

SUPPLEMENTARY NOTE

A transcription activator-like effector induction system mediated by proteolysis

Matthew F. Copeland^{1,2†}, Mark C. Politz^{1†}, Charles B. Johnson^{1,3}, Andrew L. Markley¹, Brian F. Pflieger^{1*}

¹ University of Wisconsin-Madison, Department of Chemical and Biological Engineering,
3629 Engineering Hall, 1415 Engineering Drive, Madison, WI 53706, USA

² Present address: The Procter & Gamble Co., 8700 Mason Montgomery Road, Mason, OH 45040,
USA

³ Present address: Washington University in St. Louis, Department of Energy, Environmental &
Chemical Engineering, 1 Brookings Drive, St. Louis, MO, 63130, USA

[†]These authors contributed equally to this work.

* Corresponding author: Email: pflieger@wisc.edu; Fax: 608-262-5434; Tel: 608-890-1940

Table of Contents

Plasmid Sequences

Expression plasmids.....3-12
Reporter plasmids.....13-14

EXPRESSION PLASMIDS

p2A0-T (6741 bp) – Example expression plasmid containing a TALE, *tev*, and *tetR* with Kan^R

TCAGAAAACTCATGTGAGCATCAAGTGAAGTGAAGTCAATTTATTCATATCAGGATTCAATACCATATTTTTGAAAAAGCCGTTTTCT
 GTAAATGAAGGAGAAAACTCACCGAGGCAGTTCCATAGGATGGCAAGATCCTGGTATCGGTCTGCGATTCCGACTCGTCCAACATCA
 ATACAACCTATTAATTTCCCCTCGTCAAAAAATAAGTATTCAAGTGAGAAATCACCATGAGTGACGACTGAATCCGGTGAGAATGG
 CAAAAGCTTATGCATTTCTTTCCAGACTTGTTCACAGGCCAGCCATTACGCTCGTCATCAAAATCACTCGCACCAACCAACCGT
 TATTCATTCGTGATTGCGCCTGAGCGAGACGAAATACGCGATCGCCGTAAAAGGACAATTACAAACAGGAATCGAATGCAACCGG
 CGCAGGAACACTGCCAGCGCATCAACAATATTTTACCTGAATCAGGATATTCTTCTAATACCTGGAATGCTGTTTTCCCTGGGAT
 CGCAGTGGTGAGTAACCATGCATCATCAGGAGTACGGATAAAATGCTTGATGGTCGGAAGAGGCATAAAATCCGTCAGCCAGTTTA
 GCCTGACCATCTCATGTAAACATCATTTGGCAAGCTTACCTTTGCCATGTTTCAGAAACAACCTCGCGCATCGCGCTTCCCATAC
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 CGCCCGGTAGTGATCTTATTTTCATTATGGTGAAAGTTGGAACCTTTACGTACTACGGCGCGGCAGCGTGACCCGTGTGGCGGC
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AGTACAACGGCTGCTTCCAGTTTTATGTAGGCCCATGGATTGACGCCTGAACAAGTTGTCGCTATCGCAAGTAATGGGGGTGGTA
AACAGCGCTTGAACCGTTCAACGCCTTCTGCCTGTGCTTTGTGAGGCACATGGATTAAACCCGAAACAGGTTGTCGCGATAGCT
TCAAACGGTGGTGGTCTCCGGCACTGGAAAGCATTGTTGCACAGCTGAGCCGTCGGATCCGGCACTGGCAGCACTGACCAATGA
TCATCTGGTTGCATGGCATGTCTGGTGGTCCCTGCCCTGGATGCAGTTAAAAAGGTTCTGCCGCATGCACGGCACTGATTA
AACGTACCAATCGTCGTATTCCGGAACGTACCAGCCATCGTGTTCGAGATCATGCACAGGTTGTTCTGTGTTCTGGGTTTTTTTTCAG
TGTCATAGCCATCCGGCACAGGCATTTGATGATGCAATGACCCAGTTTGGTATGAGCGATTATAAAGATGATGATAAATAAGG
TACCCTAATCATACCTGACCTCCATAGCAGAAAGTCAAAAACCTCCGACCGGAGGCTTTTGACTTGAGGGGGATCCGCC

Sequence of expression plasmid components and each variant

TlacO and its variants

A0 – TlacO, no TEV sites (2535 bp)

ATGCATCACCATCATCACCATGTTGATCTGCGTACCCTGGGTTATAGCCAGCAGCAGCAAGAAAAATCAAACCGAAAAGTTTCGTAG
CACCGTTGCACAGCATCATGAAGCACTGGTTGGTTCATGGTTTTACCCATGCACATATTGTTGCACTGAGCCAGCATCCGGCAGCAC
TGGGCACCGTTGCAGTTAAATATCAGGATATGATTGCAGCACTGCCGGAAGCAACCCATGAAGCAATTGTTGGTGTGGTAAACAG
TGGTCAGGTGCACGTGCCCTGGAAGCACTGCTGACCGTTGCCGGTGAAGTGCCTGCTGCAGCTGGATACCGGTCAGCT
GCTGAAAATTGCAAACGTGGTGGTGTACCAGCAGTTGAAGCAGTTTCATGCATGGCGTAATGCATGACCGGTGACCGCTGAATC
TGACACCGGAAACAGGTTGTTGCAATTGCCAGCAATGGTGGTGGCAACAGGCCTGAAAACCGTTACAGCTCTGCTGCCGGTTCTG
TGTGAGGCACATGGTCTGACCCCTGAACAGGTGGTGGCCATTGCAAGCAATAATGGCGGTAACAAGCCCTGAAAACAGTGCAGCG
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GGTGGAAAACAGGCGTTAGAGACAGTCCAGCGCTGCTGCCTGTATTATGTCAAGCCATGGCTGACCCAGAGCAAGTTGTTGC
GATTGCAAGTAACATTGGGGGTAACAGGCCTTGAGACAGTTCAACGTTTACTGCTGTACTGTGCAAGCTCAGGCTGACTC
CGAACAAAGTCTGCGGATGCGAGTAATAACGGTGGCAACAAGCATTAGAAACGGTGAACCGCTGCTGCCAGTCTTTGCCAG
GCTCACGGTTTAAACCCCTGAGCAGGTTGTAGCTATTGCGAGTCATGATGGTGGTAAAGCAGGCGTTGAAAACCTGTGCAAAGACTGCT
GCCCGTGTGTGCCAAGCACATGGTTTAAACCCAGAACAGTCTGAGCAATCGCAAGCAATCATGGTGGCAAGCAAGCGCTTGAAA
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GTCAAATATCGGAGGCAAGCAGGCCTTGAGACAGTGCAGAGATTACTGCCAGTGTGTGTGAGGCTCATGGCCTTACACCCGAGC
AGGTCGTGGCAATTGCATCTAATGGTGGCGGTAAGCAAGCTTTAGAGACTGTTGAGAGACTGCTTCTGTCTGTGCCAGGCACAC
GGAATTACGCCTGAGCAAGTGGTTGCAATCGCCTTAACATCGGTGGTAAGCAAGCACTGAAAACCTGTTCAACGCTTACTTCCGGT
GCTTTGTCAAGCACACGGCTTAAACCCAGAGCAGGTGCTGCCATAGCCAGCAATATCGGTGGTAAACAGGCCCTTGAACCGGTCC
AAAGACTTCTGCCGGTCTTTTGCCAAGCGCATGGCTGACACCTGAGCAGGTAGTCCGATTTGCCATGACCGGTGGGAAGCAG
GCATTAGAAAACAGTTCAAAGATTATTACCAGTCTGTGTGAGGCCATGGGTTAAACCCAGAGCAGGTAGTTGCAATAGCATCCAA
CATTTGGCGGAAAACAAGCGTTGAAAACGGTTACAGCGTTATTGCTGTTTTGTGCCAGGCGCATGGTTTGACACCCGAGCAAGTGG
TAGCCATAGCCTCAAATATAGGGGGTAAACAAGCTTTGGAGACAGTACAACGGCTGCTTCCAGTTTTATGTGAGGCCCATGGATTG
ACGCCGAAACAAGTTGTCGCTATCGCAAGTAATGGGGGTGGTAAACAAGCGCTTGAACCGTTCAACGCCTTCTGCCTGTGCTTTG
TCAGGCACATGGATTAAACCCGAAACAGGTTGTCGCGATAGCTTCAAACGGTGGTGGTCTCCGGCACTGGAAAGCATTGTTGCAC
AGCTGAGCCGTCGGATCCGGCACTGGCAGCACTGACCAATGATCATCTGGTTGCCTGGCATGTCTGGTGGTCCGCCCTGCCCTG
GATGCAGTTAAAAAGGTTCTGCCGATGCACCGCATGATTAACAGTACCAATCGTTCGTTATCCGGAACAGTACCAGCCATCGTGT
TGCAGATCATGCACAGGTTGTTCTGTGTTTTTTTTCAGTGTGCATAGCCATCCGGCACAGGCATTTGATGATGATAAATAAG
AGTTTTGGTATGAGCGATTATAAAGATGATGATGATAAATAA

A1 – 3 TEV recognition sites between repeats 4/5, 9/10, and 14/15 (2598 bp)

ATGCATCACCATCATCACCATGTTGATCTGCGTACCCTGGGTTATAGCCAGCAGCAGCAAGAAAAATCAAACCGAAAAGTTTCGTAG
CACCGTTGCACAGCATCATGAAGCACTGGTTGGTTCATGGTTTTACCCATGCACATATTGTTGCACTGAGCCAGCATCCGGCAGCAC
TGGGCACCGTTGCAGTTAAATATCAGGATATGATTGCAGCACTGCCGGAAGCAACCCATGAAGCAATTGTTGGTGTGGTAAACAG
TGGTCAGGTGCACGTGCCCTGGAAGCACTGCTGACCGTTGCCGGTGAAGTGCCTGCTGCAGCTGGATACCGGTCAGCT
GCTGAAAATTGCAAACGTGGTGGTGTACCAGCAGTTGAAGCAGTTTCATGCATGGCGTAATGCATGACCGGTGACCGCTGAATC

TGACACCGGAACAGGTTGTTGCAATTGCCAGCAATGGTGGTGGCAAACAGGCACCTGGAAACCGTTACAGCTCTGCTGCCGGTTCTG
 TGTCAGGCACATGGTCTGACCCCTGAACAGGTGGTGGCCATTGCAAGCAATAATGGCGGTAACAAAGCCCTGGAAACAGTGCAGCC
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 TAGAAACCGTACAGCGCTTACTGCCGGTGTATGCCAGGCGCAGGCCCTGACGCCAGAACAGGTAGTGGCAATCGCCTCAAATAAT
 GGTGGAAACAGCGCTTAGAGACAGTCCAGCGCCTGCTGCCTGTTATATGTCAAGCCCATGGCgaaaacctgtatTTTcaagcCT
 GACCCAGAGCAAGTTGTTGCGATTGCAAGTAACATTGGGGGTAAACAGGCACCTGAGACAGTTCAACGTTTACTGCTGTACTGT
 GCCAAGCTCACGGTCTGACTCCGGAACAAGTCGTCGCGATTGCGAGTAATAACGGTGGCAAACAAGCATTAGAAACGGTGAACGC
 CTGCTGCCAGTTCTTTGCCAGGCTCACGGTTAAACCCCTGAGCAGGTTGTAGCTATTGCGAGTCAATGATGGTGGTAAGCAGGCGTT
 GGAACTGTGCAAAGACTGCTGCCCGTGTGTGCCAAGCACATGGTTAAACCCAGAACAGTCGTAGCAATCGCAAGCAATCATG
 GTGGCAAGCAAGCGCTTGAACAGTACAGCGTTTATTACCGGTACTTTGTGTCAGGCCACGGTCTTACACCAGAACAAAGTTGTGGCC
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 GAGACTGTTTCAAGACTGCTTCCGTGCTGTGCCAGGCACACGGACTTACGCCGTGAGCAAGTGGTTGCAATCGCCTTAACATCGG
 TGGTAAGCAAGCACTGAAACTGTCCAACGCTTACTTCCGGTGTCTTGTCAAGCACAGGCTTAAACCCAGAGCAGGTCGTGCCA
 TAGCCAGCAATATCGGTGGTAAACAGGCCCTTGAACGGTCCAAGACTTCTGCCGGTCTTTGCCAAGCGCATGGGCTGACACCT
 GAGCAGGTAGTCGGATTGCTTCACATGACCGTGGGAAGCAGGCATTAGAACAAGTCAAAGATTATTACCAGTCTCTGTGTCAGG
 GCATGGGgagaactgtatTTcagggtTTAACCCAGAGCAGGTAGTTGCAATAGCATCCAACATTGGCGGAAACAAGCCTTGG
 AAACGGTTCAGCGGTTATTGCTGTTTGTGCCAGGCGCATGGTTGACACCCGAGCAAGTGGTAGCCATAGCCTCAAATATAGGG
 GGTAAACAAGCTTTGGAGACAGTACAACGGCTGCTTCCAGTTTATGTGAGGCCCATGGATTGACGCTGAACAAGTTGTGCTAT
 CGCAAGTAATGGGGTGGTAAACAAGCGCTTGAACCGTTCAACGCTTCTGCCTGTGCTTTGTGAGGCACATGGATTAACACCCG
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 CTGGCAGCACTGACCAATGATCATCTGGTGTGACTGGCATGTCTGGGTGGTCCGCTGCCCTGGATGCAGTTAAAAAGGTTCTGCC
 GCATGCACCGGCACTGATTAACGTACCAATCGTCGATTCCGGAACGTACCAGCCATCGTGTGAGATCATGCACAGGTTGTT
 GTGTTCTGGGTTTTTTTCAGTGTCTATAGCCATCCGGCACAGGCATTTGATGATGCAATGACCCAGTTTGGTATGAGCGATTATAAA
 GATGATGATGATAAATAA

