

“Greenish” Fluorescent Protein (g_FP it includes EGFP, EYFP and ECFP)

There are 19 independent probes that span 492bp of the green fluorescent protein construct. These probes are ZZECFP0007, ZZECFP0009, ZZECFP0010, ZZECFP0011, ZZECFP0012, ZZECFP0013, ZZECFP0014, ZZECFP0015, ZZECFP0016, ZZECFP0017, ZZegfp0020, ZZegfp0015, ZZegfp0019, ZZegfp0018, ZZegfp0016, ZZegfp0026, ZZEYFP0013, ZZEYFP0014 and ZZEYFP0017. The DNA sequence includes the GFP ORF.

Markers

Egfp0026-TGGTGCCCATCTGGTCGAGCTGGACGGCGACGTAACGGCCACAAGTTC
ATGGTGAGCAAGGGCGAGGAGCTGTTACCAGGGGTTGGTGCCCATCTGGTCGAGCTGGACGGCGACGTAACGGCCACAAGTTCAGCGTGTCCGGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTGACCCCTGAAGTTTCATCTGCACCACCGGCAAGCTGCCCGTGCCTGGCCACCCTCGTGACCACCCCTGAC
Egfp0018-GCGAGGGCGATGCCACCTACGGCAAGCTGACCCCTGAAGTTTCATCTGCACCACCGGCAAGCTGCCCGTGCCTGGCCACCCTCGTGACCACCCCTGAC
GCCACCTACGGCAAGCTGACCCCTGAAGTTTCATCTGCACCACCGGCAAGCT-egfp0020
ACGGCAAGCTGACCCCTGAAGTTTCATCTGCACCACCGGCAAGCTGCCCGT-egfp0015

ECFP0017-GAAGCAGCAGACTTCTTCAAGTCCGCCATGCCGAAGGCTACGTCCAGG
CTACGGGCTGCAGTGTTCAGCGCTACCCCGACCATGAAGCAGCAGACTTCTTCAAGTCCGCCATGCCGAAGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGACGGCAACTACAAG
SCAGTGTTCAGCGCTACCCCGACCATGAAGCAGCAGACTTCTTCA-egfp0016
GAAGCAGCAGACTTCTTCAAGTCCGCCATGCCGAAGGCTACGTCCAGG-egfp0019

ECFP0007-GCTGGAGTACAACACTACATCAGCCACAAGCTCTATATCACCCGCGACAAGC
ECFP0011-CAAGCAGAAGAAGCGGCATCAAGGCCAACTTCAAGATCCGCCACAACATCG
ECFP0012-GAAGTTCGAGGGCGACACCCCTGGTGAACCGCATCGAGCTGAAGGGCATCG
ACCCGCGCCGAGGTGAAGTTCGAGGGCGACACCCCTGGTGAACCGCATCGAGCTGAAGGGCATCGACTTCAAGGAGGACGGCAACA-ECFP0014
CGTGAACCGCATCGAGCTGAAGGGCATCGACTTCAAGGAGGACGGCAACA-ECFP0014
GACTTCAAGGAGGACGGCAACAACATCTCGGGGCACAAGCTGGAGTACAACCT-ECFP0010
CTGGGGCACAAGCTGGAGTACAACCTGCTATATCA-ECFP0009
CGAGTACAACACTACATCAGCCACAAGCTCTATATCACCCGCGACAAGCAGA-ECFP0015
TATATCACCCGCGACAAGCAGAAGAAGCGGCATCAAGGCCAACTTCAAGA-ECFP0016

EYFP0013-TGAGTACCAGTCCGCCCTGAGCAAGACCCCAACGAGAAGCGGATCAC
EYFP0014-GCAAAGACCCCAACGAGAAGCGGATCACATGGTCTGTGGAGTTCGTG
GCAGCTCGCCGACCACTACCAGCAGAACACCCCATCGGCAGCGGCCCGTGTCTGTGCCGACAACCACTACCTGAGCACCAGTCCGCCCTGAGCAAG-ECFP0017
CTGTCTGTGCCGACAACCACTACCTGAGCACCAGTCCGCCCTGAGCAAG-ECFP0017

DNA sequence

ATGGTGAGCAAGGGCGAGGAGCTGTTACCAGGGGTTGGTGCCCATCTGGTCGAGCTGGACGGCGACGTAACGGCCACAAGTTCAGCGTGTCCGGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTGACCCCTGAAGTTTCATCTGCACCACCGGCAAGCTGCCCGTGCCTGGCCACCCTCGTGACCACCCCTGAC
CTACGGGCTGCAGTGTTCAGCGCTACCCCGACCATGAAGCAGCAGACTTCTTCAAGTCCGCCATGCCGAAGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGACGGCAACTACAAG
ACCCGCGCCGAGGTGAAGTTCGAGGGCGACACCCCTGGTGAACCGCATCGAGCTGAAGGGCATCGACTTCAAGGAGGACGGCAACAACCTCGGGGCACAAGCTGGAGTACAACACTACAAGCAGCCACAACCTCTATATCATGGCCGACAAGCAGAAGAAGCGGCATCAAGGTGAAGTTCAGATCCGCCACAACATCGAGGACGGCAGCTG
GCAGCTCGCCGACCACTACCAGCAGAACACCCCATCGGCAGCGGCCCGTGTCTGTGCCGACAACCACTACCTGAGCACCAGTCCGCCCTGAGCAAGACCCCAACGAGAAGCGGATCACATGGTCTGTGGAGTTCGTGACCCGCGCCGGGATCACCTCTCGGCATGGACGAGCTGTACAAG

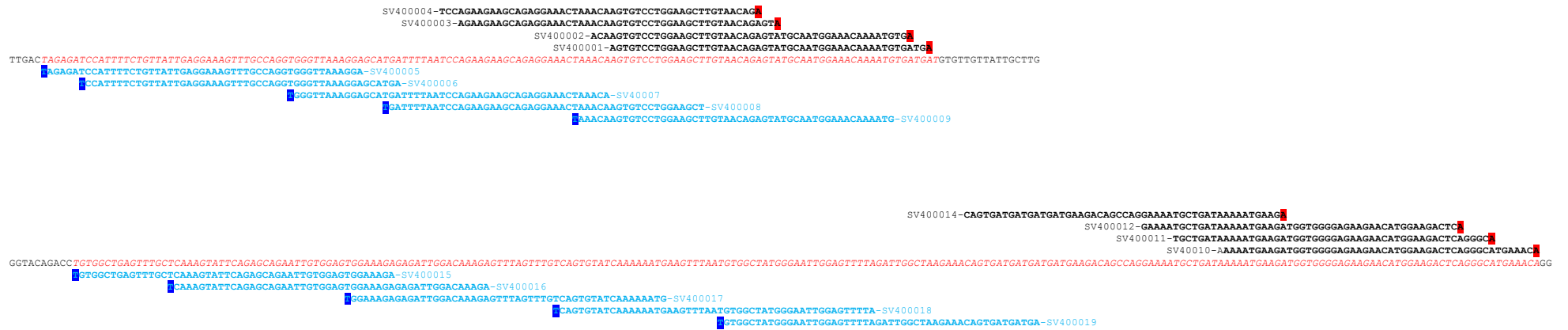
Protein

MVSKGEELFTGVVPIILVELDGDVNGHKFVSVSGEGEDATYGKLTILKFICTTKGLPVFWPLTIVTLLTYGVQCFSRYPDHMKQHDFFKSAMPEGVQERTIFPKDDGNVYKTRAEVKEFDGLVNRILKELGIDPKEDNGLGHKLEYNVSHNVYIMADKQKNGIKVNFKIRHNIEDGSVQLADHYQNTPIGDGPVLLPDNHYLSTQSALS KDPNEKRDMVLEFVTAAGITLGMDELYK

SV40 large T antigen (SV40)

There are 18 independent probes that span 374bp of two regions of the SV40 large T antigen construct. These probes are ZZSV400001, ZZSV400002, ZZSV400003, ZZSV400004, ZZSV400005, ZZSV400006, ZZSV400007, ZZSV400008, ZZSV400009, ZZSV400010, ZZSV400011, ZZSV400012, ZZSV400014, ZZSV400015, ZZSV400016, ZZSV400017, ZZSV400018 and ZZSV400019. The DNA sequence includes the large T antigen ORF.

