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**Fig. S1.** **Gel electrophoresis of PCR product**. Conventional PCR using specific primers for ATG genes, including 18S rRNA was performed and the PCR product was run on a 1.5% agarose gel. Lane 1 was a DNA ladder in bp. Lane 2-6 was a negative control, 18S rDNA, ATG16, ATG8b, and ATG3, respectively.

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**Fig. S2.** ***Acanthamoeba triangularis* response to *Cassia angustifolia* extract**. At 250 µg/ml of *C. angustifolia* extract, more than 50% of *A. triangularis* trophozoites survived. Morphological changes, porous formation in cell membrane and cell disruption, are seen by SEM. The remaining trophozoites were not transformed into cysts under the stress-induced by the plant extract. However, the change of mRNA expression of the autophagy genes was observed. *Ac*ATG16 was down-regulated 12 h post treatment, whereas *Ac*ATG3 and *Ac*ATG8b were consistent at this time period.