGTCA  
ACGCGGTACTCAGGCCCGCGGTAAACAGTCACGCGGCACCGCCCCGGCTCAGCATGTAAATTCAAATTCTGGCAAGAACT  
TTCACTCAACATTTCGTTCCACGAACAATTCTTTAAAGTCTTGCCCCCAGTGTTTTGTAAAGCATGACCGTCAGCATTGC  
CCACATCGTCATGCCACTTGTTATTTTTGTGATAAATCCGGACATGTCGAACAAGTTTGTTCTCGGAAATCACGTCACAG  
TTCCAGCTCGAAGCATTCAAAAATAGAACGTATGGAAATATGTGCTCTCAATTCTAACATGCGTGACTCAAATGTTGCTT  
CTACCAAGGCTCATACAGACTCTAATTATGCTATAGTGTCACCTGATTCGCGAGTGCAACGCACTGCAAACAAACTTTTT  
GTTACTTTGAACATTGCAAAGCACAATGTGAAATTTCAATTAGACACGGGTGCGTCAATTACATTAATAAACTCGGACAC  
TTATCGTTTGCTCGGTAGCCCTCAGCTCTACCCGACAAACAGATGTGTAACTACATATGATGGTTCCGAACTTGATATTT  
TAGGTGCGTGTTCTTTGTTAGCAACCTACAAAAACATTACAAAAATGGTTGAATTTACAGTGTTACGCGCGGCAAAACGC  
CAAAACATTTTCGGCATGGACGCTTTTCAATTATTTGGATTTGAGATTCATGATTCAGTGTTGCGTGTGCAATCTTATGA  
CATTGAACAAACAGTTTCTTCTTTGTGTACTGAATACGCAGATCTTTTTGATGGAACATTAGGCCGTGCTACTGATTATG  
AGGCCCACATTACGCTTCGTCCCGATGCGCAACCTAAATTTTGCCGTGCACGCCCCGTGCCCTACGCATTACGCGAAAAA  
GTCGCTGCTGAATTACAACGCCTTACAGACATTGGAGTGCTAGAACCTGTTACGTCTAGCCAATGGGCGTCTCCCATAGT  
TATTGCTTCAAAGCCAGGTGGTGACATTAGAGTTTGTGTAGACTTTAAAAGAACAGTGAATTCTCAAACAGTGATTGATT  
CCTTCCCGCTACCACGCGCCGAAGAACTCTTTGATAAACTTCAGGGTGGAAATTTTTTTTCTAAGATAGACTTAGCTGAA  
GCTTATTTTCAAGTGCCTATTGACGCTGCTACGCAACAATTTATGGTGCTCAATTCACATGTTGGACTATTTCGTTTCAA  
AAGACTACCCTTCGGTAGCTCTTCAGCACCAGCTTTATTTCAAAAATACTTACAGGGAGTGATTTCAAGTGTGCCATGCT  
GTGCTACTTATTTAGATGACATTATAGTATCAGGACATGACTTTGATTCACACGTGGCCAACATCAAGAAACTTTTTTCT  
GTTCTGCGTGCTGCTGGACTTAAGTGCAAAAAAGACAAGTGTGCATTTTTCACGCAGGAACTTGAATATCTGGGACATGT  
TATTAACAGTCAGGGGATCCATCCCGCCCAGAAACATTTGCAAGCAATTAAAGACCTCCCAGTGCCTCGCAACCTTAAAG  
AATTACAGTGTGTGTTAGGGAAACTGTCATATTATATTAAGTTTATCCCGCACGCAGCGCAAATTGCAGCGCCACTGCAC  
AAATTGCGGCGCAAAAATGTACCTTTTGTTTGGTCTGATGCTTGCCAGCGTGCTTTTCAAAAGCTCAAAGACTCCCTGCT  
CAGTGAACCTTGTTTAATTCAGTATGATCCCGCCAAACCAGTAGTTCTGGCTACTGATGCTTCTTCGCATGGCGTAGCGG  
CAGTGCTTTCTCATGTTGTCGGCGCAACTGAGCGCCCTATTGCTTTCGCATCAAAAACGCTTAATTCTGCACAACGCAAT  
TACAGTCAATTGGAAAAAGAAGCCTTATCCATCATTTTTGGAATTTCTAAGTTTCATCCTTATCTATACGGGCGAAAATT  
TCTTCTGGTCACCGACCACAAGCCTTTAACGGCATTATTTCATCCCACCCACCCTATCCCTGATAGGACAGCGCAAAAAC  
TTCAGCGCTGGGCTTTACTTTTGACGAATTATGATTACGATATTGTCTATCGTGCATCCTCCAAGCATGCTAATGCAGAT  
TGTTTGTCCCGCCTACCTCTTGGTACGGATTTCGATTTTGATTCTTCGGAGGATTCGTGTCATCAGCTGGATCACGCTGA  
TCTCGACACTTTGCAAACTTTTCCCGTTGACGCTCGTGTTCTCGCTTCTGCCACGGAACGAGACCCACAATTGAATCTTC  
TTGCACGTTTCATTCGACGTGGATGGCCTGCTAATCGCAATTCAATTTCTGACCCACTTGTTCGTCGTTATTTTTCAATG  
CGTCACGCATTATCTATCCAACGAGGTGTTATTCTAGTTCATTCCGACTCTGGTGCTAGTCGAGTTCTTGTTCCCAAACA  
ATGTCAACACGCCGTTTTACAGATGCTTCATCAAGGTCATTGGGGTGTTGTTCGCACCAAGCAATTGGCACGACGCCACT  
GCACTTGGTTTGGTCTCGATAAACAAATCGAATCTCTTACAGCGCATTGTCGCGCATGCTCCGAGAACGCAGCTTCTCCT  
CGCCAGGAATTTTTCTCTTGGCCTAAGCCTTCAGGCCCCTGGGAACGTGTCCACATAGACTTTTGTGGCCCGTTCTGGAA  
CACTCGTTGGCTCATCGTTGTAGATGCCTATAGTCGTTTTCCTTTTTGTGTTCCCATGCATTCAACGACTACAGCAAGCA  
CCATCCGGGCCCTCGAATCTATTTTCTGTCTTGAGGGTTTACCGTCAGTTATTGTTTCCGACAACGGTCCTCAGCTGACT  
TCTGCGGAATTTCGTAACTTTTGTTCTTCGAATGGTGTGCGTCACATTACGACCGCCCCATTCTCGCCTCAAAGCAACGG  
CGAAGCCGAACGCTTTGTTCGAACTTTCAAAGCTCAAATGTCTAAATTGCGGAACGATCATCCCCGTGATCGGGCTCTCT  
TGATTTTTCTTAGCTCATATCGTTCTTTGCCTTTCGGCGATGCTTCTCCCGCCGAACTTTTGCACGGTCGTGCTCACAGA  
TCTGCGTTGTCTCTTCTTTCGCCACGCAACGTTCCGCCCTCGACATCGTCGTTTCATCCGAAGTTTTCGGTCGGCGACGC  
GGTATACTTCCGCATCTACAATTCTTCGCAGCGTTGGGCTCCCGGCGTTGTCGCCGCTTCTGTTGGCCGCGCACATTATC  
GCGTCTCTGACACGCGAGGCTTGCTGCATGCGCGCCACCAGAACACCTTGCGGCAGCGCCACATATCTGGCCTGCGTGAT  
GCTGCCGCCGGTTCTATGCCCACAGATTCCGGGTCCATGATGACAGCACGCGCAGGTGGGCGCCCGCCCCGCAGCGCCAC  
TTCTGGTCCCAGCAGGGCCGCCTTCGCGCCGCTGGCGCACACAGCTGGAGCGGCCCCGCAGCGCAGCCTGCGGTCCACCC  
CACGGGTCGTCGCTCCGCCGTCGGACGCAGCCTCTCCAGTGGCCGCCGCGCCGCTGCCTCCGACGCTCCCGGCGCCATCC  
TCGGTGCCACCGACGCTGCTGGCGCCGCCTTCGGTGCCCTCGCCGCTGCCGTCGCCGCCTCCGGAGCTGCCGTCGCAGCC  
ACCGCCGCTGCAGTCTTCGCCTCCAGCCCGGCCGATGCCGATGGAGGTCTCCCCGGACGCCTCCCCTTCGTCCTCCTCTC  
TGGCGCCTGGAGCCTGGGGACGTGCATCCGAGTCCGTTTTTCTACGTGGGTTTTCCGGCCTCCCGCGCGGCGAATGCCGG  
GATGCGGACCGGTTGGCACCCACGTCAGCCACGCCACCGGCCCCAACGTCTCCGTCCCCAGGCAGCCCTCTCCCCCGCCG  
CCGTCGTACAGCATCCAGACCGTACACGACGACGGCGCGGCAATTCACGGGGGAGGGGTGTAGTGAAGGTGCTGTCGATT  
ACGTCGACAGCGCACAGAGGCGCCAGAGATATCGTCGCCGCAGACGTTAAGTTGGCAACAGCCGACTGATAACCGCAGGG  
ACTCGCCAACCAATCAGAGGCCAGCGCGAGTTTTCCTGCTGCCGCGACGCTCCACATTAAACAGTTATATCCGAGTCCTG  
AACGAGTTCTATTCGAGTACTATCGAGTCCTCAGCTTCGAGACGTCTTCCTGCACGCATCACAACATTAGGCCTCAGAAT  
AACTTTGTCTGATATTCATACTCAGATAGAGTGACAGTTCTTGTGTCACTTAATTTATATTTCTCCGCACCTAATTCTAC  
AAGATAAGTATTGTATATTTATATCAGAGTAAATAAAGTGTATATATATTTGTTCAGCTGTTCTAGCTCGCCGACACCTC  
CGTCATCTCCTTTGCTCCCACAACAAAATAAAATTGTGTTGGTGCCGACAAAGCATCAACACAACACTGGCGCAGTCGGT  
TTTTGGAACCATACTGGAGCAACAACAGCAAATTGAGCTACAACATTTGCAGTTCATCGGAGTGTCGCAGCAATACATTG  
AAGCAGTCACGCTAACCTTGTATTTATATTTTTCAGATTGAGAGCACAGCGCAAGACTCGCATCAGAATAATTTTTTGTG  
TGGCTAACAGTATTTCTGTTTCAGATCCAGTCCCTCATAATTTATATATATATTGTATTCTTAATTTGTTCCTTGTGCTT  
AGTT

