

[P-1]**NITRIC OXIDE PRODUCTION BY 18 β -GLYCYRRHETINIC ACID VIA NUCLEAR FACTOR- κ B ACTIVATION IN MACROPHAGES**Ji Young Kim¹, Ho Jin You², Hye Gwang Jeong¹¹Department of Pharmacy and Research Center for Proteineous Materials²School of Medicine, Chosun University

Glycyrrhizin, a triterpenoid saponin fraction of licorice, is reported to have anti-viral and anti-tumor activities and is metabolized to 18 β -glycyrrhetic acid (GA) in the intestine by intestinal bacteria. However, the mechanism underlying its effects is poorly understood. To further elucidate the mechanism of GA, the aglycone of glycyrrhizin, we investigated the effects of GA on the release of nitric oxide (NO) and at the level of inducible nitric oxide synthase (iNOS) gene expression in mouse macrophages. We found that GA elicited a dose-dependent increase in NO production and in the level of iNOS mRNA. Since iNOS transcription has been shown to be under the control of the transcription factor NF- κ B, the effects of GA on NF- κ B activation were examined. Transient expression assays with NF- κ B binding sites linked to the luciferase gene revealed that the increased level of iNOS mRNA, induced by GA, was mediated by the NF- κ B transcription factor complex. By using DNA fragments containing the NF- κ B binding sequence, GA was shown to activate the protein/DNA binding of NF- κ B to its cognate site, as measured by electrophoretic mobility shift assay. These results demonstrate that GA stimulates NO production and is able to upregulate iNOS expression through NF- κ B transactivation in macrophages.

keyword : 18 β -glycyrrhetic acid, macrophages, iNOS, NF- κ B