

Utpreksha Vaish, PhD

Postdoctoral Associate

Sylvester Comprehensive Cancer Center

University of Miami-Miller School of Medicine

Miami, Florida, USA

Phone +1 (786) 806-3198 & +91-9873260266

Email ID: uxv15@med.miami.edu & vaish.utpreksha@gmail.com



PROFESSIONAL EXPERIENCE

- ❖ Currently employed as **Postdoctoral Associate** (24th April 2019- Present) at Department of Surgery, Sylvester Comprehensive Cancer Center, University of Miami-Miller School of Medicine, Miami, FL, USA and working on immune-oncological and translational aspect of PDAC (Pancreatic Ductal adenocarcinoma).
- ❖ Worked as **Bioassay Analyst** (29th September 2017- 18th April 2019) at Therapeutic Monoclonal Antibody Laboratory, National Institute of Biologicals, Ministry of Health and Family Welfare, India.

EDUCATIONAL QUALIFICATION

- ❖ *PhD* dissertation entitled “**Investigation of molecular mechanisms involved in Vitiligo aetiopathogenesis**” was successfully pursued and defended (January 2019) under supervision of Dr. Rajni Rani at National Institute of Immunology (NII), New Delhi, India.
- ❖ Completed *M.Sc.* in Biomedical Sciences from Dr. B. R. Ambedkar Center for Biomedical Research (ACBR), North Campus, University of Delhi, Delhi, India in 2012 with specialization in Advanced Medicinal Chemistry and Drug discovery & mechanism.
- ❖ Completed *B.Sc.* in Life science from M.M.H. College, Ch. Charan Singh University India.

ACADEMICS ACHEIVEMENTS

- ❖ Qualified Integrated *M.Sc.-PhD* entrance, 2010 conducted by Dr. B. R. Ambedkar Center for Biomedical Research (ACBR), University of Delhi.
- ❖ Qualified *PhD* Entrance Examination, 2012 conducted by National Institute of Immunology (NII) and awarded PhD fellowship for same.
- ❖ Qualified *CSIR-LS* eligibility, 2012 conducted by CSIR-UGC.
- ❖ Qualified *GATE* (life science), 2015 conducted by NCB-GATE

RESEARCH EXPERIENCE

- ❖ **M.Sc. Dissertation:** “To explicate the biochemical efficacy of Novel Cox-2 inhibitor” in context of Pancreatic Cancer, under guidance of Dr. Madhu Chopra, Dr. B. R. Ambedkar Center for Biomedical Research, University of Delhi, Delhi, India
- ❖ **Ph.D. Research Project:** “Investigation of molecular mechanisms involved in Vitiligo aetiopathogenesis” under guidance of Dr. Rajni Rani, National Institute of Immunology, Department of Biotechnology, Delhi, India
- ❖ **Other Projects during PhD: -**
 - Th1 and Th2 expression pattern and HLA predisposition in patients with Sporadic Idiopathic Hypoparathyroidism” in collaboration with Dr. Ravinder Goswami, Department of Endocrinology, All India Institute of Medical Sciences (AIIMS) Delhi, India.
 - Development of “System-based Computational Model of Skin (ScoMoS)”; a CSIR funded project which culminated in launch of eSkIN software (Persistent Systems) in collaboration with Dr. Rajesh Gokhale CSIR-IGIB, Delhi, India.
- ❖ **Post PhD Research Experience: -**
 - Method validation of *in vitro* bioassay for Anti-TNF α therapeutic monoclonal antibody, Adalimumab biosimilars and Etanercept (fusion protein) biosimilars for process of batch release at National Institute of Biologicals, Noida, India.

