

Supplementary Materials—Table and Figures

Table S1. Primers for this manuscript.

| Primer Names | Sequence | Tm | PCR Product | |
|--------------|--|------|-------------|--|
| MEF2-YG-F | GGATCAAATCAGAACCCATCA | 57°C | 176bp | qRT-PCR |
| MEF2-YG-R | TAGATGGCCTGAGAGTGTATT | | | |
| 18S-F | TATACGCTAGTGGAGCTGGAA | 56°C | 136bp | |
| 18S-R | GGGGAGGTAGTGACGAAAAAT | | | |
| dsMEF2-F | TAATACGACTCACTATAGGG AATGGCTTACAGTCTCCCGA | 60°C | 592bp | primers for dsRNA synthesis template am- plification |
| dsMEF2-R | TAATACGACTCACTATAGGG TGAGAGGGTTAAGCGAAATG | | | |
| dsEGFP-F | TAATACGACTCACTATAGGG CAGTGCTTCAGCCGCTACCC | 60°C | 289bp | |
| dsEGFP-R | TAATACGACTCACTATAGGG AGTTCACCTTGATGCCGTTCTT | | | |
| LVAN23936-F | TGTTTATCACCTTGGCACCCCTG | 58°C | 121bp | transcriptome valida- tion |
| LVAN23936-R | CTCGGGAGCAGAAGATGAAGGAT | | | |
| LVAN06526-F | AGTGGTTGCCGGAATAATGG | 58°C | 138bp | |
| LVAN06526-R | CCTTGCGGTCCGTAATTCTT | | | |
| LVAN17308-F | GACGGGCAAGGAGAACAAGA | 58°C | 233bp | |
| LVAN17308-R | TAATGATGGTCTCGCGGTCG | | | |
| novel-2124-F | TAGGTGCGGTAAGACAAAGGTAT | 58°C | 181bp | |
| novel-2124-R | CCGCTGCAGAACTACAAGGGATA | | | |
| LVAN06763-F | AGAGAAGGTGCCAACACACA | 58°C | 148bp | |
| LVAN06763-R | GCCGTACAGCTTCTCGAACA | | | |
| LVAN2347-F | ACGGACAACGCTGAATCACT | 58°C | 143bp | |
| LVAN2347-R | AGGCAGTACCAGCAGAACAC | | | |
| LVAN23843-F | CTGCGGTGACGAGATGACTT | 58°C | 155bp | |
| LVAN23843-R | CAGCCTTCACGCTGATCTCT | | | |
| LVAN14378-F | GGATAGCATAACCGGAAGGAAAC | 58°C | 115bp | |
| LVAN14378-R | GAGAAGAGGCAAACACACGAAGG | | | |
| LVAN15846-F | CATGGAGGCCAAGGACTACGAC | 60°C | 242bp | |
| LVAN15846-R | TTGAATCTTCTGTTACAGGGGG | | | |
| novel-2155-F | TCCTCGATATTGCCGGCTTC | 60°C | 172bp | |
| novel-2155-R | TCCATGCCGAAGTCAACGAA | | | |

