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(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्)
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CSIR - Central Drug Research Institute
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August, 28, 2023

To,
The Sun Pharma Science Foundation
Connaught Place
New Delhi, 110001(India)

Subject: Justification letter for the nomination for Sun Pharma Science Foundation- Science Scholar Award

Dear Sir/Madam,

It's my great pleasure to recommend the application of "Ms. Apurwa Singhal" for the prestigious Sun Pharma Science Foundation Science Scholar Award. Apurwa joined my lab as a Project assistant in 2018 and worked on a project focusing on redox regulation of immune cells, neutrophils in insulin resistance and type 2 diabetes for one year. After that, she qualified for a DBT- Junior Research fellowship and continued as a research scholar in my laboratory at CSIR-CDRI, Lucknow. She is working in the area of neutrophil biology and immunopharmacology. Neutrophils are the first cells to respond against pathogens and execute invader killing via reactive oxidants and protease mechanisms that can cause tissue damage upon hyper-activation.

Her Ph.D. work focuses on the exploration of the regulation of diverse neutrophil cell deaths and remnants that can lead to differential immunotolerance and immunogenic outcomes. She is thorough in her knowledge in the field of neutrophil biology, well trained in scientific experimental designing and analyses of the same. Because of this, she is instrumental in various projects in the lab investigating neutrophil migration, survival- death and clearance mechanisms (*Singhal et al.*, Immunology, 2022). She also developed a High Content Screening based imaging and computational algorithm for the identification and quantification "Neutrophil extracellular traps (NETs) (*Singhal et al.*, Cells, 2022) that is helping in the screening of potential modulators/inhibitors for therapeutic targeting of multiple disease pathologies.

Here, she is proposing her published article in a highly reputed peer-reviewed journal, BBA Molecular Cell Research *Singhal et al.*, 2021, for this prestigious award. This study deciphered the role of Rho GTPase in regulating neutrophil recruitment during lung injury. Rho signaling inhibitor Y-27632 protected for enhanced neutrophil infiltration and protease release, causing acute lung injury. Further data set demonstrated Rho-L-selectin-AKT signaling axis, and functional blocking of L-selectin (CD62L) mitigated the recruitment of neutrophils into the inflamed lungs (*Singhal et al.*, BBA-MCR, 2021). She is a highly motivated young researcher with keen observation, hardworking nature, dedication, and enthusiasm towards science. She is a team player and has good communication skills as well. Altogether, I recommend her as a potential candidate for Sun Pharma Science Foundation Science Scholar Award.

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