Markers



DNA sequence

TAGAGATCCATTTCTGTTATTGAGGAAAGTTGCCAGGTGGGTTAAAGGAGCATGATTTAATCCAGAAGAAGCAGAGGAACTAAACAAGTCTCCTGGAAGCTTGTAAACAGATATGCAATGGAACAAAATGTGATGAT

TGTGGCTGAGTTTGTCTCAAAGTATTCAGAGCAGAATTGTGGAGTGGAAAGAGAGATTGGACAAGAGTTTAGTTTGTCAAGTATCAAAAAATGAAGTTAATGTGGCTATGGGAATGGAGTTT TAGATTGGCTAAGAACAGTGATGATGATGATGAAGACAGCCAGGAAAATGCTGATAAAAATGAAGATGGTGGGGAGAAGAACATGGAAGACTCAGGGCATGAAAC

Protein

ITRDPSVIEESLPGLKEHDFNPEEAETKQVSWKLVTEYAMetETKCDVLLLL

YRPVAEFAQSIQSRIVEWKERLKEFSLSVYQKMFNVAMGIVLDWLRNSDDDDDEDSQENADKNEDGGEKNMEDSGHET

Cre recombinase

There are 15 probes (12 independent and 3 replicates) that span 317bp of the **Cre recombinase** construct. These probes are ZZcreERT06, ZZcreERT10, ZZcreERT05, ZZcreERT09, ZZcre00006, ZZcre00003, ZZcreERT03, ZZcreERT08, ZZcre00010, ZZcre00002, ZZcre00004, ZZcre00011, ZZcre00005, ZZcre00008 and ZZcre00001. The DNA sequence translates to the recombinase ORF. One probe (cre00010) needs additional checking.

Markers

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creERT08--CATTACCGGTCGATGCAACGAGTGATGAGGTCGCAAGAACCTGATGGAC
creERT03--CATTACCGGTCGATGCAACGAGTGATGAGGTCGCAAGAACCTGATGGAC
ATGTCCAATTTACTGACCGTACACCAAAATTTGCCTGCATTACCGGTCGATGCAACGAGTGATGAGGTCGCAAGAACCTGATGGAC
GATGAGGTCGCAAGAACCTGATGGACATGTTTCAGGGATCGCCAGGCGTTTCTGAGCATACTGGAAAATGCTTCTGT-CreERT06
GATGAGGTCGCAAGAACCTGATGGACATGTTTCAGGGATCGCCAGGCGTT-CreERT10
GATGAGGTCGCAAGAACCTGATGGACATGTTTCAGGGATCGCCAGGCGTTTCTGAGCATACTGGAAAATGCTTCTGT-CreERT05
GATGAGGTCGCAAGAACCTGATGGACATGTTTCAGGGATCGCCAGGCGTTTCTGAGCATACTGGAAAATGCTTCTGT-CreERT09

Cre00003--CAAGTTGAATAACCGGAAATGGTTTCCCGCAGAACCTGAAGATGTTCCGG
Cre00002--CCTGAAGATGTTCCGGATTATCTTCTATATCTTCAGGCGCGGCTGGC
Cre00001--TCTTCTATATCTTCAGGCGCGGCTGGCAGTAAAAACTATCCAGCAAC
GTGGCGGCGATGGTGCAAGTTGAATAACCGGAAATGGTTTCCCGCAGAACCTGAAGATGTTCCGGATTATCTTCTATATCTTCAGGCGCGGCTGGCAGTAAAAACTATCCAGCAACATTTGGGCCAGCTAAACATGCTTC
AACCGGAAATGGTTTCCCGCAGAACCTGAAGATGTTCCGGATTATCTTCT -cre00006
GTCAGTAAAAACTATCCAGCAACATTTGGGCCAGCTAAACATGCTTCATC -cre00004
GTTCCGGATTATCTTCTATATCTTCAGGCGCGGCTGGCAGTAAAAAC -cre00005

CCGGGCTGCCACGCAAGTGACAGCAATGCTGTTTCACTGGTTATGCGGCGGATCCGAAAAAGAAACGTTGATCCGGTGACCGTGCAAAACAGGCTTAGCGTTCGAACGCACTGATTTCCAGCAGGTTCCGTTCACTCATGGAAAATAGC
SCCAGCAGCAAGTGACAGCAATGCTGTTTCACTGGTTATGCGGCGGATCC -cre0011
GTTTATGCGGCGGATCCGAAAAAGAAACGTTGATCCGGTGACCGTGCAAAACAGGCTTAGCGTTCGAACGCACTGATTTCCAGCAGGTTCCGTTCACTCATGGAAAATAGC -cre00010
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DNA Sequence

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ATGTCCAATTTACTGACCGTACACCAAAATTTGCCTGCATTACCGGTCGATGCAACGAGTGATGAGGTCGCAAGAACCTGATGGACATGTTTCAGGGATCGCCAGGCGTTTCTGAGCATACTGGAAAATGCTTCTGTCCGTTTGC CGGTC
GTGGCGGCGATGGTGCAAGTTGAATAACCGGAAATGGTTTCCCGCAGAACCTGAAGATGTTCCGGATTATCTTCTATATCTTCAGGCGCGGCTGGCAGTAAAAACTATCCAGCAACATTTGGGCCAGCTAAACATGCTTCATCGTCGTT
CCGGGCTGCCACGCAAGTGACAGCAATGCTGTTTCACTGGTTATGCGGCGGATCCGAAAAAGAAACGTTGATCCGGTGACCGTGCAAAACAGGCTTAGCGTTCGAACGCACTGATTTCCAGCAGGTTCCGTTCACTCATGGAAAATAGC
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Protein

MSNLLTVHQNLPALPVDATSDVQRKRLMDMFRDRQAFSEHTWKMLLSVCRSWAAWCKLNNRKFPAEPEDVRDYLLYLQARGLAVKTIQHLGQLNMLHRRSGLPRPSDSNAVSLVMRRIRKENVDAGERAKQALAFERTDFDQVRSLEMEN

53' Frame 1
Met S N L L T V H Q N L P A L P V D A T S D E V R K N L Met D Met F R D R Q A F S E H T W K Met L L S V C R S W A A W
C K L N N R K W F P A E P E D V R D Y L L Y L Q A R G L A V K T I Q H L G Q L N Met L H R R S G L P R P S D S N A V S L
V Met R R I R K E N V D A G D S N

Tetracycline repressor protein (tTA)

There are 14 independent probes that span 340bp of tetracycline repressor protein TetR construct. These probes are ZZtTA00001, ZZtTA00002, ZZtTA00003, ZZtTA00005, ZZtTA00008, ZZtTA00009, ZZtTA00010, ZZtTA00011, ZZtTA00012, ZZtTA00013, ZZtTA00014, ZZtTA00015, ZZtTA00016 and ZZtTA00017. The DNA sequence includes ORF TetR.

Markers

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      tTA00003-GCTGCTTAATGAGGTCGGAAATCGAAGGTTTAAACAACCCCTAAACTCGCCC
      tTA00002-GGTTTAAACAACCCCTAAACTCGCCCAGAGCTGGTGTAGAGCAGCCTAC
      tTA00001-CCGTAAACTCGCCCAGAGCTGGTGTAGAGCAGCCTACACTGTATTGGC
ATGCTCTAGATTAGATAAAAAGTAAAGTGATTAAACAGCGCATTAGA GCTGCTTAATGAGGTCGGAAATCGAAGGTTTAAACAACCCCTAAACTCGCCCAGAGCTGGTGTAGAGCAGCCTACACTGTATTGGC
      tTAAAAAATAAGCGGGCTTTGCTCGACGCCCTTAGCCATTGAGATGTTAGATAGGCACCATACTCACTTTTGCCCTTTA
      tTAAAAAATAAGCGGGCTTTGCTCGACGCCCTTAGCCATTGAGATGTTAGA-tTA00008
      tAAAAAATAAGCGGGCTTTGCTCGACGCCCTTAGCCATTGAGATGTTAGATA-tTA00009
      tCGAAGGTTTAAACAACCCCTAAACTCGCCCAGAGCTAGGTGTAGAGCAGC-tTA00005

