# Entire plasmid:

5’- tactagtagcggccgctgcagtccggcaaaaaagggcaaggtgtcaccaccctgccctttttctttaaaaccgaaaagattacttcgcgttatgcaggcttcctcgctcactgactcgctgcgctcggtcgttcggctgcggcgagcggtatcagctcactcaaaggcggtaatacggttatccacagaatcaggggataacgcaggaaagaacatgtgagcaaaaggccagcaaaaggccaggaaccgtaaaaaggccgcgttgctggcgtttttccacaggctccgcccccctgacgagcatcacaaaaatcgacgctcaagtcagaggtggcgaaacccgacaggactataaagataccaggcgtttccccctggaagctccctcgtgcgctctcctgttccgaccctgccgcttaccggatacctgtccgcctttctcccttcgggaagcgtggcgctttctcatagctcacgctgtaggtatctcagttcggtgtaggtcgttcgctccaagctgggctgtgtgcacgaaccccccgttcagcccgaccgctgcgccttatccggtaactatcgtcttgagtccaacccggtaagacacgacttatcgccactggcagcagccactggtaacaggattagcagagcgaggtatgtaggcggtgctacagagttcttgaagtggtggcctaactacggctacactagaagaacagtatttggtatctgcgctctgctgaagccagttaccttcggaaaaagagttggtagctcttgatccggcaaacaaaccaccgctggtagcggtggtttttttgtttgcaagcagcagattacgcgcagaaaaaaaggatctcaagaagatcctttgatcttttctacggggtctgacgctcagtggaacgaaaactcacgttaagggattttggtcatgagattatcaaaaaggatcttcacctagatccttttaaattaaaaatgaagttttaaatcaatctaaagtatatatgagtaaacttggtctgacagctcgaggcttggattctcaccaataaaaaacgcccggcggcaaccgagcgttctgaacaaatccagatggagttctgaggtcattactggatctatcaacaggagtccaagcgagctcgatatcaaattacgccccgccctgccactcatcgcagtactgttgtaattcattaagcattctgccgacatggaagccatcacaaacggcatgatgaacctgaatcgccagcggcatcagcaccttgtcgccttgcgtataatatttgcccatggtgaaaacgggggcgaagaagttgtccatattggccacgtttaaatcaaaactggtgaaactcacccagggattggctgagacgaaaaacatattctcaataaaccctttagggaaataggccaggttttcaccgtaacacgccacatcttgcgaatatatgtgtagaaactgccggaaatcgtcgtggtattcactccagagcgatgaaaacgtttcagtttgctcatggaaaacggtgtaacaagggtgaacactatcccatatcaccagctcaccgtctttcattgccatacgaaattccggatgagcattcatcaggcgggcaagaatgtgaataaaggccggataaaacttgtgcttatttttctttacggtctttaaaaaggccgtaatatccagctgaacggtctggttataggtacattgagcaactgactgaaatgcctcaaaatgttctttacgatgccattgggatatatcaacggtggtatatccagtgatttttttctccattttagcttccttagctcctgaaaatctcgataactcaaaaaatacgcccggtagtgatcttatttcattatggtgaaagttggaacctcttacgtgcccgatcaactcgagtgccacctgacgtctaagaaaccattattatcatgacattaacctataaaaataggcgtatcacgaggcagaatttcagataaaaaaaatccttagctttcgctaaggatgatttctggaattcgcggccgcttctagatccctatcagtgatagagattgacatccctatcagtgatagagatactgagcacgaaagaggggacaaagcgataggtacttacgtgctcacaactctatccagggattcgagtcaagcagcatcacaacgtcaagacgcaaccacagcgataggtacttacgtgctatgaaaaaaatttggctcgccctggctggtgctgttttagcgtttagcgcatcggcgatgaagagaaattacattctgggattagatataggcattactagcgttgggtacggaataatcgactacgagacacgcgacgttatagacgctggcgtgcgcttgtttaaagaagctaatgtggaaaacaatgaagggagacgtagtaaacgcggtgcccgccgtttgaaaagaagacgccggcacagaatacagcgcgttaagaagttgcttttcgactataacttattgacagaccattcagagctttctggtataaacccctatgaagcacgcgttaagggactttctcagaagctttcggaagaagagttcagtgccgcattgttgcaccttgcaaagagacgtggtgtccacaacgtgaatgaggtcgaggaagacacagggaatgaattgtcaacaaaagaacagatatcacggaactcgaaagccctggaagaaaaatacgtcgccgagttacagctggagcggttgaagaaggacggtgaagtacggggttctataaatcggttcaaaaccagcgattacgtaaaagaagcgaagcagcttctgaaggtccagaaagcataccaccagctggaccaatctttcattgacacctatatagatctgcttgaaacacgcagaacttactatgagggtcccggagagggtagcccgttcggttggaaggatatcaaggaatggtatgaaatgttgatgggacactgtacatacttcccggaagaacttcggtcagtaaaatatgcatacaacgcagatctttacaatgccctgaatgatctgaataacttagtgatcacacgggacgagaatgaaaagttggagtactacgaaaagttccaaattattgaaaatgtgtttaagcaaaagaagaaacctacactgaagcaaattgccaaagagatcttagtcaacgaagaggacataaaaggttatcgcgtcacctcgaccggcaaacccgagttcaccaatttgaaggtttatcacgacataaaggacatcaccgcgagaaaagagatcatagagaacgcagagttactggaccagattgctaaaattttaaccatatatcagagtagcgaggacatacaggaagaattaacgaatcttaatagtgagcttacccaggaggagatcgagcaaatttcgaacctgaagggatatacaggcacacacaacctttcactgaaggcgataaatctgattttagacgaactgtggcacacaaacgacaatcaaattgccatattcaatcgtcttaagttggtgccgaaaaaagtcgatctgtcgcagcagaaggaaatccctacgaccttagtagatgattttatcttaagccccgtagttaagcgcagtttcattcaaagcataaaagtcataaatgcgatcatcaagaagtatgggcttccgaacgacataattatcgaattggctagagaaaagaactcgaaagatgcgcaaaagatgatcaacgagatgcaaaaacgcaaccggcagacgaacgagcgtattgaagagatcattagaaccacagggaaagaaaatgccaagtatctgatagagaagattaaattacacgacatgcaagaaggaaaatgcttgtatagtttggaggccatcccgcttgaggatctgttgaataatcctttcaactacgaggtggatcacataataccccgtagcgtttcattcgataattcttttaataataaggtacttgtcaagcaggaggagaatagtaaaaagggtaaccgcacgccatttcaatatttgtcctcgtctgattcgaaaatttcgtacgaaacctttaagaaacacattttgaacttggcaaaggggaaaggacggatttcaaaaacaaagaaggaataccttttggaagaacgcgacataaacagatttagcgtgcagaaagactttataaaccggaacttagttgacactcggtacgctacgcggggcttaatgaaccttttacggtcctacttccgggttaataatcttgatgtgaaagttaagagcataaatggtggatttacatcgtttttgcggcgtaaatggaaattcaagaaggagcggaataagggttataaacaccacgcagaagatgcccttataatagcgaacgcagattttatcttcaaggaatggaagaagctggataaggcgaagaaagtcatggagaatcagatgtttgaggaaaaacaagcagagagcatgccggaaatcgagacagagcaggagtataaagagatttttataactcctcaccaaataaagcatattaaagattttaaagattataaatattcacatagagtggataaaaaacccaatcgggaattaatcaatgacacgttgtatagtaccagaaaagacgataaggggaataccttaattgtcaacaatttaaacggcctgtacgacaaggataacgataaacttaaaaagctgatcaataaaagcccagaaaaattgctgatgtaccatcacgaccctcagacctaccaaaaattaaaattgattatggaacaatacggtgacgagaagaacccgttgtataaatattatgaagagacgggcaattatttaactaaatactcgaagaaggataacgggcccgtcattaagaagatcaaatactatggcaacaaattgaatgcacatcttgatataaccgatgattaccccaattcacgcaataaagtagtcaaactgtctttgaagccgtaccggtttgatgtttacttggataatggggtgtataagtttgtcacagtcaaaaacctggatgtcattaaaaaagaaaactactatgaagtgaatagtaaatgctacgaagaggcaaaaaagcttaaaaagataagcaatcaagcagaatttatagcaagtttctataataatgatcttattaaaataaacggcgaactttaccgcgtcataggggtgaataacgaccttcttaatagaatagaggtcaatatgatcgatattacataccgcgaatatttagaaaatatgaatgataagcgcccccctcgcattatcaagactatagcatccaagacgcagtccattaagaaatactccacggacatccttggcaacctttacgaagttaagtctaaaaaacatccgcagattattaaaaagggctgaatgcaccaccatcatcatcatg – 3’

# Amplify everything excluding this segment:

5’- Agcgataggtacttacgtgctcacaactctatccagggattcgagtcaagcagcatcacaacgtcaagacgcaaccacagcgataggtacttacgtgctatgaaaaaaatttggctcgccctggctggtgctgttttagcgtttagcgcatcggcg – 3’

# Answers:

REV:

5’- ttgtcccctctttcgtgctc -3’

FWD:

5’- ATGAAGAGAAATTACATTCTGGGATTAGATATAGGC – 3’