BRIC
a DBT Organization

बीआरआईसी–ट्रांसलेशनल स्वास्थ्य विज्ञान एवं प्रौद्योगिकी संस्थान
BRIC-Translational Health Science and Technology Institute
Biotechnology Research and Innovation Council
Dept. of Biotechnology, Ministry of Science & Technology, Govt. of India

thsti

Prof. G. Karthikeyan,
Executive Director

To,

Date: 23rd August, 2024

Dr. Rajinder K. Jalali
Member Secretary
Sun Pharma Science Foundation.

Sub.: Nomination of Dr. Amit Awasthi for the Sun Pharma Science Foundation Research Awards

Dear Dr. Jalali,

I am delighted to write this letter to support Professor Amit Awasthi's application for the prestigious Sun Pharma Foundation Research Awards for the year 2023.

Dr. Amit Awasthi, currently heading Immunobiology/Immunology Core laboratory, is a Senior Professor at THSTI, Faridabad. He is an internationally renowned immunologist with significant research contribution in the field of T cell biology in inflammatory and infectious diseases. He has published > 100 publications with several seminal papers, in the field of Immunology, in prestigious international journals such as Nature, Nature Immunology, Nature Communications, Science Advances, and Lancet Infectious Diseases with an h-index of 39 and >14000 citations. He has been conferred with many prestigious awards including '**Innovative Young Biotechnologist Award' and 'GN Ramachandran National Bioscience Award'** presented by Department of Biotechnology, '**CDRI Award'** for excellence in **Drug Discovery** research presented by CSIR-Central Drug Research Institute, '**GP Talwar Mid Career Award'** by Indian Immunology Society, and '**Young scientist platinum jubilee award'** by National Academy of Sciences of India. He has served the Secretary-General of the 'Indian Immunology Society from 2018-2022. Amit is a founding member immune-oncology Society of India, and an Executive Council Member of Federation of Immunological Societies of Asia-Oceania (**FIMSA**) from 2018.

Amit is working in THSTI since 2012 in the field of T cell biology in inflammatory diseases including inflammatory bowel disease (IBD) to understand the molecular pathways that are critical in regulating inflammatory and regulatory T cells. He had secured prestigious India-Alliance intermediate fellowship and contributed in understanding the biology of IL-9-producing helper T cells subsets (Th9) in tissue inflammation of autoimmune diseases, allergic inflammation and extracellular infections. His seminal work in discovering and identifications of transcriptional landscape of Th9 cells was recognized globally. In fact, he is among very few researchers who is working on Th9 cells and its transcriptional regulation in various inflammatory conditions. Amit has published his research work on Th9 cells in high impact journals (**Nature Communications 2017; Nature Communication 2021, Frontiers in Immunology 2019; Nature Communications 2023**).

He delineated the molecular pathways that are required for generations and functions of Th9 cells using a variety of techniques like transcriptomics, proteomics, metabolomics. He has unravelled the role of transcription factors, Foxo1 and HIF-1 alpha, in generation and function of Th9 cells. In addition, his group works on to understand the role of micronutrient and T cells in tissue inflammation in autoimmune diseases and cancer (**Science Advances 2021**). He identified the transcriptional signature of pathogenic Th17 cells (**Nature Immunology 2012, Nature 2013**). RoRgt is the master transcription factor for the generation and functions of Th17 cells. His group working onto identify small molecules inhibitors which can block the functions of RoRgt to suppress the generation of Th17 cells in autoimmune disease conditions (**Drug Discovery Today 2022**).

Amit has significantly contributed to the Covid19 pandemic by establishing 'cellular assays' (**Lancet Infectious Diseases 2022; Vaccines 2022, Plos Pathogens 2022, Journal of Medical Virology 2024**) 'animal models' platforms to study the pathogenesis of Sars-Cov-2 infection, and to support academic and industry partners to test their vaccine candidates and antiviral drugs. Using the human immunology platform, work from Amit's laboratory suggested a universal T cell assay that could be utilized determine the cellular immune response in SARS-CoV-2 infected/vaccinated individuals. In fact these critical findings could be implied to other viral infection/vaccination (**NPJ Vaccine 2023**).

Amit's work, on preclinical models, shown, for the first time, that Sars-Cov-2 infection leads to the extrapulmonary pathologies including cardiovascular dysfunction using hamster model (**eLife 2022; Communications Biology 2023, European Journal of Immunology 2024**). His laboratory tested preclinical efficacy of Covid19 vaccine candidates including **ZycovD**, first DNA vaccine, and **Corbevax**, a subunit vaccine (**Vaccine 2022; Hum. Vaccin Immunother. 2023**). His laboratory provided cellular immune response data for clinical trials of **Sputnik V** and **Corbevax.** These vaccines, subsequently, given emergency use authorisation by DCGI.

Amit is in editorial board of Frontiers in Immunology, Immunology etc. He is also ad hoc reviewer for several immunology journals. Currently, he is the Secretary-General of the 'Indian Immunology Society, a founding member immune-oncology Society of India, and an Executive Council Member of Federation of Immunological Societies of Asia-Oceania (FIMSA). Amit has received THSTI foundation awards for the 'overall contribution to the institutional development' and 'the most impactful research contribution' in 2020-2021.

I strongly support his application for this prestigious award.

Best Regards,

Prof. G. Karthikeyan

प्रो. जी. कार्तिकेयन / Prof. G. Karthikeyan
कार्यकारी निदेशक / Executive Director
बीआरआईसी–ट्रांसलेशनल स्वास्थ्य विज्ञान एवं प्रौद्योगिकी संस्थान
जैव प्रौद्योगिकी अनुसंधान और नवाचार परिषद, डीबीटी, भारत सरकार
एनसीआर बायोटेक विज्ञान क्लस्टर, फरीदाबाद–121001 हरियाणा
BRIC-Translational Health Science and Technology Institute
Biotechnology Research and Innovation Council, DBT, Govt. of India
NCR Biotech Science Cluster, Faridabad - 121 001, Haryana