Design and Synthesis of Novel 2-Substituted-Benzyl-5-(2-Methylbenzofuran-3-Yl)-2H-Tetrazoles: Anti-Proliferative Activity

Sudhakar Mokenapelli[a], Madhu Gutam[a], Jayaprakash Rao Yerrabelli[a], Vamshi Krishna Irlapati[b], Neelima Gorityala[b], Someswar Rao Sagurthi[b] and Prasad Rao Chitneni[a, 1]

[a]*Natural Products Laboratory, Department of Chemistry, Osmania University, Hyderabad-500007, Telangana, India*

[b]*Department of Genetics and Biotechnology, Osmania University, Hyderabad-500007, Telangana, India*

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Abstract—A new series of 2,5-regioselective benzofuran-tetrazole hybrids (**XIIIa–XIIIp**) were synthesised from 2*H*-chromene-3-carbonitriles **(IXa)**, **(IXb)** in multi steps approach under mild reaction conditions in good yields and evaluated their anti-proliferative activity against HCT116 and Miapaca2 cell lines. Wherein compounds (**XIIIe)** (IC_{50}: 3.19 μM) and (**XIIIm)** (IC_{50}: 2.25 μM) were displayed highest anti-proliferative activity in both cell lines. Molecular docking and SAR studies revealed the *in vitro* results with target Proto-oncogene tyrosine kinase Src protein.

Keywords: benzofuran, tetrazoles, anti-proliferative activity, molecular docking, SAR studies

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[1]Corresponding author: phone: +91-9550506096; e-mail: prasadraoou@yahoo.com.

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