LTR-02

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| Upstream Primers (5’-3’) | Downstream Primers (5’-3’) |
| ATAAACTGCGGGAACGAC | AGAAGACTGGCAAACTGA |

TGTTGATTTACATGTGTGTGTATTTTTTTTACACCTTCCTTGTGAAGTGTGGCTTTTGTGTCTCGTGTTTGTTTTCATTT

TTGATGTGTTGTGGTTTTATTATACTGCTGTTTTGTACTCTTTTATGTGAGATGTACGTTGAGTTTATTTTGAGTGGGGA

AGTTTTACTTTTATGCCAAACCATCCCGTGGTTTTGAGCTAAATTTATTTCGGATATCTGAGCATTATATACTCCACAGT

GTTACGGGAGATCTTTAATTGTCCCTTATTCTATCAGGCAAGGTTGACTGGTTTTACAAATGTGTCTCGTTTCATTCTGG

GGAAGCGTAAATTTAAGGGTTTAGGATGTTGGTGTTGCGACGGTTATGTTTGACAATACAGTACCGCTGTAATTGTTTTG

GCCCTAGTTCCGTATTGAGACGGCTAGAGGTTCTTATGGGCATGACATTGTGTACGCTGTCCCGCCACAGATTGCGTATT

AGGACATTGGTGTGCACATGCATGGTCCATTTTGGGTGTCGCGTGGGATTTTAAGTAGCCAACGTAATGCGTTTGGTGGG

CTTAATTAAAGTTGAAACAAGTTATTTGTTCTCTTTTGATGAGAGATACTGTTTTCCGCATCCCCATGAATGTTGCCTGA

TATCATTTGTTCTTTTCATTTGACCGAATCTGTCTGATAACTTGTCTGTGTCATGATAATACTGGAGTTATGTTTTTGTG

AGTGTCATAAAGTATGTCACTAATATAAGTTGTTTTCAGATATCACCGAAAGTTTTTCCTCACCCATTGAAGCAGAACGA

AACGGCCACGTTTTTTCACATCAAACAACGAGACGTTCTCCACACATGAACGGACGCATTATTACTGAGATGTGCAGCAG

ACGTCAGGACGACTCATTAATCTGAGATTTTTTTCCAGGAATTTTTTTTGTAAATGGTGGATTCTGGGACACCCCCAGAT

CTAATTTATGTATACTGATTGTGGTCCTGCATGGTTAAGGGCATACTCGAGTCTCTTGTTTTGGGTTAGCACGCTTGCAT

GCTGATTTAGATTTTAGTACTTGCTCAGTAAATGTACTTTGGCATGATTGTAACATGTTATTGATTAGTTTTATGGTGCA

TGGTAAGGTTTGAGTTATTTCTGTGTGTTGTTTGATGGCGCCAGTAGTTTTGATCTAACATACTAACTCATCCCCATCAT

ATGTCCTCGTGTCTTTTTAATATTTACGTGTTACCAAACACTTATGGATTTTTTAAATTCTGCAGAAATGGAAACACGCA

GACCGGAAACGCACTGAAGCCAGAATGCGAAAACGCACGGAACGAGAGCGCCAGAATCAAAATTGCTGGAAAACGCCTCT

TGAAGCTGCCTTTTGGGACGAGACAGTTTGAGATGGACGTGGCGCGGCCTTGTCTCCGGGCCCGGGCTGTCGCTACTATG

AGGAACCGTTAAGGCTTTGAAAGGGTAGCCTGGCCTCGCCAGCTGGCCGCCCGCCGTGGCTACCTGCCTCCACTGGCCTA

TTGTATTTTGACGGCACGCGACCTGTGTCTGTCAGCGTCCGTAGCGGTCCCACATCAATGGGGCGAACAACTCTGGAACG

TGTTTACAAGTTGTAAGCTGCTTGCCCTTTGACGGCGAGGACAATGCCTCCTGCACAGCGAGGCCCGTCTGTCCAATGTT

ACGTTCCGCTTCCCGACACTCGTCGATACCCCTGTGAGGTTAAGTGCGTCTAATGTTCTCATTGTTTGGCCAAGACATAT

GTGTGCGTTTGTTTCCGAGTCAGTACTGTACGTTTCGCGTGTGCAGAATAACTTTTGTGTGCTAGGACTGTGTTTTTGTC

AGCGGACATTCAATTCTTTTTCGTGTCATTATTTTCTTGTCATTTTTATATCATTGCATTGTTGATTTGTAACTGTTCAT

TCTGTACAGATACACGTGCCCTTGGCACATATGTAATGTACAATATTTATATACATTATGTTTCAGATTTAGTGTTTTTT

ATGTGGAACTGTTCCAGCTTTGATGTTGTGTATTTACAACTAGCAGATATGTTTTTGTTGCTATGTTTTGAGTGGTTCTA

ACCCTCATGAGTGAATGTTACTGTGTCGATTTTATGTGTTCTTTTTATTTATGTGTTCTTGTGTTATGTATACATAAAAT

TCAATATTTCCTCCCTTATGCCTTGGATGTGAATGGGTTGGATGAATGTGTTACTTGTCAGGGACATATTGTAACGAGAG

ATAGCCCATCAGTGTGTGATTGAGTTATAAAAGCTGTGTGGATCCACGGACTATAAACTCTCACAATACCACACAGAGAT

TGATTGCGAGATAAATTATTGATTTTTAGTAGAGAAATTTTTGTATAAGGTTTATCCTTTCTCTACATTTTGGTTGGCTC

GGCCAAGGCATTAGTCTTAAGTCAACACATTGTCATCTTGCATAGTGTTAAGGTCCCCTTGCATTTGATATTTGATTTTT

AATGATTTTATGTGTTTTACTTGTTCCCCCATTGTTTTGGTTATCTGCACATGGGTCCAAGTTCTGATTTCGTGTTCTAG

TTTGGGGAGTGATAGGGCTTCGTTTTTATTTTGATTTTCTTAAAAAGTGTTCAACAGAGTCCGACACATGAATATCTTCT

TGTGTCCAACTCTGCCTTCACACTTTTTCGCGCGGAGTTGGGGGTGATGAGACGTTTCTCGACATACCCATGATTTCGAG

AAACGCTCATGTTTGATTATCGGAGGTCTGCGTAGGCAGAATATGGGAAGCTTCCCACACAGAGAGAGAAACCTTGCTTT

CGAGTGTGACAGAGTGGACAGCTTAAGCTCCGAATTCTGTGGAATTCGGAGGATTCTAGGAACGCTGGCACTTGTGGTGA

GTTATGTTCTAAGGCAGTGATAAACTGCGGGAACGACAGTCGCCGTGTGAAGGACGGCCTAGCGGCAAGCCCCACTTGAG

AGGATTAGCTGGAGTGGGCGCGCAGGCACGTTTCCTAGCGGTTCCGTAGGGATTTTTCACACGGGGCAGCGTGTGACCTC

CACGGCCGCAACGCCGTTTCGCGTGAACCTTGGAGGGAAACGCTGCAATTCGGCAATCCAAAATACCGTCAGTTTGCCAG

TCTTCTGGTTTGGCGGGAAGACTTGTGATTGGATCTTAAGAAATAGCCCGTTTCGGGATTGGCCTGCGTCGGGTTTGTCC

CTGGCTCGGTACCTCGGTGGAGGGGTGTAATACGAGCAGGCGACAGAATCATACGCAGCCAGGAGAAGTCAGTCTGAGCT

