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Research Article

Synthesis, Characterization, in vitro anticancer and Antioxidant studies of Thiazolidin-4-ones

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ABSTRACT

Fifteen new triazolo-thiazolidinones were synthesized by the reaction between Schiff bases and thioglycolic acid using anhydrous zinc chloride as catalyst. The characterization of these compounds was done by various spectral techniques. Evaluation of anticancer activity of randomly selected ten thiazolidin-4-ones was carried out in human breast cancer (MCF-7) cells. The quantified (comet assay) increase in DNA damage suggested that all three thiazolidin-4-ones induced dose dependent fragmentation of chromosomal DNA leading to apoptosis. The thiazolidinones displayed only moderate antioxidant activity in DPPH assay.

Keywords: Thiazolidinone, anticancer activity, antioxidant activity.

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