## **Supplementary Information**

Anti-apoptotic effects of Sonic hedgehog signalling through oxidative stress reduction in astrocytes co-cultured with excretory-secretory products of larval *Angiostrongylus cantonensis* 

Kuang-Yao Chen<sup>1</sup>, Cheng-Hsun Chiu<sup>2</sup> and Lian-Chen Wang<sup>1, 2, 3, \*</sup>

 <sup>1</sup> Department of Parasitology, College of Medicine, Chang Gung University, Taoyuan 333, Taiwan
<sup>2</sup>Molecular Infectious Disease Research Center, Chang Gung Memorial Hospital, Taoyuan, Taiwan;
<sup>3</sup>Graduate Institute of Biomedical Sciences, College of Medicine, Chang Gung University, Taoyuan 333, Taiwan

\* Corresponding author. <u>wanglc@mail.cgu.edu.tw</u>



Figure S1. Western blot analysis of Bax level in astrocytes treated with different concentrations of ESP for 4 h.  $\beta$ -actin was used as a control.



Figure S2. Western blot analysis of Caspase-3 level in astrocytes treated with different concentrations of ESP for 4 h.  $\beta$ -actin was used as a control.



Figure S3. Western blot analysis of Shh level in astrocytes treated with different concentrations of ESP for 4 h.  $\beta$ -actin was used as a control.



Figure S4. Western blot analysis of PTCH-1 and Gli-1 levels in astrocytes treated with or without 500  $\mu$ g/ml ESP for 4 h.  $\beta$ -actin was used as a control.



Figure S5. Western blot analysis on catalase in astrocytes treated with ESP alone, pre-treated with a recombinant Sonic hedgehog peptide from mouse (Shh) (3  $\mu$ g) or cyclopamine (20  $\mu$ M) for 2 h and then with 500  $\mu$ g/ml ESP for 4 h.  $\beta$ -actin was used as a control.



Figure S6. Western blot analysis on SOD in astrocytes treated with ESP alone, pre-treated with a recombinant Sonic hedgehog peptide from mouse (Shh) (3  $\mu$ g) or cyclopamine (20  $\mu$ M) for 2 h and then with 500  $\mu$ g/ml ESP for 4 h.  $\beta$ -actin was used as a control.