GAGTGCTCGAGAGGAGAAGTTGGAGCCCAGCGCTCGATACGAGAAGGTCGGAGCTCAGCGCTCGGCAGGGTAAGTTGTAC

GGCGCAGTGCTTAGCGAGGAGGAGTCTTGGGACTTAGGTTTTGTGCGAGCTGTGTGCTCGTAGCTGATAGACTTTGGGTG

ACGAAGCCAGACTTAGGATCTGACTGATTTTGTGAGTGCAGACGCGGCCGCTTTTGAGCTTGCGCCATCTGTCTCTCTCT

CTGTGATTTCGTTTACGTCGCGACGTACCTTGTGGGGAGTTGCGGTCGCTTTCAGCGATACATAGGGAACCTTGTGCAGT

TAGCCTAATTCAGATTTTCCCCAGTATAGTCTGTTCTGTCTAAGTAAGACTTAGAACAATTATGTATACTGTGTTCCTGA

ATAAATGCTAATATTTACCAGAATTTTCTCCACATCATTTAGTAGGATAGAATTCATATCACTACTAGATAAGAGATTTA

GTGATTTCGCCAGCCTCCCTCACTGCTTGTGTGTACCTGTTAAATCGTGGTAGATAGCTTTTCCGTTGCGCACAAGGCCC

GTAATTACTAACAGTTTCCCTCCGTGGTATGTTAGGCAACAGATACGCACAGCAGGAGTCTCTGCATTGACCCTCAGTCA

AAGCACTACTAGAGAAAAGAGGTTAGGTGTTATAAATGGCGTACCGCTGCCAGGATTTTCGTTCTGAAAATCTTTATTAA

TGTTGAGTTCCTTGAATTATTCGGGTTCCATGATTAATTATTAGCTGCAAATTTAATGTCCCTCCCTTATGCTGGAGTTA

GGAATAGCGGCGCTATTTGCTGATTTATGTGTTTTTTCTTTTCAGCTGTCGTGGAAAAGCATTTCTGTATGCCTTTTTCC

AGTTGTTTTTGTACATCTGCGTTGTAAAACAGCGTTGAATTTTTGTGTTTGTGATTTCTCTGTCTTTGTGTATATGTGTC

TTGATATATGTGTTTTTATATGTGTGTTGATATATGGGTGCTGTACCGTGTTTGTGTTCGGTTTTTGTGTTAATTTGTGT

CGGCAATTTTGTGATTAATTTGTGGCTAGGGGCCGCGATTTTATTTATGGATGGAAACGCGTAGTAGGACGCGTGATAGA

CTGAGACACGCCAGTCAATCTGATTTAGAGGCAGTTTCCGGGGGCGCAGAAGTGCTTACGGAAAAGGGTATTGAAATTAT

TAATACGAGGACGGGAATAGTTAACGTCATGGACGCCGTCGGTTTAAACTCTGTTAATGAGGAAGCTTTAAGGGAACCAG

AGCAGGTCGATCCCTCAGCTCTTACACCTGTCGCGCCAGAATGTAGTGGAAATGTTGTTCCACGAACACAGTCGGGAGAT

TCCAGTGGTTTAGGAAGCGGAGATTCGGTCGCAGCGACCGTAATCACGGAACAACCGGCGCAGAACTTGAGTGTGCCGTC

CGCCGCTAGTGTTACGAATGACCCATTCGCCGCACTGGCTAGCATGATTAAGGGAATGGAAGAGCGAATGGAAGAGCGAA

TGAAACAACTTGACCAGGGCCAGCAGGAAATCGCGTTGCGCCTGGGAAAATTGGACGAGTTTGGGGCGAAAATAGACGAG

CTCCGCTCGGACCATCAAACCCAGTCTGCGAAGTGCACTGCACTTGCTGAAGAGCATCAGCAGAAATTTGCCGTGGTGGA

TGATAAATTAGAGGGACTAGCCGCAGAGGTTAGCAAGGTCCACGATGTTGAAAAGGATGTGTCTGCTCTCGTAGCGCAGC

AAAGCGTCCAAGAGAGGCGTGTGGAAAGGGCGGAATCTCGCGTCAGTGCGCTAGAAGATCGCCTCGCGGATTTTCCGGAG

AATATCGCGACTAAACTCGCAGAGGCAAGAAACGAACTTTGCGAGGAAAACCGGCGAATTCTGCGAGACGAGGTTAGGGC

CGCACGGCTAGCCTCAGAAGGTAGAGACTGTGAGCACGCGACAGTTAACGCCGGACGCGCAAATGTGGACACCGCTTTTC

CGCTGCGCCGCTGCGGACAAATCGATCGTGAGGGGACTGAAACCTTGTCTCCGACGGTTTCTGGCAACAACAGCCAAAGC

GCTGTGAGTGGGGAGCACGATAGATTTGAGCGAACGGATGAGTTGTTCGATTATAAACACTTCTTGTCCATCCGCAAATT

TCAAGTGTTCCGTGACAACGCCAACGGTCCACACCCGAAGGCGTGGGTCGAACAATTCGACCATAATCCTCCGTCCACGT

GGCCAGCCGCGCGAAAAATAGAGTTTGTCTGCGGTTTCCTAGAAGGAGACCCAGCGACAATTATGAGAGCCGCTGCGAGT

GACTGCCATACATATGAACAGTTTAGGGAAACCTTCCTAAGGAACTACTGGTCAAAGGCGGCACAAAATCGAGTGAAACA

GGCGATCATCATGGGTCATCCGTTCAATGACGACGGGAAAGACGGACCCGTGAAATTTTTTGAGTCTATGTTGCGAAAAA

ACCAGTTCCTGGACAATCCGATTGCTCCCAGTGAACTTATTGGTTTTTGTTTTACAAAGCTCAGCTGGAAATATCGCCAG

CTGCTCATTGGCAAGTGCGGAGACGATGTTGAATCGTTTAGAGCTACTCTGCAAGAGCTAGAATTTGCTCGAGACATAGG

CGAGCCGCAATTCTCTGGGCCGCAAATGCAGCAACAGGCGCAAGGCGCTTACCAGAACAATCGGGGACAAGGTTATACAA

ATAACCAGCAAAATAGCTCGAATAACCACTTTAACAAAAAAGGGAAGTGGAATAATCATGGAAATAATCAAGGCTTCCAC

AACAACGGTGGAAATCAATGGCATCAGAATGCTCCGAATTTCCAAAATAGCGGAGGAAACCAGTGGCATACGCCTCCACC

ACAATTCCACAGTGGGGTGGAAATTAGGCCACCTAATCCGGTGCTCAATGGGCAGGCTGGTACATCCAGTCCTGAACAAT

AAATTGATCTGGCAATGCAGTTATAATCTGGTTCAATCTTGTGGTTGAATGCGGATACTCTGTACAGACTTAGTTTAGAT

TAGATTTTATGAGATTTTGATATATGTGTGTTTTATTTTTGTACCATGCTGAAATTTTGCATGGACTGTGTTTTAATTGT

GCAAGCAATGCACTGGAAGTCGAGACTCTGAGGTCGCGCAAATCACGCGGACTCCATCACATTAGCAATGTGAAGTTGTT

CTTGGAGAGATAGCCGTCTGATGATCCATGTTGTCCTACTAAACAACAGCTGTTACATTTTTGTCTGCTGAGTTTATTTT

TTTGCGTCTTTTGTATTTAC

LTR-03

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| Upstream Primers (5’-3’) | Downstream Primers (5’-3’) |
| GTTTGCGGTAATAGTTCACAGTTCCT | TACTTGTCTTTAGCCCATCACTTGC |