A2 – TEV recognition site in the N-terminus (2556 bp)

ATGCATCACCATCATCACCATGTTGATCTGCGTACCCTGGGTTATAGCCAGCAGCAGCAAGAAAAATCAAACCGAAAGTTTCGTAG
 CACCGTTGCACAGCATCATGAAGCACTGGTGGTTCATGGTTTTACCATGCACATATTGTTGCACTGAGCCAGCATCCGGCAGCAC
 TGGGCACCGTTGCAGTTAAATATCAGGATATGATTCGAGCACTGCCGGAAGCAACCCATGAAGCAATTGTTGGTGTGGTAAACAG
 TGGTCAGGTGCACGTGCCCTGGAAGCACTGCTGACCGTTGCCGGTGAACGCTGCTGGTCCGCTCTGCAGCTGGATACCGGTCAGCT
 GCTGAAAATTGCAAAACGTGGTGGTGTACCAGCAGTTGAAGCAGTTCATGCATGGCGTAATGCATGACCGGTGCACCGCTGAATg
 aaaacctgtacttccagtctCTGACACCGGAACAGGTTGTTGCAATTGCCAGCAATGGTGGTGGCAAACAGGCACCTGGAAACCGTT
 CAGCGTCTGCTGCCGGTCTGTGTCAGGCACATGGTCTGACCCCTGAACAGGTGGTGGCCATTGCAAGCAATAATGGCGGTAACA
 AGCCCTGGAAACAGTGCAGCGCTGTTACCGGTGCTGTGCCAGGCCATGGCTTAACTCCGGAACAGGTGGTAGCGATCGCATCAA
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 GTGGCAATCGCCTCAAATAATGGTGGAAACAGGCGTTAGAGACAGTCCAGCGCTGCTGCCTGTATTATGTCAAGCCATGGCCT
 GACCCAGAGCAAGTTGTTGCGATTGCAAGTAACATTGGGGGTAAACAGGCACCTGAGACAGTTCAACGTTTACTGCTGTACTGT
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 CTGCTGCCAGTTCTTTGCCAGGCTCACGGTTAAACCCCTGAGCAGGTTGTAGCTATTGCGAGTCAATGATGGTGGTAAGCAGGCGTT
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 CTCATGGCCTTACACCCGAGCAGGTCGTGGCAATTGCATCTAATGGTGGCGGTAAGCAAGCTTTAGAGACTGTTTACAGACTGCTT
 CCTGTCTGTGCCAGGCACACGGACTTACGCCTGAGCAAGTGGTTGCAATCGCCTTAACATCGGTGGTAAAGCAAGCACTGGAAAC
 TGTCCAACGCTTACTTCCGGTGTCTTGTCAAGCACAGGCTTAAACCCAGAGCAGGTCGTGCCATAGCCAGCAATATCGGTGGTA
 AACAGGCCCTTGAACGGTCCAAGACTTCTGCCGGTCTTTGCCAAGCGCATGGGCTGACACCTGAGCAGGTAGTCGGATTGCC
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 GGTAGTTGCAATAGCATCCAACATTGGCGGAAACAAGCGTTGGAAACGGTTTACGCGGTTATTGCTGTTTTGTGCCAGGCGCATG
 GTTTGACACCCGAGCAAGTGGTAGCCATAGCCTCAAATATAGGGGTAAACAAGCTTTGGAGACAGTACAACGGCTGCTTCCAGTT
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 ACGCTTCTGCCTGTGCTTTGTGTCAGGCACATGGATTAACACCCGAAAGGTTGTGCGGATAGCTTCAAACGGTGGTGGTCTCCGG
 CACTGGAAAGCATGTTGTCACAGCTGAGCCGTCGGATCCGGCCTGCGCAGCACTGACCAATGATCATCTGGTGTGACTGGCATGT
 CTGGTGGTCCGCTGCCCTGGATGCAGTTAAAAAGGTTCTGCCGATGCAACCGGCACTGATTAACAGTACCAATCGTCGATTTCC
 GGAACGTACCAGCCATCGTGTGGAGATCATGCACAGGTTGTTCTGTTCTGGGTTTTTTTTCAGTGTGCATAGCCATCCGGCACAGG
 CATTTGATGATGCAATGACCCAGTTTGGTATGAGCGATTATAAAGATGATGATGATAAATAA

A3 – TEV recognition site with flanking Gly-Ser-Gly residues in the N-terminus (2574 bp)

ATGCATCACCATCATCACCATGTTGATCTGCGTACCCTGGGTTATAGCCAGCAGCAGCAAGAAAAATCAAACCGAAAGTTTCGTAG
CACCGTTGCACAGCATCATGAAGCACTGGTTGGTCATGGTTTTACCCATGCACATATTGTTGCACTGAGCCAGCATCCGGCAGCAC
TGGGCACCGTTGCAGTTAAATATCAGGATATGATTGCAGCAGTCCGGAAGCAACCCATGAAGCAATTGTTGGTGTGGTAAACAG
TGGTCAGGTGCAGTGCCTGGAAGCACTGCTGACCGTTGCCGGTGAAGTCCGTCGGTCCGCCCTGCAGCTGGATACCGGTACAGT
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CAGGCACTGGAAACCGTTACGCGTCTGCTGCCGGTTCTGTGTGAGGCACATGGTCTGACCCCTGAACAGGTGGTGGCCATTGCAAG
CAATAATGGCGGTAAACAAGCCCTGGAACAGTGCAGCGCCTGTTACCGGTGCTGTGCCAGGCCATGGCTTAACTCCGGAACAGG
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GTTTACTGCCTGTACTGTGCCAAGCTCACGGTCTGACTCCGGAACAAGTCTGCGGATTGCGAGTAATAACGGTGCAAAACAAGCA
TTAGAAACGGTGCACGCCTGCTGCCAGTTCTTTGCCAGGCTCACGGTTAACCCCTGAGCAGGTTGTAGCTATTGCGAGTCATGA
TGGTGGTAAAGCAGGCGTTGGAACACTGTGCAAGACTGCTGCCCGTGTGTGCCAAGCACATGGTTAACCCCAAGCAAGTTCGTAG
CAATCGCAAGCAATCATGGTGGCAAGCAAGCGCTTGAACAGTACAGCGTTTATTACCGGTACTTGTGACAGCCACCGGTCTTACA
CCAGAACAAGTTGTGGCCATAGCCAGTAACAATGGCGGAAAGCAGGCTCTGAAACCGTACAACGCTCTGTTACCTGTTCTGTGTCA
AGCGCAGGTAACACACTGAACAAGTAGTTGCCATTGCGTCAAATATCGGAGGCAAGCAGCCCTGGAGACAGTGCAGAGATTAC
TGCAGCTGTTGTGTGAGCTCATGGCCTTACACCCGAGCAGGTGGCAATTGCATCTAATGGTGGCGTAAGCAAGCTTTAGAG
ACTGTTACAGAGACTGCTTCTGTCTGTGCCAGGCACACGGACTTACGCTGAGCAAGTGGTTGCAATCGCCTCTAACATCGGTGG
TAAGCAAGCACTGGAAACTGTCCAACGCTTACTTCCGGTGTCTTGTCAAGCACACGGCTTAAACGCCAGAGCAGGTCGTGCCATAG
CCAGCAATATCGGTGGTAAACAGGCCCTTGAACCGTCCAAAGACTTCTGCCGGTCTTTGCCAAGCGCATGGGCTGACACCTGAG
CAGGTAGTCGCGATTGCCCTCACATGACGGTGGGAAGCAGGCATTAGAAACAGTTCAAAGATTATTACCAGTCCCTGTGTGAGGCGCA
TGGGTTAACCCAGAGCAGGTAGTTGCAATAGCATCCAACATGGCGGAAACAAGCGTTGGAACCGGTTACGCGGTTATTGCCCTG
TTTTGTGCCAGGCGCATGGTTGACACCCGAGCAAGTGGTAGCCATAGCCCAAATATAGGGGGTAAACAAGCTTTGGAGACAGTA
CAACGCTGCTTCCAGTTTATGTGTCAGGCCCATGGATTGACGCCCTGAACAAGTTGTCGCTATCGCAAGTAATGGGGGTGGTAAACA
AGCGCTTGAACCGGTTCAACGCCTTCTGCCTGTGCTTTGTGAGGCACATGGATTAAACCCGAACAGGTTGTGCGGATAGCTTCAA
ACGGTGGTGGTCTGCCGCACTGGAAAGCATTGTTGCACAGCTGAGCCGTCGGATCCGGCACTGGCAGCACTGACCAATGATCAT
CTGGTGCAGTGGCATGTCTGGGTGGTCGCCCTGCCCTGGATGCAGTTAAAAAAGTCTGCCGCATGCACCGGCACTGATTAACG
TACCAATCGTCTGATTCGGGAACGTACCAGCCATCGTGTGAGATCATGCACAGGTTGTTCCGTGTTCTGGGTTTTTTTTCAGTGT
ATAGCCATCCGGCACAGGCATTTGATGATGCAATGACCCAGTTGGTATGAGCGATTATAAAGATGATGATGATAAATAA

A4 – TEV recognition site in the C-terminus (2556 bp)

