Supplementary File 5. **Coding sequences of *Tu-CAS****.*

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| --- | --- |
| Sequence Name | Coding Sequence (5’-3’) |
| *Tu-CAS* | ATGACTGAGTCAACTGTCGACCGAATCAATGGTATTACTCCAAGTGCTTTGGATCTCATTGGTAACACTCCGTTAATC GCTCTTGATCGACTATGGCCTGGACCAGGACGACTTTTGGCTAAATGTGAGTTCCTCAATCCTACTGCTAGTCTTAAA GATCGTTCATCATATTACATGATAGCCAAAGCCAAAGAATCAGGCCAACTCAAGGATGGTGAATCAGTGATAGAGGTA ACCTCTGGTAATCAAGGAGGAGGAATAGCTTGTGTAACTGCAGTTATGGGTCATCCATTCACGGTAACCATGTCAAAG GGTAACAGTCCTCAAAGGGCAATAATGATGAATGCTTTGGGAGCCAATGTGATCCTTGTTGATCAAGTAACGGGCAAA CCTGGTAATGTGACTGCTGATGATGTTGCTGCCGCTGAGGAGACCGCAATGAAAATTAGAGAAGAAACCAATGCTTAC TATGTTGATCAATTCAACAATCCTACAAATTGTTTGGCTCATTATGAAACAACAGGACCAGAAATTTGGAGACAAACA AATGGACGAATTGATGCTTTCCTTGTTGGATGTGGAACTGGAGGCTGTTTTGTTGGAACTTCCAAATTTTTAAAAGAA AAGAATCCAAATGTTCGGTGTTTTGTGGTTGAACCAGAGGGTTGCCAACCCATTGCTGGATGCACCATCACCAAGCCT CTTCATTTGCTCCAAGGATCAGGATATGGATGTGTTCCTACTCTTTTTGATAAAAAGGTTTACAATGATTCCATCTCT GTAAGTGACGAAGAAGCAATTGAATATCGAAAGCTTTTAGGCCAAAAAGAGGGACTTTTCTGTGGTTTTACAACAGGT GGTAATATCGCTGCAGCCATAAAACTTTTGAAATCAGGACAGTTACCAAAAGACGCTTGGGTAGTAACGATTCTGTGT GACAGTGGTCTAAAATATCCAGAATAA |
| *Tu-CAS\_mod* | ATGACCGAAAGCACCGTGGACCGCATTAACGGCATTACCCCGAGCGCACTGGACCTGATTGGCAACACCCCGCTGATC GCACTGGACCGTCTGTGGCCGGGTCCGGGTCGTCTGCTGGCAAAATGCGAATTTCTGAACCCGACCGCCTCCCTGAAG GACCGTAGCTCTTATTACATGATTGCAAAAGCTAAGGAAAGCGGTCAGCTGAAAGATGGCGAATCTGTCATTGAAGTG ACCAGTGGTAACCAAGGCGGTGGCATCGCATGTGTTACGGCTGTCATGGGTCATCCGTTCACCGTTACGATGTCGAAA GGCAATAGCCCGCAGCGTGCAATTATGATGAACGCGCTGGGCGCCAATGTGATCCTGGTTGATCAAGTCACCGGCAAA CCGGGTAACGTGACGGCTGATGACGTTGCGGCCGCAGAAGAAACCGCAATGAAGATCCGCGAAGAAACGAACGCTTAT TACGTGGACCAGTTTAACAATCCGACCAATTGCCTGGCGCATTATGAAACCACGGGTCCGGAAATTTGGCGTCAAACC AATGGCCGCATCGATGCCTTTCTGGTTGGTTGCGGCACCGGTGGCTGTTTTGTCGGCACGTCGAAATTCCTGAAAGAA AAGAACCCGAATGTTCGTTGCTTCGTGGTTGAACCGGAAGGTTGCCAGCCGATTGCAGGCTGTACCATCACGAAACCG CTGCACCTGCTGCAAGGTAGTGGCTATGGTTGTGTGCCGACCCTGTTCGATAAAAAGGTCTACAACGACAGTATTTCC GTGTCAGATGAAGAAGCCATCGAATACCGCAAACTGCTGGGCCAGAAGGAAGGTCTGTTTTGTGGCTTCACCACGGGT GGCAATATTGCTGCGGCCATCAAACTGCTGAAGTCTGGCCAGCTGCCGAAAGACGCCTGGGTTGTGACCATCCTGTGT GACTCTGGCCTGAAGTATCCGGAATAA |

*Tu-CAS*: coding sequence before codon optimization, *Tu-CAS\_mod*: coding sequence after codon optimization. The *Tu-CAS\_mod* sequence was used for recombinant expression in *E. coli.*