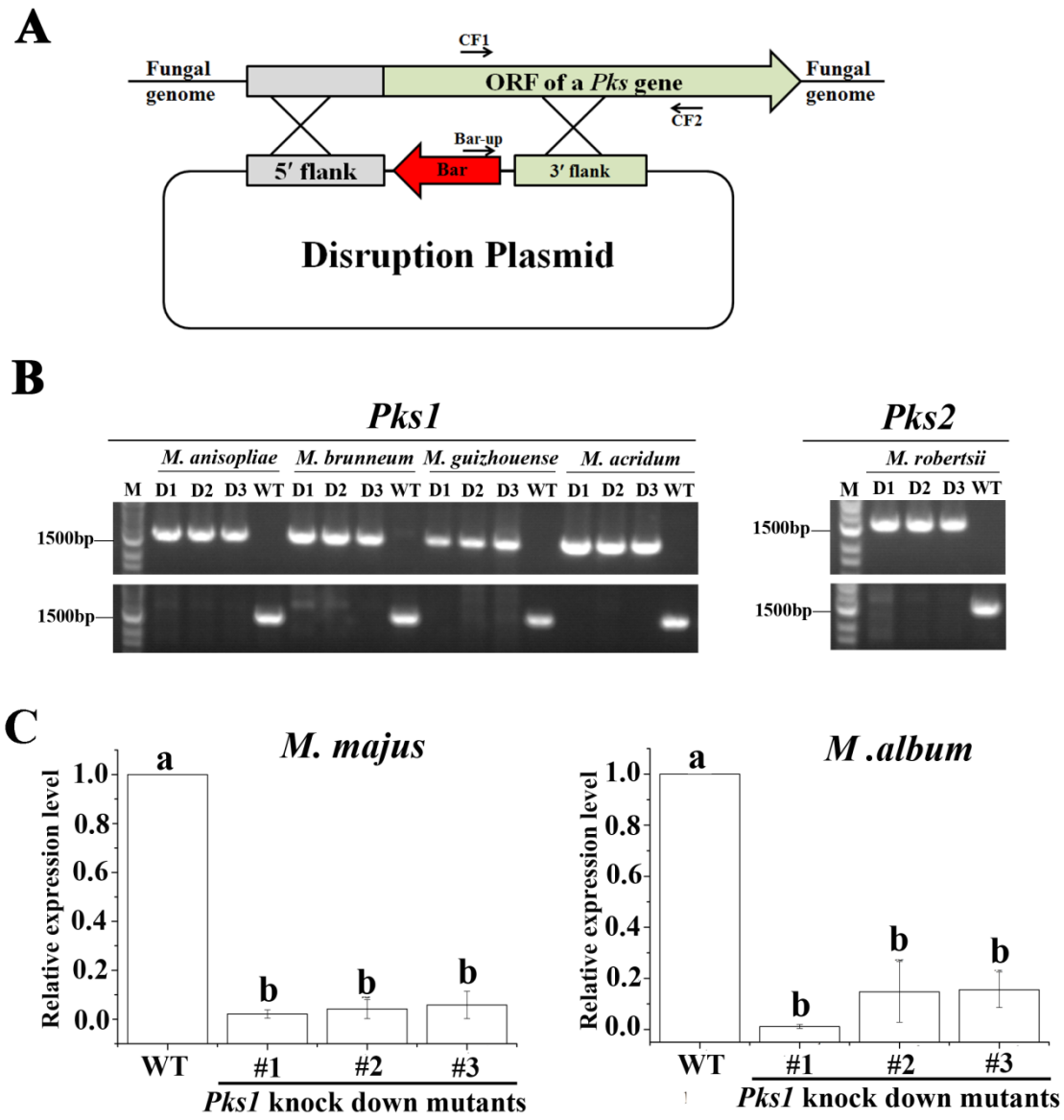

S10 Fig: Construction of knockout (KO) or knockdown (KD) mutants of *Pks1* and *Pks2* genes in *Metarhizium*. (**A**) A schematic diagram of gene disruption based on homologous recombination showing a map of a disruption plasmid and its relative position in the fungal genome. Note: only around the region (~1.2kb) corresponding to the N-terminus of a *Pks* gene was deleted. (**B**) Confirmation of knocking out *Pks1* genes in *M. anisopliae*, *M. brunneum*, *M. guizhouense* and *M. acridum* and *Pks2* gene in *M. robertsii*. D1, D2 and D3 represent three independent isolates of a *Pks* KO mutant, and WT is the wild-type strain. Upper panel: PCR conducted with the primers Bar-up and the confirmation primer CF-2 (the relative position of all primers are shown in A). PCR products can be obtained only from the KO mutants. Lower panel:

PCR was conducted with primers CF-1 and CF-2; PCR products can be obtained in the WT strain but not in the KO mutants. The DNA ladder (DL 10004) was purchased from Generay (Shanghai, China). (**C**) qRT-PCR confirmation of knocking down *Pks1* genes in *M. majus* (left panel) and *M. album* (right panel). The expression level in WT was set to 1. #1, 2, and 3: three independent isolates of a gene knocking down mutant. The qRT-PCR analyses were repeated three times with three replicates per repeat. Data are expressed as the mean ± SE. Values with different letters are significantly different (Student's *t* test, $P < 0.01$).