

## 인체 폐암 A549 세포에서 Baicalein에 의한 세포사멸 유도: Apoptosis와 Autophagy 경로의 역할

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### Baicalein induces cell death in Human Lung Carcinoma A549 Cells: Role of Apoptosis and Autophagy pathway

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#### ABSTRACT

Baicalein is one of the main flavonoids derived from roots of *Scutellaria baicalensis* Georgi, a traditional Oriental medicine. Although baicalein has high antitumor effect on several human carcinomas, the mechanism responsible for this property is not unclear. In this study, the data revealed that baicalein-induced growth inhibition was associated with the induction of apoptosis connecting with cytochrome c release, down-regulation of anti-apoptotic Bcl-xl and increased the percentage of cells with a loss of mitochondria membrane permeabilization. Baicalein also induced the proteolytic activation of caspases and cleavage of PARP; however, blockage of caspases activation by z-VAD-fmk inhibited baicalein-induced apoptosis. In addition, baicalein enhanced the formation of autophagosomes and up-regulated LC3-II/LC3-I ratio. Interestingly, the pretreatment of bafilomycin A1 recovered baicalein-induced cell death suggesting that autophagy by baicalein roles as protective autophagy. Taken together, our results indicated that this flavonoid induces apoptosis and cell protective autophagy. These data means combination treatment with baicalein and autophagy inhibitor might be a promising anticancer drug.

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