GAAGGGGAAAAGCTGGCAAGATTTTTTACGTAATAACGCTAAAAGTTTTAGATGTGCTTTACTAAGTCATCGCGATGGAGCAAAAAGTACATTTAGGTACACGGCCTACAGAAAAACAGTATGAAACTCTCGAAAAATCAATTAGCCTTTTTATGCCAACAAAG

      tTA00013-AACGCGTTATATGCACCTCAGCGCTGTGGGGCATTCTTACTTTAGGTTGCGT
      tTA00012-CAGCGCTGTGGGGCATTCTTACTTTAGGTTGCGTATTGGAAAGATCAAGAGC
      tTA00011-TGGAAAGATCAAGAGCATCAAGTCGCTAAAGAAGAAAGGAAACACCTACT
      tTA00010-ANGAGCATCAAGTCGCTAAAGAAAGAAAGGAAACACCTACTACTGATAGT
TTTTTCACTAGAGAATGCATTTATATGCACCTCAGCGCTGTGGGGCATTCTTACTTTAGGTTGCGTATTGGAAAGATCAAGAGCATCAAGTCGCTAAAGAAGAAAGGAAACACCTACTACTGATAGT
      tTTGGAAAGATCAAGAGCATCAAGTCGCTAAAGAAGAAAGGAAACACCTA-tTA00014
      tACTACTGATAGTATGCGCGCATTATTACGACAAGCTATCGAATTTTGA-tTA00015
      tATCGAATTTATGATCACCAGGTGCAGAGCCAGCCTCTTATTGCGGCT-tTA00016
      tACCAAGGTGCAGAGCCAGCCTCTTATTGCGGCTTGAATTGATCATATG-tTA00017

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DNA sequence

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ATGCTCTAGATTAGATAAAAAGTAAAGTGATTAAACAGCGCATTAGA GCTGCTTAATGAGGTCGGAAATCGAAGGTTTAAACAACCCCTAAACTCGCCCAGAGCTGGTGTAGAGCAGCCTACACTGTATTGGC
ACGCTAAAAGTTTTAGATGTGCTTTTACTAAGTCATCGCGATGGAGCAAAAAGTACATTTAGGTACACGGCCTACAGAAAAACAGTATGAAACTCTCGAAAAATCAATTAGCCTTTTTATGCCAACAAAG
TGATAGTATGCCGCCATTATTACGACAAGCTATCGAATTTATTGATCACCAGGTGCAGAGCCAGCCTCTTATTGCGGCTTGAATTGATCATATCGGATTAGAAAAACAC

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Protein

MetSRLDKSKVINSALELLNEVGIEGLTTRKLAQKLGVEQPTLYWHVKNKRALLDALAIEMetLDRHHTHFCPLEGESWQDFLRNNAKSFRCALLSHRDGAKVHLGTRPTEKQYETLENQLAFLCQQGFSLENALYALSAVGHFTLGCVLEDQEHQVAKEERETPTTDSMetPPLLRQAIELEFDHQGAEPFLFGLLELIICGLEKQ

Diphtheria toxin (DTA)

There are 10 independent probes that span 183bp of the DTA construct. These probes are ZZDTA00001, ZZDTA00002, ZZDTA00003, ZZDTA00004, ZZDTA00005, ZZDTA00006, ZZDTA00007, ZZDTA00008, ZZDTA00009 and ZZDTA00010. The DNA sequence translates diphtheria toxin ORF. One probe (DTA00002) needs additional checking.

Markers

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DTA00001--TTGATTCCTCTAAATCTTTTGTGATGGAAAACCTTTTCTCGTACCACGGGCTAAACCTGGTTATGTAGCT
DTA00002--AAAAGGTATACACTTTTCTCGTACCACGGGACTAAACCTGGTTATGTAGCT
DTA00003--CTGGTTATGTAGATTCCTCAAAAAGGTATACAAAAGCCAAAATCTGGTACACAAAGGAATTTATGACCT
DTA00004--TCAAAAAGGTATACAAAAGCCAAAATCTGGTACACAAAGGAATTTATGACCT
DTA00005--TGCTACACAAAGGAATTTATGACCTGATTGGAAAGGGTTTTATAGTACCG
DTA00006--TGCTACACAAAGGAATTTATGACCTGATTGGAAAGGGTTTTATAGTACCG
DTA00007--TCAAAAAGGTATACAAAAGCCAAAATCTGGTACACAAAGGAATTTATGACCTGATTGGAAAGGGTTTTATAGTACCGACAATAAATACGACGCTGCGGGATACTCT
DTA00008--CTGGTTATGTAGATTCCTCAAAAAGGTATACAAAAGCCAAAATCTGGTACACAAAGGAATTTATGACCT
DTA00009--TCAAAAAGGTATACAAAAGCCAAAATCTGGTACACAAAGGAATTTATGACCTGATTGGAAAGGGTTTTATAGTACCGACAATAAATACGACGCTGCGGGATACTCT
DTA00010--TGCTACACAAAGGAATTTATGACCTGATTGGAAAGGGTTTTATAGTACCGACAATAAATACGACGCTGCGGGATACTCT
TGATGATGTTGTTGATTCCTCTAAATCTTTTGTGATGGAAAACCTTTTCTCGTACCACGGGACTAAACCTGGTTATGTAGATTCCTCAAAAAGGTATACAAAAGCCAAAATCTGGTACACAAAGGAATTTATGACCTGATTGGAAAGGGTTTTATAGTACCGACAATAAATACGACGCTGCGGGATACTCT
CGTTATGTAGATTCCTCAAAAAGGTATACAAAAGCCAAAATCTGGTACACAAAGGAATTTATGACCTGATTGGAAAGGGTTTTATAGTACCGACAATAAATACGACGCTGCGGGATACTCT
ATACAAAAGCCAAAATCTGGTACACAAAGGAATTTATGACCTGATTGGAAAGGGTTTTATAGTACCGACAATAAATACGACGCTGCGGGATACTCT
SACGATGATTGGAAAGGGTTTTATAGTACCGACAATAAATACGACGCTGCGGGATACTCT
SATGATGTTGTTGATTCCTCTAAATCTTTTGTGATGGAAAACCTTTTCTCGTACCACGGGACTAAACCTGGTTATGTAGATT--DTA00005
AAATCTTTTGTGATGGAAAACCTTTTCTCGTACCACGGGACTAAACCTGG--DTA00004
SATGGAAAACCTTTTCTCGTACCACGGGACTAAACCTGGTTATGTAGATT--DTA00003
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DNA sequence

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TGATGATGTTGTTGATTCCTCTAAATCTTTTGTGATGGAAAACCTTTTCTCGTACCACGGGACTAAACCTGGTTATGTAGATTCCTCAAAAAGGTATACAAAAGCCAAAATCTGGTACACAAAGGAATTTATGACCTGATTGGAAAGGGTTTTATAGTACCGACAATAAATACGACGCTGCGGGATACTCT
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Protein

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DDVVDSSKSFVMENFSSYHGTPGYVDSIQKGIQKPKSGTQGNVDDDWKGFYSTDNKYDAAGYS
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Human CMV enhancer *version b* (hCMV-b)

There are 11 probes (7 independent and 4 replicates) that span 189 bp of the construct. These probes are .

Markers

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CAG00009--CCGCCAAGGACCCCGGCCATTGACGTCATAATGACGTATGTTCCTAT
CAG00008--CCCCGCCATTGACGTCATAATGACGTATGTTCCTATGTAACGCCAAT
CAG00007--TCAATAATGACGTATGTTCCTATGTAACGCCAATAGGGACTTCCATTG
CAG00006--TGTTCCTATGTAACGCCAATAGGGACTTCCATTGACGTCAATGGGTGC
CMV00002--TATATGGAGTTCGCGTTACATAACTACGGTAAATGGCCCGCTGGCTG
CMV00012--TATATGGAGTTCGCGTTACATAACTACGGTAAATGGCCCGCTGGCTG
tataatggagttcgcggttaacataactaacggttaaatggcccgctggctgaccgccaacgacccccgccattgacgtcaataatgacgtatgttcccatgtaacgccaaataggacctttccattgacgtcaatgggtgagattaccgtaaacctgcccaactggcagtcacatcaag
TGTATCATATGCCAAGTACGCCCCCTATTGACGTCATAATGACGTAATGGC-CMV00003
TGTATCATATGCCAAGTACGCCCCCTATTGACGTCATAATGACGTAATGGC-CMV00003
TGTATCATATGCCAAGTACGCCCCCTATTGACGTCATAATGACGTAATGGC-CMV00003
TGTATCATATGCCAAGTACGCCCCCTATTGACGTCATAATGACGTAATGGC-CMV00003
TGTATCATATGCCAAGTACGCCCCCTATTGACGTCATAATGACGTAATGGC-CMV00003
TGTATCATATGCCAAGTACGCCCCCTATTGACGTCATAATGACGTAATGGC-CMV00003
TGTATCATATGCCAAGTACGCCCCCTATTGACGTCATAATGACGTAATGGC-CMV00003
TGTATCATATGCCAAGTACGCCCCCTATTGACGTCATAATGACGTAATGGC-CMV00003
TGTATCATATGCCAAGTACGCCCCCTATTGACGTCATAATGACGTAATGGC-CMV00003
TGTATCATATGCCAAGTACGCCCCCTATTGACGTCATAATGACGTAATGGC-CMV00003
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DNA sequence

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tataatggagttcgcggttaacataactaacggttaaatggcccgctggctgaccgccaacgacccccgccattgacgtcaataatgacgtatgttcccatgtaacgccaaataggacctttccattgacgtcaatgggtgagattaccgtaaacctgcccaactggcagtcacatcaag
TGTATCATATGCCAAGTACGCCCCCTATTGACGTCATAATGACGTAATGGC-CMV00003
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Protein

Not applicable

Luciferase and firefly luciferase (Luc)

There are 10 independent probes that span 424bp of the firefly luciferase construct. These probes are ZZfirluc01, ZZfirluc02, ZZfirluc04, ZZfirluc05, ZZfirluc06, ZZfirluc07, ZZfirluc08, ZZfirluc09, ZZluci0003 and ZZluci0007. The DNA sequence includes the luciferase ORF.

