

10th World Congress on

NUTRITION & FOOD SCIENCES

May 29-31, 2017 Osaka, Japan

Protective effect of 5,7,3'-trihydroxy-4'-methoxyflavone on LPS-induced acute lung injury via Akt-dependent NFκB pathway

Yu-Hsiang Kuan and Ming-Ling Yang
Chung Shan Medical University, Taiwan

Acute lung injury (ALI) is the acute and serious inflammatory disorder which has the high incidence and mortality in patients. However, there is still no effective treatment strategy for ALI up to now. 5,7,3'-trihydroxy-4'-methoxyflavone (THMF) has bioactive effects such as antifungal, antibacterial, antioxidant, anti-inflammatory effects. Acute lung injury was induced by intratracheal injection of LPS, and Diosmetin at various concentrations was injected intraperitoneally 30 min prior to LPS. Expression of cytokines and adhesion molecules were determined by commercially and by ELISA assay kits, respectively. Akt phosphorylation and NFκB activation were measured by western blot and NFκB activation assay kit, respectively. Pretreatment with THMF inhibited the histopathological changes such as neutrophils infiltration, increased in alveolar barrier thickness, hemorrhage, and hyaline membrane formation occurred in lungs in LPS-induced ALI. In addition, not only LPS-induced expression of cytokines was suppressed by THMF, but also adhesion molecules expression lungs were inhibited as well. Moreover, pretreatment with THMF reversed the Akt phosphorylation and NFκB activation induced by LPS. These results from present study suggested that the protective mechanisms of THMF on LPS-induced ALI were via Akt-dependent NFκB pathway.

Biography

Yu-Hsiang Kuan has his expertise in evaluation in anti-inflammation, genotoxicity, and improving the pulmonary disease. He has developed the cellular and animal model based on acute lung inflammation, macrophages genotoxicity and cytotoxicity, and cellular signaling. He has built this model after years of experience in research, evaluation, and teaching in the education institutions.

kuanyh@csmu.edu.tw

Notes: