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Design, Synthesis and Screening of Benzimidazole Containing Compounds with Methoxylated Aryl Radicals as Cytotoxic Molecules on (HCT-116) Colon Cancer Cells

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compound 11b HCT-116 IC₅₀ (μ M)= 0.16, % inhibition of TUB Polymerization=67, Topo IC₅₀ (nM) 21

Highlights

- the molecules were designed as dual antitumor and radiosensitizer agents .

- Compounds **11b** exhibited potent cytotoxic activity on HCT-116 cancer cells higher than camptothecin (CPT).

-in vitro topoisomerase assay correlated cytotoxicity of molecule **11b** to DNA synthesis inhibition.

-Compound (**11b**) could regulate the radio-sensitizing activity of the (HCT-116) cells by modulating the Chromosomal Instability of Multipolar Mitosis (MM), Mitotic Catastrophe (MC), Binucleated Cells (BN), Micronuclei (MN), Nuclear Bleb (NB), and Apoptotic Cells (AC).

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Conflict of interest:

The authors have declared no conflict of interest.

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