

Effects of baicalin on the gene expression of surfactant protein A (SP-A) in lung adenocarcinoma cell line H441

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摘要

Abstract

Pulmonary surfactant, a complex lipoprotein, is secreted by alveolar type II cells. It lies at the alveolar air-fluid interface and prevents alveolar collapse by reducing surface tension. The high incidence of respiratory distress syndrome (RDS) in premature infants results principally from a deficiency of pulmonary surfactant. Surfactant protein A (SP-A) is the most abundant surfactant protein and reduces surface tension at the alveolar air-liquid interface in lung cells. In this study, RT-PCR and Western blot analyses of SP-A were performed to evaluate the biological activity of baicalin, a Chinese medicine prescribed extensively for preventing miscarriage. In *in vitro* experiments, lung adenocarcinoma cell line H441 was cultured with baicalin in varying concentrations and for varying lengths of time. The results show that the expression of SP-A gene was positively affected by baicalin in dose-dependent and time-course manners. The maximal expression of the SP-A gene, 1.7-fold greater than control, is induced at 150 nM of baicalin treated for 48 h.