TGGCGTGCAAGCCACCAAAGACAATACATATATCAAAGATATTCGTTGGTCGAACGTCGATATTGTCAATGACTGGCGTG  
CCAGCCGCCACACAGCCCCCGCCCGCAGTATGGAGTACTACTGCGAAGGAGAGAGAGGACTGGCAACCAGCGAAGATGGT  
GGCGGTGATGTGATGGTGACTGGGATGGCGTGTGCACCACGAGGCGGGGGCAGTGCGCCGTCGACAAGGCGCAACGCCGG  
TCGTGGGTGCACGAAGTCGTCGAGGGCCGCTGGTCGACGTAGGGGGCGGCCGAGGCGAGATGCTGCACTGTAGTACACAC  
GCAAATACAGCCTACCATCGTCGCACACGAATGCTTGCGTTTTTTCCACCAGGCAAGATGGACGGAGGACGAAGGACGTC  
ACACGAGTGGGGCGAGGCGACAGCGAATCGTCGGTGGATTTCGTGACCAGGACGTTGGCCAGTCTATCGCGAACCACCAC  
GGAGATGTACGTGATATCGTCGGGCGGAACTCGTGTCAGCAGGTCCTCCGATGTTATGACGGCTCTGTCGGTCGTTGTGA  
CAGCGGGGGCCGTGTCGAAACCGAGGAAGGGCGATGCTGACGAAGAGTCGTCGAGAGAACCCGAGCAGCGGGCGTCGAAG  
CTGGGACTGCTCGTGGGCGAAGTCGAAGGCGAAGCCGAGACGTTGTCATGAGGACCGATCGAGGCAGGACAATCTCGAGG  
CGAGCCGGAAGAGGCAGAGGTGGCCGAAGAACCCAGGTCATGGGGAGAGGCCAATGTGCGCTCGAGGCCGGACGAGGCCG  
AAGAAGATAGGTCTGCTGAGTCAGGAGAAGACAGGGCAGACGGGTCGACTGCTGAGTCGACGAATGCGGGTTTGACACGA  
TGCAAGGATACAGTGGTGCGTGATCCTGCGATGTCAAGATCGATGGTTTGGTGCGATCGGGAGAGAACACGATGAGGACC  
CGTGTAGGGCGGATGAAGCGGGGGCTTGACCGTGTCGTCCCGAAGCATGACAAAGTCACAATCGCTGAGAGCCCTCGGAA  
CAAAAGGCGTCGGAGGCGAGTGGCTGCGAGGCGGTGGGATGCGCAGCGCCTTGCAGTGGTTTCGAAAGAAGTCGACGTAA  
GTGGGCAGATCGACGTTGTCAGGAAGAGGAGAAGGCTGAACAAGTTCCCCAGGTAGAGTTAGGGTTTGTCCATAGACAAA  
TTCAGCAATTGTCCCCTGCAAATCCTCCTTGAAAGTGGCCCTGATGCCGAGAAGCACGAATGGGAGCGCTTGAGACCACA  
TTGTGTCGTGGCAGCGGAGGGCGGTTTTGAGAGTGCGATGCCACCGTTCTACCAAGCCGTTTGACTGAGGGTGGTAGGCG  
GTGGTGTGCACGTGGGTGATGCCGCAGATTGCGCAAAGCGATTGGAAAAGAGCAGATTCGAATTGTCGGCCTTGGTCGGA  
CGTGACCGCGGCGGGACAACCGAAACGCGAGATCCAGCACTCGAAAAGAGCTCGGGCAACAGTGTCGGCAGTGATGTTAG  
TAAGGGGAACCGCTTCCACCCAGCGGGTGGTGCGGTCGATGACAGATAAGATGTATCGGAATCCCTCGGATATCGGAAGG  
GGACCGACGAGGTCGATATGAATGTGTTGAAACCTCGCAGATGGAGGTCGGAACTGACCAAGCGGAGGAGTGGTGTGACG  
ACCGATTTTGTTGCGTTGGCAAGTGATGCAGGAGCGGGTCCACTCTTGGCAGTGTCTTTTCATGTCCCTCCAGACGAAAC  
GTTCCGAAACCAAGCGAGTCGATGCTTTGATTCCGGGATGAGAAAGGCTGTGTAGCTTTTCGAAGACATCGCGCTGGAGG  
GAATGAGGAATGTAGGGGCGGAGACGGCCCGTAGACTCGTCGCACCAGACTTGGTCGACAATACCAGGAAAAGAGGTTTT  
TACTGGCTTGAGAGAAGACGAGGTGTCGTTAATTAAGTTCATCAGTTCGTCGTCGGCCGCCTGTAAGCGGGCGAGGTCTG  
ACAGGTCGATTAATGAAGTGATTGCGCCGACGCGTGACAAAAAATCGGCGACAACGTTGTCCGCCCCCCGAATGTAGCGA  
ACGTCAGTTGTGAACTGAGAGATATAATCAAAATATCGAAAACGACGGGGCGGAGGATCCTTTGGCGGGTGTTGTATTGC  
AGAAGCGAGGGGCTTGTGATCGGTGAGAACATAGAAATCACGACCGTCGAGCTCTGCTTTGAAATGTTTTATAGCCTCGT  
ACACGGCTAACAGCTCCCGGTCGAAGGCCGAATACTTCTGTTGAGCGTTGTTGAGCTTTTTCGAGAAGAAGGCCAAGGGG  
GAGGTTGTGCCGTTGAGAGTCTGGCTGAGAACAGCTCCTACTGCCACGTCGCTAGCGTCTGTGGTCAGAAAAACTTGTGC  
ATCCGGGTGAGGAAACGCAATAGTGACTGCGTTGGCGAGCAGGCGTTTAAGGTTGTCGAATGCGTGTTGCATGTCCTGCG  
ACCAAGGTACCTCACGGGTGCCGGAAGTTTGAGGGCCAGCTAGTGCGTCGGTTAGCGGTGCTTGGATTTCGGCAGCAGCA  
GGAAGGTGTTTGCGGTAATAGTTCACAGTTCCTAGGAAACGTCGAAGGTCTTTGTACGTTCTAGGACGATCCATAGTCAG  
TATGGGTTCGACTTGAGCCGGCGGAGGCGAGATGCCGTCCGCGGAGACGTGAAAACCGAGGAAAGTTACAGAGTCTTGAT  
AAAGCTGAAGTTTTTTATCGTTGACGTCGACGCCGGCTTTGCGAAGCGTGTCAAGGACGATTTGGACGTGTCTCTTGTTC  
TCGGCAAGTGATGGGCTAAAGACAAGTATGTCGTCGAGATACGTGAAGCAAAAGTCTAGGCGGAACATGACTTCGTTGAT  
GAACCGTTGCCAGGTTTGTGTGGCGTTGCGAAGTCCAAATGGCATGCGCTTGTAGTGAAAGAGGCCAAACGGAGTGGTAA  
TGGCTGTTTTTTCTACGTCTTCGGGTGCCATGGGAATTTGATGATAGGCGCGTTTACAGTCTATCACGGAAAAGCAACGA  
GAACCAGCAAGAGAGTTCGTGAAGTCGGCGATGTTCGGTACCGGGTACCTGTCGGGGATGGTGCGGGCGTTGAGAAGGCG  
GTAGTCGCCGCACATCCGAAGAGAACCGTCTTTCTTTTTGACAAAGTGAGCCGGAGTAGCCCACGCACTGGATGATTTTT  
CTATTATCCCGTTGTCCAGATGGATCTGTATCTGTTCTTTGGCAAGAGGGACAAGTTCTGGTTTAATTCGACGTGGACGA  
CAAGCGATCGGAGGTCCGTCGATGAGATTAAGTTTATGTACAGTGCCATTCGTTACGACCGAAACTCGTGTCGTGGGCGT  
