

7th International Conference on

BRAIN INJURY & NEUROLOGICAL DISORDERS

April 10-12, 2018 | Amsterdam, Netherlands

Novel lignan derivatives from the twigs of *Cinnamomum cassia* and their potential neuroprotective effects

Jing Fu, Guo Yuan Zhu, Zhi Hong Jiang, Xin Liu, Ji Yang and Xiao Jun Yao
Macau University of Science and Technology, China

Cinnamomum cassia Presl. (Lauaceae) has been used as flavor additive for foods and traditional medicine for thousands of years. However, the bio-active compounds from *Cinnamomum cassia* are still not fully understood. In this study, a series of column chromatographic methods monitored with UPLC-TOF-MS were applied to isolate the compounds from the twigs of *Cinnamomum cassia*. Their structures were elucidated by NMR and HRMS spectroscopic data, calculated ECD and CD experiments analyses. Furthermore, the neuroprotective activities were identified on endoplasmic reticulum (ER) stress-induced neural cell injury models. As a result, 7 new α , β -diphenyl- γ -butyrolactones, 3 new lignans, 5 new neolignans, 2 new biphenylpropanoids and a new flavonol glycoside-lignan ester, together with 43 known compounds were isolated from the twigs of *Cinnamomum cassia*, among which compounds 11 and 12 are novel neolignans possessing a dioxetane ring. Pretreatment with compounds 11 and 12 significantly reduced the ER stress-induced neuron cytotoxicity on SH-SY5Y cells. In conclusion, compounds 11 and 12 are new natural products and may be developed as a new type of neuroprotective agents.

Biography

Fu Jing has worked in Macau Institute for Applied Research in Medicine and Health as research assistant since 2016.

jfu@must.edu.mo

Notes: