

**Prof. S. Murty Srinivasula**

School of Biology

September 29, 2021

To

Sun Pharma Science Foundation

OFFICE OF SUN PHARMA SCIENCE FOUNDATION

8C, 8th Floor, Hansalaya Building, 15-Barakhamba Road,

Connaught Place, New Delhi

Sub: Nomination of Mr. Rahul Sharma for Science Scholar Award

Dear Members of the Selection Committee,

I am delighted to nominate Mr. Rahul Sharma for the Sun Pharma Science Foundation Science Scholar Award.

After working at United States of America, (first as a postdoc and then as faculty at National Institute of Health, Bethesda, MD), for 18 years I moved as a Professor in School of Biology at Indian Institute of Science Education and Research Thiruvananthapuram in India. My research was published in 90 papers, most of them in high impact journals like Nature, Cell, Molecular Cell, Nature Cell Biology, Nature Structure Biology, EMBO J., Current Biology, Proc. Nat. Acad. Sciences (USA), Journal of Biological Chemistry, etc. For nearly 30 years, I directly interacted with scores of graduate students and postdoctoral fellows in India and abroad and my comparison of the applicant is with these groups. Mr. Rahul Sharma is an exceptional young scientist, and I feel deserves to be recognized with Science Scholar Award.

As a Ph.D. student in my group, Rahul picked up a very challenging research problem in emerging area organelle biology with implications for both homeostatic and pathological biology. Rahul's findings unravelled hitherto unknown ubiquitin ligases, enzymes involved modification of proteins with a peptide known as ubiquitin, a posttranslational modification widely referred as ubiquitination. Ubiquitination in general is reported to regulate diverse physiological processes, defects in which lead to development of pathological conditions in many cases. Rahul identified a molecule known as CARP2, is necessary to maintain the architecture of the Golgi body, an organelle involved in different cellular functions including sorting of biomolecules and vesicles. Alteration in Golgi structure is reported in development of many diseases including Alzheimer's disease, Huntington's disease and cancer.

The importance of Rahul's finding lies in the fact that he not only identified a novel regulator of Golgi structure, he also deciphered experimentally a mechanism how it happens. He found that expression of CARP2 results in the dispersal of the Golgi. Golgi dynamics is critical for cell division, cell migration etc. Rahul demonstrated for the first time that CARP2 targets one of the structural proteins of the Golgi, Golgin-45 for ubiquitination and further degradation. Interestingly, Rahul found that CARP2 protein levels increase under conditions, which favour cancer cell migration, a finding with profound implications for novel target for the therapy of metastatic cancer. His findings also add value to our knowledge of neurological diseases. Part of his findings are under review for publication in peer reviewed high impact journal.

Rahul is a talented and ambitious young scientist. He is sincere, hardworking, and diligent in planning and execution of experiments. Rahul is intelligent and grasps complex research problems easily. I feel Rahul has necessary intellect, knowledge, training, temperament, writing skills, maturity and patience to be a successful independent researcher in near future. Without any hesitation I strongly recommend Mr. Rahul Sharma for the selection of the Sun Pharma Science Foundation Science Scholar Award, as I feel his contributions to cutting edge research and findings in the field of organelle dynamics earns him for the award.

If you need any information regarding this matter, please do not hesitate to contact me.

Sincerely,



Srinivasa M. Srinivasula, PhD.  
Professor  
School of Biology