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Design, synthesis and biological evaluation of novel thiazolidine 4-one derivatives as anticancer agents

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Thiazolidinone gives an anti-diabetic, obesity and cancer activity. Here from literature survey, performing pharmacophore and molecular modeling study suggested a new screening method for the preparation of newer molecular entities remains active again for proposed target. During molecular modeling studies, interaction of proposed molecules with protein (PDB ID: 2QBS; 1.9 Å) was Asp 48, PTyr (phosphotyrosine) active site and interaction with hydrophobic site which is catalytic/peripheral site for providing selectivity. The aim of present study was to design novel thiazolidinone heterocycles by docking Maestro (v10.4, Schrodinger, LLC, New York) which gives anticancer activity. Based on the docking results, the retrieved molecules were synthesized for anticancer agent and characterized by IR, 1H NMR and mass spectroscopic techniques. The synthesized compounds were evaluated by performing anticancer activity on MCF-7 cell line for breast cancer. After performing activity compound PL-011, PL-014, PL-015 are given most inhibitory activity.

Biography

Bhavna M Patel is the scholar of Department of Pharmaceutical Chemistry Parul University. She with her two other colleagues got scholarship approx. 1,10,000 INR because of their good academic index and their dedication towards research during their undergraduate study. Presently she is assigned work related to anticancer activity and antidiabetic activity. She is self-motivated and connecting to the world with their research ability.

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