ACGGATTGAAGATTGCTGCACGAGAGAGGTTGTCACCTTAGTTGAGGCATGTGACGCCGGACGAGAGACAACCGAAGCTG  
AAGCGTGAGCGCGCGCAAGTGGGCGCGGCTGTGATGGTTCGGTAGCAGCTGACCGGGCTGCGAGAGGTGGGCGTGGCACA  
GTGACAGCTGCGCGCGGCGTCGTTCTACTGTTCGTGGTGGCAGGCGCGTGAGTTGCGGGCGCTGCGGTCGCGCAGGCTGT  
GGAGCCGGCAGGCGCTGCCAACCTAGGCGGACGTGAAACGCTACTGTTGCCGTGCTGAAAGCTAGGTGAGCGAGAGTTAC  
TAGCGGTCTGTTTGTTATTGTTTTTGAACTGCGAAGGCTTGCCGTGCACGGACGTACAGTTGCGAGCCGGAATTAAGAAA  
ATGTCTGGGCGCTCGCGAAAGGTAACACGTTTGGTGACAATGTTTGTAGCGCCGGACGAGATTGCTTTGCTGTTTGCAGT  
GGGCGTTGCCTGGCAAGAGCGAGTGTTTTGACAGTTCAAAAGTGGCGTTGGAGCGAGCCTGACAGTAGGCGGAACCAGCG  
GAGCCATGAATTTAGAGTTCAGAGGCGAGGTTACAGGTTGAGAAACCGCGTGAGAACTAGTTGTCGAATTGACATTGTCT  
GTTCGTTTACGAGCGTTCGGGGCCGAAGAAAGTTTGACAGCCTCCGCGTAAGAAAAAGACGGCACACCAGAGTCACACGA  
GTGCGAGTCAGCACGAGACGAAGTGGTTGCAGGGGGCAGTTCACACTTGAGCACACTGTGACTAACCTGGTTGTCTTTGA  
GATTGTGAGCAGCCCGCAGCGAGTCGAGGCGACGTTGCAGGTCGGTGAGCTCGGACGACTTGGTCAGCAGGCGCGACTGC  
AGGTTGACGTTCTCGCGCATGAGACTGTTGCGCTGCTCGGAGACGGTGACGAGTCTCGATGACGCCTCATGCAATGACAG  
CGACAGCTTTGCATGAGTGGCGATGAGGTCGGAGAGCTCGTTCGGTTTGGTTGAGAGCTCGGAGATTGCAGCGCACTGAA  
AGGTAGTGTTCGTAGTGCTGTGATAGATAGAGTTCGAACCAGCGTCGATGGCAAGCGCGTGGTGTTTCAGGAAGTCGATG  
CCGAGAATAGGTTCAGGCACGTTAGCGACGAGAAAGGTCCACTGTAACTTGCAGTCTGGAGACACATCAATCGAAAAGTT  
CGCCGAACCAAGACACTGGAGAGGCGTGTTGTTTATAGCTTCGAGTCGTGTTGCGTGCTTTCGAGTCACGAGGTGTTTGA  
AACGAAGCGGCAACAGAGACACATCAGCACCCGTGTCGACCAGGAAGTTGAGTCCGGTGACGAAGTCTCGTAGGTACATG  
CGGGCACGGCCAGTGCTGTCAGTTGAGACGGAGTGCAGGAGGGCGTGGCGCCTGTCATCGGAGGAGCCGGAGGTGGCGCC  
TGTGCCTACCGGCTCGCCGAGTTTGGGTGCTCGCAGGGCTTGCGGCACTTGATTGCGTCGTTCCCATAAACTCGATGATA  
GTAGCAGTATTTATGAGAAGTGCCCGAAGCTGCGGCCTGAGGTCGAACCAGAGGAGGCGGACCTGACGAGCAACTCGAAG  
GTGAGTCTGGTCGTTGTTGTTGCGTCGTAGCAGCACGTTGTCTGACAGGCGAAAGTTCATGTGACGCGGACTGCTGTCGT  
TGCGGAGGCTGGGTGCAAACTCGTTCCCAATGTGAGCTCTGCGTGTTATCCTGGATCGGCATCGTGTCGAGGTGGAGCGA  
AAAGTAGGCTCGATCAGCGTGACAGATGCGATCGTCAGGAGGTAGAGCGATTTGAGCCGTTGCTGCCAGCTGAACAGGTA  
GAGGCAGTTTGTCAAGCCACATGTGAAATAACGTCTTGTCAGGCATGTCGGATTCGCTTGCCATATTTCTCATCTTGACC  
CAGAGCGTTGATGGCTTGTCGTCACCAAGGGATATGTTTTCGAGTCGTCGTAGAAGACCCTCGTTGCCAAATCGCGAAGT  
TCGGCGTAGAATGTAGGATTTGGCAGCACGGTACTTGTCGTGTGGAGGCGGCGCACGAAGTAGTCCGTAAATGTAGTCTG  
GGTGTTTGGAGAAGTGAGAGATGAGCGCGATGTATCTGGCGTCATCCGACAGTTTGTGGAAGTCCAGTATTTGTTCCACG  
AGAGCGAACCATAACTCCGGAATCTCCTCGTTGAATTCAGGCAGAGTCGGAAGTTTGTTGGTGCTCGAATCAGCAGGTCC  
GATGCAGGCGGAGCCTGATTCGATGAACGCGGCAGGCGCTCGCGCGGGAGCGGTTGTTGATCTGAGCGGAGCGCGAGTCG  
TGTTTACATTCCCCAGTGGGGCGTGGCTGCCCACGTGACCGGTGCCTCGCGTAGGAATACAATGCGCGCCGGACGGTTGC  
GCATGTTGCTGTGCGGCGGAAGCATCGTGGCGCACAAAGAAAATAGTCCCCGGAATTTTTTCGAAATAGTGCATTTCACT  
CGGTGAGGAGGAGTTCGCAGACACAAAAAGTTCACTATTAATGTTCGTTGCACTCGACGGAGTGATAAATGCAGTCTGTT  
GTGGGGGTGCGAAATTTCGAGGCACGTGTGCCGGTGGCGGCAGTTCGACACCTGTTGCATTCGAAGTATTTCGATGAAAA  
TGTTTAAAGTCACTAAATGCAGTAGGTGGAGGTAAGTAAACACGAGAAAAAGAGTCTGATGTGCTCGGAAAGGTCGAGTA  
GACACTAGCGGAGCTGGATTGTTCATTGTTCGGCACGTGGATGCACGACTGTTGCGTAGTTGTAGCACAGGTAAAAACAT  
CGTCACGATTAAGAAAACACTGGTTTCTCGTAGTGTTATCGCAATGAGAGTTCGACGGTAGCGATGAATTTGATGAGAGC  
ACAGTAGATGTAGCTCGATCCGTTCGGTGCGTATGTGGCGTGCTATAGCCGGAGTCGTACAGGCGAGAGTTCACACATGA  
TGCACCAGAACCAAATAAATCACTAGAAGTATTGTAGGAGTGAAACGGCGTGCTCTGAGGTCGAATTTGATGTGAATCCG  
TTGGAATGGAGACGTTGTTCTGGCCGGTGGACGCCGATCCGGTGTTGGCGGGAACGTTATCCATTGTCCAGGGTAGCACT  
CGTATTTGAGACCCGAAACGCGACGCGGTTGACGCGACTTTCACTTTACGATACGGAATATTCGTTCAAAACGGAAGGGT  
CACCAATTGAAGCGAGACTGAGGTATTGGGGTACCAGGGAAACACTTCTAGTTAGAACATACATTTATTGCATACGAACA  
GTACAGAAACATAGAACCAACTGGCAATA

