

Supplemental data 1. Sequences of S⁵G^CS³ and G⁵G^CS³-mut2 transgenes.

The DNA segments below are the *Xho* I to *Afl* II fragments of DNA that were microinjected into one-embryos to make transgenic founders. Uppercase bases are derived from *Mus musculus Smcp* genomic DNA while lower case bases are derived from pEGFP (U55761.1). The bases highlighted red are respectively in their 5'→3' order: the transcription start site determined with primer extension (Hawthorne, et al. 2006), the *Gfp* ATG translation initiation codon, the *Gfp* translation stop codon, the *Smcp* stop codon and the poly(A) addition site determined with 3' RACE (Bagarova, et al. 2010). Canonical AAUAAA poly(A) signals are highlighted grey, upstream reading frames in the *Smcp* 5' UTR are highlighted green, and YRSs that have been shown to bind YBX2 with UV-crosslinking are highlighted yellow (Bagarova et al. 2010, Chowdhury & Kleene 2012) .

>S⁵G^CS³

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CTCGAGTCTGAGCTCTTCTCACACATCCAAATCCTCAGCAGAGCTCCTAC
CTTTTATATTTTCCCTCCATACTCCTCATTCTGACCCTGCCACAGTGAGCTT
TGCTATCAAATGGTCCTTTTCCATTTCTATACTAAATATTTTACATTT
TCCAGATCTGAAATGAAAATGTTTTTTTCCACCTGCTCCTATTTTATATG
GCTATTTACCAAGTCTCAGTAAACATTGCTTTTTTCCAAGAAGAATGGCTT
GCATCTTATCTTGCTTTTAAAGATACAGTGTATCAGTCTAGACAATATAG
TTTATGCTTTAAACTGTTTGTGGGGTTGATGGTATACTGTGAATTAGCT
AAAGAACTTTTGGACTTTGGAAAGAGAGGCCAAGGACAAGCAGACAATTT
AACTTTAACCAGCAGTGGGCAAAGGTGAACCAGCTGGCTAGTCAGAGAAT
CTTGGGGGAGAGTATTATGATGTCATAAAAGAGCTGAGAGTTTAGAGGGG
AGGGAAGCAGAGCACTTGGGTCAGAAGACTTTGACTTCTGATAGCCATGG
ACTCACTAGACTGCTGAGGAAGACCCAGCATCTATTCAATCTGCTGAAAC
ATCCAGGAAACTACTTTTAAACACCGAGAATCAAGTATGGAAATGCTGAAC
TAAAGAAGAGCCCAAGGAAGAAGACTGTGTTGCCAGATCAGGTAACCTCAACT
CTAAAGAAGcgggtcgccaccatggtgagcaagggcgaggagctgttcac
Cgggggtggtgcccatcctggtcgagctggacggcgacgtaaaccggccaca
Agttcagcgtgtccggcgagggcgagggcgatgccacctacggcaagctg
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Cctcgtgaccaccctgacctacggcgtgcagtgcttcagccgctaccccg
Accacatgaagcagcagcacttcttcaagtccgcatgcccgaaggctac
Gtccaggagcgcaccatcttcttcaaggacgacggcaactacaagaccg
Cgccgaggtgaagttcgagggcgacaccctggtgaaccgcatcgagctga
Agggcatcgacttcaaggaggacggcaacatcctggggcacaagctggag
Tacaactacaacagccacaacgtctatatcatggccgacaagcagaagaa
Cggcatcaaggtgaacttcaagatccgccacaacatcgaggacggcagcg
Tgcagctcgccgaccactaccagcagaacacccccatcggcgacggcccc
Gtgctgctgcccgacaaccactacctgagcaccagctccgccctgagcaa
Agacccaacgagaagcgcgatcacatgggtcctgctggagtctgtgaccg
CcgccgggatcactctcgccatggacgagctgtacaagTaaagcggccgc
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gacTC**TAG**ACTGTCCCTGACACCATGCCCTTTTTCAAAGGGTATAGGATT
ACTACAGGTCAGGCTAAGACTATGTTGTAAAGATGCTGTTTTTACAATAA
CCAACAAGTCCACTCAACCATAAGCTACCATTTTCGACCTAACTGTAGGCT
ACTATTGCAACTGGAAATGGAAGGTAGAAAAGGATAGAA**ACATCT**TGTCT
AGTGATCCTGACATTTAGATAGCAAAGAAATAAAAGAGCAAATAAAAAG**A**
ATATTGTCTCCCTCTCTTTTCAATTTACATGTGAAGCTATCTTACCAGTCTA
GCCTAATGGAGTAAGCTGGGTACATTTTAGGAGCTCCAGAGACAAAATAA
TTATGTTCAAGGCACAGGCCTTTGCTGAAAAGAGTAAGGCATACTCTTCC
TGGGTTTTTGTTAATTCTTTGCTGGACTCTGCTGAGTTCAAAGGCCATGG
CTTTGAACCCAGGGTCTTATTCAAGCTAAACAAATTCTGCCACAGCTGCA
TTCTGGCTCCTGTCTTGCTTTTAAAGTGAAAGTTCTGTATCTCAGGGAC
CCCTTCGGTCCATTTTAAAGGGATGGTGTCTAATTTCTAAATTCCAATTT
TCTGGAGAACTTTTGATTCTCAATGAAACAAATCCCCTGAAATGACAGCT
GGGACCTATCATGCTTAAG

>G⁵G^CS³-mut2

CTCGAGTCTGAGCTCTTCTCACACATCCAAATCCTCAGCAGAGCTCCTAC
CTTTTATATTTTCTCCATACTCCTCATTCTGACCCTGCCACAGTGAGCTT
TGCTATCAAATGGTCCTTTTCCATTTCTATACTAAATATTTTTACATTT
TCCAGATCTGAAATGAAAATGTTTTTTCCACCTGCTCCTATTTTATATG
GCTATTTACCAAGTCTCAGTAAACATTGCTTTTTTCCAAGAAGAATGGCTT
GCATCTTATCTTGCTTTTAAAGATACAGTGTATCAGTCTAGACAATATAG
TTTATGCTTTAAACTGTTTGTGGGGTTGATGGTATACTGTGAATTAGCT
AAAGAACTTTTTGGACTTTGGAAAGAGAGGCCAAGGACAAGCAGACAATTT
AACTTTAACCAGCAGTGGGCAAAGGTGAACCAGCTGGCTAGTCAGAGAAT
CTTGGGGGAGAGTATTATGATGTCATAAAAGAGCTGAGAGTTTAGAGGGG
AGGGAAGCAG**A**gcaactggggtcagaaggaattctgcagtcgacggtagc
Cgggccccgggtagccaccggtcgccacc**at**ggtagcaagggcgaggagct
Gttcaccgggggtggtgcccacctggtcgagctggacggcgacgtaaacg
Gccacaagttcagcgtgtccggcgagggcgagggcgatgccacctacggc
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Gcccaccctcgtgaccaccctgacctacggcgtgcagtgcttcagccgct
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Ggctacgtccaggagcgcaccatcttcttcaaggacgacggcaactaca
Gaccgcgcccggaggtgaagttcgagggcgacaccctggtgaaccgcatcg
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Gaagaacggcatcaaggtgaacttcaagatccgccacaacatcgaggacg
Gcagcgtgcagctcgccgaccactaccagcagaacacccccatcggcgac
Ggccccgtgctgctgcccgacaaccactacctgagcaccagtcggccct
Gagcaaagacccccaacgagaagcgcgatcacatggtcctgctggagttcg
tgaccgcccgggatcactctcgcatggacgagctgtacaag**TAA**agc
ggccgcgacTC**TAG**ACTGTCCCTGACACCATGCCCTTTTTCAAAGGGTAT
AGGATTACTACAGGTCAGGCTAAGACTATGTTGTAAAGATGCTGTTTTCA
CAATAACCAACAAGTCCACTCAACCATAAGCTACCATTTTCGACCTAACTG
TAGGCTACTATTGCAACTGGAAATGGAAGGTAGAAAAGGATAGAA**ACATC**

TGTCTAGTGATCCTGACATTTAGATAGCAAAGAAATAAAgcattttttt
cactgca[■]ttctagttgtggtttgtccaaactcatcaatgtatcttaag

References

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- Hawthorne SK, Busanelli RR & Kleene KC** 2006 The 5' UTR and 3' UTR of the sperm mitochondria-associated cysteine-rich protein mRNA regulate translation in spermatids by multiple mechanisms in transgenic mice. *Dev Biol* **297** 118-126.