Baicalin 誘導 B16-F10 小鼠黑色素瘤細胞株細胞週期 G2/M 停滯及引發細胞凋亡之機制探討

Baicalin induces B16-F10 murine melanoma G2/M cell cycle arrest and apoptosis

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Baicalin is an active ingredient extracted from the root of *Scutellaria Radix,* a traditional Chinese medicine. Baicalin has recently been reported having effective inhibition ability on several types of cancer cells. Melanoma, which begins in melanocytes has greater malignancy, higher death rate and higher chance of metastasis than other kinds of skin cancer. The remission rate of current therapy remains low. It is why we chose B16-F10 melanoma cell as our study object. Cell viability was tested by using MTT assay, B16-F10 melanoma cells were treated with 31.25, 62.5, 125, 250 and 500μM baicalin. After 48 hours, B16-F10 melanoma cells were suppressed, the IC_{50} we obtained was 140μM. Further more, there were apoptotic morphology found under microscope observation. According to the information we obtained, it is possible that baicalin induces B16-F10 melanoma cells apoptosis. There are preliminary datum suggest it is possible that baicalin inhibits B16-F10 melanoma cells through mitochondrial pathway. Also, we investigated the effect caused on B16-F10 melanoma cells cell cycle by baicalin treatment with flow cytometry, it is observed B16-F10 melanoma cells cell cycle tend to arrest at G2/M stage after 48 hours baicalin treatment. By analyzing these datum, we can speculate the possible mechanisms that baicalin causes B16-F10 apoptosis and cell cycle arrest. So far, the properties of baicalin have not been fully investigated, yet treatment for melanoma is still urging for further break through. We expect our research provide new possibilities to the application of baicalin as antitumor medicine.

Key words: B16-F10 melanoma cell, baicalin, apoptosis, mitochondrial pathway, G2/M cell cycle arrest