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Synthesis and Biological Activity of some Thiazole Compounds Containing and Azetidinones and Thiazolidinones Derivatives

Ravitas Deshmukh[1]*, Arvind Kumar Jha[1], Alok Singh Thakur[1], P. Sudhir Kumar[2]

[1]Department of Pharmaceutical Chemistry, Faculty of Pharmaceutical Sciences, Shri Shankaracharya Group of Institutions, Bhilai, Chhattisgarh, India, E-mail: ravitasd@gmail.com

[2]School of Pharmaceutical Sciences, SOA University, Bhubaneshwar, Odisha, India

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Thiazole, azetidinone and Thiazolidinones are some heterocyclic ring which posses many biological activities one of them are anti-inflammatory and analgesic activity and the drug which are available are less potent or dose required are very high. In these study attempt is made to remove both of these problems. Various 3-chloro-4 (4-substitutedphenyl) -4-methyl-1-(4-(2 (naphthalene-1-yl) hydrazinyl) thiazole-2-yl)1,3thiazolidin-4-one have been prepared by treating Napthalen-1amine with hydrazine in alkaline condition to get 1- (Naphtalen-1yl) Hydrazine, methanolic solution of these was treated with chloro acetyl chloride to get 2-Chloro-N'-(Naphthalen-1- yl)Acetohydrazide, the methanolic solution of these was refluxed with thiourea for 2-3 hrs to get 5-(2-(Naphthalen-1-yl)Hydrazinyl) Thiazolidin-2-Amine, the ethanolic solution of these was treated with substituted benzaldehyde to get (E)-N-benzylidene-5-(2-(nappthalen-1-yl) hydrazinyl) thiazolidine-2-amine. To the above product merceptoacetic acid and chloroacetyl chloride to get newly targeted compound. The structural assignments of compounds have been made on the basis of elemental analysis, IR.1H-NMR and mass spectral data. The synthesized compounds were screened for their in vitro anti- inflammatory activity against for carrageenan induced rat paw oedema. The compounds were also tested for their analgesic activity against phenyl butazone against induced pain syndrome in mice at dose of 50mg/kg.. Compounds 3 and 7 were found to be most active compounds of this series, which shows 28.5% and 29.8% inflammation inhibitory and 27.9% and 28.4% analgesic activities respectively compared to the standard drug. The compounds are prepared and tested for the spectral and biological activities some of the compounds had shown better activity the then standard drug but still further studies are requested.

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