

Abstract



# Damaging the respiratory path: Can it be the next generation approach to contain and combat AMR?

## Minaketan Tripathy

Centre of Molecular Pharmaceutics and Advanced therapeutics (CMPAT), Adichunchanagiri College of Pharmacy, Adichunchanagiri University(ACU), B.G. Nagar, Karnataka, India

#### Abstract:

Antimicrobial resistance(AMR) is one of the burning issues that human and animal medicine is dealing with at present. The high percentage of antibiotics those, are discharged from the human or animal body without degradation, is one of the major source of pollution causing unnecessary exposure1.Further human gut and so also the animal rumen microbiota, possibly is hosting the biggest pull of microbial diversity, with extreme complexity and concomitant competition amongst microbial fraternity. Not only the different environment that triggers the evolution and development of microbial resistance but also, the underlying processes that define the community dynamics are yet to be understood and explored. Present developments relating metagenome and other next generation sequencing provide insight regarding the microbial functioning. However, if we look back to look forward, then Understanding the rate at which microbes respire in biological and geochemical systems is central to the development of quantitative descriptions of a broad range of problems in microbiology, from the propagation of disease, attenuation, and to development of resistance2.Respiring microorganisms are similar to mitochondria, in that they employ an electron transport chain to transduce energy from their environment3.Last few years we have been focusing upon newer agents to improve treatment modalities and so also to contain the phenomena of AMR, heavily focussing upon the respiratory path of model organism E.Coli4,5. In this presentation the anti-respiratory activity of Curcumin shall be highlighted using experimental and computational tools to have an insight in to the future possibilities and probabilities regarding AMR.

#### **Biography:**

DrMinaketanTripathy obtained his doctoral degree in the field of Pharmacy during 2006. After serving as Assistant Professor and Professor in some of the academic institutions in India, Dr. Tripathy served the Faculty of Pharmacy, UniversitiTeknologi MARA (UiTM), Malaysia, from March 2008 till 09th March 2019. During his long association at UiTM, he has established a lead laboratory - Fundamental of Pharmaceutics, which attracted major research grants from various agencies from both industry and academic. He has supervised research students and published several scientific articles in journals of repute. He is involved in professional contributions as Visiting Scientist and faculty at different universities



across the globe. Dr. Tripathy promotes trans-disciplinary research and interdisciplinary linkage. From 16th March 2019, he is serving as Professor of Pharmaceutics at Adichunchanagiri University (ACU), which has multi-disciplinary faculties like natural sciences, education, engineering, nursing, pharmacy, and medicine on the same campus, and ideally suited for promoting the multi- and transdisciplinary research. He is leading the Centre of research Management & Industrial linkage (CORMIL) and Centre for Molecular Pharmaceutics and Advanced Therapeutics(CMPAT), ACU.His research interests cover Biotechnology, Bacteriology, Microbiology, Molecular Biology & Pharmaceutics, Pharmaceutical-nanotechnology with a focus on the future scenario in therapeutics due to Antimicrobial Resistance.

#### **Recent Publications:**

- 1. Comparison of Box–Behnken and central composite designs in optimization of fullerene loaded palm-based nano-emulsions for cosmeceutical application
- Hyaluronic acid-modified betamethasone encapsulated polymeric nanoparticles: fabrication, characterisation, in vitro release kinetics, and dermal targeting
- 3. Skin intervention of fullerene-integrated nanoemulsion in structural and collagen regeneration against skin aging
- 4. Role of adenosine receptors in resveratrollinduced intraocular pressure lowering in rats with steroidlinduced ocular hypertension
- 5. Biodegradable IPN hydrogel beads of pectin and grafted alginate for controlled delivery of diclofenac sodium

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