World Journal of Current Medical and Pharmaceutical Research
ISSN-2582-0222

DBT Sponsered Two Days National Conference on A Paradigm Shift for Emerging Paraphernalia in Advancement of Cancer Research

28 and 29 Feb-2020

DOI: https://doi.org/10.37022/WJCMPR.2020.SC1

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ISSN-2582-0222

NOVEL METHOD FOR SYNTHESIS OF INDAZOLE DERIVATIVES AND EVALUVATION OF ITS ANTIMICROBIAL PROPERTY

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Abstract
Background:Indazole derivatives exhibit a versatile biological activity and have attained position in the field of medicinal chemistry.Objective:to synthesis indazole derivatives through a novel method and analyse the structure by IR,NMR and MASS spectra and evaluvate its biological activity like antimicrobial.Method: The substituted groups of aldehyde(chlorbenzaldehyde) and ketone(benzil) is reacted with hydrazine hydrate in presence of DMF to give a derivative and that upon the action of methyl iodide, KOH and acetone gives the indazole derivative.And the structure was evaluvated by spectral studies and its anti microbial effect through agar diffusion well method .Conclusion:indazole containing derivatives were synthesized from both aldehyde and ketone compounds through this novel method and it possess anti-microbial action(against E.coli).

Keywords: Indazole, IR, MASS, NMR, anti-microbial, novel method.

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MOLECULAR DOCKING STUDIES IN LETHAL FACTOR OF ANTHRAX TOXIN

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Abstract
Anthrax, a rare but serious infection which is caused by a spore forming bacterium bacillus anthrax, which is widely used as a biological warfare agent. Because of its high fatal rate, low cost of production, easy to weaponize as odourless invisible aerosols it is used extensively as biological warfare agent and this spore can remain viable for decades. This rod-shaped bacterium infects humans through the respiratory system, skin, or digestive tract. Upon inhalation, spores get adhered to the alveolar macrophages and germinate. Bacteria which migrated to the lymph node secrete an exotoxin comprised of protective antigen (PA), lethal factor (LF) and edema factor (EF) that constitute the anthrax toxins (AT). LF is a Zn-dependent metalloprotease that cleaves several members of the MAPKK family near the N-terminus thereby abrogating an essential signal transduction pathway of the host macrophage which ultimately cause cell death. LF is therefore considered the dominant virulence factor of anthrax. We performed molecular docking studies using x ray coordinates of lethal factor which propose several new opportunities to the drug design against anthrax.In this work we are discussing structural characteristics required for designing compounds as safe and effective antitoxin inhibitor which specifically act on lethal factor.

Keywords: - anthrax, lethal factor, biological warfare agent, molecular docking

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