

# **Ethyl Acetate Extract Components of Bushen-Yizhi Formula Provides Neuroprotection against Scopolamine-induced Cognitive Impairment**

Shi-Jie Zhang<sup>1,\*</sup>, Dan Luo<sup>1,\*</sup>, Lin Li<sup>1,\*</sup>, Rui-Rong Tan<sup>2</sup>, Qing-Qing Xu<sup>1</sup>, Jie Qin<sup>3</sup>, Lei Zhu<sup>1</sup>, Na-Chuan Luo<sup>1</sup>, Ting-Ting Xu<sup>1</sup>, Rong Zhang<sup>1</sup>, Lei Yang<sup>1</sup> & Qi Wang<sup>1</sup>

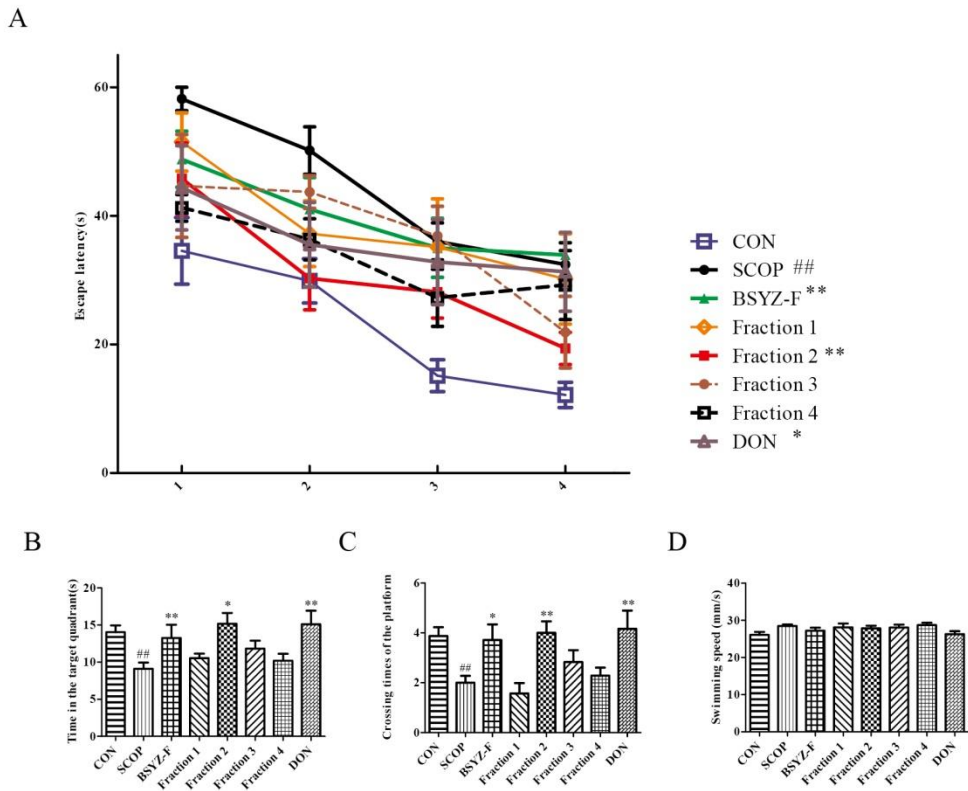
<sup>1</sup>Institute of Clinical Pharmacology, Guangzhou University of Chinese Medicine, Guangzhou, China

<sup>2</sup>International Center for Translational Chinese Medicine, Sichuan Academy of Chinese Medicine Sciences, Chengdu, China

