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**Fields of Interest**

I have been fascinated by helicases and their role in various diseases for a long time. I recently published a report (*Singh RS et al., Cell Report, 2022 IF:9.95*) on the dual functionality (unwinding and annealing) of DEAD-box helicase (DDX41) in innate immunity, as well as how a mutation in DDX41 (R525H) causes MDS/AML illness. My current work focuses on using advanced techniques like CRISPR-Cas9, proximity and self-labelling, mass spectrometry, and high-throughput microscopy to gain a better understanding of the direct role of helicases in kidney disease, exosome biogenesis, and miRNA packaging in exosomes and use it as a non-invasive biomarker in clinical use.

**Professional History and Achievements**

After completing PhD, from Molecular Medicine & Biotechnology, SGPGIMS, Lucknow, I received 7.5 years of postdoctoral training from the University of Saskatchewan, Canada, and the University of Utah, USA. Throughout his research career, he has worked extensively on kidney diseases, the biochemical properties of helicases, and the molecular and cellular mechanisms of inflammatory diseases. He is also an author or co-author of multiple peer-reviewed publications.

I was honored with the best global research award on innate autoimmunity and cancer from Dialogue India on August 6, 2022, by General (Dr.) V. K Singh (Retd.), Union Minister for Civil Aviation, Govt. of India. Additionally, he received a travel grant to attend the Keystone Symposium, Taipei, Taiwan-2019 from the College of Medicine, the U of S, the Best Poster Award from PSFaM-2019, the Publication Fund Award, and more. His significant contributions to the scientific field of kidney diseases and innate immunity have been widely acknowledged and featured in national and international media.

**Educational History****Ph.D. (2011-2016):****To study the Statin Modulation of Histone deacetylases in Diabetic Nephropathy.**

Department of Molecular Medicine &amp; Biotechnology, Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGIMS), Lucknow- 226014, India

**Supervisor:****Prof. Swasti Tiwari****M. Sc. (2006 – 2008):****Industrial Biotechnology**

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