



भारतीय रासायनिक जीवविज्ञान संस्थान INDIAN INSTITUTE OF CHEMICAL BIOLOGY



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Government of India

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Arindam Talukdar MPharm PhD
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RESEARCH CONTRIBUTION & SIGNED STATEMENT FROM APPLICANT

I certify that the research work under reference has not been given any award.

I'm the Principal Investigator/project leader for the research component mentioned in the documents. In all the publications mentioned in the research document, I'm the senior corresponding author. I have an interdisciplinary background with M.Pharmacy in 'Pharmaceutical Chemistry' and PhD in 'Chemistry' from National Chemical Laboratory, Pune. My postdoctoral research was mainly in Medicinal Chemistry. I have also worked in an industry at Singapore as Team leader in 'Drug Discovery' program. PhD, project and postdoctoral students from varied background work in my laboratory at CSIR-IICB.

In my lab along with my students we perform

- Conceptual/hypothesis based design- based on the specific target
- Computational support & analysis
- Design of synthetic schemes & synthesis of small molecules
- In-vitro pharmacokinetics assays
- In-vivo pharmacokinetics study in mouse followed by analysis in ORBITRAP
- Target engagement study in ITC/SPR; preliminary assay.
- Preliminary screening assay platform
- In-vivo Xenograft assay for Topoisomerase I inhibitor.

My personal research laboratory at CSIR-Indian Institute of Chemical Biology (IICB) is divided in three components. Lab-134 is a computational lab with three high computing workstations for assisting the computational design and data analysis. I have two chemistry labs (Lab-131 and Lab-143) containing all the advanced facility for target synthesis and ligand optimization. My lab has flash chromatography, our own HPLC-Mass spectra for analysis and monitoring reaction, low temp bath, microwave reactor etc apart from central instrument facility at IICB. I also have biology lab (Lab-133) with cell culture facility, where I also perform in-vivo and in-vitro pharmacokinetic experimentations along with preliminary biological assays. During COVID-19 my lab has screened more than 1000 FDA approved drugs against various targets for CSIR project on Antiviral Mission.

Further biological validations of the hit compounds obtained from preliminary assay followed by disease model validation is done by my collaborator Dr. Dipyaman Ganguly, Principal Scientist IICB for the endosomal toll-like receptor (TLR) project.

For the topoisomerase I (Top1) inhibitor projects, the in-vitro assay & mechanism of action study was done by Dr. Benu Brata Das, Associate Prof. Indian Association of Cultivation of Sciences.

Regards

A handwritten signature in blue ink, appearing to read 'A. Talukdar' with a stylized flourish at the end.

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