ATGCATCACCATCATCACCATGTTGATCTGCGTACCCTGGGTTATAGCCAGCAGCAGCAAGAAAAATCAAACCGAAAGTTTCGTAG
CACCGTTGCACAGCATCATGAAGCACTGGTTGGTCATGGTTTTACCCATGCACATATTGTTGCACTGAGCCAGCATCCGGCAGCAC
TGGGCACCGTTGCAGTTAAATATCAGGATATGATTGCAGCAGTCCGGAAGCAACCCATGAAGCAATTGTTGGTGTGGTAAACAG
TGGTCAGGTGCAGTGCCTGGAAGCACTGCTGACCGTTGCCGGTGAAGTCCGTCGGTCCGCCCTGCAGCTGGATACCGGTACAGT
GCTGAAAAATTGCAAAACGTGGTGGTTACCAGCAGTTGAAGCAGTTTCATGCATGGCGTAATGCACAGCCGGTGACCCGCTGAATC
TGACACCGGAACAGGTTGTTGCAATTGCCAGCAATGGTGGTGGCAAACAGGCACTGGAAACCGGTTACAGCGTCTGCTGCCGGTTCTG
TGTGAGGCACATGGTCTGACCCCTGAACAGGTGGTGGCCATTGCAAGCAATAATGGCGGTAAACAAGCCCTGGAACAGTGCAGCG
CCTGTTACCGGTGCTGTGCCAGGCCATGGCTTAACTCCGGAACAGGTGGTAGCGATCGCATCAAATGGCGGAGGTAAACAGGCCT
TAGAAACCGTACAGCGCTTACTGCCGGTGTATGCCAGGCGCACGGCCTGACGCCAGAACAGGTAGTGGCAATCGCCTCAAATAAT
GGTGGAAAACAGCGCTTAGAGACAGTCCAGCGCCTGCTGCCTGTATTATGTCAAGCCCATGGCTGACCCAGAGCAAGTTGTTGC
GATTGCAAGTAACATTGGGGGTAACAGGCACCTGAGCAGTTCAACGTTTACTGCTGTACTGTGCCAAGCTCACGGTCTGACTC
CGAACAAGTCTGCGGATTGCGAGTAATAACGGTGGCAAACAAGCATTAGAAACGGTGAACGCTGCTGCCAGTTCTTTGCCAG
GCTCACGGTTTAAACCCCTGAGCAGGTTGTAGCTATTGCGAGTCATGATGGTGGTAAAGCAGGCGTTGGAAACTGTGCAAGACTGCT
GCCCGTGTGTGCCAAGCACATGGTTAACCCCAAGCAAGTTCGTAGCAATCGCAAGCAATCATGGTGGCAAGCAAGCGCTTGA
CAGTACAGCGTTTTATTACCGGTACTTGTGACAGCCACGGTCTTACACCAGAACAAGTTGTGGCCATAGCCAGTAACAATGGCGGA
AAGCAGGCTCTGGAACCGGTACAACGCTCTGTTACCTGTTCTGTGTCAAGCGCACGGATTAAACCTGAACAAGTAGTTGCCATTGC
GTCAAATATCGGAGGCAAGCAGGCTTGGAGACAGTGCAGAGATTACTGCCAGTGTGTGTGAGGCTCATGGCCTTACACCCGAGC
AGGTCGTGGCAATTGCATCTAATGGTGGCGGTAAGCAAGCTTTAGAGACTGTTTCAGAGACTGCTTCCGTGCTGTGCCAGGCACAC
GGACTTACGCTGAGCAAGTGGTTGCAATCGCCTTAAACATCGGTGGTAAAGCAAGCACTGGAAACTGTCCAACGCTTACTTCCGGT
GCTTTGTCAAGCACACGGCTTAAACGCCAGAGCAGGTCGTGCCATAGCCAGCAATATCGGTGGTAAACAGGCCCTTGAACCGTCC
AAAGACTTCTGCCGGTCTTTGCCAAGCGCATGGGCTGACACCTGAGCAGGTAGTCGCGATTGCCTCACATGACGGTGGGAAGCAG
GCATTAGAAACAGTTCAAAGATTATTACCAGTCCCTGTGTGACGGCCATGGGTTAACCCAGAGCAGGTAGTTGCAATAGCATCCAA
CATTTGGCGGAAAACAAGCGTTGGAACCGGTTACGCGGTTATTGCCCTGTTTGTGCCAGGCGCATGGTTTGCACCCGAGCAAGTGG
TAGCCATAGCCTCAAATATAGGGGGTAAACAAGCTTTGGAGCAGTACAACCGGCTGCTTCCAGTTTATGTGTCAGGCCCATGGATTG
ACCGCTGAACAAGTTGTGCTGATCGCAAGTAATGGGGTGGTAAACAAGCGCTTGAACCGGTTCAACGCTTCTGCGCTGTGCTTTG
TCAGGCACATGGATTAAACCCGAACAGGTTGTGCGGATAGCTTCAAACGGTGGTGGTCTGCCGCACTGGAAAGCATTGTTGCAC
AGCTGAGCCGTCGGATCCGGCAgaaaacctgtatttccaatctCTGGCAGCACTGACCAATGATCATCTGGTTGCACTGGCATGT
CTGGTGGTTCGCCCTGCCCTGGATGCAGTTAAAAAAGTCTGCCGCATGCACCGGCACTGATTAACGTACCAATCGTCTGATTTCC
GGAACGTACCAGCCATCGTGTGAGATCATGCACAGGTTGTTCCGTGTTCTGGGTTTTTTTTCAGTGTGATGATGATAAATAA
CATTTGATGATGCAATGACCCAGTTGGTATGAGCGATTATAAAGATGATGATGATAAATAA

A5 – TEV recognition site with flanking Gly-Ser-Gly residues in the C-terminus (2574 bp)

ATGCATCACCATCATCACCATGTTGATCTGCGTACCCTGGGTTATAGCCAGCAGCAGCAAGAAAAATCAAACCGAAAAGTTTCGTAG
CACCGTTGCACAGCATCATGAAGCACTGGTTGGTCATGGTTTTTACCCATGCACATATTGTTGCACTGAGCCAGCATCCGGCAGCAC
TGGGCACCGTTGCAGTTAAATATCAGGATATGATTGCAGCACTGCCGGAAGCAACCCATGAAGCAATTGTTGGTGTGGTAAACAG
TGGTCAGGTGCACGTGCCCTGGAAGCACTGCTGACCGTTGCCGGTGAAGTGCCTGGTCCGCTCTGCAGCTGGATACCGGTCAGCT
GCTGAAAATTGCAAACGTGGTGGTGTACCCGAGTTGAAGCAGTTCATGCATGGCGTAATGCCTGACCGGTCACCGCTGAATC
TGACACCGGAACAGGTTGTTGCAATTGCCAGCAATGGTGGTGGCAAACAGGCACTGGAAACCGTTTCAGCGTCTGCTGCCGGTTCTG
TGTCAGGCACATGGTCTGACCCCTGAACAGGTGGTGGCCATTGCAAGCAATAATGGCGGTAACAAGCCCTGGAAAACAGTGCAGCG
CCTGTTACCGGTTGCTGCCAGGCCATGGCTTAACCTCCGGAACAGGTGGTAGCGATCGCATCAAATGGCGGAGGTAACAAGGCCCT
TAGAAAACCGTACAGCGCTTACTGCCGGTGTATGTCAGGCGCACGGCCTGACGCCAGAACAGGTAGTGGCAATCGCCTCAAATAAT
GGTGGAAAACAGGCGTTAGAGACAGTCCAGCGCCTGCTGCCTGTATTATGTCAAGCCCATGGCTGACCCAGAGCAAGTTGTTGC
GATTGCAAGTAACATTGGGGGTAACAAGGCACCTTGAGACAGTTCAACGTTTACTGCTGTACTGTGCCAAGCTCAGCGTCTGACTC
CGGAACAAGTCTCGCGATTGCGAGTAATAACGGTGGCAAACAAGCATTAGAAAACGGTGAACCGCTGCTGCCAGTTCTTTGCCAG
GCTCACGGTTTAACCCCTGAGCAGGTTGTAGCTATTGCGAGTCATGATGGTGGTAAAGCAGGCGTTGGAAACTGTGCAAAGACTGCT
GCCCGTGTGTGCCAAGCAGCATGGTTTAACCCAGAACAAAGTCTAGCAATCGCAAGCAATCATGGTGGCAAGCAAGCGCTGAAA
CAGTACAGCGTTTATTACCGGTACTTGTGTCAGGCCACGGTCTTACACCAAGAACAGTTGGCCATAGCCAGTAAACATGGCGGA
AAGCAGGCTCTGGAACCGGTACAACGTCTGTTACCTGTTCTGTGTCAAGCGCACGGATTAAACCTGAACAAGTAGTTGCCATTGC
GTCAAATATCGGAGGCAAGCAGGCTTGGAGACAGTGCAGAGATTACTGCCAGTGTGTGTGTCAGGCTCATGGCCTTACACCCGAGC
AGGTCGTGGCAATTGCATCTAATGGTGGCGGTAAGCAAGCTTTAGAGACTGTTTCAGAGACTGCTTCTGTCTGTGCCAGGCACAC
GGAATTACGCCTGAGCAAGTGGTTGCAATCGCCTTAACATCGGTGGTAAGCAAGCAAGCAAGTGTCCAACGCTTACTTCCGGT
GCTTTGTCAAGCAACCGCTTAACGCCAGAGCAGGTCGTGCGCATAGCCAGCAATATCGGTGGTAAACAGGCGCTTGAACCGGTCC
AAAGACTTCTGCCCGTCTTTGCCAAGCGCATGGCTGACACCTGACAGGTAGTCCGATTGCCATGACGGTGGGAAGCAG
GCATTAGAAAACAGTTCAAAGATTATTACAGTCTGTGTGTCAGGCGCATGGGTTAAACCCAGAGCAGGTAGTTGCAATAGCATCCAA
CATTTGGCGGAAAACAAGCGTTGGAAACGGTTCAGCGGTTATTGCCGTGTTTTGTGCCAGGCGCATGGTTTGCACCCGAGCAAGTGG
TAGCCATAGCCTCAAATATAGGGGGTAAACAAGCTTTGGAGACAGTACAACGGCTGCTTCCAGTTTTATGTGTCAGGCCCATGGATTG
ACGCCGTAACAAGTTGTCGCTATCGCAAGTAATGGGGGTGGTAAACAAGCGCTTGAACCGGTTCAACGCCTTCTGCTGTGCTTTG
TCAGGCACATGGATTAAACCCGGAACAGGTTGTGCGGATAGCTTCAAACGGTGGTGGTGTGTCGGCACTGGAAAGCATTGTTGCAC
AGCTGAGCCGTCCGGATCCGGCAAGtagcgggtgaaaacctgtatttccaatctggcagcggtcGGCAGCAGTACCAATGATCAT
CTGGTTGCACTGGCATGTCTGGGTGGTCGCCCTGCCCTGGATGCAGTTAAAAAAGGCTGCGCCATGCACCGGCACTGATTAACAG
TACCAATCGTCGTATTCCGGAACGTACCAGCCATCGTGTGTCAGATCATGCACAGGTTGTTTCGTGTTCTGGGTTTTTTTTCAGTGT
ATAGCCATCCGGCACAGGCATTTGATGATGCAATGACCCAGTTTGGTATGAGCGATTATAAAGATGATGATGATAAATAA

A6 – TEV recognition sites in the N- and C-termini (2577 bp)

