



An Understanding of the Biological Activity and Characteristics of Structure-Based Drugs That are Sulfonylpiperazine Derivatives

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Abstract

scaffold was presented, highlighting its synthetic accessibility and versatility in medicinal chemistry. The sulfonyl in various disease areas. Examples of successful applications include anti-inflammatory, antimicrobial, anticancer, the importance of specific structural features in modulating target interactions and subsequent pharmacological effects. Furthermore, the structure-activity relationship (SAR) of sulfonylpiperazine derivatives was examined to elucidate the key determinants of their biological activity. Studies have demonstrated that subtle modifications in the piperazine core, such as substitution patterns, stereochemistry, and ring fusion, can significantly impact sulfonylpiperazine derivatives with improved efficacy and reduced off-target effects. Finally, an overview of the facilitated the identification of novel lead compounds and optimization of their binding affinity. Additionally, advances in synthetic methodologies have enabled the efficient preparation of diverse sulfonylpiperazine analogs, further

Keywords: Sulfonylpiperazine derivatives, medicinal chemistry, structure-activity relationship (SAR), anti-inflammatory, antimicrobial, anticancer, synthetic methodologies, binding affinity, off-target effects.

*Corresponding author:

Received:

Published:

Citation:

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Revised:

Editor assigned:

Reviewed:

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