LTR-04

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| Upstream Primers (5’-3’) | Downstream Primers (5’-3’) |
| GAGCTGGATATGGGCGGAGAAGG | TTGGCACATTGAGGATGCTGACG |

GGAAAGTAGTGAGGGCATCGTCCAAGGAGAGACCACGGGACAGTTTAGACATTTGGGTCTTAAACGTGCGAACAAACCTC  
TCAGCCAATCCATTGGAGGCGGGATGGAAAGGGGCGGTATGGACTAGGTCGATACCCCGGGTAGAGCAGAAAGATTGAAA  
GTCGGCGGAAGTGAATTGTGGCCCATTGTCAGTGACCATAGACAGCGGGAGCCCTTCAATGGCAAAGATGCGGGAGAGGG  
CCTGGATGGTGTGTTGGGAAGTGGTGGAGGTCATGCGGGAAACATAGGGAAACCCACTGCCGGCGTCGACAACCACAAGC  
CAGGAGGCCCCCAGGAAAGGGCCCGCGAAGTCCAGGTGGAGGCGAGACCACGGCGTCGTCACCTCAGGCCACGGGAAGGA  
GCGGCGCGGCGGCGCCGATTTATTGCTCTGGCAGATGGAGCATGAGGCGACCAGGGCAGTGATGGCAGCATCCATGCCCC  
GCCAGTAGACGTGCCGCCGGGCCAGCCGCTTCGTGAGCACGACGCCCCAGTGCCCCGTATGGAGGAGGGCAAGGACGCGT  
TCCCGCAGCGACTGCGGGATGACGACCCGGACCTGATCGTTGTCCCCCTGGAGTAAGAGGACGCCCCGGAGGGACGAGAG  
GGCGTCGCGGCGCGTCCAGTATGCCTGAACTTCTGGTCGGGAGATCTGGCGTCGGTCCGATGGCCACCCCTGCTGCACAT  
GCCGAAGAACGACCTGAAGATCTGGATCCTCAGCAGTGCAGCGGGCGACCAGGGTAGCATCCAACGGAAGCGAGGCCAGC  
GCCGCCGCTGCAGCGTCGTCGAGGTGAAAGCAGACGATGGGGTCGGCGTCGAAGACAGGGTCGGGTCCCACAGGCAGCCT  
GGAAAGTAGATCAGCATTGGCATGACGGGCAGTACTGCGGAACTGGATGTCATAAGTGTAGGCAGACAAAAACAGTGCCC  
AGCGCTGGAGGCGGCGGGCCGTCCGAGTGGGGACCGCCGCTGATGAACCAAAAAGAGAGACAAGAGGTTTATGGTCGGTA  
AACAACGTAAACCGCCGACCATAGAGGAAGTCATGGAACTTTTTGATTCCAAAGATCAGAGCCAGGGCCTCTTTCTCTAT  
TTGGCTGTAATTGCGCTGTGCGGGAGAGAGGGTTTTAGAGACAAATGCAATCGGGCGCTCCACACCATCCACCAGGTGGG  
AAAGAACAGCCCCGACCCCATAGTCAGAAGCATCCGCCGCCAAGGTGAGAGGCTTGGAGGGATCGTATGCCATAAGGCAA  
GGAGGGCGAAGGAGGCTCTGCTTGAGGCGCTGAAAGGAGGACTCACAGGCCGGGGACCATTCCCAGCGGACGTTCTTGCG  
AAGCAAGCGGTGCAGGGGTTCAGCCAGCGCCGCCGCTTGAGGAATGAAACGCCGGTAGTAATTCAGTTGGCCCAACACCG  
ACTTAAGTTGGGTAGAATCCGTCGGAGCAGGCAGTCGTTGTATGGCCTCGACATACTGAGGCATGGGCCGGATGCCCTCA  
GCGCTCAGGATATGTCCCAGGTACTGGATGTGGGGAACAAAAAAAAGGCACTTGTCCTTGTTGCAACGGAGGTTCTCCCG  
GCGCAGAACAGCGAACAGAGCACGGAGATTGCGTGCAAGATCTGGGGCATCCGTGCCGGTGACCAGAATGTCGTCCAAGT  
AATTTGCGCAGCCGGGGACATCTCGCGTAACCGACTCGAGATACCGCTGAAAGATGGCCGGCGCGCTGGCGACGCCGAAC  
GGGAGACGGTTATAACGAAAAAGCCCAAAGGGCGTGTTGATGACAAGGAGTTCTCGGGACGTGTCATCAAGAGGAAGTTG  
GAGATAGGCGTCCCGGAGGTCGATTCTGGCGAAAAGGCGGCCGCCAGCCAGGCGAGAAAGTATGTCGTCCACTTTGGGAA  
TGGGGTAGGTGTCGATCACCGACTGGGCATTTATGGTCGCCTTGAAATCTCCGCAAAGACGCAAGGACCCGTTGGGTTTT  
TCGACCACCACAATGGGTGTTGCCCAGCGGCTGTGAGGAACAGGGGAAATGACCCCCTCATCCTCAAGGCGCTGCAGTTC  
GAGGCGCAACTTGTCCCGCAAGGCGTAAGGGACAGAACGAGCCTTGCAAAATTTGGGGACTGCCGAAGGGAGGAGCTGGA  
TATGGGCGGAGAAGGTAGAAACGCCCGGAGAGGAGGCCGAAAAAATATCGGAAAAATCAGTGAGCAAGGTCTCCAGGTAA  
GCAGAGGTGGACAAGGAATGTACTGCAGTAGCAGAATCCTGAAGCCCAATCCCCAGTGCTCGGAGGAGGTCTCGACCCAA  
GAGATTGGTGGCCGCCGGAACATTCACGACCAGGATGCGGGCAGAGACTGCCGTGGAGCGATAGCGGACCTGAGCAGAGA  
ACTGGCCCAGGATATCAATGTGGTGGTTAGTATAGCTGCGCATGGGCGTCACAAAAGGTCGAAGGGGAGGGGCCCCTAAC  
