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**Identification of a thioredoxin peroxidase gene involved in resistance to
nucleopolyhedrovirus infection in *Helicoverpa armigera* with RNA interference**

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ABSTRACT

Thioredoxin peroxidases (Tpxs) play a crucial role in protection against oxidative damage in several insect species. However, studies on the characteristics and functions of Tpxs in *Helicoverpa armigera* are lacking. In this study, a novel 2-Cys Tpx gene from *H. armigera* (*HaTpx*) was identified. Sequence analysis revealed that *HaTpx* is highly conserved and shares two catalysis regions (VCP) with other insect species. *HaTpx* mRNA was found to be expressed in an age-dependent manner and was ubiquitous in all tissues examined. Hormone treatment showed that the expression of *HaTpx* is clearly induced by 20-hydroxyecdysone but repressed by

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