

## Cytotoxic Metabolites from *Tagetes minuta* L. Growing in Saudi Arabia

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**Abstract :** Phytochemical investigation of the methanolic extract of aerial parts of *Tagetes minuta* L. (Family: Asteraceae) using different chromatographic techniques led to the isolation of five compounds; ecliptal (1), scopoletin (2), P-hydroxy benzoic acid (3), patuletin (4), and patuletin-7-O- $\beta$ -D-glucopyranoside (5) (Figure 1). Their structures were established based on physical, chemical, and spectral data [Ultraviolet (UV), Proton  $^1\text{H}$ , Carbon thirteen  $^{13}\text{C}$ , and Heteronuclear Multiple Bond Correlation (HMBC) NMR], as well as Electrospray Ionization Mass Spectroscopy (ESIMS) and comparison with literature data. Their cytotoxic activity was assessed towards human liver hepatocellular carcinoma (HepG2), human breast cancer (MCF-7), and human colon cancer (HCT116) cancer cell lines using sulphorhodamine B (SRB) assay. It is noteworthy that compound 1 demonstrated a significant cytotoxic potential towards HepG2, MCF7, and HCT116 cells with  $\text{IC}_{50}$ s ranging from 2.74 to 7.01  $\mu\text{M}$ , compared to doxorubicin ( $\text{IC}_{50}$  0.18, 0.60, and 0.20  $\mu\text{M}$ , respectively), whereas compounds 2, 4, and 5 showed moderate cytotoxic potential with  $\text{IC}_{50}$ s ranging from 11.71 to 35.64  $\mu\text{M}$ . However, 3 was inactive up to a concentration of 100  $\mu\text{M}$  towards the three tested cancer cell lines.

**Keywords :** Asteraceae, cytotoxicity, metabolites, *Tagetes minuta*

**Conference Title :** ICABPS 2022 : International Conference on Applied Biochemistry and Pharmaceutical Sciences

**Conference Location :** Rome, Italy

**Conference Dates :** January 14-15, 2022