CGCCTATGGGTGTCCACATTGATAATCGTGGCGGAGGAGCCGGTGTCGACCTGAAAGGAGACCGCCGAGCCATCAAGAAG  
CAGGGAGAGATTCCAGACATCGTCGGTGGAGGGAAGCACGGACCGCACAAAGGAGACCTCCTGAGCCGGCCCGTCAGCAT  
CCTCAATGTGCCAAGCTGGGGCCTCCGTGGTGGTGCAGTCCACCGCCATGGCAGAGGAACGACAGACCTCCGCACGGTGG  
CCCCGCTTGCCGCAAGCACTGCACGTGACCCAGCGGAAGGGGCAGGCAGCCCGCAAGTGGTCAGCAAAACAGCGCCCACA  
GGACGGGAGGGCCTGGGGGGACCCCCGCTGTGGCGCCGCCGACAGCTGTTGCTGCTGCAGCTGGTGCTGCTGCGCCGGCC  
GAGGGGACTGGTGCTGCGGCTGCTGTTGCTGCCTCCGCGGCTGGCGGCGACGGGAGGGGGCCGAGGCACCCGGAGCTGCC  
GGCAGGGGCGGGCCGGAACCGGCTGGCCGTGTGGGGGGCGGACCCCACTCTGGCGGACGGGTGTAGTACACGCCAGAGGG  
ATCGCGAACAGCCGCAGAGGTATGAAGCGACTGTTCAAACGCCCGCACCACCTCCAGACAGGTCTCCAGGGGAGGGTCCT  
TCAACCTGAGGAGGTCCATCCGCAGGGCATCGTCCGGGGCATGCACCAAGATCATATCCCGGACCAAAGAGGAGCCGTAA  
GAACGCTTACAAGCCGGGTTGGCACAGTGAAAGCGACAATCGCGGGAATAACCCTGGAGCTGAGCGACCCACTCCCTATA  
CGACTGGTGAGGCAGCTTGTGACAACTGAAAAATTTGTGTCGAGCCGCCGAGACATGAAACTGGGAGTCAAAATAGTCAA  
AAAGACTGGATTTAATGACTTCATACTGGAGGGTATGGGGCTCCACGTCGGGATGCAACTGCTGGAGCAGGTGGAAAATG  
TCGGGGCCGGCATATGCCAGAAAGAAAGCACGTTTCTGGGAGTCATCGCTGATGTTATGAGCCACGAAGTACTGCTCGAG  
GCGGGCAACGTAGTTGGCCCAGGGTTCGATCTTCCTGTCAAACTGTTGAAAAGCCGGGGGCGCGGAACGCATCCCGTGAA  
CGGCAGCAGAAAGATGGGACAGCTGAGCTGAAAGCACCGGGTCGGCCGCAGAACCGGACGAAAGTCTGTTGCAGAGCATT  
TCGTTGAATTGCAGCATCTGTTGTAAGATGGCCAAGACCGCGGCCGAAGGTTCATCGACGTTTTCCATCGTGGGAAGAGG  
AAAGAACGCGTGAAGACTCAAAACACCTCGTCGCCAAATGTAGTGTCGGCGTCAGCCGAACAAAAGAATAAATACTCAAA  
AGAAAGGTTTATTGACCACTTAGGCGGCGCGAGCCGCAAGATACAAATGAGAATTTACAAAAAAAGCACGCACTTCCGCG  
TGATAAATAAAAGGAAACAAAACACAGTTCTCTGAACAAAACAAATGATTCTAAGGTACAAAGAGGATAATACGAAAATA  
ATAAACGGCCTAACAGTCGTGCTGCCTAGTGCAGCCCTAACGGGCTCCGCTGCTGTAGGTACGAATGATGGGGAGAGTAG  
CTCCCGGCCGCAGCCAGTACCAAGCAGCGGAGACCGCTGTCTGCCTGTAGACGGCGGCGGCTCTGCTTATATGGACCGCA  
GGCGTAGGAATATTCTGCGTTTCCTCCGTGACACGTGGTCTGGCGGAAGAATGTAGTCCGCGCCGACAGCGCCATCTCGC  
GGGAGTTGCTCGTCGGTTGGACTACGTCGAATGGAGAGTGCCTGTCGTCTTCCGTGTCCGCTACCCGCGTAGCTTCGGCG  
TATGATGGGTAGACGACTTGGCCGGCGTTACTGCATCCCTTCCCCCCACCCCTCCCGCGCGAGAAGCGGAGAGGCAGAGG  
CAACAAGCCGCAGCGGAGTCGGAACACCCGGCCGGGTGTTGTGGAGGATCGACTTCCATGGGCGTCGGGCCGTCGGCGGC  
GGCTGGCGCAGGCGGGATGTCCCCTGGAGCAGGGAGCGGCACCACCGGAGCTGGGGGCAACGGCGCATCCCCCGACGGGG  
ACGGCGGTTGCGGCGCTGGAGACGCTCGTGGCTGCTGGGCGAGGCGGCGCCGGATTTGGTCGACATGGCGGCGGCACAGC  
GTACCGTCCTCCAACCGGATGACGGCCATCGACCGGCCGAGAGGAGCTTGCACTGTGGCTGGCACCCATCGTCGCCCAGA  
CCGGGGGAACACGAGGGTCCACACAGGGTCCTGTGGCGAGAAGCGGTGACGGGCCGGCCGGGAAGGGGCAGGAGGGGAGG  
GAAGAGGACGGAGCACTGAGAGTGGGGACCGGAAGGGGCGGCCATGGAGGCGCTCGGCCGGGGAAGAACCCTCCTGAGGA  
GTCGACCGGTAGGTGGCGA

LTR-05

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| Upstream Primers (5’-3’) | Downstream Primers (5’-3’) |
| CCACCTACTGGCAATCAAGAATC | CCAAGAAGAACTTACGACCATACAA |

