

Baicalin Induces Differential Expression of Cytochrome C Oxidase in Human Lung H441 Cell

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摘要.

Abstract

In a previous study, we evaluated the effect of baicalin on the expression of SP-A (surfactant protein A), which was developmentally regulated in an alveolar type II cell, H441. SP-A is encoded by two similar genes, SP-A1 and SP-A2, in humans. The maximal induction of SP-A1 gene of H441 occurred at treating 150 nM of baicalin for 48 h. In the present study, cDNA subtraction analysis is performed to examine the differential expression in H441 cell upon baicalin treatment with a view to investigating the regulatory mechanism. The mRNA of H441 cell incubated with 150 nM baicalin for 48 h was compared to that of blank control. Two PCR products were obtained through subtractive cDNA amplification. A product encoding cytochrome c oxidase was demonstrated to be a differential signal by RT-PCR analysis, and the other was a false positive. The induction of cytochrome c oxidase might increase ATP level in cell, and consequently elevates cAMP, which upregulates surfactant synthesis and secretion.