【P-52】

Induction of Inos Gene Expression by Polysaccharide Isolated from Poria Cocos Sclerotium

Young Jin Jeon

Department of Pharmacology, Chosun University College of Medicine, Kwangju

We show that PCSC, a polysaccharide isolated from the sclerotium of Poria cocos with one percent sodium carbonate, significantly induces nitric oxide (NO) production and inducible NO synthase (iNOS) transcription through the activation of nuclear factor-κB/Rel (NF-κB/Rel). In vivo administration of PCSC induced NO production by peritoneal macrophages of B6C3F1 mice. PCSC also dose-dependently induced the production of NO in isolated mouse peritoneal macrophages and RAW 264.7, a murine macrophage-like cell line. Moreover, iNOS protein and mRNA transcription were strongly induced by PCSC in RAW 264.7 cells. To further investigate the mechanism responsible for the induction of iNOS gene expression, we investigated the effect of PCSC on the activation of transcription factors including NF-κB/Rel and Oct, whose binding sites were located in the promoter of iNOS gene. Treatment of RAW 264.7 cells with PCSC produced strong induction of NF-κB/Rel-dependent reporter gene expression, whereas Oct-dependent gene expression was not affected by PCSC. DNA binding activity of NF-κB/Rel was significantly induced by PCSC, and this effect was mediated through the degradation of IκB. In conclusion, we demonstrate that PCSC stimulates macrophages to express iNOS gene through the activation of NF-κB/Rel.

Keyword : Poria cocos, macrophages, iNOS