

Table S1. The transcriptome data statistics of DEG *BmβGRP4*.

| Gene ID | Gene Description | Accession No. | P50+/P50- |
|---------------|--|----------------|-----------|
| BGIBMGA000353 | beta-1,3-glucan recognition protein 4 precursor [<i>Bombyx mori</i>] | NM_001166142.1 | 0.014 |

Table S2. The primers used in this study.

| Primer name | Sequence (5'-3') | Purpose |
|----------------|---|--------------------|
| BmβGRP4-F | CCGGAATTC* <u>TGCACACCCAGCGTAAC</u> (<i>EcoR I</i>) | Protein expression |
| BmβGRP4-R | CCGCTCGAGTTATAACGCCCAAACCTCG (<i>Xho I</i>) | |
| OEBmβGRP4-F | CCGGAATTCATGTGGCTGTAACTCTGGG (<i>EcoR I</i>) | Overexpression |
| OEBmβGRP4-R | CCGCTCGAGTAACGCCCAAACCTCGAAC (<i>Xho I</i>) | |
| qBmβGRP4-F | ACCCAGCGTAACGACAGTGAG | RT-qPCR |
| qBmβGRP4-R | TAAAGTGTTTTCTGTGCTGCCAT | |
| BmGAPDH-F | CATTCGCGTCCCTGTTGCTAAT | |
| BmGAPDH-R | GCTGCCTCCTTGACCTTTTGC | |
| VP39-F | CAACTTTTTCGAAACGACTT | |
| VP39-R | GGCTACACCTCCACTTGCTT | |
| qBmApaf1-F | ACAGTTCACAACCCTCTAAAATCAC | |
| qBmApaf1-R | CACTTTCTTACCACGCATCACC | |
| qBmDredd-F | TAATAGTCGTTCTGACTTGGGACA | |
| qBmDredd-R | TCGGTATGCAATGCAGTTTCT | |
| qBmCaspaseNC-F | TTCCCAGCAAATGATAGAACCA | |
| qBmCaspaseNC-R | ATCAAGGTCACGCACCAAATC | |
| qBmICE-F | CCTCATCCATAAAGGGACCAC | |
| qBmICE-R | CTGCCGACCAACCATAACAAG | |
| qBmCaspase1-F | AAGAGCCACGAGTTGTGTTT | |
| qBmCaspase1-R | TGCCAAGGTGATAAGTTAGA | |
| qBmBuffy-F | TCAGCTATGCTACGCTCAGACA | |
| qBmBuffy-R | ATCCATGATCCAGGCTCCTC | |
| qBmPTEN-F | CTGATAGTGGAGAAGGTGCCG | |
| qBmPTEN-R | GTAATGGCCGACGCGCT | |
| qBmIAP-F | TGACGAAAGTTGCTAAAAATGGA | |
| qBmIAP-R | GGTGACGGGAGTGTGGATGT | |

* The underline represented restriction enzyme cutting site.

Table S3. The siRNA sequences used in this study.

| siRNA name | Sequence (5'-3') | Length (bp) |
|----------------------|-----------------------|-------------|
| siBmβGRP4-Sense | GCCCUAAUAUCGGCGAGUATT | 21 |
| siBmβGRP4-Anti-sense | UACUCGCCGAUAUUAGGGCTT | 21 |
| siNC-Sense | UUCUCCGAACGUGUCACGUTT | 21 |
| siNC-Anti-sense | ACGUGACACGUUCGGAGAATT | 21 |