Markers

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Luci0007-GGAAGACGCCAAAAACATAAAGAAAGGCCCGGCCACTTCTATCCGCTGC
Lucifir09-GCTATGAAGAGATACGCCCTGGTTCCTGGAACAATTGCTTTTACAGATG
Luci0003-GAGATACGCCCTGGTTCCTGGAACAATTGCTTTTACAGATGCACATATCG
Lucifir08-TGGTTCCTGGAACAATTGCTTTTACAGATGCACATATCGAGGTGGACATC
ATGGAAGACGCCAAAAACATAAAGAAAGGCCCGGCCACTTCTATCCGCTGGAAGATGGAACCGCTGGAGAGCAACTGCATAAAGCTATGAAGAGATACGCCCTGGTTCCTGGAACAATTGCTTTTACAGATGCACATATCGAGGTGGACATCACCTTACGCTGAGTACTTCGAAATGTCGGTTCGGTTGGCAGAAGCTATG

Firluc07-CGGTGTGGGCGCGTTATTTATCGGAGTTCGAGTTCGCGCCGCGAAGCAC
Firluc06-ACATTTATAATGAACGTGAATTGCTCAACAGTATGGCATTTCGACGCT
AAACGATATGGCTGAATACAAATCACAGAAATCGTGTATGCAGTAAAACTCTTCAATCTTTATGCGGTTGGGCGCGTTATTTATCGGAGTTCGAGTTCGCGCCGCGAAGCACATTATAATGAACGTGAATTGCTCAACAGTATGGCATTTCGACGCTACCGTGGTGTTCGTTTCCAAAAGGGGTTGCAAAAAATTTTGAACGTGCAA

Firluc05-TGGATTCTAAAACGGATTACCAGGGATTCAGTCGATGTACACGTTGCTC
AAAAAGTCCCAATCATCCAAAAAATTTATCA TGGATTCTAAAACGGATTACCAGGGATTCAGTCGATGTACACGTTGCTCATCTCATCTACCTCCCGGTTTTAATGAATACGATTTTGTGCCAGAGTCCTTCGATAGGGACAAGACAATGCACTGATCATGAATCCTCTGGATCTACTGGTTCGCTAAAGGTGCTGCTCT
GCCTCATAGAATCGCTGCGTGAGATCTCGCATGCCAGAGATCTCTATTTTGGCAATCAATCATTCGGACTACGCGATTTAAGTGTGTTCCATTCCTACACGTTTTGGAATGTTTACTACACTCGGATATTTGATATGTGGATTTTCGATCGTCTTAATGTATAGATTGAAAGAGAGCTTTCTGAGGAGCCTTCAGGATTAC

Firluc04-CTGGCTGTGGTCCAAACCCTATTCTCCTCTTCGCCAAAAGCACTG
AAGATTCAAAGTGGCTGTGGTCCAAACCCTATTCTCCTCTTCGCCAAAAGCACTGATTGACAAATACGATTTATCTAATTTACACGAAATGCTTCTGGTGGCGCTCCCTCTCTAAGAGTTCGGGAAAGCGGTTGCCAAGAGTTCATCTGCCAGTATCAGGCAAGGATATGGGCTCACTGAGACTACATCAGCTATTCTG
ATTACCCGAGGGGGATGATAAACCAGGCGCGTTCGTTAAAGTTGTTCCATTTTTTGAAGCGAAGTTGTGGATCTGGATACCGGAAAACGCTGGCGTTAATCAAAGAGCGCAACTGTGTGTGAGAGTCTTATGATATGTCCGGTTATGTAAACAATCCGGAAGCGCAACCGCTTGATTGACAAGGATGGATGGCTACATTTCTGGAGACATAGCTTACTGGACGAGACGAACACTCTTCTCATCGTTGACCGCTGAAGTCTCTGATTAAGT

Firluc02-CCAACACCCCAACATCTTCGACGAGGTTCGCGAGTCTTCCGACGATG
ACAAGGCTATCAGTGGCTCCCGTGAATGGAATCCATCTGCTCCAACACCCCAACATCTTCGACGAGGTTCGCGAGTCTTCCGACGATGACGCGGTGAACCTCCCGCCCGCTTGTGTTTTGGAGCACGGA

Firluc1-GTAACAACCGGAAAAAGTTGCGGGAGGAGTTGTGTTTGGACGAAGT
AAGACGATGACGAAAAAGAGATCGTGGATTACGTGCCAGTCAA GTAACAACCGGAAAAAGTTGCGGGAGGAGTTGTGTTTGGACGAAGTACCAGAAAGTCTACCAGAAAACTCGACGCAAGAAAAATCAGAGAGATCTCTATAAAGGCCAAGAAGGGCGGAAAGATCGCCGTTG
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DNA sequence

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ATGGAAGACGCCAAAAACATAAAGAAAGGCCCGGCCACTTCTATCCGCTGGAAGATGGAACCGCTGGAGAGCAACTGCATAAGGCTATGAAGAGATACGCCCTGGTTCCTGGAACAATTGCTTTTACAGATGCACATATCGAGGTGGACATCACCTTACGCTGAGTACTTCGAAATGTCGGTTCGGTTGGCAGAAGCTATG
AAACGATATGGCTGAATACAAATCACAGAAATCGTGTATGCAGTAAAACTCTTCAATCTTTATGCCGCTGTGGGCGCGTTATTTATCGGAGTTCGAGTTCGCGCCGCGAAGCACATTATAATGAACGTGAATTGCTCAACAGTATGGCATTTCGACGCTACCGTGGTGTTCGTTTCCAAAAGGGGTTGCAAAAAATTTTGAACGTGCAA
AAAAAGTCCCAATCATCCAAAAAATTTATCA TGGATTCTAAAACGGATTACCAGGGATTCAGTCGATGTACACGTTGCTCATCTCATCTACCTCCCGGTTTTAATGAATACGATTTTGTGCCAGAGTCCTTCGATAGGGACAAGACAATGCACTGATCATGAATCCTCTGGATCTACTGGTTCGCTAAAGGTGCTGCTCT
GCCTCATAGAATCGCTGCGTGAGATCTCGCATGCCAGAGATCTCTATTTTGGCAATCAATCATTCGGACTACGCGATTTAAGTGTGTTCCATTCCTACACGTTTTGGAATGTTTACTACACTCGGATATTTGATATGTGGATTTTCGATCGTCTTAATGTATAGATTGAAAGAGAGCTTTCTGAGGAGCCTTCAGGATTAC
AAGATTCAAAGTGGCTGTGGTCCAAACCCTATTCTCCTCTTCGCCAAAAGCACTCTGATTGACAAATACGATTTATCTAATTTACACGAAATGCTTCTGGTGGCGCTCCCTCTCTAAGAGTTCGGGAAAGCGGTTGCCAAGAGTTCATCTGCCAGTATCAGGCAAGGATATGGGCTCACTGAGACTACATCAGCTATTCTG
ATTACCCGAGGGGGATGATAAACCAGGCGCGTTCGTTAAAGTTGTTCCATTTTTTGAAGCGAAGTTGTGGATCTGGATACCGGAAAACGCTGGCGTTAATCAAAGAGCGCAACTGTGTGTGAGAGTCTTATGATATGTCCGGTTATGTAAACAATCCGGAAGCGCAACCGCTTGATTGACAAGGATGGATGGCTACATTTCTGGAGACATAGCTTACTGGACGAGACGAACACT
TCTTCATCGTTGACCGCTGAAGTCTCTGATTAAGTACAAAGGCTATCAGGTGGCTCCCGTGAATGGAATCCATCTTGTCTCAACACCCCAACATCTTCGACGAGGTTCGCGAGTCTTCCGACGATGACGCGGTGAACCTCCCGCCCGCTTGTGTTTTGGAGCACGGA
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Protein

```
MDAKNIKKGFAPFYPLEDGTAGEQLHKMKRYALVPGTIAFTDAHIEVDITYAEYFEMSVRLAEAMKRYGLNTHRIVVCSENSLQFFMVLGALFIVGAVAPANDIYNERELLSMGI SQPTVVFVSKKGLQKILNVQKLP I IQKI IIMDSKTDYQGFQSMYTFVTSHPGFNEYDFVPESFDRDKTIALIMNSSGSTGLPKGVALPHRTACVRFSHARDPIFGNQIIPDTAILSVPVPH
HGFGMFTLLGLICGFRVLMYRFEELFLRSLQDYKIQSALLVPTLFSFFAKSLIDKYDLSNLHEIASGGAPLSKEVGEAVAKRFHLPGRQYGLTETTSAILITPEGDGKPVAGVKVVFPEAKVVDLDTGKTLGVNQRGELCVRGPMSGYVNNPEATNALIDKDWLHSGDIAWDEDEHFFIVDRKLSLIKYGQVAPAELESILLQHPNIFDAGVAGLPDDAGELPAVVVLE
HGKTMTEKEIVDVASQVTTAKKLRGVVDFVDEPKLTKGLDARKIREILIKAKGGKIAV
```

