



***Eupatorium makinoi* Suppresses Toll-like Receptor Signaling Pathways**

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Toll-like receptors (TLRs) recognize microbial molecules that are widely presented by pathogens and initiate innate immune system. TLR signaling is divided into two different signaling pathways, the myeloid differential factor 88 (MyD88)- and Toll-interleukin-1 receptor domain-containing adapter inducing interferon- β (TRIF)-dependent pathways. *Eupatorium makinoi*, a plant species in *Asteraceae*, is used for medicinal purposes in China, Korea, and Japan. We investigated the effect of an ethanol extract of *E. makinoi* (EEM) on TLRs signaling pathways. EEM suppresses NF- κ B activation and iNOS and COX-2 expression induced by TLR2 or TLR4 agonists. Also, EEM suppresses the activation of IRF3 induced by TLR3 or TLR4 agonists. All results indicate that EEM suppresses MyD88- and TRIF-dependent signaling pathways of TLRs and the expression of target genes derived from the activation of TLRs. This work was carried out with the support of “Cooperative Research Program for Agriculture Science & Technology Development (Project Title: A study on anti-allergic mechanism of *Aster yomena* by clinical research, Project No: PJ0108262015)” Rural Development Administration, Republic of Korea.

Biography

Sang il Ahn has completed his B.S. degree in Biomedical Laboratory Science from Soonchunhyang university in 2011. He has received Talent Award of Korea in 2009 and published several papers in reputed journals. He is currently completing his last semester of Master's degree at Soonchunhyang university.

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