

## Abstract

Cancer affects the normal function of the cell, causes changes in its function and structure, in our research we synthesized six different compounds of isoxazole-amide derivatives to be anticancer compounds, so we used them to attack two targets in hepatocellular carcinoma, one is inhibiting the release of alpha feto protein (aFP) and the other to induce cell cycle arrest in different phases. We have therefore studied the effects and characteristics of these compounds in order to determine their effectiveness against our targets. The synthesized compounds were chemically characterized by High resolution mass spectroscopy, nuclear magnetic resonance spectroscopy, melting point, and infra-red spectroscopy, they were purified by flash chromatography with different solvent systems. Almost all compounds showed anticancer activity by the tested biological method, SAS-7 compound showed potent anticancer activity on the hepatocellular cell line Hep3B, Doxorubicin anticancer drug were used as reference to compare it with newly synthesized compounds.