**>*****Banana codon-optimizated Cas9***

ATGGCACCGAAAAAAAAGAGGAAGGTCGGTATACATGGGGTTCCTGCAGCTGATAAAAAGTATAGCATTGGCTTGGACATAGGGACTAATTCTGTTGGTTGGGCCGTCATAACAGATGAGTACAAAGTACCTTCTAAGAAGTTCAAGGTTCTGGGTAACACCGACCGTCACTCTATTAAGAAGAACCTCATTGGCGCTCTTCTGTTCGACTCCGGGGAGACCGCTGAAGCAACGCGGTTGAAGCGTACCGCTCGGCGGCGTTATACCAGGCGTAAGAACCGTATTTGCTACTTGCAGGAGATATTCTCAAATGAGATGGCGAAAGTGGATGACTCTTTCTTCCATAGGTTGGAGGAGAGTTTCCTCGTTGAGGAAGATAAGAAACATGAGCGACATCCGATCTTCGGGAATATCGTTGATGAAGTCGCTTATCACGAGAAGTATCCCACGATCTACCATCTGCGGAAAAAGCTGGTCGATAGTACGGATAAGGCGGACTTGCGCCTCATCTACCTGGCTCTTGCACACATGATTAAGTTTAGGGGGCATTTCCTTATAGAAGGAGACCTTAACCCCGATAATAGTGACGTGGATAAATTGTTTATACAACTCGTTCAGACGTACAACCAATTGTTCGAGGAGAACCCAATAAATGCAAGTGGTGTCGATGCTAAAGCAATTTTGTCAGCGAGACTCTCCAAGAGCCGTCGTCTCGAAAACCTTATAGCTCAACTGCCCGGGGAGAAAAAAAACGGGTTGTTCGGCAACCTCATTGCGTTGTCTTTGGGCCTGACTCCGAATTTTAAATCAAATTTCGACCTCGCAGAGGACGCCAAGCTCCAACTCAGTAAAGACACGTACGATGACGATCTCGACAATCTGCTGGCCCAGATTGGCGATCAATATGCCGATCTCTTTCTCGCAGCAAAGAATCTGTCTGACGCTATCCTGCTCTCAGACATCCTGAGAGTTAATACTGAGATCACGAAAGCACCTTTGTCAGCTAGTATGATAAAGCGTTATGATGAACATCACCAGGATCTGACCTTGCTTAAGGCCCTTGTCCGGCAGCAACTCCCTGAGAAATATAAGGAGATCTTCTTCGATCAATCCAAGAACGGGTATGCTGGGTATATCGATGGGGGCGCTTCACAGGAAGAGTTCTACAAGTTTATCAAACCTATTTTGGAGAAGATGGACGGAACGGAGGAACTGCTCGTCAAGCTTAACCGTGAGGATCTTCTCCGAAAACAGAGAACATTCGATAATGGCTCAATACCACATCAAATCCATCTCGGGGAGCTTCACGCAATCCTCCGACGGCAAGAGGACTTCTACCCATTCTTGAAGGATAATCGTGAGAAGATTGAAAAGATTTTGACATTCCGGATACCATATTATGTGGGGCCACTGGCCCGCGGTAATTCTCGCTTCGCCTGGATGACCCGGAAGTCCGAGGAGACTATCACGCCGTGGAATTTTGAAGAGGTTGTTGATAAGGGGGCTTCGGCCCAGTCATTCATAGAGAGGATGACGAATTTCGACAAGAACTTGCCAAATGAGAAAGTGCTCCCTAAGCATAGTTTGTTGTATGAGTATTTCACAGTGTACAATGAACTCACTAAAGTAAAGTACGTTACGGAAGGCATGCGCAAGCCTGCCTTTCTCTCGGGTGAGCAAAAAAAGGCTATCGTCGATCTGTTGTTTAAGACTAATCGGAAGGTCACAGTCAAGCAACTGAAGGAGGACTACTTTAAAAAAATTGAGTGCTTCGACTCAGTGGAGATTAGCGGGGTGGAAGATAGGTTCAATGCGTCCTTGGGCACTTACCACGACTTGCTGAAGATCATCAAGGACAAAGATTTTCTTGACAATGAAGAAAACGAAGATATTTTGGAGGATATCGTCTTGACTCTGACCCTGTTTGAGGATAGGGAAATGATTGAGGAAAGACTGAAGACGTACGCGCATTTGTTTGATGACAAGGTGATGAAGCAGTTGAAAAGACGGCGGTATACTGGATGGGGGAGGCTCTCTAGAAAGTTGATTAACGGTATCAGAGATAAACAGAGTGGCAAGACCATACTCGATTTTCTCAAATCAGACGGATTCGCTAATAGGAATTTCATGCAGCTGATCCATGACGACTCTCTCACCTTCAAAGAGGACATTCAGAAAGCCCAAGTTTCAGGACAGGGTGACAGTCTCCACGAACATATCGCAAACCTCGCTGGCTCTCCCGCTATTAAGAAAGGGATTCTGCAAACTGTAAAGGTGGTCGATGAGCTTGTGAAAGTTATGGGAAGGCATAAGCCTGAGAACATTGTGATTGAAATGGCGAGGGAGAACCAAACTACTCAGAAGGGTCAAAAAAACTCGAGAGAGCGTATGAAGCGAATTGAGGAGGGCATCAAGGAGTTGGGCTCTCAGATATTGAAGGAGCACCCAGTGGAGAATACCCAATTGCAAAATGAGAAGCTGTATCTCTACTACCTTCAGAATGGAAGGGATATGTACGTGGACCAAGAACTGGATATTAATCGGCTCTCGGATTACGATGTTGACCATATTGTTCCGCAGTCATTCCTCAAAGATGACAGTATTGATAATAAAGTGCTTACCCGTAGCGATAAGAATAGGGGAAAATCCGACAACGTGCCAAGTGAGGAGGTGGTGAAAAAGATGAAGAACTATTGGCGTCAGCTCCTGAATGCAAAGCTTATAACACAGCGTAAATTCGACAACCTGACCAAGGCTGAGCGTGGTGGGCTCTCAGAACTCGATAAGGCGGGGTTCATTAAACGGCAGCTCGTAGAGACTCGGCAGATCACCAAACACGTGGCACAAATCCTGGACTCTAGGATGAACACCAAGTATGACGAGAATGACAAGCTGATTCGTGAAGTCAAGGTTATTACCCTCAAGAGCAAGTTGGTCTCAGATTTTAGGAAAGATTTTCAGTTCTACAAAGTTCGCGAGATCAATAACTATCACCATGCACACGATGCATACCTGAATGCCGTCGTTGGGACAGCCCTGATCAAAAAGTACCCTAAGCTGGAGTCCGAGTTTGTGTACGGAGACTACAAGGTGTACGATGTAAGGAAAATGATCGCGAAGTCTGAGCAAGAGATAGGCAAGGCAACTGCAAAGTATTTCTTCTACTCTAATATAATGAATTTCTTTAAGACCGAGATCACGCTTGCCAATGGCGAGATTAGGAAGAGACCCCTGATAGAGACTAACGGGGAAACGGGTGAGATTGTTTGGGATAAAGGGCGGGATTTCGCGACGGTTCGGAAGGTGTTGTCTATGCCTCAGGTTAACATAGTTAAGAAGACTGAGGTCCAGACGGGTGGATTCTCAAAGGAGAGCATCCTGCCTAAACGTAATAGTGACAAATTGATAGCACGGAAGAAGGATTGGGACCCTAAGAAGTACGGCGGATTCGATTCTCCGACCGTAGCCTACAGTGTTCTGGTGGTGGCCAAGGTCGAGAAGGGAAAGAGCAAGAAGCTGAAATCCGTGAAGGAACTGTTGGGGATAACTATAATGGAGCGTAGTTCGTTTGAAAAGAACCCTATTGATTTCCTTGAAGCCAAGGGTTACAAAGAAGTGAAGAAGGATCTGATCATCAAGCTTCCCAAGTACTCACTGTTTGAGCTGGAGAACGGAAGGAAAAGGATGTTGGCATCCGCTGGTGAGCTCCAGAAGGGGAATGAGCTCGCTTTGCCTAGTAAGTACGTGAATTTCCTCTACCTCGCCTCACACTATGAAAAGCTGAAGGGATCACCGGAAGACAATGAGCAGAAGCAACTCTTTGTGGAACAACACAAGCACTACTTGGATGAGATAATTGAGCAAATTTCAGAGTTTAGCAAAAGAGTGATTTTGGCAGACGCTAACCTGGACAAAGTCTTGTCCGCATATAATAAGCACCGGGACAAACCAATCCGTGAGCAAGCCGAGAACATTATACATTTGTTTACCCTTACTAACCTCGGCGCACCGGCAGCATTTAAGTATTTCGACACGACCATAGATAGAAAACGTTACACCTCAACAAAGGAAGTGCTGGACGCTACTCTCATTCACCAATCGATTACTGGCCTTTATGAGACAAGAATTGACCTCTCTCAGTTGGGCGGCGACAAAAGGCCGGCTGCTACAAAGAAAGCTGGTCAAGCGAAGAAAAAGAAGTAA

**>*****Banana codon-optimizated Cas9***

MAPKKKRKVGIHGVPAADKKYSIGLDIGTNSVGWAVITDEYKVPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQEIFSNEMAKVDDSFFHRLEESFLVEEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNSDVDKLFIQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDDLDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHLGELHAILRRQEDFYPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIKKGILQTVKVVDELVKVMGRHKPENIVIEMARENQTTQKGQKNSRERMKRIEEGIKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVDHIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREINNYHHAHDAYLNAVVGTALIKKYPKLESEFVYGDYKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRKVLSMPQVNIVKKTEVQTGGFSKESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKVEKGKSKKLKSVKELLGITIMERSSFEKNPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVLSAYNKHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDATLIHQSITGLYETRIDLSQLGGDKRPAATKKAGQAKKKK