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

Songdou Zhang, Zhongjian Shen, Zhen Li, Fengming Wu, Boyu Zhang, Yanjun Liu, Qingwen Zhang, Xiaoxia Liu

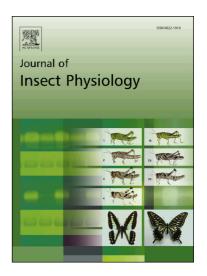
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| 1 | For consideration of the journal: Journal of Insect Physiology |
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| 14 | ABSTRACT |
| 15 | Thioredoxin peroxidases (Tpxs) play a crucial role in protection against oxidative |
| 16 | damage in several insect species. However, studies on the characteristics and |
| 17 | functions of Tpxs in Helicoverpa armigera are lacking. In this study, a novel 2-Cys |
| 18 | Tpx gene from <i>H. armigera</i> (<i>HaTpx</i>) was identified. Sequence analysis revealed that |
| 19 | HaTpx is highly conserved and shares two catalysis regions (VCP) with other insect |
| 20 | species. HaTpx mRNA was found to be expressed in an age-dependent manner and |
| 21 | was ubiquitous in all tissues examined. Hormone treatment showed that the |
| 22 | expression of <i>HaTpx</i> is clearly induced by 20-hydroxyecdysone but repressed by |

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