

Abstract

# Investigation of Apoptotic Effect of Sinapic Acid in Hep3B and HepG2 Human Hepatocellular Carcinoma Cells <sup>†</sup>

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**Abstract:** Hepatocellular carcinoma is one of the most common malignancies in worldwide. Sinapic acid (SA) is a phytochemical found in various fruits and vegetables. The aim of the study was to investigate the effect of SA on apoptosis in Hep3B and HepG2 hepatocellular carcinoma cells. XTT assay was used to determine the cytotoxic effect of SA. Total RNA isolation was conducted using TRIzol Reagent. Relative mRNA expression levels of important genes in apoptosis including *CASP3*, *CASP7*, *CASP8*, *CASP9*, *BAX*, *BCL2*, *FAS* and *CYCS* were quantified using qPCR in control and dose groups. The IC<sub>50</sub> dose of SA in Hep3B and HepG2 cells were found to be 1000 µM and 1150 µM for 72 h, respectively. According to qPCR results, significant increases in the expressions of *CASP3* and *FAS* were determined as 23.37 and 27.47 folds in treated Hep3B cells. On the other hand, SA in HepG2 cells caused a significant increase in the expressions of *CASP3*, *CASP8*, *CASP9*, *BAX* and *FAS* as 1.53, 1.77, 1.21, 1.47 and 1.39 folds respectively, compared with the control group. It is considered that SA may cause apoptosis in Hep3B and HepG2 cells. Further studies with SA should be conducted to can be therapeutic agent on hepatocellular carcinoma.

**Keywords:** apoptosis; Hep3B cells; HepG2 cells; sinapic acid

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**Conflicts of Interest:** The authors declare no conflict of interest.



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