

In Vitro Cytotoxicity Assessment of *Abutilon pannosum* Chloroform Fraction and Its Phytoconstituents Analysis

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Abstract: *Abutilon pannosum* has been traditionally used for medicinal purposes, and this study explores its potential as an anticancer agent. An ethanolic extract of *A. pannosum* was prepared and fractionated into chloroform, butanol, and water fractions. These extracts were tested for cytotoxicity against cancer cells using the MTT assay. The chloroform fraction (APCF) showed the most potent activity against MCF-7 breast cancer cells, with an IC₅₀ of 50 µg/mL. APCF induced cell cycle arrest at the G1 phase and promoted apoptosis by upregulating proapoptotic genes (Bax, caspase-7) and downregulating Bcl-2. GC-MS analysis identified palmitic acid, quinic acid, and parthenolide as major constituents, highlighting *A. pannosum*'s potential as a source of anticancer compounds.