Dr. Sandip B. Bharate

f) Signed statement from the applicant to the effect that the research work under reference has not been given any award in the past. The applicant should also indicate the extent of the contribution of others associated with the research and he/she should clearly identify his/her achievements (not to exceed 500 words)

I confirm that the research work under reference has not been given any award in the past. Two major discoveries are claimed here for the award, the discovery of IIIM-290 (CDK-9 inhibitor for pancreatic cancer) / its follow-on rohitukine-*N*-oxide based analog and SB-1448 (MTDL for Alzheimer's disease). Both these leads were discovered in my research group through medicinal chemistry efforts. The contribution of my group in these discoveries is summarized below.

Lead	Paper	Contribution of my group	Contribution of others
IIIM-290	*J. Med. Chem.* **2018**, 61, 1664-1687 And another follow-on candidate (rohitukine-N-oxide analog) recently discovered. *Eur. J. Med. Chem.* **2023**, *258, 115533.*	**Research in my Lab:** • Natural products chemistry to isolate precursor NP, rohitukine along with other new/ known NPs • Drug design for synthesis of NCEs based on rohitukine • Synthesis of NCEs, and spectral characterization. • Driving the SAR for identifying a lead compound. • Pilot scale synthesis of API (IIIM-290) – 500 gm synthesized in the lab for all Tox. studies. **Team leader for preclinical development:** Principal investigator for CSIR-funded Fast-track translational grant for preclinical development of the lead: Under this project, in-vivo efficacy and all GLP regulatory Tox was outsourced from CROs. IND dossier compiled, Phase I protocol prepared and IND filed.	*In-vitro* cytotoxicity studies – in house co-PI. PK study from CRO *In-vivo* efficacy from CRO GLP Tox. studies from CRO
SB-1448	*ACS Chem Neurosci.* **2023**, *14, 6, 1193–1219.*	• Natural products chemistry to isolate precursor NP, embelin • Drug design for synthesis of NCEs based on embelin • Synthesis of NCEs, and characterization. • In-vitro biochemical assays – cholinesterase inhibition, beta-secretase inhibition, antioxidant assays, PAMPA-BBB assay, amyloid-beta aggregation assay • Driving the SAR for identifying a lead compound. • Gram scale synthesis of lead SB-1448 – 10 gm synthesized in the lab for efficacy and ADME studies.	Pharmacokinetic & ADME studies – in house collaborator In-vivo efficacy study for anti-dementia– in house collaborator

(Dr. Sandip B. Bharate)
Applicant