1 BIOGRAPHICAL SKETCH

Name: Isha Pahuja
Designation: Senior Research Fellow, Immunobiology Group
Department/Institute/University: ICGEB, New Delhi, India
Date of Birth: 15-Feb-1994 **Sex**: Female
Email: ishapahuja7@gmail.com

Education:

YEAR	BOARD/UNIVERSITY	CLASS	AGGREGATE PERCENTAGE
2019-Present	ICGEB, New Delhi, India	PhD Immunology	NA
2016	Maharshi Dayanand University, India	M.Sc Medical Biotechnology	70.28%
2014	University of Delhi, India	B.Sc Life Sciences	68.22%

Position and Employment:

SI No	Institution Place	Position	From (Date)	To (Date)
1	ICGEB, New Delhi, India	Senior Research Fellow	10/2022	Present
2	ICGEB, New Delhi, India	Junior Research Fellow	02/2020	09/2022
3	ICGEB, New Delhi, India	Junior Research Fellow	04/2018	02/2020
4	Biotech Consortium India Limited	Project Trainee	10/2016	04/2017

Honors/Awards:

- Received Travel Grant to attend and present abstract in 18th IUIS conference 2023.
- Member of the British Infection Association
- Participated as Organizing member in the International ICGEB-DBT Workshop on Advanced Training in Immunology of Tuberculosis in 2022.
- Qualified ARS NET 2018 in Animal Biotechnology.
- Attended National Workshop on Real-Time PCR: Introduction and Applications in 2015.
- Won second prize in declamation on International Day for the Preservation of Ozone Layer in 2014.
- Selected for the finale in Manthan National Competition in 2013.

Publications:

1. Dhiraj Kumar Singh, Ashima Bhaskar, **Isha Pahuja**, Aishwarya Shaji, Barnani Moitra, Yufang Shi, Ved Prakash Dwivedi, Gobardhan Das. Co-treatment with Clofazimine and

Rapamycin eliminates drug-resistant tuberculosis by inducing polyfunctional central memory T cell responses. **J Infect Dis. 2023 Jun 810.1093/infdis/jiad214.**

