PC21) Protective Effect of Ethanolic Extracts of Phragmitis Rhizoma against LPS-induced Macrophage Toxicity

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1. Introduction

Bacterial endotoxins such as lipopolyssaccharide (LPS) are derived from gram negative bacteria and released into the environment after bacterial death. These endotoxins can cause very serious infections and can even lead to human death. The root of reed, Phragmitis rhizoma, has been used as a traditional medicine to treat heat-related syndromes like an infection in Korea.

2. Materials and Methods

In the present study, we evaluated the protective effects of ethanolic extracts of Phragmitis rhizoma (PRE) in LPS-induced macrophage cells. Cell viability was measured by MTT assay. Nitric Oxide (NO) was measured in culture media by Griess assay and cytokines was detected by ELISA.

3. Results and Discussion

During the entire experimental period, all three doses of PRE extract (0.01, 0.03 and 0.1 mg/ml) had no significant cytotoxicity. LPS induced cytotoxicity and led to significant cell death. However, PRE significantly protected macrophage cells against LPS-induced cytotoxicity and the protective effects were dose-dependent. Moreover, PRE reduced the increased production of nitric oxide, TNF-α and IL-1β, mediators that induce cytotoxicity by LPS. Taken together, The results show that PRE might be used to reduce bacterial toxicity, which can be a problem in everyday environments.

4. References

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