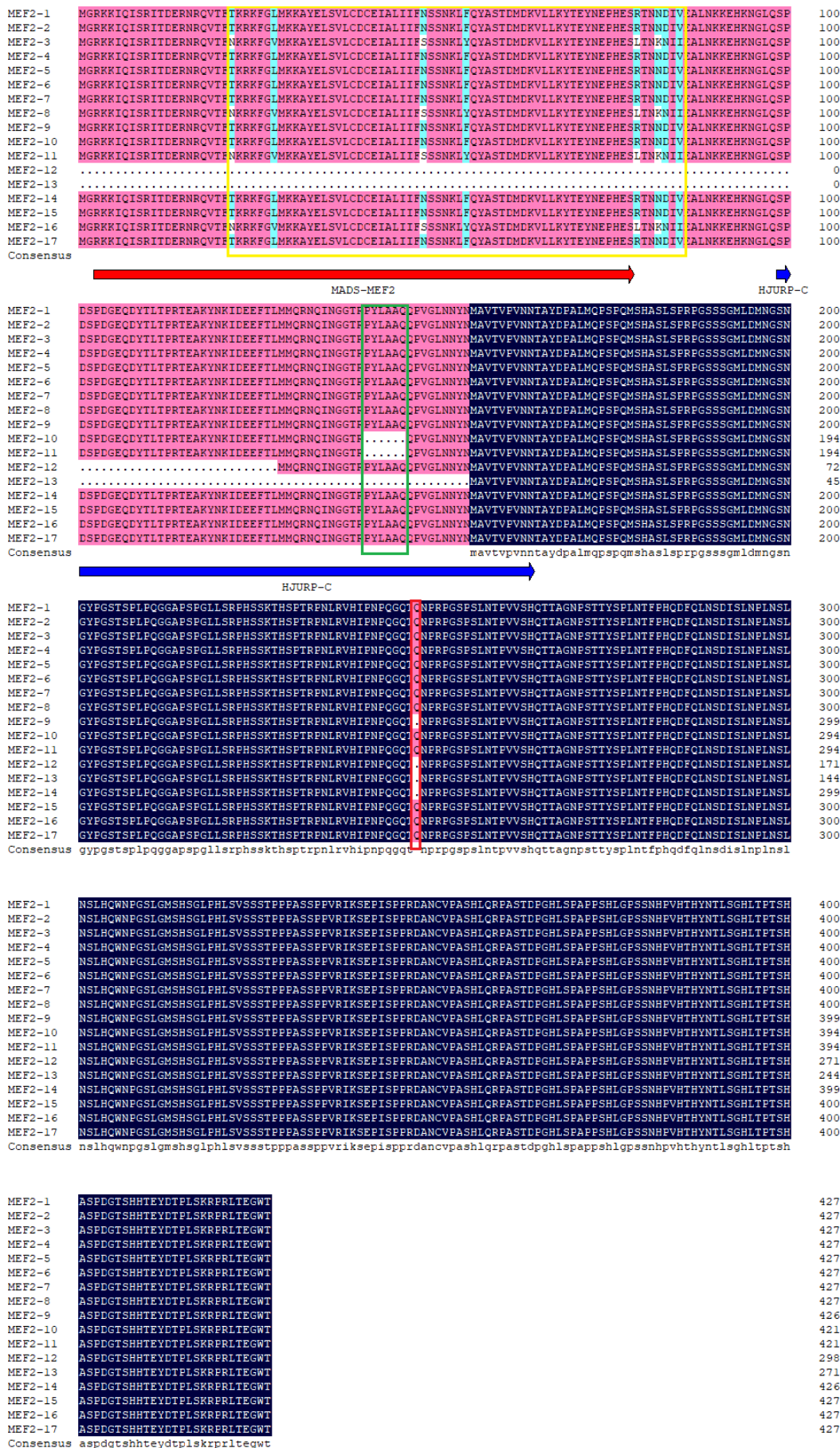


Figure S1. Multiple sequence alignment for the 17 protein sequences of *LvMEF2*. The yellow box corresponds to mutually exclusive exon 2. The green box corresponds to alternative 5' splice site of exon 4. The red box corresponds to alternative 5' splice site of exon 5. The red background corresponds to the functional domains. The black background corresponds to the C-terminal.