RESEARCH SKILLS

Tissue Culture expertise:

- Establishment of primary cell culture from human explants (Culturing Primary Melanocytes and Keratinocytes from Human skin samples).
- PBMCs (Peripheral blood mononuclear cells), Pancreatic stellate cells, Splenocytes, T cells and Dendritic cell Isolation and their culture.
- Maintenance of human, murine and insect Cell lines (NIH3T3, SHSY5Y, HeLa, HEK, HaCat, Mia-PaCa-2, Panc-1, BxPC-3, L929, SK-BR-3, Wi12-S, CT26, MC38, SF9 etc).
- Transfection in mammalian cells for overexpression and knockdown of genes.
- Light and Fluorescence microscopy
- Mitochondrial ROS measurement via FACS and Fluorimetry using MitoSOX.
- *in-vitro* bioassays like Proliferation, Neutralization and MTT/MTS assay.

Molecular, Immunological and Proteomics expertise:

- RNA, DNA & Plasmid isolation
- PCR & Real Time PCR (qPCR)
- RFLP Genotyping & TaqMan SNP genotyping
- Cloning
- Agarose gel electrophoresis, PAGE & Western Blotting
- Peptide Mapping
- iTRAQ labeling and Mass spectroscopy (LC-MS)
- ELISPOT and ELISA
- HLA Typing
- Multi-color Flow cytometry & Magnet assisted cell sorting (MACS)
- Immunophenotyping and Binding assay using Flow Cytometry
- Cellular Apoptosis using PI/AnnexinV
- Immunofluorescence

Biochemical techniques expertise:

- UV-Visible Spectroscopy
- High Performance Liquid Chromatography (HPLC), Strong Cation exchange chromatography (SCX), Thin layer chromatography (TLC) and Paper Chromatography
- Cell lysate preparation, Protein estimation by BCA Assay and Bradford Assay

Animal Handling Expertise:

- Mice handling
- Organs collection from mice (liver, spleen, kidney, heart, intestine, bone marrow etc.)
- Intraperitoneal, subcutaneous injections.
- Retro-orbital bleeding.

Bioinformatics:

- Primer designing using NCBI/Primer-BLAST
- Target scan, miRDB online platforms
- Genome Studio software for microarray data analysis
- Metacore and DAVID software for pathway enrichment
- Cytoscape Software for network building

Statistical analysis software:

- MS- Excel
- STATA9
- GraphPad Prism
- ImageJ Software for Densitometry
- PLA-2 Software

PUBLICATIONS

➤ Publications as First Author:

- ❖ Presence of Auto-reactive, MHC class-I restricted, Calcium Sensing Receptor (CaSR) specific CD8+ T cells in Idiopathic Hypoparathyroidism.
Samrina Mahtab*, **Utpreksha Vaish***, Soma Saha, Archana Singh, Ravinder Goswami, Rajni Rani. *The Journal of Clinical Endocrinology & Metabolism* (November 02, 2016).
- ❖ Micro RNAs upregulated in Vitiligo skin play an important role in its aetiopathogenesis by altering TRP1 expression and keratinocyte-melanocytes crosstalk.
Utpreksha Vaish, Avinash A Kumar, Swati Varshney, Shreya Ghosh, Shantanu Sengupta, Chandni Sood, Hemanta K Kar, Pankaj Sharma, Vivek T Natarajan, Rajesh S Gokhale, Rajni Rani. *Scientific Reports* (July 12, 2019)
- ❖ A reliable assay for ensuring the biological activity of anti T lymphocyte immunoglobulin as an alternate to compendial flow cytometry method.
Subhash Chand*, **Utpreksha Vaish***, Anu Sharma, Nripendra Nath Mishra, J.P. Prasad, Richi V Mahajan. *Biologicals* (March 6, 2020).

