iMedPub Journals http://www.imedpub.com Clinical Pharmacology and Toxicology Journal 2022

Vol6.No.1

Kanathip Singsai

The effect of Streblus asper leaf extract on scopolamine induced memory impairment in zebrafish

Abstract

Streblus asper (SA) belonging Moraceae family is well-known as a folk medicinal plant in Asian countries. This study aimed to investigate the effect of SA leaf extract on preventing memory impairment in zebrafish that is induced by scopolamine. This research using male zebrafish, Danio rerio. The zebrafish were divided into 6 groups including, control group, scopolamine (SCO) group, scopolamine plus rivastigmine 1.5 mg/kg (RV+SCO) group, scopolamine plus SA leaf extract at dose 200, 400 and 800 mg/kg (SA200+SCO, S400+SCO, and SA800+SCO) group, respectively. Spatial memory was evaluated by Colour biased appetite conditioning T-maze test while fear memory was measured by Inhibitory avoidance test. In spatial memory test, the results showed that the RV+SCO group had the best time spent in the green arm and the red arm ratio in the T-maze, followed by SA800+SCO, SA400+SCO, SA200+SCO, control, and SCO group, respectively. However, it had no statistically significant. In fear memory test, the result showed that zebrafishes received SA at dose 200, 400, and 800 mg/kg had significantly increased latency time as 21.75 ± 4.59 , 23.75 ± 13.01 , and 18.20 ± 18.84 min, respectively when compared to the SCO group (9.80 ± 10.45 min). These results suggested that SA leaf extract might prevent memory impairment in zebrafish especially in fear memory. These findings can be a part of the information for further research to develop SA extract to be the health products to prevent memory impairment or Alzheimer's disease in the future.

sara.tawfek.student@pua.edu.eg

Received: February 13, 2022

Accepted: February 15, 2022 Published: February 19, 2022

Biography

My name is Kanathip Singsai, 33 years old, I am a lecturer at Department of Pharmaceutical care, School of Pharmaceutical Sciences, University of Phayao, Phayao, Thailand. I graduated a Ph.D. in Pharmacology (Neuropharmacology) at the age of 29 years from Department of Pharmacology, Faculty of Medicine, Khon Kaen University. My research involves neurodegenerative diseases include Alzheimer's disease, Parkinson's disease, and others related.