Chloramphenicol acetyltransferase (chloR)

There are 9 independent probes that span 225 bp of the chloramphenicol acetyltransferase construct. These probes are . The DNA sequence includes to the chloR ORF.

Markers

```
chloR02-AGCTAAGGAAGCTAAAATGGAGAAAAAATCACTGGATATACCACCOTTG
chloR03-AATCACTGGATATACCACCOTTGATATATCCCAATGGCATCGTAAAGAAC
chloR001-AATGGCATCGTAAAGAACATTTGAGGCATTCAGTCAGTTGCTCAATGT
chloR09-GGATATTACGGCCTTTTAAAGACCGTAAAGAAAAAATAGCACAAAGTTT
chloR-06-CCTTTTAAAGACCGTAAAGAAAAAATAGCACAAAGTTTATCCGGCCTTT
chloR07-CAAGTTTATCCGGCCTTTATTCACATTCTTCCCGCCCTGATGAATGCTC
chloR08-AAATAGCACAAAGTTTATCCGGCCTTTATTCACATTCTTCCCGCCCTC
tccgtcgagatTTTcaggagctaaaggaagctaaaatggagaaaaaaatcaactggatataccaccgcttgatatacccgaatgcatatccccaatggcatcgtaaagaacatttgaggcatttcagtcagttgctcaatgtacctataaccagaccgttcagctg gatatacggcctttttaaagaccgtaaaagaaaaataagcacaagtttatccggcctttattcacattcttgcccgccctgatgaatgctcatcgg
CACTGGATATACCACCOTTGATATATCCCAATGGCATCGTAAAGAACATT-chloR05
CAGTTGCTCAATGTACTATAACCAGACCGTTCACTGGATATACGGCC-chloR-04
```

DNA sequence

```
tccgtcgagatTTTcaggagctaaaggaagctaaaatggagaaaaaaatcaactggatataccaccgcttgatatacccgaatgcatatccccaatggcatcgtaaagaacatttgaggcatttcagtcagttgctcaatgtacctataaccagaccgttcagctg gatatacggcctttttaaagaccgtaaaagaaaaataagcacaagtttatccggcctttattcacattcttgcccgccctgatgaatgctcatcgg
```

Protein

```
PSRFSGAKEAKMEKKITGYTTVDISQWHRKEHFEAFQSVACQTYNQTVQLDITAFLLKTVKKNKHKFYPAFIHILARLMNAHP
```


Bovine growth hormone poly A signal sequence (bpA)

There are 8 (4 independent and 4 replicates) probes that span 89 bp of construct. These probes are ZZbpA00006, ZZbpA00011, ZZbpA00007, ZZbpA00012, ZZbpA00008, ZZbpA00013, ZZbpA00010 and ZZbpA00014.

Markers

```
bpA00013-CTGGAAGGTGCCACTCCACTGTCCTTTCCTAAATAAAAATGAGGAATTGC
bpA00008-CTGGAAGGTGCCACTCCACTGTCCTTTCCTAAATAAAAATGAGGAATTGC
bpA00012-CCACTGTCCTTTCCTAAATAAAAATGAGGAATTGCATCGCAATTGCTGAGT
bpA00007-CCACTGTCCTTTCCTAAATAAAAATGAGGAATTGCATCGCAATTGCTGAGT
bpA00011-CCTAAATAAAAATGAGGAATTGCATCGCAATTGCTGAGTAGGTGTCATTCT
bpA00006-CCTAAATAAAAATGAGGAATTGCATCGCAATTGCTGAGTAGGTGTCATTCT
gcccccccccgtccttccttgacctggaagggtgccactccccactgtcctttcctaataaaaatgaggaattgcatacgcaattgctgagtaggtgcattctattctggggggggggg
TAGGAATTGCATCGCAATTGCTGAGTAGGTGTCATTCTATTCTGGGGGG-bpA00010
TAGGAATTGCATCGCAATTGCTGAGTAGGTGTCATTCTATTCTGGGGGG-bpA00014
```

DNA sequence

```
gcccccccccgtccttccttgacctggaagggtgccactccccactgtcctttcctaataaaaatgaggaattgcatacgcaattgctgagtaggtgcattctattctggggggggggg
```

Protein

Not applicable

iCre recombinase (iCre)

There are 8 independent probes that span 138 bp of the icre construct. These probes are ZZicre0009, ZZicre0013, ZZicre0016, ZZicre0017, ZZicre0018, ZZicre0019, ZZicre0020 and ZZicre0021. The DNA sequence includes the icre ORF.

Markers

```
          iCre019-GTGAAGACCATCCAACAGCACCTGGGCCAGCTCAACATGCTGCACAGGAG
iCre0013-CCAGAGGCGCTGGCTGTGAAGACCATCCAACAGCACCTGGGCCAGCTCAAC iCre018-GGAGATCTGGCCTGCCTCGCCCTTCTGACTCCAATGCTGTCCCTGGTC
iCre020-TGAGGGACTACCTCCTGTACCTGCAAGCCAGAGGCGCTGGCTGTGAAGACC
TGGTTCCCTGCTGAACCTGAGGATGTGAGGGACTACCTCCTGTACCTGCAAGCCAGAGGCGCTGGCTGTGAAGACCATCCAACAGCACCTGGGCCAGCTCAACATGCTGCACAGGAGATCTGGCCTGCCTCGCCCTTCTGACTCCAATGCTGTCCCTGGTC
          iCre019
          iCre017
          iCre021
```

DNA sequence

```
TGGTTCCCTGCTGAACCTGAGGATGTGAGGGACTACCTCCTGTACCTGCAAGCCAGAGGCGCTGGCTGTGAAGACCATCCAACAGCACCTGGGCCAGCTCAACATGCTGCACAGGAGATCTGGCCTGCCTCGCCCTTCTGACTCCAATGCTGTCCCTGGTCGATGAGGAGAAATCAGAAAGGAGAAATGTGGATGCTGGGGAGAGGCCAAG
```

Protein

```
WFAEPEDVDRDYLQLQARGLAVKTIQQHLGQLNMLHRRSGLPRPDSNAVSLVMRRIRKENVDAGERAK
```

Reverse improved tetracycline-controlled transactivator (rtTA)

There are 8 probes (4 independent and 4 replicates) that span 109 bp of the rtTA construct.

These probes ZZrtTA2S10, ZZrtTA2S18, ZZrtTA2S11, ZZrtTA2S19, ZZrtTA2S20, ZZrtTA2SM8, ZZrtTA2S21 and ZZrtTA2SM9. The DNA sequence includes to the rtTA ORF.

