Manal Naser Kadum Hamem et al., Med chem 2015, 5:10
http://dx.doi.org/10.4172/2161-0444.C1.016

OMICS International
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4th International Conference on
Medicinal Chemistry & Computer Aided Drug Designing
November 02-04, 2015 Atlanta, USA

Novel azetidinone derivatives as antimicrobial agents

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The present research throws light on new azetidinone derivatives as antimicrobial agents. The azetidinone popularly known as beta-lactums are the group of heterocyclic compounds known to possess several biological activities. They are part of penicillin group of antibiotics and are widely used in case of common infections of GIT, respiratory diseases, anti-tubercular activity, anti-cancer activity, anti-hyperlipidemic activity, anti-convulsant activity. The increasing antimicrobial resistance due to mutation environmental and biological causes is matter of concern and newer derivatives are needed to overcome the decrease in efficiency of this group. A range of intermediate Schiff's bases have been synthesized by reacting substituted aldehydes with sulf drugs, which is established by using TLC characterization, IR spectrum and NMR spectrum. The prepared Schiff's base is treated with triethylamine in dry 1,4-dioxane and chloroacetylchloride resulting in formation of azetidinone. This azetidinone is used to produce various substituted derivatives of azetidinone. The final product is characterized by using TLC, IR, NMR, Mass Spectroscopy. The prepared derivatives were screened for their antimicrobial activity and found to be effective compared to standard drugs.

Biography

Manal Naser Kadum Hamem has completed her Bachelor's degree in Biological Science, Baghdad University and completed her Bachelor in Pharmacy, Rajiv Gandhi University of Health Science. Currently, she is pursuing Master of Pharmaceutical Chemistry. She has presented a project work on "Formulation and evaluation of Silymarin floating microspheres" at "Pharmaceutics & Novel Drug Delivery Systems" in 2015, Dubai, UAE.

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