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Neuroprotective compounds from *Reynoutria sachalinensis*

Jin Bae Weon, Min Rye Eom, Youn Sik Jung and Choong Je Ma
Kangwon National University, Korea

Glutamate is a neurotransmitter in central nervous system. However, the overexpression of glutamate leads to oxidative stress, resulting in several neurodegenerative disorders such as Alzheimer's disease. The n-hexane fraction of stem and EtOAc fraction of flower of *R. sachalinensis* showed the neuroprotective effect against glutamate-induced oxidative toxicity in HT22 cells. In this study, 1-decanol (1), β -amyrin (2), dammaran-3 β -ol (3), campesterol (4), daucosterol (5), ergosterol peroxide (6), emodin 8-O- β -D-glucopyranoside (7), quercetin (8) and isoquercitrin (9) were isolated from n-hexane fraction of stem and EtOAc fraction of flower in *R. sachalinensis*. Among them, compounds were isolated from this plant for the first time exclude compound 7. Their neuroprotective activity was evaluated by MTT assay. Compounds, 1-decanol (1), campesterol (4), ergosterol peroxide (6), quercetin (8) and isoquercitrin (9) were exhibited a neuroprotective activity. These compounds decreased ROS level and showed anti-oxidant activity in the DPPH radical and H₂O₂ scavenging assay. Therefore, neuroprotective ability of 1-decanol (1), campesterol (4), ergosterol peroxide (6), quercetin (8) and isoquercitrin (9) is associated with antioxidant activity.

Biography

Jin Bae Weon is currently pursuing the Doctor's course in Department of Medical Biomaterials Engineering, College of Biomedical science, Kangwon National University. His major is pharmacognosy and chemistry of organic natural products. He has published more than 20 papers in reputed journals.

jbweon@gmail.com

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