❖ Publication as Co-author:

- ❖ Strong Association of Antigen Processing Gene PSMB8 Coding for Low Molecular Mass Protease 7 (LMP7) with Vitiligo in North India: Case-control Study.
Dani P, Patnaik N, Singh A, Jaiswal A, Agarwal B, Kumar A, Varkhande S, Sharma A, **Vaish U**, Sharma V, Sharma P, Verma G, Kar H, Gupta S, Natarajan V, Gokhale R & Rani R. *British Journal of Dermatology* (2018).
- ❖ Pirfenidone Attenuates Local and Systemic Injury and Inflammation in Acute Pancreatitis Through Immune and Cytokine Modulation.
Ejas Palathingal Bava, John George, Mohammad Tarique, Srikanth Iyer, Preeti Sahay, Beatriz Gomez Aguilar, Dujon Edwards, Bhuwan Giri, Vrishketan Sethi, Tejeshwar Jain, Prateek Sharma, **Utpreksha Vaish**, Harrys Charles Jacob, Anthony Ferrantella, Rajinder Dawra, Ashok Saluja, Vikas Dudeja (Manuscript under review)

❖ Conference Papers:

- ❖ Method validation of CDC bioassay for assuring efficacy of Anti- CD20 monoclonal antibody Biosimilars; **Utpreksha Vaish**, Subhash Chand, *Journal of Proteins and Proteomics* (2018)
- ❖ Stromal Factors Modulate Immune Checkpoint Blockade on T Cells in Pancreatic Cancer; P Sharma, B Garg, A Ferrantella, **U Vaish**, V Sethi, S Kurtom, H Jacob, *Pancreas* (2019)

CONFERENCES AND WORKSHOPS ATTENDED

- ❖ Indo-German workshop on Chemical biology of infectious diseases (Jan 2014) National Institute of Immunology, New Delhi, India.
- ❖ Hands-on workshop on Flow cytometry (Feb 26-28, 2014), Institute of Liver and Biliary sciences (ILBS), New Delhi, India.
- ❖ 15th Indo-US Flow Cytometry workshop on Stem Cells 2014, Institute of Liver and Biliary sciences (ILBS), New Delhi, India.
- ❖ GENMEDSKIN 2014 (24-25 June, 2014) CSIR-IGIB, New Delhi, India.
- ❖ Symposium on pathogen and host response 2016, National Institute of Immunology, New Delhi, India.
- ❖ Poster presentation at Science Day (28 Feb, 2017) held at National Institute of Immunology, New Delhi, India.
- ❖ International Workshop on Proteomics and Mass Spectrometry (July 4-7, 2017), South Asian University (SAU), New Delhi, India.
- ❖ International Conference on advances in Biosciences and Biotechnology (ICABB-2018) (Feb 1-3, 2018) and poster presentation, JIIT, Noida, India.
- ❖ AACR Virtual Annual Meeting I (April 27-28, 2020).

MEMBERSHIP OF NATIONAL AND INTERNATIONAL BODIES

- ❖ National
 1. Member of The Cytometry Society (TCS) India
 2. Member of Proteomics Society, India
- ❖ International
 1. American Association for Cancer Research (AACR) (Member ID-1104428)

ROLE AS REVIEWER

I have been actively reviewing scientific articles for following Journals since 2019

- ❖ Plos One
- ❖ Biotechnology and Applied Biochemistry

PERSONAL DOSSIER

Father's Name: Mr. S. C. Vaish
Mother's Name: Mrs. Rajeshwari Vaish
Marital Status: Married
Gender: Female
Nationality: Indian
Language Known: English, Hindi, Urdu, Punjabi, Greek (Basic proficiency)

REFERENCES

- ❖ Dr. Rajni Rani
Ex-Senior Scientist, National Institute of Immunology, New Delhi-110067, India
E-mail: rajni.rani@nii.ac.in

- ❖ Dr. Sangeeta Bhaskar
Senior Scientist, National Institute of Immunology, New Delhi-110067, India
E-mail: sangeeta@nii.ac.in

- ❖ Dr. Vikas Dudeja
Associate Professor of Surgery, Division of Surgical Oncology
Sylvester Comprehensive Cancer Center
University of Miami, Miami, FL-33136, USA
E-mail: vikas.dudeja@med.miami.edu

DECLARATION

I hereby declare that the information furnished above is true to the best of my knowledge.

(Utpreksha Vaish)

Date: 8th May 2020