

Baicalein: A review of its anti-cancer effects and mechanisms in Hepatocellular Carcinoma.

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Abstract

Baicalein (5,6,7-trihydroxy-2-phenyl-4H-1-benzopyran-4-one) is a flavonoid compound derived from the roots of *Scutellaria baicalensis*. It has historically been used in anti-oxidant, anti-virus, anti-bacteria, anti-inflammatory and anti-allergic therapies. Recently, baicalein has been found to possess anti-cancer activities via its effect on a variety of biological processes involving cell proliferation, metastasis, apoptosis and autophagy and so on. Hepatocellular carcinoma (HCC) is one of the most prevalent malignancies and high fatality rate worldwide. Noteworthy, treatment protocols of HCC include conventional resection and chemotherapy, all of which may result in enormous mortality rate. Therefore, there is extreme interest to find a relatively non-toxic medicine which may reduce side effects without compromising therapeutic efficacy. Many studies have showed that baicalein is one such potential candidate. In this review, we summarized the various anti-cancer effects of baicalein on HCC and their underlying molecular mechanisms based on in vitro and in vivo experimental evidences discovered so far. Taken together, baicalein may be developed as a potential, novel anticancer drug for HCC treatment.