## SUPPLEMENT FIGURE LEGENDS

**Supplemental Figure 1.** Comparison of deduced amino acid sequences of the *Desi* homologous genes found in *Aedes aegypti, Anopheles gambiae, Tribolium castaneum,* and *Apis mellifera* EST databases.

**Supplemental Figure 2.** *Desi* expression in *Drosophila* adults under wet and desiccated conditions. Whole bodies of *Drosophila* adults, 2 days after eclosion, were used for the analyses.

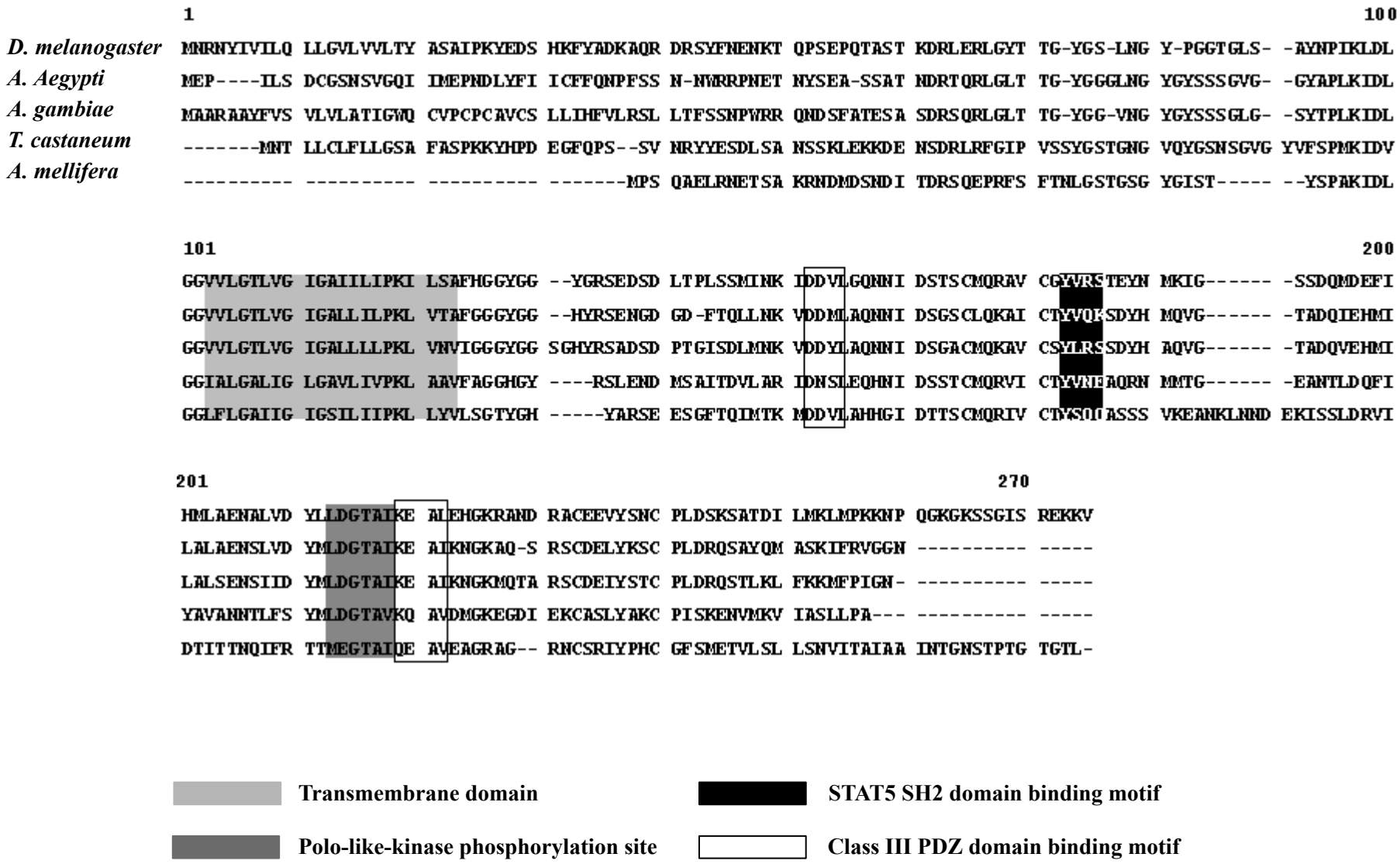
**Supplemental Figure 3.** Effect of *Desi* overexpression on the initiation time of the wandering behavior of *Drosophila* larvae. The *hs-Gal4*-dependent overexpression of *Desi* in 2nd instar larvae was induced by heat treatment at 35$^{o}$C for 30 min. Note that the initiation time of the wandering behavior was not changed by *Desi* overexpression (black bar).

