



**Supplementary Figure S3. The expression levels of immune-related genes in *Metarhizium anisopliae* JEF-197-treated JPS.** The fungi were treated on JPS by spray conidia suspension at  $1.0 \times 10^7$  conidia/ml of *M. anisopliae* JEF-197. (a), inhibitor of nuclear factor kappa-B kinase; (b), mitogen-activated protein kinase; (c), tyrosine-protein kinase hopscotch; (d), cytokine receptor; (e), signal transducer and activator of transcription; (f), toll-like receptor 7; (g), toll-like receptor Tollo; (h), beta-1,3-glucan-binding protein (GNBP1); (i) beta-1,3-glucan-binding protein 1 (GNBP2); and (j), beta-1,3-glucan-binding protein-like (GNBP3). The *actin* gene (JPS\_TRINITY\_DN629\_c0\_g1) was used as internal control of Japanese pine sawyer.