

Supplementary Fig S1. Construction of myosin deletion strains **(A)** *A. fumigatus myoB* (7.4 kb) was replaced with the *A. parasiticus pyrG* gene (2.4 kb). Successful *myoB* replacement was confirmed with Southern analysis on genomic DNA digested with SacII. **(B)** The $\Delta myoE$ strain was generated by replacing the *A. fumigatus myoE* gene (5.3 kb) with the *A. parasiticus pyrG* gene (2.4 kb). Southern analysis was performed on HindIII digested genomic DNA to confirm successful *myoE* gene replacement.

Supplementary Fig S2. Conidia (10^4) were inoculated onto SMM, grown for 5 days at 37°C and harvested in 10 ml in water or PBS. Harvested conidia were diluted and stored at 4°C in water or PBS for 4 days. Conidia were stained with **(A)** bis-(1,3-dibutylbarbituric acid) trimethine oxonol (DiBAC) or **(B)** carboxyfluorescein diacetate (CFDA) and quantified by fluorescent microscopy.