GATTTCTATATTTGTATTGTATCTCATTGCAATTTACGTGTGTGTACGACATGGCTACTCAGGAGCCACATACTTTGCCA  
GGTATTGATCTGCAAACCTTTTTGCAGATCCAACAACAAGAAAATGAGTTGCGTCAGCAACAAATTACGGCGTTGCAGAC  
CATGCTGATGGAGCTTTTGCAACGACAACAACAGCCGCAGACGCCACTAGCTGCACCACACGTGACGTCACCTCCTGCCA  
AGCACGCTGTACCACCGTTCCGTCCCTTTGATGAGCGGGCCGAAGAATGGGACATCTATTACGAGCAGCTGATTCACCAT  
TTTTCAGCCCATCATGTCAAAGGTACAGCCAAGCTTACGCATTTTCTATCTTGTTGCGGCGCCTCGACTTTTGCGGTAGT  
TAAGAAGCTGTACCCCGCGACGAACTTAGATACTCTTTCGTTTGAAGCAGTAGGCACGGCCTTAACAAACTATTATTCAG  
AGAAAGTTCATGTCGCGGCAGCTCGTTTTGCTTTTGCTAGAACAAGGAAAAAGCCAGATCAAACTTATCGCCAGTGGGTT  
ACGGAATTGCAGGGCCTAACCCGCAAGTGCCAGTTTAATTGTGAACCTTGTGGTGCATCGTACTCTGACACAATGATTCG  
TGATGCAATAACTCACAATATTGATGACAGGAAAATTAGAGACCAAATTCTTCAATTTTCTAATCCTACATTAGAACAAG  
TGTTAGCTATCATAGACCACAAAGATGCGTGTGACTCAGCTCAAGCTACTTTTGCTAATACTAACATTTGTAACGTAGAC  
ACTGCTACTGTTGCTAAAGTTGAAAATTCTCGTGTGCGCCGAGCAGGCTCGAACTATAAACATGTCAACAAGCGCGGCCC  
TCGCGCGCAGCACGCAAGTCAGCAGTCAAAACAAGCTCGCCGCTCATGTCCTAAGTGTAATGTTAAACATTCTCGTGACA  
ATTGCCCTTCACGTAAAGCACAATGTTTTTCGTGTAACAAAACTGGACACGTGCAAAGTGTGTGTATGCAACGTAATCGT  
TCTAACATTCAGTCGACGAGTGGTGTTCAAACAAACAAAAACAGTGGCGCTCGTTCGACAAATTTGATTCAGGTAGACAA  
TTTGCCAAGTTCTTATATAAACACTATTAATGCTTCGGGTACTTCCCGCCCGCTTACCGTTTTGCCACCCAGTGTAACTC  
AGGCTCCCACCCCCTCAGTGTGCCGTACTGTAAACATTTGCTCCGCTGTGCGCCGCTGCAGGGATAAACTTTTTGTGACT  
TTGCATTTTGCTCAGCAGCCTGTTCAGTTTCAATTAGACACGGGTGCTTCTTTGTCTCTCATTAATAGTGCTACGTATGA  
TTTGTTGGGTCGACCAGTTTTGTCGCCCACTGACAGACAGCTCACGTCCTACAATGGTGATCGCATTGATGTTTTAGGCA  
CGTGCAGCTTACCTGCCACGTACCGCCAGTGTACTAAAACTGTCACGTTGTATGTACTGTCTTCGCCAGACTCAGTGAAT  
ATTTTTGGCCTCGATCTTTTTGATTTGTTTCACATGACTATTCAAGATCGAGTGTTATCTGTGAATGCATTTCAGTCACA  
TTCTGCTGTGGACAAATTGTGTGACGACTTTGCTTCTTTGTTTTCACCAGGCTTAGGTAAAGCTAAAGATTTTGAGGCTC  
ACATTCAATTGCTCGATTCTGCGCAGCCTCGTTTTTTTCGCGCCCGTAAAGTTCCTCAAGCACTTCAAGAACAAGTCGCT  
TTTGAACTTCGTGAATTGCAGGCACAGGGTGTGATTCAGTCCATCACTGCTAGCCAATGGGCTTCTCCCATCGTTGCTGT  
GAGAAAACCGTCGGGTCGCCTACGCATTTGTGCCGACTTTAAGCCTACAGTGAACCCTCAGACTGTTATTGCTTCTTACC  
CACTCCCACGTCCTGATGAATTCATGGAGCGCCTGGGAGCTGGCAAATACTTTTCGAAAATTGATTTGCGCGATGCGTAT  
TTACAGTTGCCTTTGGACAATGCATCGAAATCTGTTCTTGTAATCAACACTCATTTGGGACTTTTTCGATTTTTACGTTT  
GCCATTCGGGTGTGCTTCAGCTCCTGCCATTTTCCAACGGTACGTCGATCAGCTGATTGCGTCTGTTCCGTCGTGTGCTA  
CTTACTTGGACGACATCATTGTTTCTGGTCGAACTCCGGAGGAACATTTGTCAAATCTCCGATGCCTTTTTCAAGTGTTA  
TTATCTGCAGGACTTAAGTGTAACAAGGAGAAATGTGTTTTTTTTCAGTCGGAAATCGATTACTTGGGCCATAGGATCAA  
TAGTCAGGGCATACATCCTTTGCAGGCCCACCTACTGGCAATCAAGAATCTTCCGACGCCGAAAAATTTGCAGGAACTTC  
AAAGTGTCTTGGGAAAACTTACATACTACATTCGGTTCATCCCGAATGCTGCTCAAATTGCTGCGCCTTTGCACCGCTTG  
CGCCGCAAAAATGTTCCTTTTGTGTGGGATAAACATTGTGATGTTGCTTTTCAGACGCTCAAAAATGAATTGCTCAGCGA  
TCGTTGCCTTGTTCATTTCGATCCCTCCAGACCACTTGTGTTAGCTGCCGATGCTTCCTCATACGGCATAGGTGTTGTTC  
TGTCACATAGGTTTGGGGATCACGATCGCCCCATTGCTTTTGCGTCGAAGTTGCTTACTCCCGCACAATGCAAGTACTCT  
CAAATCGAGAAAGAAGCTTTAGCCCTTGTGTACGGAGTTACCAAATTTCATCATTATTTGTATGGTCGTAAGTTCTTCTT  
GGTCACGGACCATAAGCCGTTGCAATCTTTGTTCCATCCGGCCAAGCCTATTCCGGATCGGACTGCTCATAAGTTGCAAC  
GGTGGGCTCTTTTGTTGTCAGCCTACACTTACGAAATTTTGTATCGTCCTTCGGCGAAGCATGCGAATGCGGACGCGTTG  
TCACGTCTTCCGTCCGGCCCGGACGAGTCTTTTGACGACTCGCCTGTTTCTTGTTGTGCGATGGATTCTCAGGATTCCGA  
TCTTTTAGCCGCGTTTCCACTTGATTACAAACAAGTTGCGCAGGCTACTGCTTCTGACCCGGTCTTGTCTTTGTTGCTTC  
GCTTTGTTCGCTCTGGTTGGCCGCGTTCCGCGCGCCACATTTCGGATTCACATGTTCGCCGTTATTTTGCTAGGCGTCAG  
GATTTGTCGGTCCATGACGGTGTTCTTTTGCTCCGCACCTCCCCTGACCAGCCTCGCGTCGTTGTACCTCGTGTTCTTCA  
ACGTCGTGTCTTGAATTTGTTGCATCAAGGCCATTGGGGACTCGTTCGTACAAAACAGTTAGCTCGCCGTCATTGTACGT  
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