

Dr. Parveen Kumar, Ph.D.

Scientist-B,
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EDUCATIONAL QUALIFICATIONS

- Ph.D. (Cell Biology)** **2013-2020**
Lab. of Cell Death and Cell Survival,
Centre for DNA Fingerprinting and Diagnostics, Hyderabad, India.
Supervisor: Dr. Maddika Subba Reddy
Thesis title: Studies on the functional interactome of human serine/threonine family of phosphatases.
- Junior Research Fellow, **2011-2013**
Laboratory of Molecular Genetics,
Centre for DNA Fingerprinting and Diagnostics, Hyderabad, India.
Supervisor: Dr. J Nagaraju
Project title: Identification, characterization and functional validation of long non-coding RNAs in silkworms
- Master of Science (M.Sc.) (Biotechnology)** **2009-2011**
Jawaharlal Nehru University, New Delhi, India
Supervisor: Dr. Uttam Pati
Dissertation title: Sub-Cloning, Expression, and Purification of hypoxia-inducible factor 1 α (HIF 1 α).
- Bachelor of Science (B.Sc.) (H) Biomedical Science** **2006-2009**
University of Delhi, New Delhi, India.

RESEARCH EXPERIENCE

- Cambridge Institute for Medical Research, University of Cambridge** **2021-2022**
Postdoctoral Fellow; Supervisor: Professor David Rubinsztein FMedSci, FRS
Systematic identification and validation of druggable genome targets for neurodegenerative diseases.
- Centre for DNA Fingerprinting and Diagnostics, Hyderabad, India** **2020-2021**
Postdoctoral Fellow; Supervisor: Dr. Maddika Subba Reddy
Investigating the role of protein phosphatases in mTOR signaling.
 - Identified novel interaction of protein phosphatases with mTOR complex.
- Centre for DNA Fingerprinting and Diagnostics, Hyderabad, India** **2013-2020**
Graduate Researcher; Supervisor: Dr. Maddika Subba Reddy
Studies on the functional interactome of human serine/threonine family of phosphatases.
 - Established protein-protein interaction network of protein phosphatases using affinity purification coupled with mass spectrometry (AP-MS).
 - Identified a new PPM1G-B56 δ phosphatase holoenzyme complex.
 - α -Catenin is a cytoplasmic substrate of the PPM1G-B56 δ holoenzyme.
 - α -Catenin dephosphorylation by PPM1G-B56 δ is required for the proper assembly of

adherens junctions and the prevention of aberrant cell migration.

Understanding the protein-protein interaction network of the human protein tyrosine phosphatase family.

- Mapped protein-protein interaction network of the human protein tyrosine phosphatase family using AP-MS.
- Identified a new role of PTPN5 tyrosine phosphatase in cytokinesis by dephosphorylation of Mob1a.

Centre for DNA Fingerprinting and Diagnostics, Hyderabad, India

2011-2013

Junior Research Fellow; Supervisor: Dr. J Nagaraju

Identification, characterization, and functional validation of long non-coding RNAs in silkworms.

- Prediction of long non-coding RNAs from cDNA library database in silkworms.
- Identified sex-specific long non-coding RNAs in silkworms.

Jawaharlal Nehru University, New Delhi, India

2010-2011

M.Sc. dissertation; Supervisor: Dr. Uttam Pati

Sub-Cloning, Expression, and Purification of hypoxia-inducible factor 1 α (HIF1 α).

PUBLICATIONS

1. **Kumar, P.**, Tathe, P., Chaudhary, N. & Maddika, S. PPM1G forms a PPP-type phosphatase holoenzyme with B56delta that maintains adherens junction integrity. *EMBO Rep* 20, e46965 (2019). (**Impact Factor: 8.8**)
2. **Kumar, P. et al.** A Human Tyrosine Phosphatase Interactome Mapped by Proteomic Profiling. *J Proteome Res* 16, 2789-2801 (2017). (**Impact Factor: 4.46**)
3. **Kumar, P.** and Maddika, S. Cellular Dynamics Controlled by Phosphatases. *J Indian Inst Sci* 97, 129-145 (2017). (**Impact Factor: 1.74**)

RESEARCH INTERESTS

Signal Transduction, Posttranslational modifications, Protein interaction networks, Proteomics, Molecular mechanism of infectious diseases and cancer.

AWARDS & FELLOWSHIP

- Received travel grant from the Department of Biotechnology (DBT) Government of India to attend ASBMB Symposium on Mass Spectrometry in the Health and Life Sciences: Molecular and Cellular Proteomics from August 18-28, 2019 at San Francisco, CA, USA.
- Awarded foreign travel grant from Council of Scientific and Industrial Research (CSIR), Government of India, to attend ASBMB Symposium on Mass Spectrometry in the Health and Life Sciences: Molecular and Cellular Proteomics from August 18-28, 2019 at San Francisco, CA, USA.
- Awarded Junior and Senior Research Fellowship by Council of Scientific and Industrial Research (CSIR), Government of India for my Ph.D. program.
- Secured all India 5th rank in Graduate Aptitude Test in Engineering (GATE), 2011.
- Awarded Fellowship by Department of Biotechnology (DBT), Government of India for my master's degree.

PRESENTATIONS/ CONFERENCES

- 12/2019 XLIII All India Cell Biology Conference (2019), IISER Mohali, India.
Poster presentation: “Affinity Proteomics Reveals Assembly of PPP-type Phosphatase Holoenzyme by PPM1G-B56δ”
- 08/2019 ASBMB Symposium on Mass Spectrometry in the Health and Life Sciences: Molecular and Cellular Proteomics (2019), San Francisco, CA, USA
Poster presentation: “Affinity Proteomics Reveals Assembly of PPP-type Phosphatase Holoenzyme by PPM1G-B56δ”
- 12/2018 Genome Architecture and Cell Fate Regulation (2018), University of Hyderabad, Hyderabad, India.
Poster presentation: “Affinity Proteomics Reveals Assembly of PPP-type Phosphatase Holoenzyme by PPM1G-B56δ”
- 01/2018 International Congress of Cell Biology Conference (2018), Centre for Cellular and Molecular Biology (CCMB), Hyderabad, India.
Poster presentation: “The interaction landscape of the human protein phosphatases.”
- 10/2015 XXXIX All India Cell Biology Conference (2015), Kelara, India.
Poster presentation: “The interaction landscape of the human protein phosphatases.”