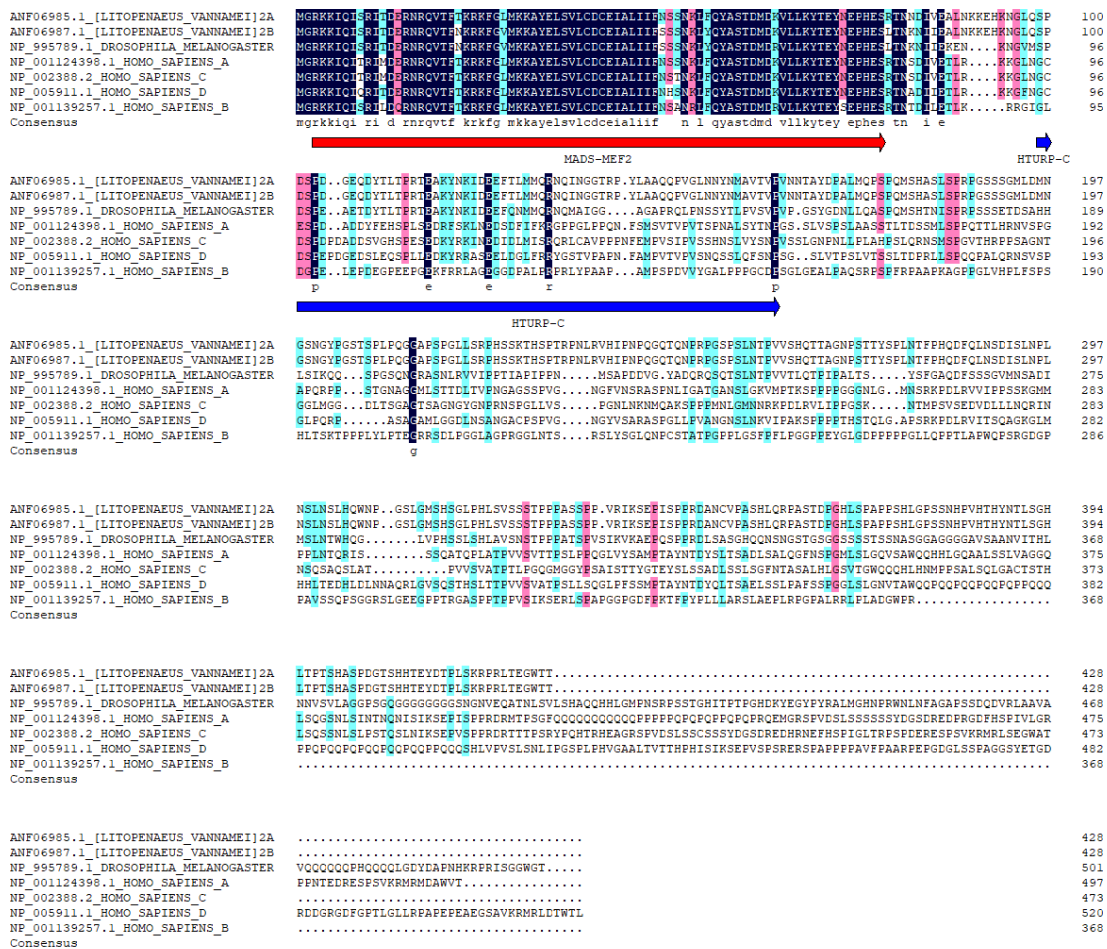


Figure S2. Multiple alignment of the MEF2 genes. The black, blue and red background correspond to the conserved sequences. The degrees of conserved are black>red>blue.

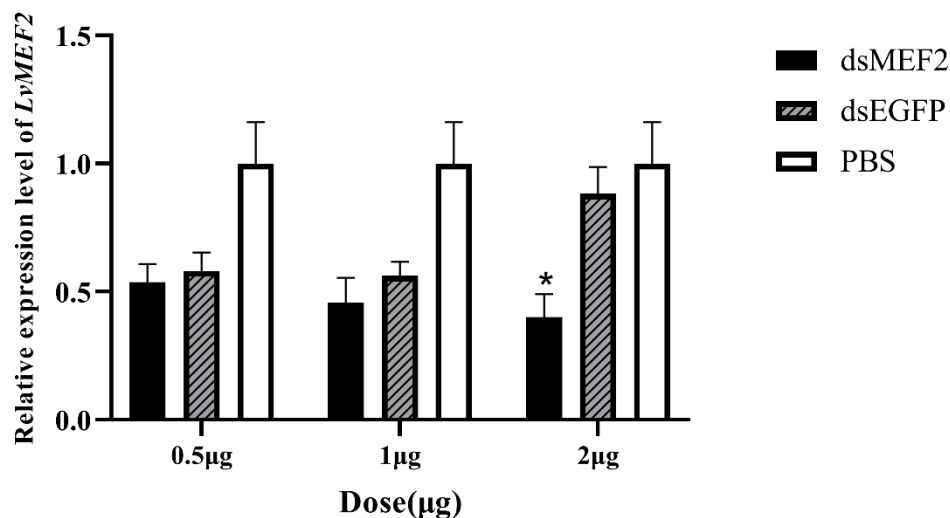


Figure S3. The optimal interference efficiency of *LvMEF2* after 48 hours of RNA interference. Significant differences of the gene expression levels between three treatments are shown as * $p < 0.05$.