Markers

```

rTA2S19-GAAGTGGGGGCATAGAATCGGTGGTAGGTGTCTCTCTTTCCCTTTTGGCT
rTA2S11-GAAGTGGGGGCATAGAATCGGTGGTAGGTGTCTCTCTTTCCCTTTTGGCT
rTA2S18-GGGGCAATAGAATCGGTGGTAGGTGTCTCTCTTTCCCTTTTGGCTACTTC
rTA2S10-GGGGCAATAGAATCGGTGGTAGGTGTCTCTCTTTCCCTTTTGGCTACTTC
CGAACAGCTCAATTGCTTGTCTCAGAAGTGGGGGCATAGAATCGGTGGTAGGTGTCTCTCTTTCCCTTTTGGCTACTTCATGATGCTCCTGTTCTCCAAATACGCAGCCAGTGTAAAGTGCCACGGCGGACAGAGCGTACAGTGCCTTCTCCAGGGAGAAGCCTTGTGACACAGAAACGGAGCTGATTTCCAGGGTTTCGT
ACTGTTTCTCTGTGGGCGGGTGCAGATGCACCTTAGCCCCGTGCGAATGTGAGAGGAGAGCACAGCGAATGACTTGGCGTTGTTCCGAGAAAGTCTTGCCATGACTGCCTTCCAGGGGGCAGAAGTGGGTATGA
rTGAGAGGAGAGCACAGCGAATGACTTGGCGTTGTTCCGAGAAAGTCT-rTA2S20
rTGAGAGGAGAGCACAGCGGTATGACTTGGCGTTGTTCCGAGAAAGTCT-rTA2S21
rTGAGAGGAGAGCACAGCGGTATGACTTGGCGTTGTTCCGAGAAAGTCT-rTA2SM8
rTGAGAGGAGAGCACAGCGGTATGACTTGGCGTTGTTCCGAGAAAGTCT-rTA2SM9
rTGAGAGGAGAGCACAGCGGTATGACTTGGCGTTGTTCCGAGAAAGTCT-rTA2SM9

```

DNA sequence

```

CGAACAGCTCAATTGCTTGTCTCAGAAGTGGGGGCATAGAATCGGTGGTAGGTGTCTCTCTTTCCCTTTTGGCTACTTCATGATGCTCCTGTTCTCCAAATACGCAGCCAGTGTAAAGTGCCACGGCGGACAGAGCGTACAGTGCCTTCTCCAGGGAGAAGCCTTGTGACACAGAAACGGAGCTGATTTCCAGGGTTTCGT
ACTGTTTCTCTGTGGGCGGGTGCAGATGCACCTTAGCCCCGTGCGAATGTGAGAGGAGAGCACAGCGAATGACTTGGCGTTGTTCCGAGAAAGTCTTGCCATGACTGCCTTCCAGGGGGCAGAAGTGGGTATGA

```

Protein

```

MTRFCLPAGESWQDFLNNAKSPRCALLSHRDGAKVHLGTRPTEKQYETLENQLAFLCQQGFSLENALYLSAVGHFTLGCVLEEQRHVAKEERETPTTDSMPPLLRAIELF

```

Blasticidin resistance (BlastR)

There are 6 (4 independent and 2 replicates) probes that span 141 bp of the BlastR construct. These probes are ZZblastR06, ZZblastR12, ZZblastR07, ZZblastR13, ZZblastR08 and ZZblastR09. The DNA sequence translates to the BlastR ORF.

Markers

```
ATGGCCAAGCCTTTGTCTCAAGAAGAAATCCACCCCTCATTTGAAAGAGCAACGGCTACAATCAACAGCATCCCCATCTCTGAAGACTACAGCCTCGCCAGCGCAGCTCTCTCTAGCGACGCCGCACTTCTCACTGGTCAATGTATATCATTTTACTGGGGACCTTGTGCAGAACTCGTGTGCTGGGCACTGCTGCTGCTGGCGAGCT
GGCCAAGCCTTTGTCTCAAGAAGAAATCCACCCCTCATTTGAAAGAGCAACGG-blastR06
GGCCAAGCCTTTGTCTCAAGAAGAAATCCACCCCTCATTTGAAAGAGCAACGG-blastR12
GGCCAAGCCTTTGTCTCAAGAAGAAATCCACCCCTCATTTGAAAGAGCAACGG-blastR09
NCAATCAACAGCATCCCCATCTCTGAAGACTACAGCCTCGCCAGCGCAGC-blastR07
NCAATCAACAGCATCCCCATCTCTGAAGACTACAGCCTCGCCAGCGCAGC-blastR13
AACAGCATCCCCATCTCTGAAGACTACAGCCTCGCCAGCGCAGCTCTCT-blastR08
```

DNA sequence

```
ATGGCCAAGCCTTTGTCTCAAGAAGAAATCCACCCCTCATTTGAAAGAGCAACGGCTACAATCAACAGCATCCCCATCTCTGAAGACTACAGCCTCGCCAGCGCAGCTCTCTCTAGCGACGCCGCACTTCTCACTGGTCAATGTATATCATTTTACTGGGGACCTTGTGCAGAACTCGTGTGCTGGGCACTGCTGCTGCTGGCGAGCT
```

Protein

```
MAKPLSQEESTLIERATATINSIPISSEDYSVASAALSDDGRIFTGVNYYHFTGGPCAEVLVLTAAAAA
```

Human CMV enhancer *version a* (hCMV_a)

There are 5 probes (4 independent and 1 replicate) probes that span 90 bp of the hCMV enhancer construct. These probes are regulatory

Markers

The diagram shows the DNA sequence of the hCMV_a enhancer with five probes highlighted in colored boxes. The probes are: 1) CMV00010 (green), 2) CMV00011 (red), 3) CMV00012 (blue), 4) CMV00013 (cyan), and 5) CMV00014 (magenta). The sequence is: cattgattattgactagttattaatagtaaatcaattacggggtcattagttcatagcccatatattggagttcccggttacataacttacggtaaatggcccgctggctgaccgcccaacgaacccccccca

DNA sequence

cattgattattgactagttattaatagtaaatcaattacggggtcattagttcatagcccatatattggagttcccggttacataacttacggtaaatggcccgcc

Protein

Not applicable

“Reddish” fluorescent protein (r_FP, includes tdTomato and mcherry)

There are 6 independent probes that span 257 bp of the red fluorescent protein construct. These probes are ZZmcherr12, ZZtdToma20, ZZtdToma22, ZZtdToma23 and ZZtdToma25. The DNA sequence includes red fluorescent protein ORF.

Markers

```
mcherr12-CAAAGTTCATGCGCTTCAAGTGCATGGAGGGCTCCGAAACGGCC
ATGGTGAGCAAGGGCGAGGAGGTCAAAAGAGTTCAAGGCTTCAAGGTCGCAAGGAGGGCTCCAAGAGGGCCAGAGTTTCGAGATCGAGGGCGAGGGCGAGGGCGGGCCCTACGAGGGCAACCCAGACCAGCTGAAGGTGACCAAGGGGGCCCCCTGCCCTTGGCTT

dtToma22-TGTACGGCTCCAAGGCGTACGTGAAGCACCCCGCGACATCCCGATTAC
GGGACATCTGTCCCCAGTTCAATGAGGCTCCAAGGCGTACGTGAAGCACCCCGCGACATCCCGATTACAGAAAGCTGTCTTCCCCGAGGGCTTCAAGTGGGAGCGCGTGATGAATTCGAGGACGGCGCTGTGTGACCCGACCCAGGACTCTCCCTCGCAGGACCGCAACTTCCCCCGAGGGCCCCGTAATGCAGAAGAG
GACCCAGGACTCTCCCTCGCAGGACGGCACGCTGATCTACAAGGTGAAGA-tdToma20

ACCATGGGCTGGGAGGCTCCACCGAGCGCTGTACCCCCGACGGCGTGTGAAGGGGAGATCCACAGGCCCTGAAGCTGAAGGACGGCGCCACTACTGTGTGAGTTCAAGACCATCTACATGGCCAAAGAGCCCGTGAACCTGCCCGCTACTACTAGCTGGACACCAAGCTGGACATCACCTCCCAACGAGGACTACACC

Mcherr12-CAAAGTTCATGCGCTTCAAGTGCATGGAGGGCTCCGAAACGGCC
ATCGTGAACAGTACGAGCGCTCCGAGGGCGCCACCACTGTTCCTGGGCAATGGCACCGGACCGGACGGCAGCTCCGGCACCGCTCTCCGAGGACAAACAATGGCCGTATCAAAGAGTTCAATGCGCTTCAAGGTCGCAAGGAGGGCTCCAAGAGGGCCACAGGTTTCGAGATCGAGGGCGAGGGCGAGGGCCCC

dtToma25-CTTCGCTGGGACATCTGTCCCCCAAGTTCATGTACGGCTCCAAGGCGT
TACGAGGGCACCCAGACCAGCTGAAGGTGACCAAGGGCGCCCCCTGCCCTTCGCTGGGACATCTGTCCCCCAAGTTCATGTACGGCTCCAAGGCGTCTGTGAGGACACCCCGCCGACATCCCCGATTACAAGAAAGTGTCTTCCCCGAGGGCTTCAAGTGGGAGCGCGTGATGAATTCGAGGACGGCGCTGTGTGACCGT
```