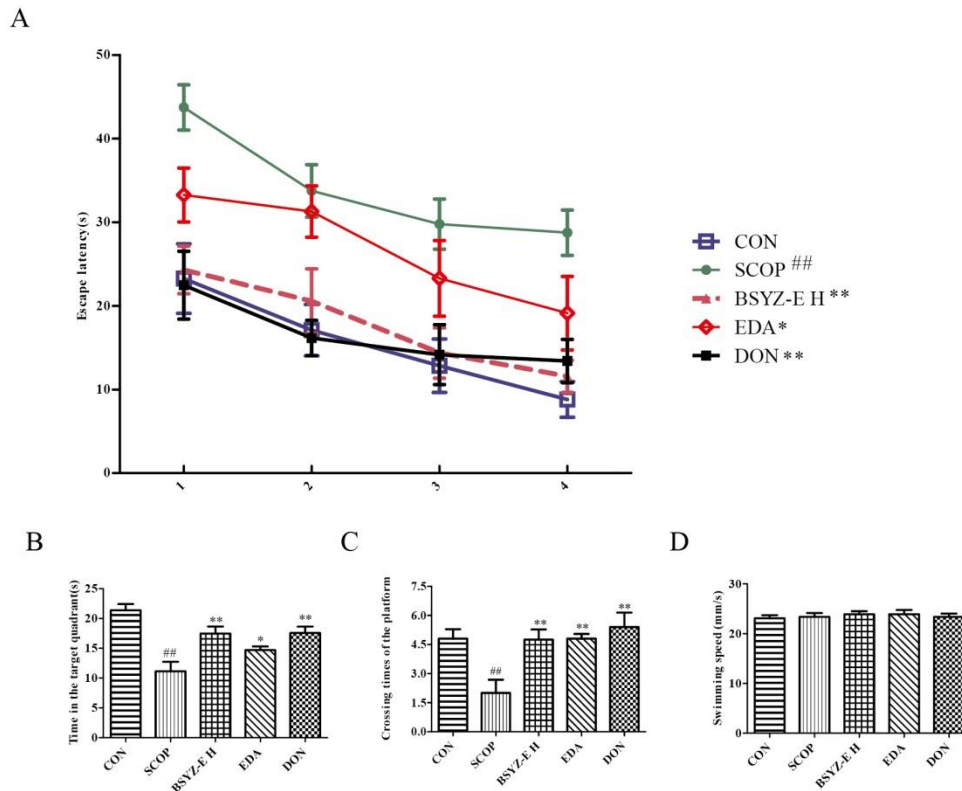
<sup>3</sup>Department of Radiology, the Third Affiliated Hospital, Sun Yat-sen University, Guangzhou, China.

\*These authors contributed equally to this work.

Correspondence and requests for materials should be addressed to L.Y. (email: yanglei@gzucm.edu.cn) or Q.W. (email: wangqi@gzucm.edu.cn)



**Figure S1. Effects of different extracts of BSYZ-F on cognitive impairment in SCOP-induced mice.** Mice were randomly divided into eight groups: CON group, SCOP group, BSYZ-F group, petroleum ether extracts of BSYZ-F group (Fraction 1 group), ethyl acetate extracts of BSYZ-F group (Fraction 2 group), n-butanol extracts of BSYZ-F group (Fraction 3 group), ethanol extracts of BSYZ-F group (Fraction 4 group), and Don group. The Morris water maze (MWM) test was performed following a defined method (A-D). Escape latency of four consecutive days' test (A), time spent in the target quadrant (C), the crossing times of the platform (D) and average swimming speed (E) are shown. BSYZ-F, Fraction2 and DON treatment mice have shown significant neuroprotection against SCOP-induced cognition dysfunction.  $*p < 0.05$ ,  $##p < 0.01$  versus CON group.  $*p < 0.05$ ,  $*p < 0.01$  versus SCOP group.



**Figure S2. BSYZ-E and Edaravone provides neuroprotection effects on cognitive impairment in SCOP-induced mice.** Mice were randomly divided into five groups: CON group, SCOP group, BSYZ-E H group, Edaravone group ( EDA group) and Don group. The Morris water maze (MWM) test was performed According to the previous test method (A-D). Escape latency of four consecutive days' test (A), time spent in the target quadrant (C), the crossing times of the platform (D) and average swimming speed (E) are shown. BSYZ-F, EDA and DON treatment mice have shown significantly neuroprotection against SCOP-induced cognition dysfunction.  $*p < 0.05$ ,  $^{##}p < 0.01$  versus CON group.  $*p < 0.05$ ,  $^{*}p < 0.01$  versus SCOP group.