

## Anti-Inflammatory Effect of *Red Korean Cabbages* Ethanol Extract on LPS-Induced RAW 264.7 Cells

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The red Korean cabbage extracts with high levels of polyphenol compounds has been reported to have anti-oxidative effects. In this study, attention was focused on the antioxidant effect of red Korean cabbage extracts. The purpose of the present study was to investigate the anti-inflammatory and antioxidant effects of red Korean cabbage extracts and red Korean cabbage complex extracts on RAW264.7 cells. Cell toxicity was determined by MTT assay. We evaluated the anti-inflammatory effects of red Korean cabbage extracts and red Korean cabbage complex extracts by measuring nitric oxide(NO), inducible NOS(iNOS) production,  $\beta$ -actin, and cyclooxygenase-2(COX-2) expression by Western blotting and pro-inflammatory cytokines [interleukin (IL)-6, tumor necrosis factor (TNF)- $\alpha$ ] in lipopolysaccharide(LPS)-stimulated RAW 264.7 cells. The present results show that red Korean cabbage extracts has potent anti-inflammatory effects on RAW264.7 cells. Two kinds of extracts reduced the expression of NO, iNOS proteins. In addition to, the red Korean cabbage complex extracts also suppressed LPS-induced TNF- $\alpha$ , iNOS COX-2 protein expressions in RAW 264.7 cells. The results suggest that red Korean cabbage complex extracts has an anti-inflammatory effect that is due to the blocking of the expression of the iNOS and COX-2 enzymes and leads to the suppression of the production of NO and TNF- $\alpha$ . Therefore, these results suggest that the Red Korean cabbage might be used as a promising anti-inflammatory agent for inhibition of LPS-induced inflammation.

### Biography:

Dr. Jean Kyung Paik is Assistant Professor in the Department of Food and Nutrition at Eulji University, Republic of Korea. She graduated from the University of Yonsei, Republic of Korea in 2010, and obtained a PhD degree in clinical nutrition sciences. She holds license Certified Dietitian and Clinical dietitian of Korea. She works in health functional food and Anti-Aging (Antioxidants, oxidative stress and inflammation status) and Clinical Nutrition field. Her research interests are Clinical Nutrition for chronic disease (cardiovascular disease, diabetes, obesity, metabolic syndrome etc.). She has more than 40 publications in international journal in Nutrition, metabolic disease and functional food field.