ATGCATCACCATCATCACCATGTTGATCTGCGTACCCTGGGTTATAGCCAGCAGCAGCAAGAAAAATCAAACCGAAAAGTTTCGTAG
CACCGTTGCACAGCATCATGAAGCACTGGTTGGTCATGGTTTTTACCCATGCACATATTGTTGCACTGAGCCAGCATCCGGCAGCAC
TGGGCACCGTTGCAGTTAAATATCAGGATATGATTGCAGCACTGCCGGAAGCAACCCATGAAGCAATTGTTGGTGTGGTAAACAG
TGGTCAGGTGCACGTGCCCTGGAAGCACTGCTGACCGTTGCCGGTGAAGTGCCTGGTCCGCTCTGCAGCTGGATACCGGTCAGCT
GCTGAAAATTGCAAACGTGGTGGTGTACCCGAGTTGAAGCAGTTCATGCATGGCGTAATGCCTGACCGGTCACCGCTGAATG
aaaacctgtacttccagttctGACACCGGAACAGGTTGTTGCAATTGCCAGCAATGGTGGTGGCAAACAGGCACTGGAAACCGTT
CAGCGTCTGCTGCCGGTCTGTGTGTCAGGCACATGGTCTGACCCCTGAACAGGTGGTGGCCATTGCAAGCAATAATGGCGGTAACA
AGCCCTGGAACAGCTGCAGCGCCTGTACCAGGTCGTGTCAGGCCCATGGCTTAACTCCGGAACAGGTTAGTGGCAATCGCATCAA
ATGGCGGAGGTAACAGGCGCTTAGAAAACCGTACAGCGCTTACTGCCGGTGTATGCCAGGCGCACGGCCTGACGCCAGAACAGGTA
GTGGCAATCGCCTCAAATAATGGTGGAAAACAGGCGTTAGAGACAGTCCAGCGCCTGCTGCCTGTATTATGTCAAGCCCATGGCCT
GACCCAGAGCAAGTTGTTGCGATTGCAAGTAACATTGGGGGTAACAAGGCACCTTGAGACAGTTCAACGTTTACTGCTGTACTGT
GCCAAGCTCACGGTCTGACTCCGGAACAAGTCTGCGGATTGCGAGTAATAACGGTGGCAAACAAGCATTAGAAAACGGTGAACGC
CTGCTGCCAGTTCTTTGCCAGGCTCACGGTTAACCCTGAGCAGGTTGTAGCTATTGCGAGTCATGATGGTGGTAAAGCAGGCGTT
GAAACTGTGCAAAGACTGCTGCCCGTGTGTGCCAAGCAGCATGGTTTAACCCAGAACAAAGTCTAGCAATCGCAAGCAATCATG
GTGCAAGCAAGCGCTTGAACAGTACAGCGTTTATTACCGTACTTTGTGTCAGGCCACGGTCTTACACCAAGAACAGTTGTGGCC
ATAGCCAGTAACAATGGCGGAAAGCAGGCTCTGGAACCGTACAACGTCTGTTACCTGTTCTGTGTCAAGCGCACGGATTAAACCC
TGAACAAGTAGTTGCCATTGCGTCAAATATCGGAGGCAAGCAGGCGTTGGAGACAGTGCAGAGATTACTGCCAGTGTGTGTGTCAGG
CTCATGGCCTTACACCCGAGCAGGTCGTGGCAATTGCATCTAATGGTGGCGGTAAGCAAGCTTTAGAGACTGTTTCAGAGACTGCTT
CCTGTCTGTGCCAGGCACACGGAATTACGCCTGAGCAAGTGGTTGCAATCGCCTTAACATCGGTGGTAAAGCAAGCAAGTGGAAAC
TGTCCAACGCTTACTTCCGGTCTTTGTCAAGCACAGGCTTAACGCCAGAGCAGGTCGTGCGCATAGCCAGCAATATCGGTGGTA
AACAGGCGCTTGAACCGGTTCAAAGACTTCTGCCGGTCTTTGCCAAGCGCATGGGCTGACACCTGACACCTGAGCAGTGTGCGGATTGCC
TCACATGACGGTGGGAAGCAGGCATTAGAAAACAGTTCAAAGATTATTACAGTCTGTGTGTCAGGCGCATGGGTTAACCAGAGCA
GGTAGTTGCAATAGCATCCAACATTGGCGGAAAACAAGCGTTGGAAACGGTTCAGCGGTTATTGCCGTGTTTTGTGCCAGGCGCATG
GTTTGCACCCGAGCAAGTGGTAGCCATAGCCTCAAATATAGGGGGTAAACAAGCTTTGGAGACAGTACAACGGCTGCTTCCAGTT
TTATGTCAGGCCCATGGATTGACGCGTGAACAAGTTGTGCTATCGCAAGTAATGGGGGTGGTAAACAAGCGCTTGAACCGGTTCA
ACGCCCTTCTGCTGTGCTTTGTGTCAGGCACATGGATTAAACCCGGAACAGGTTGTGCGGATAGCTTCAAACCGTGGTGGTGTGTCGG
CACTGGAAAGCATTGTTGCACAGCTGAGCCGTCCGGATCCGGCAgaaaacctgtatttccaatctCTGCGCAGCAGTACCAATGAT

CATCTGGTTGCACTGGCATGTCTGGGTGGTCGCCCTGCCCTGGATGCAGTTAAAAAGGTCTGCCGCATGCACCGGCACTGATTAA
ACGTACCAATCGTCTATTCCGGAACGTACCAGCCATCGTGTTCAGATCATGCACAGGTTGTTCTGGTTTTTTTTCAGT
GTCATAGCCATCCGGCACAGGCATTTGATGATGCAATGACCCAGTTTGGTATGAGCGATTATAAAGATGATGATGATAAATA

A7 – TEV recognition sites with flanking Gly-Ser-Gly residues in the N- and C-termini (2613 bp)

ATGCATCACCATCATCACCATGTTGATCTGCGTACCCTGGGTTATAGCCAGCAGCAGCAAGAAAAATCAAACCGAAAAGTTTCGTAG
CACCGTTGCACAGCATCATGAAGCACTGGTTGGTCATGGTTTTACCCATGCACATATTGTTGCACTGAGCCAGCATCCGGCAGCAC
TGGGCACCGTTGCAGTTAAATATCAGGATATGATTGCAGCACTGCCGGAAGCAACCCATGAAGCAATTGTTGGTGTGGTAAACAG
TGGTCAGGTGCAGTGCCTGGAAGCACTGCTGACCGTTGCCGGTGAAGTGCCTGGTCCGCCCTGTCAGCTGGATACCGGTCAGCT
GCTGAAAATTGCAAAACGTGGTGGTGTACCAGCAGTTGAAGCAGTTCATGCATGGCGTAATGCACTGACCGGTGCACCGCTGAATg
gttctgggaaaacctgtacttccagctctggctcgggtCTGACACCGGAACAGGTTGTTGCAATTGCCAGCAATGGTGGTGGCAAA
CAGGCACTGAAAACCGTTACGCGTCTGCTGCCGGTCTGTGTCCAGGCACATGGTCTGACCCCTGAACAGGTGGTGGCCATTGCAAG
CAATAATGGCGGTAAACAAGCCCTGAAAACAGTGCAGCGCCTGTTACCGGTGCTGTGCCAGGCCCATGGCTTAACTCCGGAACAGG
TGGTAGCGATCGCATCAAATGGCGGAGGTAACAGGCCCTTAGAAACCGTACAGCGCTTACTGCCGGTGTATGCCAGGCGCACGGC
CTGACGCCAGAACAGGTAGTGGCAATCGCCTCAAATAATGGTGGAAAACAGGCGTTAGAGACAGTCCAGCGCTGCTGCCTGTATT
ATGTCAGGCCATGGCTGACCCAGAGCAAGTTGTTGCGATTGCAAGTAACATTGGGGGTAAACAGGCACTTGAGACAGTTCAAC
GTTTACTGCTGTACTGTGCCAAGCTCACGGTCTGACTCCGGAACAAGTCTGCGGATTGCGAGTAATAACGGTGGCAACAAGCA
TTAGAAAACCGGTGCAACGCTGCTGCCAGTCTTTTCCAGGCTCACGGTTAAACCCCTGAGCAGGTTGTAGCTATTGCGAGTCATGA
TGGTGGTAAGCAGGCGTTGAAAACCTGTGCAAGACTGCTGCCCGTGTGTGCAAGCACATGGTTTAAACCCAGAACAAAGTCGTAG
CAATCGCAAGCAATCATGGTGGCAAGCAAGCGCTTGAACAGTACAGCGTTTATTACCGGTACTTGTGTCAGGCCACGGTCTTACA
CCAGAACAGTTGTGGCCATAGCCAGTAACAATGGCGGAAAGCAGGCTCTGAAAACGGTACAACGCTCTGTTACCTGTTCTGTGTCA
AGCGCACGGATTAACACCTGAACAAGTAGTTGCCATTGCGTCAAATATCGGAGGCAAGCAGGCCCTGGAGACAGTGCAGAGATTAC
TGCCAGTGTGTGTGTCAGGCTCATGGCTTACACCCGAGCAGGTCGTGGCAATTGCATCTAATGGTGGCGGTAAGCAAGCTTTAGAG
ACTGTTTACAGACTGCTTCTGTCTGTGCCAGGCACACGGACTTACCGCTGAGCAAGTGGTGCATTCGCCTCAACATCGGTGG
TAAGCAAGCACTGAAAACCTGTCACGCTTACTTCCGGTGTCTTGTCAAGCACACGGCTTAAACGCCAGAGCAGGTCGTGCCATAG
CCAGCAATATCGGTGGTAAACAGGCCCTTGAACCGTCCAAAGACTTCTGCCGGTCTTTGCCAAGCGCATGGGCTGACACCTGAG
CAGGTAGTCGCGATTGCCATCAGCGTGGGAAGCAGGCATTAGAAAACAGTTCAAAGATTATTACCAGTCTGTGTGTCAGGCGCA
TGGGTTAAACCCAGAGCAGGTAGTTGCAATAGCATCCAACATTGGCGGAAAACAAGCGTTGAAAACGGTTCAGCGGTTATTGCCCTG
TTTTGTGCCAGGCGATGGTTTGCACCCGAGCAAGTGGTAGCCATAGCCTCAAATATAGGGGGTAAACAAGCTTTGGAGACAGTA
CAACGGCTGCTTCCAGTTTATGTCCAGGCCATGGATTGACCGCTGAACAAGTTGTGCTATCGCAAGTAATGGGGGTGGTAAACA
AGCGCTTGAACCGTTCAACGCTTCTGCCGTGTGCTTGTGTCAGGCACATGGATTAAACCCGAAACAGGTTGTCCGATGCTTCAA
ACGGTGGTGGTCTCCGGCACTGGAAAGCATTGTTGCACAGCTGAGCCGTCCGGATCCGGCAggttagcgggtgaaaacctgtatttc
caatctggcagcggcCTGGCAGCACTGACCAATGATCATCTGGTTGCACTGGCATGTCTGGTGGTGCCTGCCCTGGATGCAGT
TAAAAAGGTCTGCCGCATGCACCGGCACTGATTAAACGTACCAATCGTCTGATTCCGGAACGTACCAGCCATCGTGTGCAGATC
ATGCACAGGTTGTTCTGTGTTCTGGTTTTTTTTTTCAGTGTATAGCCATCCGGCACAGGCATTTGATGATGCAATGACCCAGTTTGGT
ATGAGCGATTATAAAGATGATGATGATAAATA

TlysA and its variants

B0 – TlysA, no TEV sites (2943 bp)

ATGCATCACCATCATCACCATGTTGATCTGCGTACCCTGGGTTATAGCCAGCAGCAGCAAGAAAAATCAAACCGAAAAGTTTCGTAG
CACCGTTGCACAGCATCATGAAGCACTGGTTGGTCATGGTTTTACCCATGCACATATTGTTGCACTGAGCCAGCATCCGGCAGCAC
TGGGCACCGTTGCAGTTAAATATCAGGATATGATTGCAGCACTGCCGGAAGCAACCCATGAAGCAATTGTTGGTGTGGTAAACAG
TGGTCAGGTGCAGTGCCTGGAAGCACTGCTGACCGTTGCCGGTGAAGTGCCTGGTCCGCCCTGTCAGCTGGATACCGGTCAGCT
GCTGAAAATTGCAAAACGTGGTGGTGTACCAGCAGTTGAAGCAGTTCATGCATGGCGTAATGCACTGACCGGTGCACCGCTGAATC
TGACACCGGAACAGGTTGTTGCAATTGCCAGCCATGATGGTGGCAAAACAGGCCTGAAAACCGTTACAGCTGCTGTGCCGGTCTG
TGTCAGGCACATGGTCTGACCCCTGAACAGGTGGTGGCCATTGCAAGCAATGGTGGCGGTAACAAGCCCTGAAAACAGTGCAGCG
CCTGTTACCGGTGCTGTGCCAGGCCATGGCTTAACTCCGGAACAGGTGGTAGCGATCGCATCAAATGGCGGAGGTAACAAGGCCCT
TAGAAAACCGTACAGCGCTTACTGCCGGTGTATGCCAGGCGCACGGCCTGACGCCAGAACAGGTAAGTGGCAATCGCCTCAAATGGC
GGTGGAAAACAGGCGTTAGAGACAGTCCAGCGCCTGCTGCCTGTATTATGTCAGCCATGGCCTGACCCAGAGCAAGTTGTTGC
GATTGCAAGTATGGTGGGGTAAACAGGCACCTGAGACAGTTTACAGCTTTACTGCTGTACTGTGCAAGCTTACCCAGTGCAGGCTGACAC
CGGAACAAGTCTGCGGATTGCGAGTAACGGTGGTGGCAAAACAAGCATTAGAAAACGGTGAACGCTGCTGCCAGTTCTTTGCCAG
GCTCACGGTTTAAACCCCTGAGCAGGTTGTAGCTATTGCGAGTAACATTGGTGGTAAAGCAGGCGTTGAAAACCTGTGCAAGACTGCT
GCCGTGTTGTGCCAAGCACATGGTTTAAACCCAGAACAGTCTGATCAATCGCAAGCAATGGGGGTGGCAAGCAAGCGCTTAAA
CAGTACAGCGTTTTATTACCGGTACTTTGTGACGGCCACGGTCTTACACCAGAACAAGTTGTGGCCATAGCCAGTAAACAATGGCGGA
AAGCAGGCTCTGAAAACGGTACAACGCTGTTTACCTGTTCTGTGTCAAGCGCACGGATTAAACCTGAACAAGTAGTTGCCATTGC
GTCAAAATATCGGAGGCAAGCAGGCCCTGGAGACAGTGCAGAGATTACTGCCAGTGTGTGTGTCAGGCTCATGGCCTTACACCCGAGC
AGGTCGTGGCAATTGCATCTAATGGTGGCGGTAAGCAAGCTTTAGAGACTGTTTACAGAGACTGCTTCTGTCTGTGCCAGGCACAC
GGACTTACGCTGAGCAAGTGGTTGCAATCGCCTCTAATCATGGTGGTAAAGCAAGCAAGCAAGTGTGCAACGCTTACTTCCGGT
GCTTTGTCAAGCACACGGCTTAAACGCCAGAGCAGGTCGTGCCATAGCCAGCAACGGTGGTGGTAAACAGGCCCTTGAACGGTCC
AAAGACTTCTGCCGGTCTTTGCCAAGCGCATGGGCTGACACCTGAGCAGGTAGTCGCGATTGCCTCAAATAACGGTGGGAAGCAG

GCATTAGAAACAGTTCAAAGATTATTACCAGTCCTGTGTCAGGCGCATGGGTTAACCCAGAGCAGGTAGTTGCAATAGCATCCAA
TCATGGCGGAAAACAGCGTTGGAAACGGTTACGCGGTTATTGCCGTGTTTTGTGCCAGGCGCATGGTTTGACACCCGAGCAAGTTGG
TAGCCATAGCCTCACATGATGGGGGTAAACAAGCTTTGGAGACAGTACAACGGCTGCTTCCAGTTTTATGTCAGGCCCATGGATTG
ACGCTGAACAAGTTGTCGCTATCGCAAGTAATAATGGTGGTAAACAAGCGCTTGAACCGTTCAACGCCTTCTGCCTGTGCTTTG
TCAGGCACATGGACTTACGCCTGAGCAAGTGGTTGCAATCGCCTTAACCGTGGTGGTAAGCAAGCACTGGAAACTGCACAACGCCT
TACTTCCGGTGTCTTGTCAAGCACACGGCCTGACACCGGAACAGGTTGTTGCAATTGCCAGCAATATAGGTGGCAAACAGGCACTG
GAAACCGTTACGCGTCTGCTGCCGGTCTGTGTGTCAGGCACATGGTCTGACACCTGAGCAGGTAGTCGCGATTGCCCAACATCGG
TGGGAAGCAGGCATTAGAAACAGTTCAAAGATTATTACCAGTCCTGTGTCAGGCGCATGGGCTGACTCCGGAACAAGTCGTCGCGA
TTGCGAGTAATGGTGGTGGCAAACAAGCATTAGAAACGGTGAACGCCTGCTGCCAGTTCTTTGCCAGGCTCACGGTTAACACCC
GAACAGGTTGTCCGATAGCTTACATGATGGTGGTTCGTCGGCAGCTGGAAAGCATTGTTGCACAGCTGAGCCGTCCGGATCCGGC
ACTGGCAGCACTGACCAATGATCATCTGGTGCACATGCTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGG
CGATGCACCGGCCTGATTAACCTGACCAATCGTTCGTATTCCGGAACGTACCAGCCATCGTGTGTCAGATCATGCACAGGTTGTT
CGTGTCTGGGTTTTTTTTCAGTGTATAGCCATCCGGCACAGGCATTTGATGATGCAATGACCCAGTTTGGTATGAGCGATTATAA
AGATGATGATGATAAATAA

B3 – TEV recognition sites with flanking Gly-Ser-Gly residues in the N-terminus (2982 bp)

ATGCATCACCATCATCACCATGTTGATCTGCGTACCCTGGGTTATAGCCAGCAGCAGCAAGAAAAAATCAAACCGAAAAGTTTCGTAG
CACCGTTGCACAGCATCATGAAGCACTGGTTGGTTCATGGTTTTACCCATGCACATATTGTTGCACTGAGCCAGCATCCGGCAGCAC
TGGGCACCGTTGCAGTTAAATATCAGGATATGATTGCAGCACTGCCGGAAGCAACCCATGAAGCAATTGTTGGTGTGGTAAACAG
TGGTACAGGTGCACGTGCCCTGGAAGCACTGCTGACCGTTGCCGGTGAACCTGCGTGGTCCGCTCTGCAGCTGGATACCGGTCAGCT
GCTGAAAATTGCAAAACGTGGTGGTGTACCCGAGTTGAAGCAGTTTCATGCATGGCGTAATGCACCTGACCGGTGCACCGCTGAATg
gttctggcgaaaacctgtacttccagttctggctcgggtCTGACACCGGAACAGGTTGTTGCAATTGCCAGCCATGATGGTGGCAAA
CAGGCACTGGAACCGTTACGCGTCTGCTGCCGGTCTGTGTGTCAGGCACATGGTCTGACCCCTGAACAGGTGGTGGCCATTGCAAG
CAATGGTGGCGGTAAACAAGCCCTGGAAACAGTGCAGCGCTGTTACCAGGTGCTGTCAGGCGCCATGGCTTAACTCCGGAACAGG
TGGTAGCGATCGCATCAAATGGCGGAGGTAAACAGGCTTAGAAACCGTACAGCGCTTACTGCCGGTGTATGCCAGGCGCACGGC
CTGACGCCAGAACAGGTAGTGGCAATCGCCTCAAATGGCGGTGGAAACAGGCGTTAGAGACAGTCCAGCGCTGCTGCCTGTATT
ATGTCAGCCCATGGCTGACCCAGAGCAAGTTGTTGCGATTGCAAGTAATGGTGGGGGTAAACAGGCACTTGCAGAGTTCAAC
GTTTACTCGCTGTACTGTGCCAAGCTCACGGTCTGACTCCGGAACAAGTCTGCGGATTGCGAGTAACCGTGGTGGCAAACAAGCA
TTAGAAACGGTGCACCGCTGCTGCCAGTTCTTGGCAGGCTCACGGTTAAACCCCTGAGCAGGTTGTAGCTATTGGCAGTAACAT
TGGTGGTAAGCAGGCGTTGGAACCTGTGCAAAGACTGCTGCCCGTGTGTGTCGAAGCAGCATGGTCTTAAACCCAGAACAGTCTAG
CAATCGCAAGCAATGGGGGTGGCAAGCAAGCGCTTGAACAGTACAGCGTTTTATTACCAGTACTTGTGTCAGGCCACGGTCTTACA
CCAGAACAAGTTGTGGCCATAGCCAGTAACAATGGCGGAAGCAGGCTCTGGAACCGTACAACGCTCTGTTACCTGTTCTGTGTCA
AGCGCACGGATTAACACCTGAACAAGTAGTTGCCATTGCGTCAAATATCGGAGGCAAGCAGGCTTGGAGACAGTGCAGAGATTAC
TGCCAGTGTGTTGTCAGGCTCATGGCTTACACCCGAGCAGGTCGTGGCAATTGCATCTAATGGTGGCGGTAAGCAAGCTTTAGAG
ACTGTTACAGAGACTGCTTCTGTCTGTGCCAGGCACACGGACTTACGCCTGAGCAAGTGGTGGCAATCGCCTTAATCATGGTGG
TAAGCAAGCACTGGAACCTGTCCAACGCTTACTTCCGGTCTTGTGCAAGCAGCAGGCTTAAACGCCAGAGCAGGTCGTGCCCATAG
CCAGCAACCGTGGTGGTAAACAGGCGCTTGAACCGTCCAAGACTTCTGCCGGTCTTTGCCAAGCGCATGGGCTGACACCTGAG
CAGGTAGTCGCGATTGCCCTCAAATAACCGTGGGAAGCAGGCATTAGAAACAGTTCAAAGATTATTACCAGTCTGTGTGTCAGGCGCA
TGGGTTAACCCAGAGCAGGTAGTTGCAATAGCATCCAATCATGGCGGAAACAAGCGTTGGAACCGTTACGCGGTTATTGCCCTG
TTTTGTGCCAGGCGCATGGTTTGACACCCGAGCAAGTGGTAGCCATAGCCTCACATGATGGGGGTAAACAAGCTTTGGAGACAGTA
CAACGGCTGCTTCCAGTTTTATGTCAGGCCCATGGATTGACCGCTGAACAAGTTGTCGCTATCGCAAGTAATAATGGTGGTAAACA
AGCGCTTGAACCGTTCAACGCCTTCTGCCTGTGCTTTGTGTCAGGCACATGGACTTACGCTGAGCAAGTGGTGGCAATCGCCTTA
ACGGTGGTGGTAAGCAAGCACTGGAACCTGTCCAACGCTTACTTCCGGTCTTTGTGTCAGGCACATGGACTTACGCTGAGCAAGTGGTGGCAATCGCCTTA
GTTGCAATTGCCAGCAATATAGGTGGCAAACAGGCACTGGAACCGTTGCGGTGCTTTGTCAGCAGTCTGCTGCCGGTCTGTGTCAGGCACATGGTGT
GACACCTGAGCAGGTAGTCGCGATTGCCCTCAAACATCGGTGGGAAGCAGGCATTAGAAACAGTTCAAAGATTATTACCAGTCTGT
GTCAGGCGCATGGGCTGACTCCGGAACAAGTCTGCGGATTGCGAGTAATGGTGGTGGCAAACAAGCATTAGAAACCGTGCACCGC
CTGCTGCCAGTTCTTTGCCAGGCTCACGGTTAACACCCGAACAGGTTGTGCGGATAGCTTACATGATGGTGGTGGTCCGGCAGCT
GGAAAGCATTGTTGCACAGCTGAGCCGTCCGGATCCGGCACTGGCAGCACTGACCAATGATCATCTGGTGGCACTGGCATGTCTGG
GTGGTCCGCTGCCCTGGATGCAGTTAAAAAAGTCTGCCAGTGCACCGGCACTGATTAACCTGACCAATCGTCTGATTTCCGGAA
CGTACCAGCCATCGTGTGAGATCATGCACAGGTTGTTGCTGTTCTGGGTTTTTTTTCAGTGTCTAGCCATCCGGCACAGGCATT
TGATGATGCAATGACCCAGTTTGGTATGAGCGATTATAAAGATGATGATGATAAATAA

B7 – TEV recognition sites with flanking Gly-Ser-Gly residues in the N- and C-termini (3021 bp)

ATGCATCACCATCATCACCATGTTGATCTGCGTACCCTGGGTTATAGCCAGCAGCAGCAAGAAAAAATCAAACCGAAAAGTTTCGTAG
CACCGTTGCACAGCATCATGAAGCACTGGTTGGTTCATGGTTTTACCCATGCACATATTGTTGCACTGAGCCAGCATCCGGCAGCAC
TGGGCACCGTTGCAGTTAAATATCAGGATATGATTGCAGCACTGCCGGAAGCAACCCATGAAGCAATTGTTGGTGTGGTAAACAG
TGGTACAGGTGCACGTGCCCTGGAAGCACTGCTGACCGTTGCCGGTGAACCTGCGTGGTCCGCTCTGCAGCTGGATACCGGTCAGCT
GCTGAAAATTGCAAAACGTGGTGGTGTACCCGAGTTGAAGCAGTTTCATGCATGGCGTAATGCACCTGACCGGTGCACCGCTGAATg
gttctggcgaaaacctgtacttccagttctggctcgggtCTGACACCGGAACAGGTTGTTGCAATTGCCAGCCATGATGGTGGCAAA
CAGGCACTGGAACCGTTACGCGTCTGCTGCCGGTCTGTGTGTCAGGCACATGGTCTGACCCCTGAACAGGTGGTGGCCATTGCAAG
CAATGGTGGCGGTAAACAAGCCCTGGAAACAGTGCAGCGCTGTTACCAGGTGCTGTCAGGCGCCATGGCTTAACTCCGGAACAGG
TGGTAGCGATCGCATCAAATGGCGGAGGTAAACAGGCTTAGAAACCGTACAGCGCTTACTGCCGGTGTATGCCAGGCGCACGGC
CTGACGCCAGAACAGGTAGTGGCAATCGCCTCAAATGGCGGTGGAAACAGGCGTTAGAGACAGTCCAGCGCTGCTGCCTGTATT
ATGTCAGCCCATGGCTGACCCAGAGCAAGTTGTTGCGATTGCAAGTAATGGTGGGGGTAAACAGGCACTTGCAGAGTTCAAC
GTTTACTCGCTGTACTGTGCCAAGCTCACGGTCTGACTCCGGAACAAGTCTGCGGATTGCGAGTAACCGTGGTGGCAAACAAGCA
TTAGAAACGGTGCACCGCTGCTGCCAGTTCTTGGCAGGCTCACGGTTAAACCCCTGAGCAGGTTGTAGCTATTGGCAGTAACAT
TGGTGGTAAGCAGGCGTTGGAACCTGTGCAAAGACTGCTGCCCGTGTGTGTCGAAGCAGCATGGTCTTAAACCCAGAACAGTCTAG
CAATCGCAAGCAATGGGGGTGGCAAGCAAGCGCTTGAACAGTACAGCGTTTTATTACCAGTACTTGTGTCAGGCCACGGTCTTACA
CCAGAACAAGTTGTGGCCATAGCCAGTAACAATGGCGGAAGCAGGCTCTGGAACCGTACAACGCTCTGTTACCTGTTCTGTGTCA
AGCGCACGGATTAACACCTGAACAAGTAGTTGCCATTGCGTCAAATATCGGAGGCAAGCAGGCTTGGAGACAGTGCAGAGATTAC
TGCCAGTGTGTTGTCAGGCTCATGGCTTACACCCGAGCAGGTCGTGGCAATTGCATCTAATGGTGGCGGTAAGCAAGCTTTAGAG
ACTGTTACAGAGACTGCTTCTGTCTGTGCCAGGCACACGGACTTACGCCTGAGCAAGTGGTGGCAATCGCCTTAATCATGGTGG
TAAGCAAGCACTGGAACCTGTCCAACGCTTACTTCCGGTCTTGTGCAAGCAGCAGGCTTAAACGCCAGAGCAGGTCGTGCCCATAG
CCAGCAACCGTGGTGGTAAACAGGCGCTTGAACCGTCCAAGACTTCTGCCGGTCTTTGCCAAGCGCATGGGCTGACACCTGAG
CAGGTAGTCGCGATTGCCCTCAAATAACCGTGGGAAGCAGGCATTAGAAACAGTTCAAAGATTATTACCAGTCTGTGTGTCAGGCGCA
TGGGTTAACCCAGAGCAGGTAGTTGCAATAGCATCCAATCATGGCGGAAACAAGCGTTGGAACCGTTACGCGGTTATTGCCCTG
TTTTGTGCCAGGCGCATGGTTTGACACCCGAGCAAGTGGTAGCCATAGCCTCACATGATGGGGGTAAACAAGCTTTGGAGACAGTA
CAACGGCTGCTTCCAGTTTTATGTCAGGCCCATGGATTGACCGCTGAACAAGTTGTCGCTATCGCAAGTAATAATGGTGGTAAACA
AGCGCTTGAACCGTTCAACGCCTTCTGCCTGTGCTTTGTGTCAGGCACATGGACTTACGCTGAGCAAGTGGTGGCAATCGCCTTA
ACGGTGGTGGTAAGCAAGCACTGGAACCTGTCCAACGCTTACTTCCGGTCTTTGTGTCAGGCACATGGACTTACGCTGAGCAAGTGGTGGCAATCGCCTTA
GTTGCAATTGCCAGCAATATAGGTGGCAAACAGGCACTGGAACCGTTGCGGTGCTTTGTCAGCAGTCTGCTGCCGGTCTGTGTCAGGCACATGGTGT
GACACCTGAGCAGGTAGTCGCGATTGCCCTCAAACATCGGTGGGAAGCAGGCATTAGAAACAGTTCAAAGATTATTACCAGTCTGT
GTCAGGCGCATGGGCTGACTCCGGAACAAGTCTGCGGATTGCGAGTAATGGTGGTGGCAAACAAGCATTAGAAACCGTGCACCGC
CTGCTGCCAGTTCTTTGCCAGGCTCACGGTTAACACCCGAACAGGTTGTGCGGATAGCTTACATGATGGTGGTGGTCCGGCAGCT
GGAAAGCATTGTTGCACAGCTGAGCCGTCCGGATCCGGCACTGGCAGCACTGACCAATGATCATCTGGTGGCACTGGCATGTCTGG
GTGGTCCGCTGCCCTGGATGCAGTTAAAAAAGTCTGCCAGTGCACCGGCACTGATTAACCTGACCAATCGTCTGATTTCCGGAA
CGTACCAGCCATCGTGTGAGATCATGCACAGGTTGTTGCTGTTCTGGGTTTTTTTTCAGTGTCTAGCCATCCGGCACAGGCATT
TGATGATGCAATGACCCAGTTTGGTATGAGCGATTATAAAGATGATGATGATAAATAA

CAATGGTGGCGGTAAACAAGCCCTGAAACAGTGCAGCGCCTGTTACCGGTGCTGTGCCAGGCCCATGGCTTAACTCCGGAACAGG
TGGTAGCGATCGCATCAAATGGCGGAGGTAAACAGGCCTTAGAAACCGGTACAGCGCTTACTGCCGGTGTATGCCAGGCGCACGGC
CTGACGCCAGAACAGGTAGTGGCAATCGCCTCAAATGGCGGTGAAAAACAGGCGTTAGAGACAGTCCAGCGCCTGCTGCCTGTATT
ATGTCAAGCCCATGGCCTGACCCAGAGCAAGTTGTTGCGATTGCAAGTAATGGTGGGGTAAACAGGCACTTGAGACAGTTCAAC
GTTTACTGCCTGTACTGTGCCAAGCTCACGGTCTGACTCCGGAACAAGTCGTCGCGATTGCGAGTAACGGTGGTGGCAACAAGCA
TTAGAAACGGTGCACGCCTGCTGCCAGTTCTTTGCCAGGCTCACGGTTAAACCCCTGAGCAGGTTGTAGCTATTGCGAGTAACAT
TGGTGGTAAAGCAGGCGTTGAAACTGTGCAAAGACTGCTGCCCGTGTGTGCCAAGCACATGGTTAAACCCAGAACAGTCGTAG
CAATCGCAAGCAATGGGGTGGCAAGCAAGCGCTTAAACAGTACAGCGTTTATTACCGGTACTTTGTCAGGCCACGGTCTTACA
CCAGAACAGTTGTGGCCATAGCCAGTAACAATGGCGGAAAGCAGGCTCTGAAACCGGTACAACGCTCTGTTACCTGTTCTGTGTCA
AGCGCACGGATTAACACCTGAACAAGTAGTTGCCATTGCGTCAAATATCGGAGGCAAGCAGGCCCTGGAGACAGTGCAGAGATTAC
TGCCAGTGTGTGTCAGGCTTACGGCTTACACCCGAGCAGGTCGTGGCAATGTCATCTAATGGTGGCGGTAAAGCAAGCTTTAGAG
ACTGTTTCAGAGACTGCTTCCGTGCTGTGCCAGGCACAGGACTTACGCCTGAGCAAGTGGTTGCAATCGCCTCTAATCATGGTGG
TAAGCAAGCACTGGAACTGTCCAACGCTTACTTCCGGTGTGTTGTCAAGCACACGGCTTAAACGCCAGAGCAGGTCGTGCCATAG
CCAGCAACGGTGGTGGTAAACAGGCCCTTGAACCGTCCAAAGACTTCTGCCGGTCTTTGCCAAGCGCATGGGCTGACACCTGAG
CAGGTAGTCGCGATTGCCCTCAAATAACGGTGGGAAGCAGGCATTAGAAACAGTTCAAAGATTATTACCAGTCCGTGTGTCAGGCCGA
TGGGTTAAACCCAGAGCAGGTAGTTGCAATAGCATCCAATCATGGCGGAAACAAGCGTTGAAACCGGTTACGCGGTTATTGCCCTG
TTTTGTGCCAGGCGATGGTTTGACACCCGAGCAAGTGGTAGCCATAGCCTCACATGATGGGGTAAACAAGCTTTGGAGACAGTA
CAACGGCTGTTCAGTTTTATGTGTCAGGCCATGGATTGACGCCTGAACAAGTTGTCGCTATCGCAAGTAATAATGGTGGTAAACA
AGCGCTTGAACCGTTCAACGCCTTCTGCCTGTGCTTTGTGTCAGGCACATGGACTTACGCCTGAGCAAGTGGTTGCAATCGCCTCTA
ACGGTGGTGGTAAAGCAAGCACTGGAACTGTCCAACGCTTACTTCCGGTGTGTTGTCAAGCACACGGCTGACACCCGAAACAGGTT
GTTGCAATTGCCAGCAATATAGGTGGCAAACAGGCACTGAAACCGTTTACGCGTCTGCTGCCGGTCTGTGTGTCAGGCACATGGTCT
GACACCTGAGCAGGTAGTCGCGATTGCCTCAAACATCGGTGGGAAGCAGGCATTAGAAACAGTTCAAAGATTATTACCAGTCCGTG
GTCAGGCGCATGGGCTGACTCCGGAACAAGTCGTGCGGATTGCGAGTAATGGTGGTGGCAACAAGCATTAGAAACCGGTGCAACGC
CTGCTGCCAGTTCTTTGCCAGGCTCACGGTTAAACACCCGAACAGGTTGTCGCGATAGCTTACATGATGGTGGTCTGTCGCGCAT
GGAAAGCATTGTTGCACAGCTGAGCCGTCCGGATCCGGCAGgttagcggtgaaaacctgtatttccaatctggcagcggcCTGGCAG
CACTGACCAATGATCATCTGGTGTCACTGGCATGTCTGGGTGGTCCGCTGCCCTGGATGCAGTAAAAAAGGTTGCCCGCATGCA
CCGGCACTGATTAACGTACCAATCGTGTATCCGGAACGTACCAGCCATCGTGTGAGATCATGCACAGGTTGTTGTTGTTCT
GGGTTTTTTTTCAGTGTATAGCCATCCGGCACAGGCATTTGATGATGCAATGACCCAGTTTGGTATGAGCGATTATAAAGATGATG
ATGATAAATAA

TsucA

C3 – TEV recognition sites with flanking Gly-Ser-Gly residues in the N-terminus (bp)

