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Docking Studies of Some 2-(Benzo[d] isoxazole-3-yl)-N-(oxothiazolidine) Derivative with COX-II and Thromboxane as Target Protein and Evaulation of its Anti Inflammatory Activty

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Abstract: A scaffold of ten thiazolidinone derivatives of 1,2-Benzisoxazole [5a-5j] were synthesized using 4-Hydroxy-2H-chromen-2-one as the starting material. The synthesis was carried out by conventional technique and the synthesized compounds were identified by physical methods and their structures characterized by spectral analysis. The identified compounds were further subjected to docking studies using two proteins, COX-2 and thromboxane which are known as mediators of inflammation. All the compounds showed good docking scores indicating that they are potent inhibitors of COX-2 and thromboxane. In line with the above result, invitro anti-inflammatory studies were carried out on the moieties by HRBC membrane stabilization method using diclofenac as standard. Significant anti-inflammatory activity was observed in compounds 5a, 5b, 5c, 5f, 5g and 5i.
Keywords: Thiazolidinone, 1, 2-Benzisoxazole, anti-inflammatory, docking, Thromboxane.

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