**Supplemental Figure 4.** *Desi* expression levels in transgenic *Drosophila* larvae. Transgenic lines carrying *UAS-Desi or UAS-dsDesi* were used for *Desi* overexpression and RNAi knockdown. RT-PCR was performed by using total RNAs prepared from control, overexpression, and RNAi larvae. 1. *Actin-Gal4,* 2. *UAS-Desi (II)*, 3. *UAS-Desi (III)*, 4. *UAS-dsDesi (II)*, 5. *UAS-dsDesi (III)*, 6. *Actin-Gal4/UAS-Desi*, 7. *Actin-Gal4;UAS-Desi*, 8. *Actin-Gal4/UAS-dsDesi*, 9. *Actin-Gal4;UAS-dsDesi*.

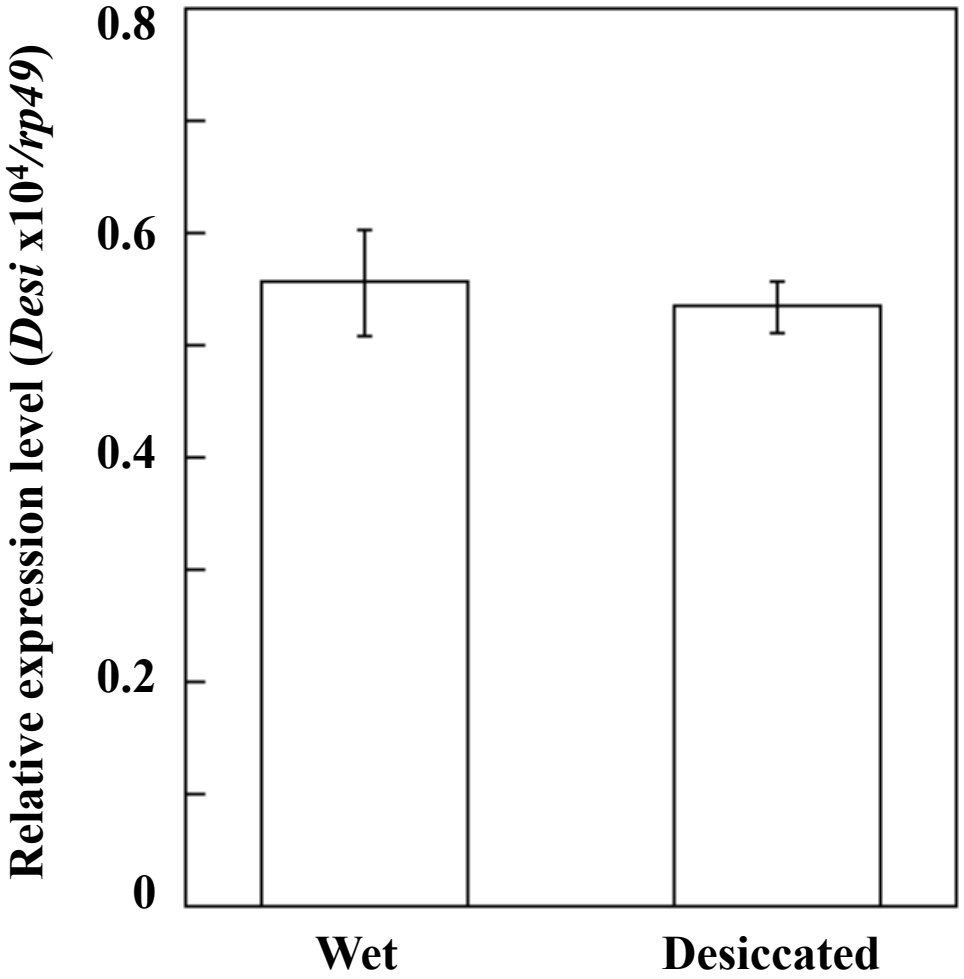
**Supplemental Figure 5.** Effects of *Desi* overexpression and knockdown on survival rates of *Drosophila* larvae under wet condition. Every mutant foraging larva was placed under wet condition (on water absorbed cotton in petri dish) for 8 h, and then transferred on normal diet medium. Survival rates were checked 24 h after this transfer. Data are given as means for five separate measurements using 50 animals.

