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Dated August 9, 2024

RE: Sun Pharma Science Foundation Award Nomination

I write this letter to enthusiastically recommend Dr. Amit Singh for the Sun Pharma Research Fellowships- 2024. I am an Honorary Professor at IISc and a Ranbaxy Science Foundation award recipient. Recognizing his potential to contribute to science in a transformative fashion, Amit was recruited to the MCB department at IISc during my Chair-ship of the department. The decision to hire Amit has been vindicated as I now find him to be one of the most talented and incredibly gifted scientists in India. Amit is addressing challenging questions to understand *Mycobacterium tuberculosis (Mtb)* survival in host, and to discover TB drugs. His investigations on how redox metabolism of intracellular *Mtb* controls susceptibility to antibiotics, demanded him to develop innovative technologies to image dynamic changes in the redox physiology of *Mtb* in immune cells. He developed a non-invasive genetic biosensor (Mrx1-roGFP2), and used it to successfully dissect the bacterial and host immune mechanisms that control the redox metabolism and responses to antibiotics. This technological innovation resulted in several high impact publications including those in the top tier journals such as ***Science Advances***, ***PLoS Pathogens,*** and ***eLIFE***. His studies have led to the discovery of the use of chloroquine, an antimalarial drug, in potentiating efficacy of anti-tuberculosis drugs, in targeting even the drug resistant *Mtb*. The study published in ***Science Translational Medicine*** is indeed a tour de force combining extensive biochemistry, cell biology, animal experimentation, and microscopy/FACS analyses. The work has been appreciated by international scientific community for its basic research on *Mtb* biology and translational potential for urgently needed new combination therapy in TB treatment.

It is also noteworthy that Amit has successfully spearheaded multiple projects on the basic biology of tuberculosis and HIV-TB co-infection. He discovered complex interactions between HIV, *Mtb*, and immune cells that deregulate immune-metabolism essential for controlling the disease severity (***J Biol Chem***, ***mBio, eLife, and EMBO MOL MED)***. Amit is also highly successful in acquiring research funds from national and international agencies such as Wellcome Trust-DBT India Alliance, NIH (USA), BBSRC-UK, MRC-UK. Additionally, he directed setting up and managing national-level biosafety level 3 facilities and COVID 19 testing laboratory at IISc.

I have witnessed Amit's continued upward trajectory from his Ph.D./post-doctoral period to his outstanding journey at IISc. I am delighted to nominate Amit for the coveted Sun Pharma Science Foundation award. Amit's track record of "making science happen" is sure to continue and this award will go a long way in motivating him further in achieving his research aspirations. I am most pleased to make my strongest recommendation for Amit's nomination for the award.

Yours sincerely,

(Umesh Varshney)