U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30329-4027

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Sun Pharma Science Foundation Research Awards 2021
Sun Pharma Science Foundation
Mumbai, India

Dear Award Committee,

Dr. Teena Mohan has offered her candidature for the prestigious "Sun Pharma Science Foundation Research Awards 2021" in the category of the Medical Sciences— Basic Research. I believe that her strong academic and technical expertise and education make her highly suitable for this valuable recognition.

Dr. Mohan has worked in biomedical sciences, primarily focusing on various infectious diseases to understand the fundamental principles regulating host's immune functions. Since last 6 years, she has worked on various challenging projects based on influenza vaccines, antivirals, pathogenesis, surveillance, and diagnostics.

Dr. Mohan received her Ph.D. degree from one of the premiere research institutes of India, the All India Institute of Medical Sciences (AIIMS), New Delhi under the supervision of Prof. D. N. Rao, Department of Biochemistry. During her doctorate, her primary research goals were to investigate the design and activity of defensin peptide analogues as mucosal adjuvants for the development of HIV-1 vaccines. She demonstrated that synthetic defensin peptides were effective in inducing strong and long-lasting humoral (IgG/IgA/sIgA) and cellular (CD4+/CD8+ T-cells) immune responses at different mucosal sites, when administered through the intranasal route with HIV-1 peptide antigens using PLG-nanospheres as a delivery vehicle. In addition, she also worked on evaluation of adjuvants and delivery systems for vaccines against other infectious diseases including dengue, plague, chikungunya, malaria, and cervical cancer.

After receiving her doctorate, she moved to a start-up company, Metaclipse Therapeutics Corporation, in Atlanta where she was actively involved in the organization of the company. She developed assays to test the functional activity of purified GPI-anchored IL-12 and B7-1 as adjuvants for breast cancer vaccines.

Later, Teena joined Dr. Richard W. Compans, one of the prominent personalities of the influenza world, in the department of Microbiology & Immunology, Emory University School of Medicine as a Postdoctoral Research Associate. Dr. Mohan worked on several projects with Dr. Baozhong Wang including a novel HIV vaccine strategy using a sequential immunization approach with a panel of HIV VLPs, and evaluation of the adjuvant effect of a membrane-anchored chemokine GPI-CCL28. She was first author of a publication demonstrating cross-protective immunity against influenza viruses using co-delivery of the GPI-anchored CCL28 and influenza HA in the form of chimeric virus-like particles (VLPs). She demonstrated the efficacy of these VLPs in boosting strong protective immune responses following intranasal immunization of mice. The VLPs containing GPI-CCL28 showed in-vitro chemotactic activity towards spleen and lung cells expressing CCR3/CCR10 chemokine receptors, and induced antigen-specific antibody titers and avidity indices of IgG in sera

and IgA in tracheal, lung, and intestinal secretions that were significantly higher than other vaccine formulations. Significantly higher hemagglutination inhibition and serum neutralization titers against heterologous influenza viruses were also induced by immunization with CCL28-containing VLPs compared to other vaccinated groups. This study provides a promising new approach for providing significant breadth of immunity as a candidate universal influenza vaccine. Teena continued her studies of CCL28 as an adjuvant on self-assembled nanoparticles as candidate universal influenza vaccines.

Dr. Mohan is claiming for this prestigious award— Sun Pharma Research Award— for her CCL28 based research work which was published in highly recognized scientific journals i.e. Journal of Controlled Release in 2016 and Scientific Reports in 2017.

In 2016, Teena moved to an appointment as Assistant Professor at Institute of Biomedical Sciences (IBMS), Georgia State University, where she has continued her research work as well got opportunity to teach the undergraduate/graduate students under the Institute's BS/MS program in Biomedical Sciences. She worked on various research to develop a universal influenza vaccine based on confirmation-stabilized tetrameric M2e nanoparticles, double-layered nanoparticles with HA stalk domains, and sequential immunization with various influenza HA. She also participated in other influenza vaccine projects, including research into the use of two-layered nanoclusters, protein nanoparticles containing fusion proteins of flagellin with conserved influenza epitopes, and microneedle patch delivery of 4M2e-tFliC fusion protein.

Teena's research abilities are well reflected by her excellent record of publications. She is senior author or coauthor on multiple additional publications during her scientific career. She has also been involved in writing several review articles and book chapters. Her research/review article citation has around 900 with high h-index.

In 2019, Teena joined National Center for Immunization and Respiratory Diseases (NCIRD), Control and Prevention (CDC), Atlanta. She worked on the influenza virus surveillance and assessment of influenza virus susceptibility to FDA-approved and investigational antiviral agents. Her team monitors influenza drug resistance among community isolates/specimens, offers antiviral testing for clinical care use in the US, and provides training and technical expertise to partners in global influenza virus surveillance. As a member of the Molecular Epidemiology Team within the Virology, Surveillance, and Diagnosis Branch of the CDC Influenza Division, her interests include the molecular mechanisms of influenza virus resistance to antiviral medications and the effect of resistance mutations on viral fitness and evolution.

At present, Dr. Mohan is appointed as Scientist V in the National Center for Emerging and Zoonotic Infectious Diseases (NCEZID) of the CDC, Atlanta. In the Laboratory Preparedness and Response Branch (LPRB) at CDC, Teena is working as LPRB-BAA Program Manager. Under the Broad Agency Announcement (BAA) program, CDC is interested in the development and evaluation of innovative laboratory methods, tools, and strategies for deployment to the Laboratory Response Network for detection and characterization of existing and novel pathogens that are associated with a biothreat event or could cause a novel emerging infectious disease outbreak and/or public health emergency. On behalf of the CDC LPRB-BAA program, she interacts/ communicates with the multiple external research project partners and collaborators. As Scientist V, she is also the in-

charge to provide functional expertise in project coordination and expertise in laboratory data (microbiology, molecular biology, and DNA/RNA sequencing).

Teena has presented her work at numerous national and international conferences and has received an amazing number of awards and scholarships in recognition of her work. At GSU, she has a strong record of mentoring undergraduate/graduate students. She has been actively involved in evaluating manuscripts as a member of several editorial boards and reviewer for multiple scientific journals.

In summary, Teena exhibits a high level of commitment, and the right blend of research aptitude, intellectual ability, and determination. Based on her ability, accomplishments, and motivation, I highly recommend Teena as a strong candidate for the most encouraging "Sun Pharma Science Foundation Research Awards 2021" in the category of the Medical Sciences— Basic Research

If I can be of any further assistance or provide you with any additional information regarding Teena, please do not hesitate to contact me.

With Best Regards,

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