DNA sequence

```
ATGGTGAGCAAGGGCGAGGAGGTCAAAAGAGTTCAAGGCTTCAAGGTCGCAAGGAGGGCTCCAAGAGGGCCAGAGTTTCGAGATCGAGGGCGAGGGCGAGGGCGGGCCCTACGAGGGCAACCCAGACCAGCTGAAGGTGACCAAGGGGGCCCCCTGCCCTTGGCTT
GGGACATCTGTCCCCAGTTCAATGAGGCTCCAAGGCGTACGTGAAGCACCCCGCGACATCCCGATTACAGAAAGCTGTCTTCCCCGAGGGCTTCAAGTGGGAGCGCGTGATGAATTCGAGGACGGCGCTGTGTGACCCGACCCAGGACTCTCCCTCGCAGGACCGCAACTTCCCCCGAGGGCCCCGTAATGCAGAAGAG
ACCATGGGCTGGGAGGCTCCACCGAGCGCTGTACCCCCGACGGCGTGTGAAGGGGAGATCCACAGGCCCTGAAGCTGAAGGACGGCGCCACTACTGTGTGAGTTCAAGACCATCTACATGGCCAAAGAGCCCGTGAACCTGCCCGCTACTACTAGCTGGACACCAAGCTGGACATCACCTCCCAACGAGGACTACACC
ATCGTGAACAGTACGAGCGCTCCGAGGGCGCCACCACTGTTCCTGGGCAATGGCACCGGACCGGACGGCAGCTCCGGCACCGCTCTCCGAGGACAAACAATGGCCGTATCAAAGAGTTCAATGCGCTTCAAGTGGGAGCGCGTGATGAATTCGAGGACGGCGCTGTGTGACCGT
TACGAGGGCACCCAGACCAGCTGAAGGTGACCAAGGGCGCCCCCTGCCCTTCGCTGGGACATCTGTCCCCCAAGTTCATGTACGGCTCCAAGGCGTCTGTGAGGACACCCCGCCGACATCCCCGATTACAAGAAAGTGTCTTCCCCGAGGGCTTCAAGTGGGAGCGCGTGATGAATTCGAGGACGGCGCTGTGTGACCGT
```

Protein

```
MYSKGEVIEKFMRFKVRMEGSMNGHFEIEEGEGRPEYGTQAKLKVTKGGPLPFAWDILSPQFYGSKAVYKHPADIPDYKLSFPEGFKWERVMNFDGGVLTVTQDSSLQDGLIYKVMRGTNFPDPGVMeLQKTMGWEASTERLYPRDGLKGEIHQALKLKDGGHYLVEFKTIYMAKKPVQLPGYIYVDTKLDITSHNEDYTIIVEQYERSEGRHHLFLGHGTGSGSSGTASSENNMVAIKEFMRFKVRMEGSMNGHFEIEEGEGRPEYGTQAKLKVTKGGPLPFAWDI
LSPQFYGSKAVYKHPADIPDYKLSFPEGFKWERVMNFDGGVLT
```

Human herpesvirus TK promotes (hTK_pr)

There are 2 independent probes that span xx bp of construct. These probes are ZZTK000004 and ZZTK000007.

Markers

TK00004 - **AGATGCAGTCGGGGCGCGCGTCCCAGGTCACCTTCGCATATTAAGGTC**
TGGCGGTGTCCCCGAAGAAATATATTTGCATGTCITTTAGTTCATGATGACACAAACCCCGCCAGCGTCTTGTCAATTGGCGAATTCGAACACGCA**AGATGCAGTCGGGGCGCGCGTCCCAGGTCACCTTCGCATATTAAGGTCACCGCTGTGGCTCGAACACCGA**GCACCCTGCAGCACCCGCTTAA
TCCAGGTCACCTTCGCATATTAAGGTCACCGCTGTGGCTCGAACACCGA - TK00007

DNA sequence

TGGCGGTGTCCCCGAAGAAATATATTTGCATGTCITTTAGTTCATGATGACACAAACCCCGCCAGCGTCTTGTCAATTGGCGAATTCGAACACGCA**AGATGCAGTCGGGGCGCGCGTCCCAGGTCACCTTCGCATATTAAGGTCACCGCTGTGGCTCGAACACCGA**GCACCCTGCAGCACCCGCTTAA

Protein

LSGSLQGRSVFEATRVTLICEVDLGPFRPDCICVFEFANDKTLGGVCVIIELKTKYIISGGDA

IRES (Internal Ribosome Entry Site)

There are 6 independent probes that span 139 bp of the IRES construct. These probes ZZemcIRE11, ZZemcIRE12, ZZemcIRES1, ZZemcIRES2, ZZemcIRES3 and ZZemcIRES9. Regulatory.

Markers

```
emcIRES1-GAAGCCGCTGGAAATAAGCCGGTGTGCCTTTGTCTATATGTTATTTCC
emcIRES2-CGCTTGGAAATAAGCCGGTGTGCCTTTGTCTATATGTTATTTCCACCA
emcIRES3-CGTTTGTCTATATGTTATTTCCACCAATATGCCGCTTTTGGCAATGT
acgttacggccgaagccgcttggaaataagccggtgtgctttgtctatatagttatttccaccatattgaccttttggcaatgtgagggccggaaacctggccctgtctctt
ggccgaagccgcttggaaataagccggtgtgctttgtctatatagttatttccaccatattgaccttttggcaatgtgagggccggaaacctggccctgtctctt

emcIRES9-TCCCTCTCCCAAGGAATGCAAGTCTCTTGAATGCTGTGAAGGAAGC
gacgagcattcttaggggtcttccctctctgccaaaggaatgcaagctctgttgaaatgctgtgaaaggaagcagttctcttgaagcaaaacaacgtctgttagcgacctttgacggcagcggaacccccacctg
TCCCAAGGAATGCAAGTCTCTTGAATGCTGTGAAGGAAGCAATTC-emcIRES12
```

DNA sequence

```
acgttacggccgaagccgcttggaaataagccggtgtgctttgtctatatagttatttccaccatattgaccttttggcaatgtgagggccggaaacctggccctgtctctt
gacgagcattcttaggggtcttccctctctgccaaaggaatgcaagctctgttgaaatgctgtgaaaggaagcagttctcttgaagcaaaacaacgtctgttagcgacctttgacggcagcggaacccccacctg
```

Protein

Not applicable

Caspase 9 (cas9)

There are 7 independent probes that span 297bp of the caspase 9 construct. These probes are ZZCas90002, ZZCas90004, ZZCas90005, ZZCas90006, ZZCas90008, ZZCas90009 and ZZCas90010. The DNA sequence includes the caspase ORF.

Markers

ACAAAAAGCAGGCTTCGAAGGAGATAGAACAATTCCTAAGGAAATACTTAAACATGGACTATAAGGACACGACGGAGACTACAAGGATCATGATATTTGATTACAAGACGATGACGATAAGATGGCCCCAAGAAGAAGCGGAAGGTCGGTATCCACGGATCCGACAGCCGACAAGAAGTACAGCATGGCCCTGGACATGGCCCAACCTCTGTGGCTGGCCGTGATCACCAGCA

GTACAAGGTCGGCCAGCAAGAAATCAAGGTGCTGGGGCAACACGACCGGCACAGACTAAGAAGAACTGATCGGAGCCCTGCTGTTGCACAGCGGGCAAAACAGCCGAGGCCACCCGGTGAAGAGAACCAGCAAGAAGATACACCAGACGGAAAGCCGGATCGTGTACTCTCGAAGAGATCTTCGAAAGGATCTTCCACAGACTGGAAGATCTCTC
ZZCas90005 - **GATCTGTATCTGCAAGAGATCTTCAGCAACAGAGATGGCCAAAGTGGACC**
GATCTGTACTCTCGAAGAGATCTTCGAAAGGATCTTCCACAGACTGGAAGATCTCTC
GCAAGAGATCTTCAGCAACAGAGATGGCCAAAGTGGACGACAGCTTCTCC - ZZcas90006