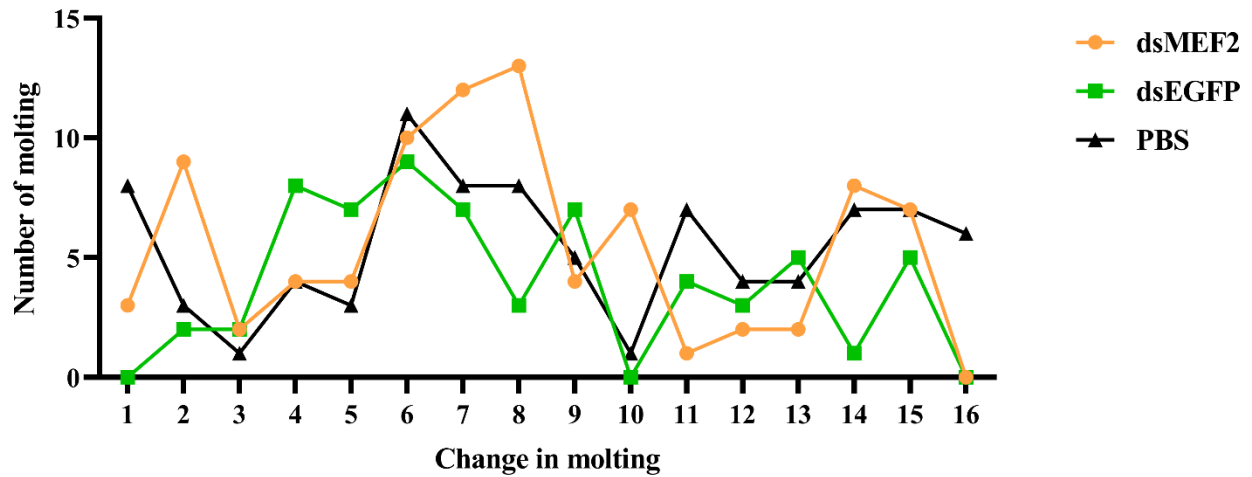


Figure S4. The molting situation during two weeks of RNA interference.

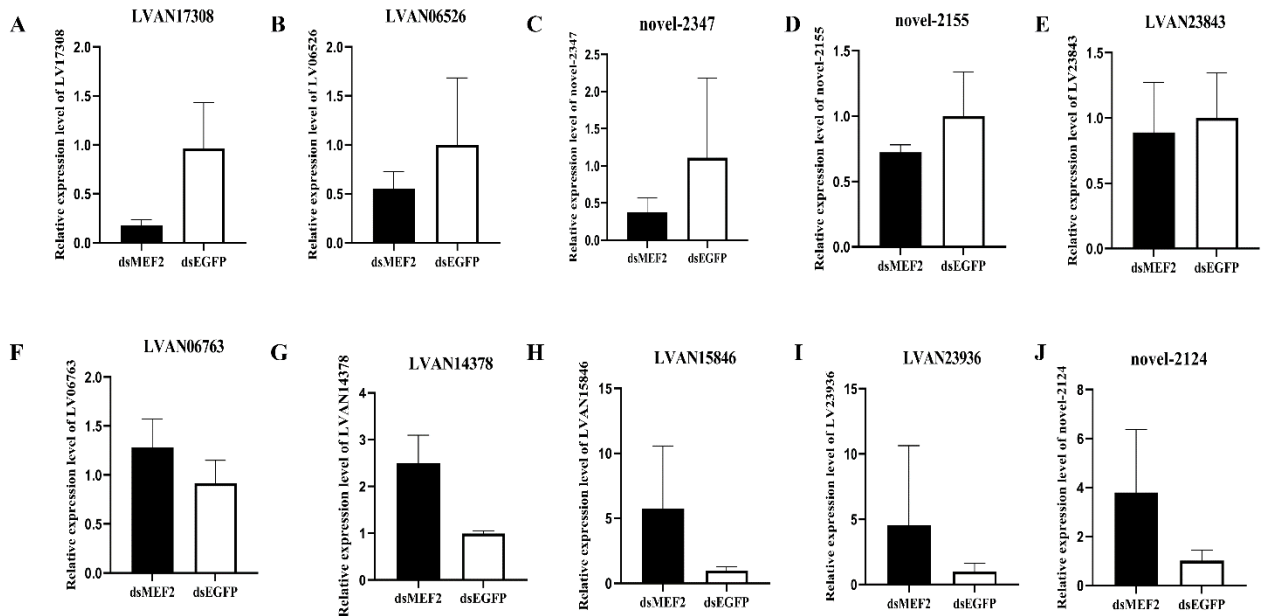


Figure S5. Expressions of related differential expression genes were verified after *LvMEF2* RNA interference.

The gene annotations corresponding to the transcript numbers are as follows: A, LVAN17308 (Heat shock 70 kDa protein); B, LVAN06526 (Mitochondrial glycine transporter); C, novel2347 (E3 ubiquitin-protein ligase); D, novel-2155 (Myosin heavy chain, muscle); E, LVAN23843 (Heat shock protein 20); F, LVAN06763 (MAP kinase-interacting serine/threonine-protein kinase); G, LVAN14378 (Immunoglobulin I-set domain); H, LVAN15846 (Glutaminase kidney isoform, mitochondrial); I, LVAN23936 (Myosin-4); J, novel-2124 (Myosin heavy chain, muscle).