

19th World Congress on

BIOTECHNOLOGY

November 13-14, 2017 Osaka, Japan

Anti-inflammatory activity of *Scirpus tabernaemontani* on LPS-stimulated RAW 264.7 macrophage cells

Min-Jin Kim and Sang Cheol Kim

Nakdonggang National Institute of Biological Resources, South Korea

The stem of *Scirpus tabernaemontani*, one of the aquatic plants, has been reported to have been used as a medicinal herb, but lacks a scientific basis. Also, it is unknown whether *Scirpus tabernaemontani* extract (STE) modulate the inflammatory response in RAW 264.7 macrophage cells. The present study was therefore designed to elucidate the pharmacological and biological effects of STE on the production of pro-inflammatory cytokines and inflammatory mediators in macrophages. The results indicate that STE is an effective inhibitor of LPS-induced NO and PGE₂ production in RAW264.7 cells. And STE could effectively inhibit the LPS-induced production of pro-inflammatory cytokines such as IL-6, TNF- α and IL-1 β in a concentration-dependent manner. These results suggest that STE attenuated the LPS-induced release of pro-inflammatory mediators and cytokines probably *via* suppressing the activation of MAPK (JNK, ERK and p38) and NF- κ B signaling. To assess the suitability of STE for cosmetic applications, we also performed MTT assays on HaCaT keratinocytes. STE did not display any cytotoxicity in these assays. In conclusion, this study not only provides more evidence that STE exerts anti-inflammatory activity in macrophage cells, but also sheds light on the potential use of STE as an attractive candidate for treatment of various inflammation-associate disease.

Biography

Min-Jin Kim has majored in Molecular Cell Biology and has been studying biologically active materials using primarily natural materials. Currently, she is a member of the Nakdonggang National Institute of Biological Resources focusing on freshwater biological resources and is conducting research on the validity, composition analysis and practical application of freshwater biological resources for exploration, conservation and development.

alswls0428@nnibr.re.kr