ATGCATCACCATCATCACCATGTTGATCTGCGTACCCTGGGTTATAGCCAGCAGCAGCAAGAAAAATCAAACCGAAAGTTTCGTAG
CACCGTTGCACAGCATCATGAAGCACTGGTGGTTCATGGTTTTACCCATGCACATATTGTTGCACTGAGCCAGCATCCGGCAGCAC
TGGGCACCGTTGCAGTTAAATATCAGGATATGATTGCAGCAGTCCGGAAGCAACCCATGAAGCAATTGTTGGTGTGGTAAACAG
TGGTCAAGTGCAGTGCCTGGAAGCACTGCTGACCGTTGCCGGTGAAGTCCGTCGTTCCGCTCTGCAGTGGATACCGGTCAGCT
GCTGAAAATTGAAAACAGTGGTGGTGTACCAGTGTGAAGCAGTTCATGCATGGCGTAATGCACTGACCGGTCACCGCTGAATG
gttctggcgaaaacctgtacttccagtctggctcgggtCTGACACCCGGAACAGGTTGGTGGCTATTGCCAGCAATAATGGTGGCAAA
CAGGCACTGAAACCGTTACGCGTCTGCTGCCGGTGTGTGCCAGGCACATGGTTAAACCCCGGCGCAGGTTGGTGGCATTGCAAG
CAATATTGGCGGTAAACAAGCCCTGAAACAGTGCAGCGCCTGTTACCTGTCTTATGCCAAGATCATGGCTTGACCCCTGACCAAG
TGGTCCGCATCGCATCACATGATGGAGGTAAACAGGCCCTTAGAAACCGTACAGCGCTTACTGCCGGTACTGTGCCAGGACCACGGC
CTGACGCCAGAGCAGGTGGTAGCGATCGCCTCAAATATTGGTGGAAAAACAGGCGTTAGAGACAGTCCAGCGCCTGCTGCCAGTCTCT
TTGCCAAGCCCACGGCTGACTCCGGCACAGGTGGCAAGTTGCAAGTTCATGATGGGGTAAACAGGCACTGAGACAGTTGACAGTTCAAC
GTTTACTGCCGGTGTGTGCCAGGCTCATGGTCTGACGCCCGATCAAGTGGTTGCAATTGCGAGTAATGGCGGTGGCAACAAGCA
TTAGAAACGGTGCACGCCTGCTGCCCGTCTTTGCCAGGACCATGGTTAAACCCCGGATCAGGTTGTAGCAATTGCGAGTAATAT
TGGTGGTAAAGCAGGCGTTGAAACTGTGCAAAGACTGCTGCCCGTGTGTGCCAAGCACACGGTTAAACGCCAGAACAGGTTGTGG
CCATCGCAAGCAACAATCGGTGGCAAGCAAGCGCTTAAACAGTACAGCGTTTATTACCTGTGCTCTGTGTCAGGACCACGGTCTTACC
CCGGCCCAAGTTGTTGCCATAGCCAGTAATCATGGCGGAAAGCAGGCTCTGAAACCGGTACAACGCTCTGTTACCGGTACTGTGTCA
GGATCATGGATTGACCCCGGCACAGGTTGTGCGGATTGCGTCAAATATCGGAGGCAAGCAGGCCCTGGAGACAGTGCAGAGATTAC
TGCCAGTTTTATGTCAAGCACATGGCTGACACCCGGAACAGGTTGTGGCGATTGCATCTCATGATGGCGGTAAAGCAAGCTTTAGAG
ACTGTTTCAGAGACTGCTTCCGGTGTGTGTCAGGACCACGGACTTACGCCTGACCAAGTTGTTGCTATCGCCTCTAACATCGGTGG
TAAGCAAGCACTGGAACTGTCCAACGCTTACTTCCAGTCTTTGTCAAGACCACGGCTTAAACGCCGAGCAGGTCGTAGCGATAG
CCAGCAATAATGGTGGTAAACAGGCCCTTGAACCGTCCAAAGACTTCTGCCTGTCTGTGTCAAGACCATGGGCTGACACCTGCC
CAGGTAGTGGCCATTGCCCTCAAATGGCGGTGGGAAGCAGGCATTAGAAACAGTTCAAAGATTATTACCAGTCTTGTGTGTCAGGCCGA
TGGGTTGACACCCGAACAAGTCGTGGCGATAGCTTCAAACGGTGGTGGTCTGCCGCACTGGAAAGCATTGTTGCACAGCTGAGCC
GTCCGGATCCGGCACTGGCAGCACTGACCAATGATCATCTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGT
AAAAAAGGTTCTGCCGATGCACCCGCACTGATTAACAGTACCAATCGTGTATCCGGAACGTACCAGCCATCGTGTGTCAGATCA
TGCACAGGTT
TGAGCGATTATAAAGATGATGATGATAAATAA

Constitutive promoters driving A0-7, B0, 3, 7, and C3 TALEs

P¹ - CTGATGGCTAGCTCAGTCCTAGGGATTATGCTAGC
P² - TTGACAGCTAGCTCAGTCCTAGGGATTGTGCTAGC
P³ - TTTACGGCTAGCTCAGTCCTAGGTACTATGCTAGC
P⁴ - TTTACGGCTAGCTCAGTCCTAGGTATAGTGCTAGC
P⁵ - TTGACAGCTAGCTCAGTCCTAGGTACTGTGCTAGC

TEV protease and its variants

T – active *tev* protease (750 bp)

ATGCATCATCATCATCATCATCATGGAGAAAGCTTGTTAAGGGGCCGCGTGATTACAACCCGATATCGAGCACCATTGTGCATTT
GACGAATGAATCTGATGGGCACACAACATCGTTGTATGGTATTGGATTTGGTCCCTTCATCATTACAACAAGCACTTGTTTAGAA
GAAATAATGGAACACTGTTGGTCCAATCACTACATGGTGTATTCAAGGTCAAGAACCACGACTTTGCAACAACACCTCATTGAT
GGGAGGGACATGATAATTATTTCGCATGCCTAAGGATTTCCACCATTTCCTCAAAAAGCTGAAATTTAGAGAGCCACAAAGGGAAGA
GCGCATATGTCTTGTGACAACCAACTTCCAAACTAAGAGCATGTCTAGCATGGTGTGACACACTAGTTGCACATTCCCTTCATCTG
ATGGCATATTCTGGAAGCATTGGATTCAAACCAAGGATGGGCAGTGTGGCAGTCCATTAGTATCAACTAGAGATGGGTTTCATTGTT
GGTATACACTCAGCATCGAATTTCCAAACACAAACAATTATTTACAAGCGTGCCGAAAAAATTCATGGAATTTGTTGACAAATCA
GGAGGCGCAGCAGTGGGTTAGTGGTTGGCGATTAAATGCTGACTCAGTATTGTGGGGGGGCCATAAAGTTTTTCATGGTGAAACCTG
AAGAGCCTTTTTCAGCCAGTTAAGGAAGCGACTCAACTCATGAATCGTCGTCGCCGTCGCTAA

Ti – catalytically inactive *tev* protease (C151A) (750 bp)

ATGCATCATCATCATCATCATCATGGAGAAAGCTTGTTAAGGGGCCGCGTGATTACAACCCGATATCGAGCACCATTGTGCATTT
GACGAATGAATCTGATGGGCACACAACATCGTTGTATGGTATTGGATTTGGTCCCTTCATCATTACAACAAGCACTTGTTTAGAA
GAAATAATGGAACACTGTTGGTCCAATCACTACATGGTGTATTCAAGGTCAAGAACCACGACTTTGCAACAACACCTCATTGAT
GGGAGGGACATGATAATTATTTCGCATGCCTAAGGATTTCCACCATTTCCTCAAAAAGCTGAAATTTAGAGAGCCACAAAGGGAAGA
GCGCATATGTCTTGTGACAACCAACTTCCAAACTAAGAGCATGTCTAGCATGGTGTGACACACTAGTTGCACATTCCCTTCATCTG
ATGGCATATTCTGGAAGCATTGGATTCAAACCAAGGATGGGCAGGCGGCGAGTCCATTAGTATCAACTAGAGATGGGTTTCATTGTT
GGTATACACTCAGCATCGAATTTCCAAACACAAACAATTATTTACAAGCGTGCCGAAAAAATTCATGGAATTTGTTGACAAATCA
GGAGGCGCAGCAGTGGGTTAGTGGTTGGCGATTAAATGCTGACTCAGTATTGTGGGGGGGCCATAAAGTTTTTCATGGTGAAACCTG
AAGAGCCTTTTTCAGCCAGTTAAGGAAGCGACTCAACTCATGAATCGTCGTCGCCGTCGCTAA

TiKm – catalytically inactive *tev* protease with higher K_m relative to wild type (C151A, F217K) (750 bp)

ATGCATCATCATCATCATCATCATGGAGAAAGCTTGTTAAGGGGCCGCGTGATTACAACCCGATATCGAGCACCATTGTGCATTT
GACGAATGAATCTGATGGGCACACAACATCGTTGTATGGTATTGGATTTGGTCCCTTCATCATTACAACAAGCACTTGTTTAGAA
GAAATAATGGAACACTGTTGGTCCAATCACTACATGGTGTATTCAAGGTCAAGAACCACGACTTTGCAACAACACCTCATTGAT
GGGAGGGACATGATAATTATTTCGCATGCCTAAGGATTTCCACCATTTCCTCAAAAAGCTGAAATTTAGAGAGCCACAAAGGGAAGA
GCGCATATGTCTTGTGACAACCAACTTCCAAACTAAGAGCATGTCTAGCATGGTGTGACACACTAGTTGCACATTCCCTTCATCTG
ATGGCATATTCTGGAAGCATTGGATTCAAACCAAGGATGGGCAGGCGGCGAGTCCATTAGTATCAACTAGAGATGGGTTTCATTGTT
GGTATACACTCAGCATCGAATTTCCAAACACAAACAATTATTTACAAGCGTGCCGAAAAAATTCATGGAATTTGTTGACAAATCA
GGAGGCGCAGCAGTGGGTTAGTGGTTGGCGATTAAATGCTGACTCAGTATTGTGGGGGGGCCATAAAGTTTTTCATGGTGAAACCTG
AAGAGCCTTTTTCAGCCAGTTAAGGAAGCGACTCAACTCATGAATCGTCGTCGCCGTCGCTAA

Other constant expression plasmid components

TetR – 624 bp

ATGTCAGATTAGATAAAAGTAAAGTGATTAACAGCGCATTAGAGCTGCTTAATGAGGTCGGAATCGAAGGTTTACAACCCGTAA
ACTCGCCAGAAAGCTAGGTGTAGAGCAGCCTACATTTGTATTGGCATGTAAAAAATAAGCGGGCTTTGCTCGACGCTTAGCCATTG
AGATGTTAGATAGGCACCATACTCACTTTTGCCTTTTAGAAGGGGAAAGCTGGCAAGATTTTTTACGTAATAACGCTAAAAGTTTT
AGATGTGCTTTACTAAGTCATCGCGATGGAGCAAAAGTACATTTAGGTACACGGCTACAGAAAAACAGTATGAACTCTCGAAAA
TCAATTAGCCTTTTTATGCAACAAGGTTTTTCTACTAGAGAATGCATTATATGCACTCAGCGCTGTGGGCGATTTTACTTTAGGTT
GCGTATTGGAAGATCAAGAGCATCAAGTCGCTAAAGAAGAAAGGGAAACACCTACTACTGATAGTATGCCGCCATTATTACGACAA
GCTATCGAATTTTATGATCACAAGGTGCAGAGCCAGCCTTCTTATTCGGCCTTGAATTGATCATATGCCGATTAGAAAAACACT
TAAATGTGAAAGTGGGTCTTAA

