

Supplementary data

CRISPR-mediated endogenous activation of fibroin heavy chain gene triggers cellular stress responses in *Bombyx mori* embryonic cells

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Table S1. Single guide RNA (sgRNA) sequences.

Name	sgRNA sequence (5' - 3')	Position in promoter	Strand
<i>FibHT1</i>	GCATTCTCCAGGATGGTTG <u>TGG</u>	-392~-371	Sense
<i>FibHT2</i>	GAAAATTTTCAGTATAAAA <u>AGG</u>	-42~-21	Sense
<i>FibHT3</i>	TTTCAAATCAGCATCAGTT <u>CGG</u>	-12~+10	Sense
<i>P25</i>	AAATAAAATGGCGTCGCCG <u>CGG</u>	-125~-143	Sense
<i>EGFP</i>	AGTTCAGCGTGTCCGGCGA <u>GGG</u>	\	\

The underlined bases represent the protospacer adjacent motif (PAM).

Table S2. Primer sets for qRT-PCR.

Name	Forward (5' - 3')	Reverse (5' - 3')
<i>FibH</i>	TCTGTGTCATCTGCTTCATCTCG	TATCCAGGACGAAGTAAGAAACAA
<i>P25</i>	AGCCGCTGTGGCAGTTTTG	TAGGTGGCGTTGAAGTATGG
<i>Atg8</i>	GAGAAAGGCTGAGGGCGA	TCGTCGGAAAAATGCTATGTAT
<i>E2</i>	ATGGAAACTGAACATTTAGCG	TCAGCAGGAGGAGGTCGT
<i>E3</i>	GCAAACATAACTGAAACATACC	TCCGTGGCTTGGAGACT
<i>Hsp19.9</i>	GGCAAACACGAGGAGAA	TGGGTGCGATTACAGACA
<i>Hsp70</i>	GGGTGGTGGAAACCTTTG	GGCACGGTTGTCTTTTCT
<i>Caspase-1</i>	CTTCACTGCTGATAAATGTCC	TTTCTCCAAGAGTAATAACCTG
<i>Caspase-4</i>	GAAATACGCTACGACATACG	ACGACTTCAAAGCCAAACT
<i>Dredd</i>	AGCCGTATGACATGGTATCT	TGTTTCCAAGTGGGTTTC
<i>Dronc</i>	GAGATGGGACACTGGGATTT	GTGGAAGCACGGGATGG
<i>ICE</i>	TATTCGCTGCCGACCAA	CGTAAGACGCCCTGCT
<i>Rpl3</i>	CGGTGTTGTTGGATACATTGAG	GCTCATCCTGCCATTCTTACT

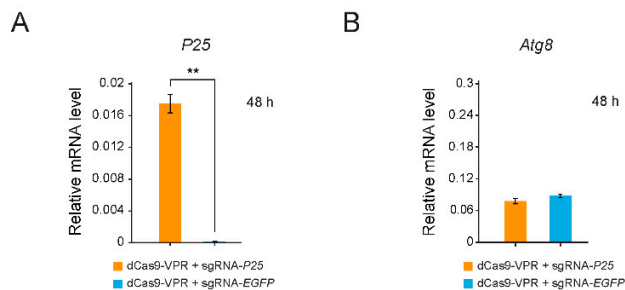


Figure S1. Transcriptional activation of *P25* gene in BmE cells. (**A,B**) Relative mRNA levels of *P25* (**A**) and *Atg8* (**B**) at the 48 h after transient transfection of the combination of dCas9-VPR with sgRNA-P25. Expression of the silkworm housekeeping gene *ribosomal protein L3* (*Rpl3*)

was used as a control. Values are means \pm SD ($n = 3$). Asterisks represent significant differences determined by a Student's t -test at P value < 0.01 (**).