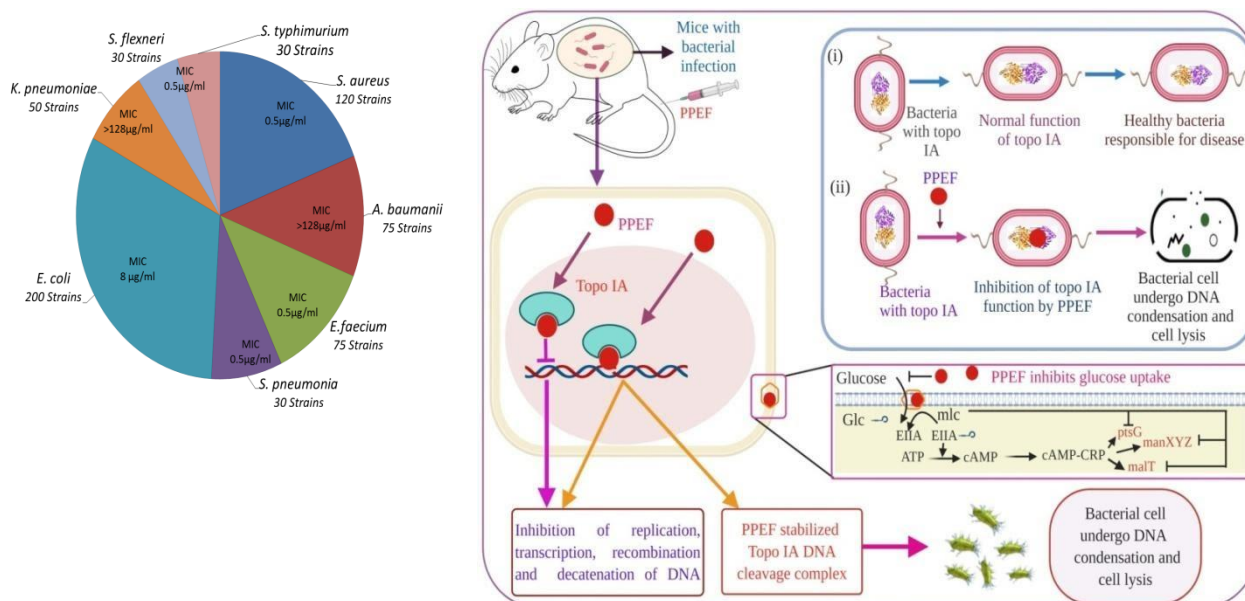


PPEF, a bis-benzimidazole derivative as an antibacterial agent

New Delhi, December 28: Bacterial topoisomerase IA is a novel drug target as topoisomerase IA poison inhibitor can act as bactericidal due to formation of cleaved DNA. To combat the problem of multi drug resistance in pathogenic bacteria new antibacterial agents need to be developed against novel targets. In this league, PPEF, a bis-benzimidazole derivative was developed as an antibacterial agent. It was found that the molecule PPEF was showing significant activity against, Enterobacteriaceae; penicillin and cephalosporin-resistant extended-spectrum β -Lactamase producing *E. coli*; vancomycin-resistant *Enterococcus faecium*, vancomycin, and methicillin-resistant *Staphylococcus aureus*; fluoroquinolone-resistant *Salmonella* and *Shigella* spp. GLP grade safety pharmacology data will be collected next to start the Phase I human clinical trial after getting DGCI approval.



Publications:

- PPEF: A bisbenzimidazole potent antimicrobial agent interacts at acidic triad of catalytic domain of *E. coli* topoisomerase IA. Singh R, Pandey S, Sur S, Tandon V. *Biochim. Biophys. acta. Gen. Subj.* 2019. 1863(10):1524-1535. (I.F- 3.6)
- Benzimidazoles: Selective Inhibitors of Topoisomerase I with Differential Modes of Action. Bansal S, Sur S, Tandon V. *Biochemistry.* 2019. 58(6):809-817. (I.F- 2.9)
- Substituent Specific Bisbenzimidazole Binding towards AT-rich Sequences; Pandey S, Sur S, Tandon V. *J. of Ind. Chemical Society.* 2019 J. Vol. 95, pp. 1607-1616.

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