Kan^R – 816 bp

ATGAGCCATATTCACGGGAAACGTCTTGCTCGAGGCCGCGATTAAATTCCAACATGGATGCTGATTTATATGGGTATAAAATGGGC
TCGCGATAATGTCGGGCAATCAGGTGCGACAATCTATCGATTGTATGGGAAGCCCAGATGCGCCAGAGTTGTTTTCTGAAACATGGCA
AAGGTAGCGTTGCCAATGATGTTACAGATGAGATGGTCAGGCTAAACTGGCTGACGGAATTTATGCCTCTTCCGACCATCAAGCAT
TTTATCCGTACTCCTGATGATGCATGGTTACTCACCACCTGCGATCCCAGGGAAAACAGCATTCCAGGTATTAGAAGAATATCCTGA
TTCAGGTGAAAATATTGTTGATGCGCTGGCAGTGTTCCTGCGCCGGTTGCATTCGATTCCTGTTTGTAAATTGTCCTTTTAACGGCG
ATCGCGTATTTTCGTCTCGCTCAGGCGCAATCACGAATGAATAACGGTTTGGTTGGTGCGAGTGATTTTGATGACGAGCGTAATGGC
TGGCTGTTGAACAAGTCTGAAAGAAATGCATAAGCTTTTGCCATTCTCACCGGATTCAGTCGTCACCTCATGGTGATTTCTCACT
TGATAACCTTATTTTTGACGAGGGGAAATTAATAGGTTGTATTGATGTTGGACGAGTCGGAATCGCAGACCGATAACCAGGATCTTG
CCATCCTATGGAACGCTCGGTGAGTTTTCTCCTTATTACAGAAACGGCTTTTTCAAAAATATGGTATTGATAATCCTGATATG
AATAAATTGCAGTTTCACTTGATGCTCGATGAGTTTTTCTGA

REPORTER PLASMIDS

p5sfGFP (3710 bp) – An example reporter plasmid with Amp^R

CGACTGCACGGTGCACCAATGCTTCTGGCGTCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAA
TTCGTGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTCGCGCCGACATATAACGGTTCGGCAAATATCTGAAATGAG
CTGTTGACAGCTAGCTCAGTCCCTAGGTACTGTGCTAGCAATTGTGAGCGGATAACAATTTTCAATTCAAAAGATCTATCGATCGAG
GATCCAGGAGGTACAATCAATGAGCAAAGGAGAAGAAGCTTTTCTACTGGAGTTGTCCCAATTCTTGTGAATTAGATGGTGATGTTA
ATGGGCACAAATTTCTGTCCGTGGAGAGGGTGAAGGTGATGCTACAAACGGAAAAGCTCACCCCTAAATTTATTTGCACTACTGGA
AAACTACCTGTTCCGTGGCCAACACTTGTCACTACTCTGACCTATGGTGTTCATGCTTTTCCCGTTATCCGGATCACATGAAACG
GCATGACTTTTTCAAGAGTGCATGCCCGAAGGTTATGTACAGGAACGCCTATACTTTCAAAGATGACGGGACCTACAAGACGC
GTGCTGAAGTCAAGTTTGAAGGTGATACCCTTGTAACTCGTATCGAGTTAAAGGTTATTGATTTTAAAGAAGATGGAAACATTCTT
GGACACAAACTTGAGTACAACCTTAACTCACACAATGTATACATCACGGCAGACAAAACAAAAGAATGGAATCAAAGCTAACTTCAA
AATTCGCCACAACGTTGAAGATGGTTCGGTTCAACTAGCAGACCATATCAACAAAATACTCCAATTGGCGATGGCCCTGTCTTTT
TACCAGACAACCATTACCTGTGACACAATCTGTCTTTTCGAAAGATCCCAACGAAAAGCGTGACCACATGGTCTCTTTGAGTTT
GTAACGTGCTGCTGGGATTACACATGGCATGGATGAGCTCTACAAATAAGGTACCTCTAGAGTCGACCTGCAGGCATGCAAGCTTGG
CTGTTTTGGCGGATGAGAGAAGATTTTTCAGCCTGATACAGATTAATCAGAACGCAAGAAGCGGCTGATAAAAACAGAATTTGCCTG
GCGGCAGTAGCGCGGTGGTCCCACCTGACCCCATGCCGAAGTGAAGTGAACGCGGTAGCGCCGATGGTAGTGTGGGGTCTCCC
CATGCGAGAGTAGGGAAGTCCAGGCATCAAATAAAACGAAAAGGTCAGTTCGAAAAGACTGGGCCTTTCGTTTTTATCTGTTGTTTTG
CGGTGAACGCTCTCTGAGTAGGACAAATCCGCCGGGAGCGGATTTGAACGTTGCGAAGCAACGCGCCGAGGGTGGCGGGCAGGA
CGCCCGCCATAAAGTCCAGGCATCAAATTAAGCAGAAGGCCATCCTGACGGATGGCCTTTTTTCGTTTTCTACAACTCTTTTTTGT
TTATTTTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCTGATAAATGCTTCAATAATATTGAAAAGGAAGAG
TATGAGTATTCAACATTTCCGTGTCCGCTTATTTCCCTTTTTTTCGCGCATTTTTGCTTCTCTGTTTTTGTCTACCCGAAACGCTGG
TGAAGTAAAAGATGCTGAAGATCAGTTGGGTGCACGAGTGGGTTACATCGAAGTGGATCTCAACAGCGGTAAGATCTTGTGAGAT
TTTTGCCCCGAAAGACTTTTTCCAATGATGAGCACTTTTAAAGTTCTGCTATGTGGCGCGTATTATGAGCGCGGATTTGACGCCGGCA
AGAGCAACTCGGTCCCGCATACACTATTCTCAGAATGACTTGGTTGAGTACTCACCAGTACAGAAAAGCATCTTACGGATGGCA
TGACAGTAAGAGAATTATGCAGTGTGCCATAACCATGAGTGATAAAGTGCAGGCAACTTACTTCTGACAACGATCGGAGGACCG
AAGGAGCTAACCCTTTTTTGCACAACATGGGGGATCATGTAAGTGCCTTGTATGCTTGGGAACCGGAGCTGAATGAAGCCATACC
AAACGACGAGCGTGACACCACGATGCCATACAGCAATGGCAACAACGTTGCGCAAATATAAAGTGGCGAACTACTACTCTAGCTT
CCCGGCAACAATTAATAGACTGGATGGAGGCGGATAAAGTTGCAGGACCACTTCTGCGCTCGGCCCTTCCGGCTGGCTGGTTTTAT
GCTGATAAATCTGGAGCCGGTGGCGTGGGTCGCGGATCATTGCAGCACTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGT
TATCTACAGCAGGGGAGTCAGGCAACTATGGATGAACGAAAATAGACAGATCGCTGAGATAGGTGCTCACTGATTAAGCATTTGGT
AACTGTCAGACCAAGTTTACTCATATATACTTTAGATTGATTTAAAAGTTCATTTTTTAATTTAAAAGGATCTAGGTGAAGATCCTT
TTTGATAATCTCATGACCAAAATCCCTAACGTGAGTTTTTCGTTCCACTGAGCGTCAGACCCCGTAGAAAAGATCAAAGGATCTTC
TTGAGATCCTTTTTTCTGCGCGTAATCTGTCTGCTTGCAAAACAAAAAACCACCGTACCAGCGGTGGTTTTGTTTCCGGATCAAG
AGCTACCAACTCTTTTTCCGAAGGTAAGTGGCTTACGACAGCGCAGATACAAATACTGTCTTCTAGTGTAGCCGTAGTTAGCG
CACCCTTCAAGAAGTCTGTAGCACCAGCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAGTC
GTGCTTACCAGGTTGACTCAAGACGATAGTTACCAGTAAGGCGCAGCGGTGGGCTGAACGGGGGTTTCGTGCACACAGCCCA
GCTTGGAGCAGAACGACTACACCAGTACAGCTACAGCGTACAGCTATGAGAAAAGCGCCACGCTTCCCGAAGGGAGAAAAGCGG
GACAGGTATCCGGTAAAGCGGAGGGTCCGGAACAGGAGAGCGCAGGAGGAGCTTCCAGGGGAAACGCTGGTATCTTTATAGTCC
TGTCGGGTTTTGCCACCTCTGACTTGAAGCTCGATTTTTGTGATGCTCGTACGGGGGGCGGAGCTATGAAAACGCCAGCAACG
CGCCTTTTTACGGTTCCTGGCCTTTTGCTGGCCTTTGCTCACAATGTTCTTTCTGCGTTATCCCTGATTCTGTGGATAACCGT
ATTACCGCTTTGAGTGAGCTGATACCGCTCGCCGAGCCGAACGACCGAGCGCAGCGAGTCACTGAGCGGAGGAAGCGGAAGAGCG
CCTGATGCGGATTTTTCTCTTACGCATCTGTGCGGATTTTACACCCGCATATGGTGCACCTCTCAGTACAATCTGCTCTGATGCCG
CATAGTTAAGCCAGTATACACTCCGCTATCGCTACGTGACTGGTTCATGGCTGCGCCCGACCCGCAACACCCGCTGACGCGC
CCTGACGGGCTTGTCTGCTCCCGCATCCGCTTACAGACAAGCTGTGACCGTCTCCGGGAGCTGCATGTCTCAGAGGTTTTACCG
TCATCACGAAACGCGGAGGCAGCAGATCAATTCGCGCGGAAGCGGAAGCGGCATGCATTTACGTTGCGAATTGATCTGGTTTTG
ACAGCTTATCAT

sfGFP – 717 bp

ATGAGCAAAGGAGAAGAAGCTTTTCACTGGAGTTGTCCCAATCTTGTGTAATTAGATGGTGATGTTAATGGGCACAAATTTCTGT
CCGTGGAGAGGGTGAAGGTGATGCTACAAACGGAAAAGCTCACCCCTAAATTTATTTGCACTACTGAAAAGTACCTGTTCCGTGGC
CAACTTGTCACTACTCTGACCTATGGTGTTCATGCTTTTCCCGTTATCCGGATCACATGAAACGGCATGACTTTTTCAAGAGT
GCCATGCCCGAAGGTTATGTACAGGAACGCCTATATCTTTCAAAGATGACGGGACCTACAAGACCGGTGCTGAAGTCAAGTTTGA
AGGTGATACCCCTTGTAACTCGTATCGAGTTAAAGGTTATTGATTTTAAAGAAGATGGAAACATTTCTGGACACAACTTGAGTACA
ACTTTAACTCACACAATGTATACATCACGGCAGACAAAACAAAAGAATGGAATCAAAGCTAACTTCAAATTCGCCACAACGTTGAA
GATGGTTCGGTTCAACTAGCAGACCATATCAACAAAATACTCCAATTGGCGATGGCCCTGTCTTTTACCAGACAACCATTACCT
GTCGACACAATCTGTCTTTTCAAAGATCCCAACGAAAAGCGTGACCACATGGTCTTCTTGGATTGTAAGTGTGCTGGGATTA
CACATGGCATGGATGAGCTCTACAAATAA

mCherry – 711 bp

ATGGTGAGCAAGGGCGAGGAGGATAACATGGCCATCATCAAGGAGTTCATGCGCTTCAAGGTGCACATGGAGGGCTCCGTGAACGG
CCACGAGTTCGAGATCGAGGGCGAGGGCGAGGGCCGCCCTACGAGGGCACCCAGACCGCCAAGCTGAAGGTGACCAAGGGTGGCC
CCCTGCCCTTCGCCTGGGACATCCTGTCCCCTCAGTTCATGTACGGCTCCAAGGCCTACGTGAAGCACCCCGCGACATCCCCGAC
TACTTGAAGCTGTCTTCCCCGAGGGCTTCAAGTGGGAGCGCGTGATGAACTTCGAGGACGGCGGCGTGGTGACCGTGACCCAGGA
CTCCTCCCTGCAGGACGGCGAGTTCATCTACAAGGTGAAGCTGCGCGGCACCAACTTCCCCTCCGACGGCCCCGTAATGCAGAAGA
AGACCATGGGCTGGGAGGCCCTCCTCCGAGCGGATGTACCCCGAGGACGGCGCCCTGAAGGGCGAGATCAAGCAGAGGCTGAAGCTG
AAGACGGCGGCCACTACGACGCTGAGGTCAAGACCACCTACAAGGCCAAGAAGCCCGTGCAGCTGCCCGCGCCTACAACGTCAA
CATCAAGTTGGACATCACCTCCCACAACGAGGACTACACCATCGTGGAACAGTACGAACGCGCCGAGGGCCGCCACTCCACCGGGC
GCATGGACGAGCTGTACAAGTAA

TALE binding regions

lac operator - AATTGTGAGCGGATAACAATT

lysA operator - TCTTTTTATGATGTGGCGTAATC