Aloe-emodin-induced apoptosis in human gastric carcinoma cells. Food Chem Toxicol.

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摘要

Abstract

The purpose of this study was to investigate the anticancer effect of aloe-emodin, an anthraquinone compound present in the leaves of Aloe vera, on two distinct human gastric carcinoma cell lines, AGS and NCI-N87. We demonstrate that aloe-emodin induced cell death in a dose- and time-dependent manner. Noteworthy is that the AGS cells were generally more sensitive than the NCI-N87 cells. Aloe-emodin caused the release of apoptosis-inducing factor and cytochrome c from mitochondria, followed by the activation of caspase-3, leading to nuclear shrinkage and apoptosis. In addition, exposure to aloe-emodin suppressed the casein kinase II activity in a time-dependent manner and was accompanied by a reduced phosphorylation of Bid, a downstream substrate of casein kinase II and a pro-apoptotic molecule. These preclinical studies suggest that aloe-emodin represents a suitable and novel chemotherapeutic drug candidate for the treatment of human gastric carcinoma.

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