2. **Isha Pahuja***, Akanksha Verma*, Antara Ghoshal*, Suparba Mukhopadhyay, Anjna Kumari, Aishwarya Shaji, Shivam Chaturvedi, Ved Prakash Dwivedi, Ashima Bhaskar. Biapenem, a Carbapenem Antibiotic, Elicits Mycobacteria Specific Immune Responses and Reduces the Recurrence of Tuberculosis. **Microbiol Spectr. 2023 Jun 5:e0085823.**
3. Ashima Bhaskar, **Isha Pahuja**, Kriti Negi, Akanksha Verma, Antara Ghoshal, Babu Mathew, Gaurav Tripathi, Jaswinder Singh Maras, Shivam Chaturvedi and Ved Prakash Dwivedi. SIRT2 inhibition by AGK2 enhances mycobacteria- specific stem cell memory responses by modulating beta-catenin and glycolysis. **iScience. 2023 Apr 10;26(5):106644.**
4. Annu Devi*, **Isha Pahuja***, Shashi Prakash Singh, Akanksha Verma, Debapriya Bhattacharya, Ashima Bhaskar, Ved Prakash Dwivedi, Gobardhan Das. Revisiting the role of mesenchymal stem cells in tuberculosis and other infectious diseases**. Cell Mol Immunol. 2023 May 12:1-13.10.1038/s41423-023-01028-7.**
5. Anjna Kumari*, **Isha Pahuja***, Kriti Negi*, Antara Ghoshal, Suparba Mukhopadhyay, Meetu Agarwal, Babu Mathew, Jaswinder Singh Maras, Shivam Chaturvedi, Ashima Bhaskar and Ved Prakash Dwivedi (2023). Withaferin A protects against primary and recurrent tuberculosis by modulating mycobacteria-specific host immune responses. **Microbiol Spectr. 2023 Mar 14;11(2):e0058323.**
6. **Isha Pahuja***, Kriti Negi*, Anjna Kumari, Meetu Agarwal, Suparba Mukhopadhyay, Babu Mathew, Jaswinder Singh Maras, Shivam Chaturvedi, Ashima Bhaskar and Ved Prakash Dwivedi (2023) Berberine governs NOTCH3/AKT signaling to enrich lung-resident memory T cells during tuberculosis. **PLoS Pathog. 2023 Mar 7;19(3):e1011165.**
7. Kriti Negi, Meetu Agarwal, **Isha Pahuja**, Bhavya Bhardwaj, Mansi Rawat, Ashima Bhaskar and Ved Prakash Dwivedi. Combating the challenges of COVID-19 pandemic: Insights into molecular mechanisms, immune responses and therapeutics against SARS-CoV-2. **Oxf Open Immunol. 2023 Jan 10;4(1):iqad001.**
8. Mona Singh, Santosh Kumar, Baldeep Singh, Preeti Jain, Anjna Kumari, **Isha Pahuja**, Shivam Chaturvedi, Ved Prakash Dwivedi and Gobardhan Das. The 1, 2-ethylenediamine SQ109 provides host protection against tuberculosis by promoting M1 macrophage polarization through the p38 MAPK pathway. **Commun Biol. 2022 Jul 28;5(1):759.**
9. Samreen Fatima, Anjna Kumari, Meetu Agarwal, **Isha Pahuja**, Ved Prakash Dwivedi and Ashima Bhaskar. Epigenetic code during mycobacterial infections: Therapeutic implications in TB. **FEBS J. 2021 Aug 28. 10.1111/febs.16170.**
10. Manish Chauhan, Suman Sourabh, Rahena Yasmin, **Isha Pahuja**, and Renu Tuteja. Biochemical characterization of Plasmodium falciparum parasite-specific helicase 1 (PfPSH1). **FEBS Open Bio. 2019 Nov;9(11):1909-1927.**

Projects Undertaken:

1. Understanding the host protective immunity against tuberculosis at ICGEB, New Delhi, under the supervision of Dr. Ved Prakash Dwivedi.
2. Understanding the epigenetic regulation of T cell responses during Tuberculosis at ICGEB, New Delhi, under the supervision of Dr. Ashima Bhaskar.

3. Identification and characterization of glycyl – tRNA synthetase in Leishmania donovani at the Department of Biotechnology, the Central University of Rajasthan under the supervision of Dr. Tarun Kumar Bhatt
4. Deciphering the Nucleotide Excision Repair complex of Plasmodium falciparum at ICGEB, New Delhi, India under the supervision of Dr. Renu Tuteja

Techniques Trained in:

- BSL-3 working experience
- Handling and maintaining *M.tb* culture
- Animal handling
- Flow cytometry
- Agarose and SDS gel electrophoresis
- Animal cell culture and bacterial cell culture
- RNA isolation, cDNA synthesis, and Real-time PCR
- Protein isolation and western blotting
- CFU enumeration
- PCR
- Affinity chromatography
- Bioinformatics tools: Sequence Alignment, Swiss Modelling, BLAST, PROSITE, I-TASSER, PHYRE-2.

References:

1. Dr.Ved Prakash Dwivedi,
   Group Leader
   Immunobiology Group,
   ICGEB, New Delhi
   Email: ved@icgeb.res.in
2. Dr. Ashima Bhaskar
   Immunobiology Group,
   ICGEB, New Delhi
   Email: ashimabhaskar23@gmail.com
3. Dr. Tarun Kumar Bhatt
   Central University of Rajasthan,
   Bandar Seendri, Rajasthan
   Email: tarun@curaj.ac.in
4. Dr. Renu Tuteja
   Parasite Biology Group.
   ICGEB, New Delhi,
   Email: renu@icgeb.res.in

Place: New Delhi Isha Pahuja

Date: 29-08-2023