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*Corydalis turtschaninovii*의 근경에서 분리한 pseudocoptisine의 항염증 효과 및 기전 연구

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Anti-inflammatory effects and its molecular mechanism of pseudocoptisine isolated from tuber of *Corydalis turtschaninovii*

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Objectives

In this study, we have made attempt to screen anti-inflammatory effects of psedocoptisine, one of the active compound isolated from the tuber of *Corydalis turtschaninovii,* and understand the molecular mechanism using an *in vitro* medel system of mouse macrophage Raw 264.7 cells.

Materials and Methods

○ Materials

Pseudocoptisine isolated from the tuber of *Corydalis turtschaninovii* (Papaveraceae) and were determined by HPLC to be > 97 % pure. The Raw 264.7 macrophage cell line was obtained from the Korea Cell Line Bank (Seoul, Korea).

○ Methods

To determined the effect of pseudocoptisine on NO production, nitrite levels in culture media were determined using the Griess reagent assay. Levels of PGE_2, TNF-α, IL-6 in culture media were quantified using R&D System EIAs kits. Western blot and reverse transcriptase polymerase chain reaction (RT-PCR) were examined to determine inflammation-related protein and mRNA levels. Elecrtophoretic mobility shift assay (EMSA) and luciferase assay were performed to measure the effect of psedocoptisine on DNA binding and transcriptional activity of nuclear factor-kappa B (NF-κB).

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Results

We have demonstrated that pseudocoptisine can potentially supress LPS-induced NO, PGE_2, TNF-α and IL-6 productions, iNOS and COX-2 protein and mRNA levels, and TNF-α and IL-6 mRNA levels by inhibiting the binding activity and transcriptional activity of transcription factor NF-κB. And pretreatment of pseudocoptisine prevented IκBα phosphorylation and degradation. Moreover, pseudocoptisine suppressed phosphorylation of ERK and p38 but not JNK. These results suggest that the anti-inflammatory properties of pseudocoptisine might be due to the inhibition of NF-κB activation through IκBα and MAPK dependent signalling pathway and it lead to reduction of pro-inflammatory expression such as iNOS, COX-2, TNF-α and IL-6.

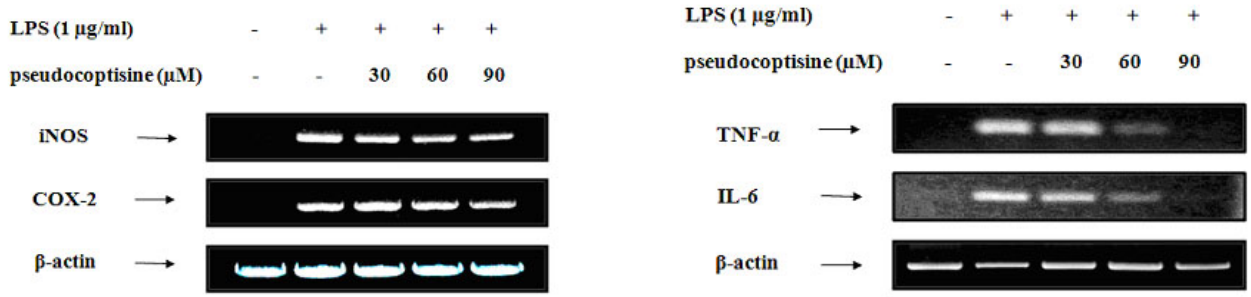
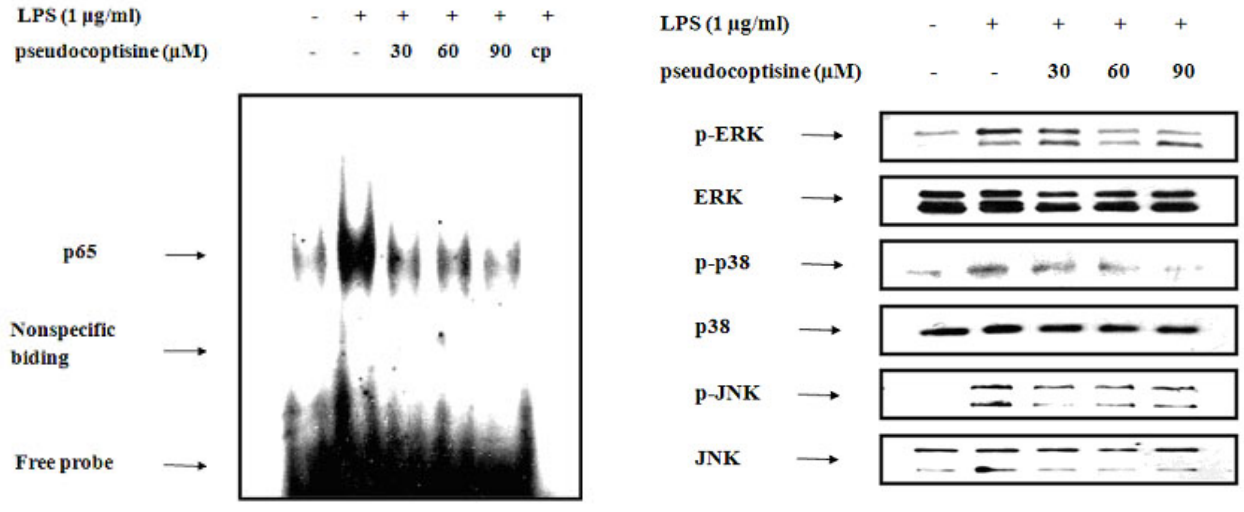


Fig 1. Effect of pseudocoptisine on iNOS, COX-2, TNF-α and IL-6 levels in LPS-stimulated Raw 264.7 cells.



(A) (B)

Fig 2. Effect of pseudocoptisine on NF-κB DNA binding activity (A) and MAPKs phosphorylation (B) in LPS-stimulated Raw 264.7 cells.