CTGGTGAAGAGGATAAGAAGCAGCAGCGGCCACCCATCTTCGGCAACATCGTGGACGAGGTGGCTACCACGAGAAGTACCCACCATCTACCACCTGAGAAAAGAACTGGTGGACAGCACCAGCAAGGCCACTGCGGCTGATCTATCTGGCCCTGGCCACATGATCAAGTCCGGGGCCACTTCTGATCGAGGGGACCTGAACCCCGACAACAGCAGCTGGACAAGCTGTCATCC
AGCTGGTGCAGACTTCAACACAGCTGTTCCAGGAAAACCCCATCAACGCCAGCGCGCTGGACGCCAAGGCCATCTGCTGCCAGACTGAGCAAGAGCAGACGGCTGGAATACTGATCGCCAGCTGCCCGGCGAGAAGAAGATGGCTGTTCCGAAACCTGATTCGCCCTGAGCCTGGCCCTGACCCCACTCAAGAGCACTTCGACCTGGCCGAGGATGCCAACTGCAGCTGAGCAA
GGACACCTACGACGACACTGGCAACCTGCTGGCCAGATCGGCAGCAGTACGCCGACTGTTTCTGGCCGCAAGAACCTGCTCGAGCCGATCTGCTGAGCAGACTCTGAGAGTGAACACCGAGATCACCAGGCCCCCTGAGCGCTCTATGATCAAGAGATACGACGAGCACCACAGGACCTGACCCCTGCTGAAAGCTCTGCTGGCGCAGAGCTGCCAGAACTACAAGAG
ATTTTCTCGACCAGCAAGAACGGCTACCGCGTACATTGACGGCGAGCCAGCAGGAAGATCTACAAGTTCATCAAGCCATCTCGGAAAAGATGACGGCACCGGAGAACTGCTGTAAGCTGAACAGAGGACCTGCTGGGAAGCAGCGACCTTCGCAACCGCAGCATCCCCACAGATCCACTGGGAGAGTGCACGCCATTCTGGCGCGCAGGAAGATTTTACC
CATTCTGAAGGACAACGGGAAAAGATCGAGAAGTCTGACCTTCGCGATCCCTACTACGTGGCCCTCTGGCCAGGGGAAAACAGCAGATTGCTGCTGATGACGAAAAGAGCGAGAAACCTACCCCTGGAACCTCGAGGAAGTGGTGGACAAGGGCGCTTCGCCCCAGAGCTTCATCGAGCGGATGACCAACTCGATAAGAACCTGCCAACGAGAAGTGTGCCAACGACAG

CCTGCTGTACGAGTACTTCCCGTGTATAACGAGCTGACCAAGTGAATACGTGACCGAGGAAATGAGAAGCCCGCTTCTGAGCGCGAGCAGAAAAGGCCA**TCGTGGACCTGCTGTTCAAGACCAACCGGAAAGTGACCTGAAAGGACTGAAAGGAGTACTTCAAGAAATCGAGTGTCTTC**
ZZCas90004 - **GACCTGAAAGGACTGAAAGGAGACTTCTCAAGAAATCGAGTGTCTTC**
TCGTGGACCTGCTGTTCAAGACCAACCGGAAAGTGACCTGAAAGGACTGAAAGGAGTACTTCAAGAAATCGAGTGTCTTC
GTCGAGGACTGCTGTTCAAGACCAACCGGAAAGTGACCTGAAAGGACTGAA - ZZcas90008

TACCAGCATGCTGATAAATATCAAGGACAAGGACTTCTGGACAATGAGGAAAACGAGGACATCTGGAAGATATCGTGTGACCTGCACACTGTTGAGGACAGAGAGATGATCGAGAAACGGCTGAAAACCTATGCCACCTTTCGACGACAAAAGTGAAGCAGCTGAAGCGGGCGAGATACACCGGCTGGGGCAGGCTGAGCCGGAAGCTGATCAACGGCATCCGGGACAAGCAT
CCGGCAAGACAATCCGGATTTCTGAGTCCGACGGCTTCGCCAACAGAACTTCATGACGTGATCCAGCAGCAGCAGCTGACCTTAAAGAGGACATCCAGAAAGCCAGGTTGCCGCGAGGCGATAGCTGCACGACGACATGCCAAATCGCCAGCGGATCCGCAAGCTGCGAAAGTATGGCCGGCACAAGCC
CGAGAATCTGATGATAAATGGCCAGAGAAACAGCACCACCCAGAGGGACAGAAGAACAGCCGCGAGAGAAATGAAGCGGATCGAAGAGGGCATCAAAGAGCTGGCGAGCCAGATCTGAAAGAACCCCGTGAAGAACACCCAGCTGCAAGCGGAGCTGACTGCTACTCTGAGATGGCCGGATATGACTGAGGACAGGAACTGGACATCAACCGCTGTCGACTACGAT
GTGGACATATCTGCTCAGAGCTTCTGAGGAGCAGCTCCATCGACAAACAGGCTGTCAGCAAGAGCGACAGAAGCCGGGCAAGAGCGACAACCTGCCCTCCGAAAGGTCGTGAAGAAATGAAGAATCTGGCGCAGCTGTAACGCGCAAGCTGATACCAGAGAAAGTTCGACAATCTGACCAAGGCCGAGAGAGGGCCCTGAGCGAACTGGATAAGCCGGCTTCATCAAGA
GACAGCTTCTGAGGAGCAGCTCCATCGACAAACAGGCTGACCAAGAAG - ZZcas90009

GACAGCTGTTGAAACCCCGCAGATCAAAAGCAGCTGGCAGAGATCTGGACTCCCGGATGAACATAAGTACGACGAGAATGACAAGCTGATCCGGGAAGTGAAGTATCACCTGAACTCAAGCTGGTGTCCGATTTCCGGAAGGATTTCCAGTTTTACAAGTGGCGAGATCAACAATACCACCAGCCACGACGCTACCTGAACCGCTGTTGGGAACCCCGCTGATCAAAAA
GTACCTTAAGCTGAAAGCGAGTTCGTG**TCGGCGACTACAAGTGTACAGCTGCGGAAGATGATCGCCAAAGCGAG - ZZcas90010**

ACCGTCGGAAAGTCTGAGCATGCCCACTGAATATCGTGAAGAAAGCAGGTTGAGACAGCGCGCTTCAGCAAGAGCTCTATCTTCCCAAGAGAAAGAGTAAAGCTGATCGCCAGAAGAAGGATGGGACCTAAGAATACCGCGCTTCGACAGCCCAACCTGGCCATCTGCTGCTGGTGGCCAAAGTGAAGAAAGGCAAGTCCAAAGAACTGAAGACTGTGAAGAGC
TCTGGGGATCACCATGTAAGAAAGCAGCTTCGAGAAGATCCCATGACTTCTGAAAGCCAGGGCTACAAAGAGCTGAAAGAGGACCTGATCAAGCTGCTAAGTACTCCCTGTCGAGCTGAAAACCGCCGGAAGAAATCTGGCCCTCGCCGCAACTCGAGAAGGAAAGCAACTGGCCCTCCAAATATGTGAATCTTCTGACTTCTGCTGACCTGGCCGCACTATGAGAA
CTGAAAGGCTCCCGGAGATATGAGCAAGAACAGCTGTTTGGTAACAGCAACACTACTGGACGATCATCGACAGTCAAGCAGTCTCCAAGAGCTGCTGGCCGACGCTAATCTGGAACAACTGCTGCGCTCAACAAAGACCGGATAGCCCATCAGAGAGCGCCGAGAAATCATCACTCTTTACCTGAACTGTGGAGCCCTGCGCCTCAAG
TACTTTGACACCACATGACCGGAAGAGGTACACCAGCACAAGAGGTTGTCGACGCCACCTGATCCACAGAGCATCACCGGCTGTACGAGACAGGATGCACCTGCTCAGCTGGAGGCGACAAGAGCCGGCGCCAGAAAAGGCCGGCCAGGCAAAAAGAAAAGTAAAGATTCGGCGCCACTCGAGATATCTAGACCCGCTT

DNA sequence

ACAAAAAGCAGGCTTCGAAGGAGATAGAACAATTCCTAAGGAAATACTTAAACATGGACTATAAGGACACGACGGAGACTACAAGGATCATGATATTTGATTACAAGACGATGACGATAAGATGGCCCCAAGAAGAAGCGGAAGGTCGGTATCCACGGATCCGACAGCCGACAAGAAGTACAGCATGGCCCTGGACATGGCCCAACCTCTGTGGCTGGCCGTGATCACCAGCA
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GCAAGAGATCTTCAGCAACAGAGATGGCCAAAGTGGACGACAGCTTCTCC - ZZcas90006

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