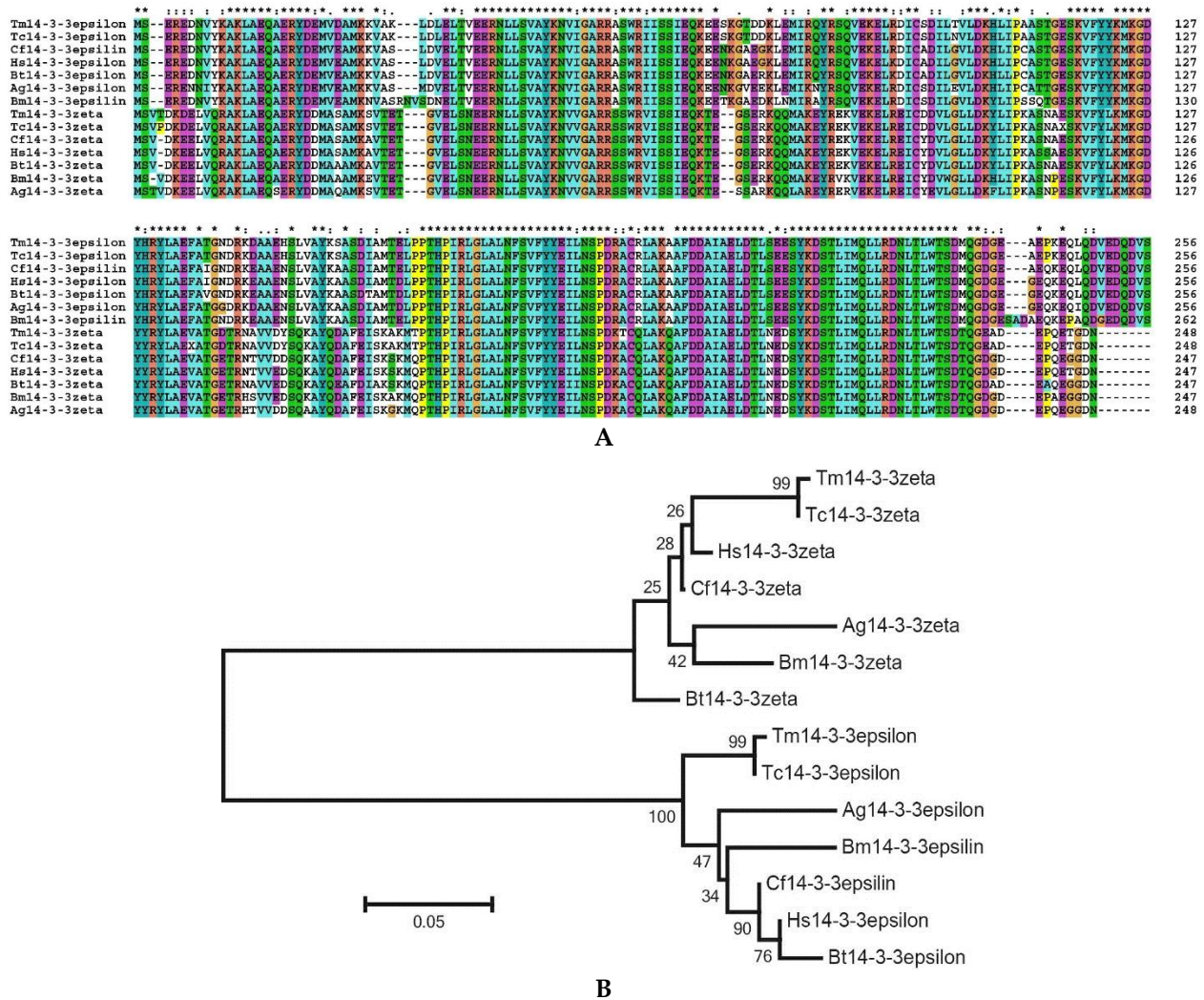


# The Silencing of a 14-3-3ε Homolog in *Tenebrio molitor* Leads to Increased Antimicrobial Activity in Hemocyte and Reduces Larval Survivability

Gi Won Seo <sup>1,†</sup>, Yong Hun Jo <sup>1,†</sup>, Jeong Hwan Seong <sup>1</sup>, Ki Beom Park <sup>1</sup>, Bharat Bhusan Patnaik <sup>2</sup>, Hamisi Tindwa <sup>3</sup>, Sun-Am Kim <sup>4</sup>, Yong Seok Lee <sup>5</sup>, Yu Jung Kim <sup>6</sup> and Yeon Soo Han <sup>1,\*</sup>



**Figure S1.** Multiple alignment and phylogenetic analysis of *Tenebrio* 14-3-3 epsilon and zeta with other 14-3-3 epsilon and zeta from insects. (A) Amino acid sequences of insects 14-3-3 proteins were obtained from GenBank and multiple alignment of 14-3-3 proteins was performed with Clustal X2 program. The result shows that the insect 14-3-3 proteins were highly conserved. The C-terminus region of 14-3-3 epsilon and zeta shows the specific amino acid sequences; (B) Phylogenetic analysis of 14-3-3 proteins were conducted with MEGA 6.2 program and the result indicates that the 14-3-3 epsilon and 14-3-3 zeta proteins were located on the separate branches. Tm14-3-3epsilon; *T. molitor* 14-3-3 epsilon, Tm14-3-3zeta; *T. molitor* 14-3-3 zeta, Tc14-3-3epsilon; *Tribolium castaneum* 14-3-3 protein epsilon (XP\_969719.1), Tc14-3-3zeta; *T. castaneum* 14-3-3 protein zeta (XP\_008200725.1), Cf14-3-3epsilon; *Camponotus floridanus* 14-3-3 protein epsilon (EFN68394.1), Cf14-3-3zeta; *C. floridanus* 14-3-3 zeta (AEW70330.1), Hs14-3-3 epsilon; *Harpegnathos saltator* 14-3-3 protein epsilon (EFN89235.1), Hs14-3-3zeta; *H. saltator* 14-3-3 zeta (AEW70352.1), Bt14-3-3epsilon; *Bombus terrestris* 14-3-3 protein epsilon-like (XP\_003397232.1), Bt14-3-3zeta; *B. terrestris* 14-3-3 zeta (AEW70333.1), Ag14-3-3epsilon; *Anopheles gambiae* str. PEST 14-3-3 epsilon (XP\_322009.2), Ag14-3-3zeta; *A. gambiae* str. PEST 14-3-3 epsilon 2L:48608644-48613035 (AGAP007643-PB), Bm14-3-3epsilon; *Bombyx mori* 14-3-3 epsilon protein (NP\_001091764.1), Bm14-3-3zeta; *B. mori* 14-3-3 protein zeta (NP\_001040164.1).