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Design, synthesis, pharmacological and toxicity evaluation of N3-substituted oxazolidinones as anti-inflammatory agents

Richie R Bhandare, Ronak Panchal, Sana Mulla, Vijay Singhani, Yogesh Kulkarni and Shambhavi Salgaokar
Shobhaben Pratapbhai Patel School of Pharmacy and Technology Management, India

Histamine, a biogenic amine is involved in mediating numerous physiological effects through binding to its receptors. It belongs to GPCR superfamily. Currently, histamine receptors have taken attention as important targets for the treatment of several diseases and disorders. We have utilised privileged structure based approach in the design of oxazolidinone based compounds as anti-inflammatory agents. The small library represents a viable approach that could result in lead like compounds. Privileged structure based approaches have been utilized in the literature with notable success in identification of high affinity ligands for GPCRs. The scaffold oxazolidinone may be considered a privileged structure because of its occurrence in antibacterials, muscarinic ligands, etc. The objective of the present work was to investigate N3-substituted oxazolidinones as privileged scaffold in the design of anti-inflammatory agents. The study also investigated bioisosteric replacement of oxazolidinone using 1,3-benzodioxoles. The compounds were synthesized and purified using literature methods. The pharmacological activity was evaluated using standard animal models. Few compounds were chosen for their acute toxicity. The present data would be utilized for the generation of newer oxazolidinone based anti-inflammatory ligands.

Biography

Richie R Bhandare has completed his PhD from School of Pharmacy, Temple University, Philadelphia, USA in the area of Medicinal Chemistry. He is the Assistant Professor of Pharmaceutical Chemistry at Shobhaben Pratapbhai Patel School of Pharmacy and Technology Management. He has published 6 papers in reputed journals, one book chapter and one US patent. He has been serving as an Reviewer for *Medicinal Chemistry Research* and *Journal of Computer Science*.

richiebhandare@gmail.com

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