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Signed Statement from the Applicant (Prof. Jayanta Halder)

I hereby certify that the research work under the title Next-generation therapeutic and biomaterial strategies to tackle drug-resistance for which this award is being claimed has not received any other award in the past. As the principal investigator and corresponding author, the work has been designed and guided by me, and has led to ten PhDs and seven MS thesis, with multiple high-impact publications and national and international patents for thirteen inventions. Nine PhD students are presently working on different aspects of this research work. I have successfully completed various projects related to the work from IUSSTF, BRICS, SERB, DBT. An SERB-funded project on antimicrobial adjuvants has been under progress. Another ongoing project on biophysical and peptide mimetics is going on funded by an Indo-French collaborative grant. We have recently concluded a project investigating antimicrobial peptide mimics for treatment of eye infections, in collaboration with L. V. Prasad Eye Institute, Hyderabad, funded by DBT. My main contribution has been in the design and development of the antimicrobial peptide mimicking drug-candidates and adjuvants, data analysis and interpretation, and consequent modification and course-correction. I have also contributed in part to the execution of diverse experiments and assays. Most of the work has been implemented by my masters and PhD students. Some experimental work related to malarial, Ebola and SARS-CoV-2 has been performed through collaborations. Some biophysical studies and omics-related experiments were performed through collaborations. Similarly, understanding various mechanistic aspects of our developed innovations have been performed through collaborations. In addition, computational investigations for many of the therapeutic candidates have been carried out in partnership for a deeper theoretical understanding of membrane-level interactions with mammalian and bacterial cell membranes. Many of the biomaterials engineered in our lab have garnered interest from various industrial players for further translation. Several national and international partnerships are currently in place to do more extensive research on these therapeutic and biomaterials translational and propagative possibilities, both experimentally and theoretically.

Sincerely,
Jayanta Halder
(Applicant)