**Supplemental Figure 6.** Effects of *Desi* overexpression on weights of *Drosophila* larvae under desiccated condition. (A) Weights of *Desi* overexpressed 3rd instar larvae under a dry condition (15% RH). Data are given as means for five separate measurements using 20 animals. (B) Weights of *Desi* overexpressed 2nd instar larvae under a dry condition (15% RH). Data are given as means for five separate measurements using 15 animals. *Significantly different from the values of control larvae (*$P<0.05$, Turkey's HSD).

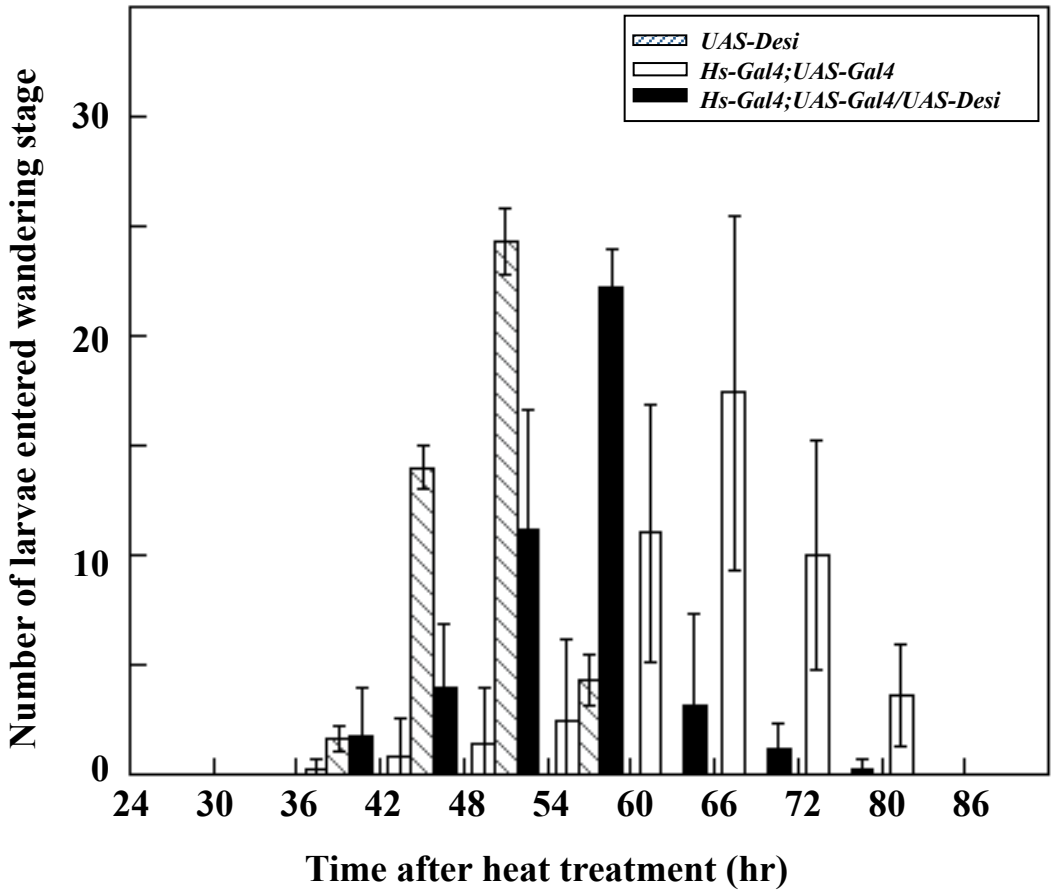
**Supplemental Figure 1**



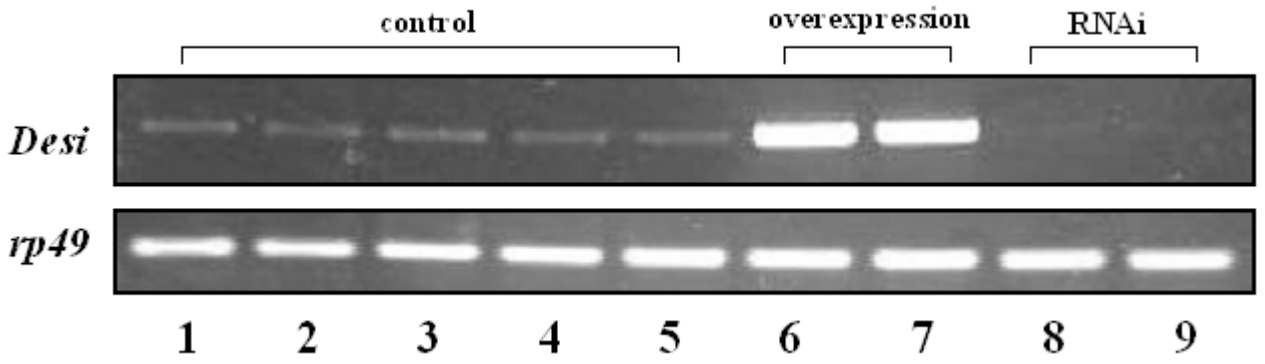
**Supplemental Figure 2**



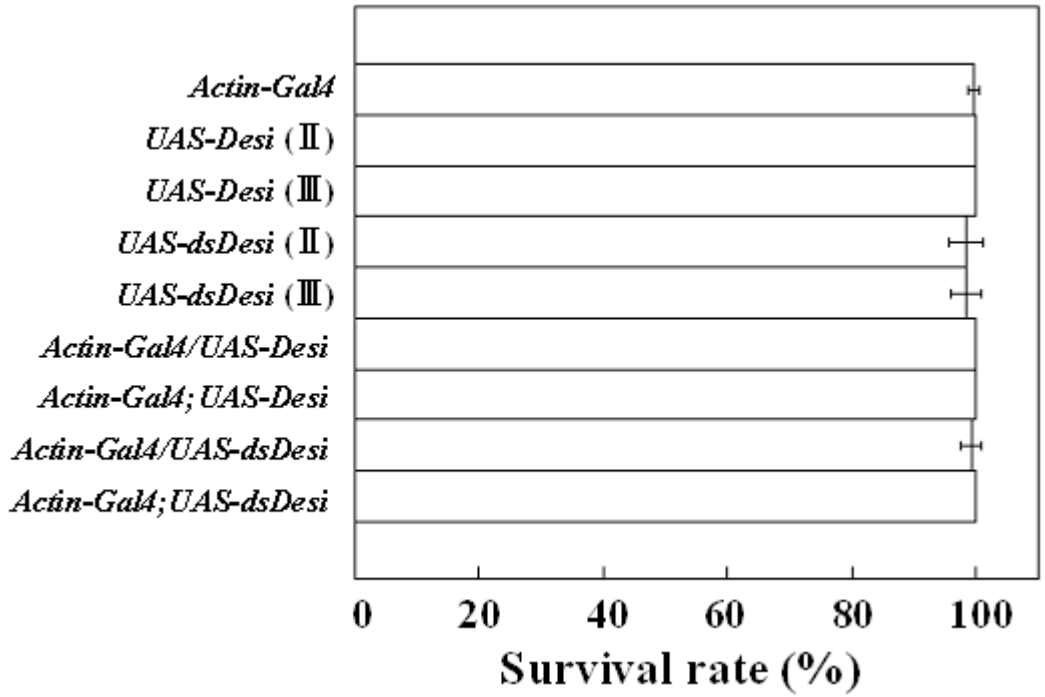
**Supplemental Figure 3**



**Supplemental Figure 4**



**Supplemental Figure 5**



**Supplemental Figure 6**