Baseerat Hamza

Education:

Ph.D. in Chemistry, International Centre of Genetic Engineering and Biotechnology, New Delhi, India.

M.Sc. in Organic Chemistry, Jamia Hamdard, New Delhi, India

Work Experience:

Lecturer (March 2021 - Present) IOT, University of Kashmir, Srinagar, Jammu and Kashmir

Teaching Engineering Chemistry to engineering students

Assisting students with their practical work

Research Experience:

Senior Research Associate

CSIR-Indian Institute of Integrative Medicine, Srinagar, India Supervisor: Dr.Fayaz Malik

Studied proteome and metabolic changes in highly aggressive and therapeutically changing breast cancer subtypes using high-throughput mass spectrometry technology

Aimed to understand the dynamics of functional protein networks to delineate biological mechanisms of disease

Senior Research Fellow

International Centre for Genetic Engineering & Biotechnology, New Delhi, India Supervisor: Dr. Kanury V.S. Rao Project Title: "Proteome Library by SWATH"

Investigated the use of the THP1 cell line in the progression of various diseases such as diabetes, tuberculosis, and cancer

Analysed new proteins using data-independent acquisition (DIA) and the role of known proteins in cell biology using data-dependent acquisition (DDA)

Generated a reference library of proteins for SWATH analysis

Junior Research Fellow

International Centre for Genetic Engineering & Biotechnology, New Delhi, India Supervisor: Dr. Kanury V.S. Rao Project Title: "Genome-wide Analysis of the Host Intracellular Network that Regulates Survival of Mycobacterium tuberculosis"

Conducted genome-wide siRNA screens targeting human proteins in human macrophages infected with H37Rv

Identified host genes important for the survival of the MTB pathogen inside the host, potentially useful for drug discovery

Publications:

Sameer Ullah Khan, Baseerat Hamza, Reyaz Hassan Mir, Kaneez Fatima, Fayaz Malik. (2023) "Lavender Plant: Farming and Health Benefits." Current Molecular Medicine

Sameer Ullah Khan, Baseerat Hamza, Masroor Ahmad Paddar, Wadhwa Bhumika, Fayaz Malik(2022)."Activationoflysosomal-mediated cell death in autophagy by m-TOR inhibitor." Scientific Reports.

Sameer Ullah Khan, Kaneez Fatima, Shariqa Aisha, Baseerat Hamza, Fayaz Malik (2022). "Redox balance and autophagy regulation in cancer progression and their therapeutic perspective." Medical Oncology.

Baseerat Hamza, Kumar Ajay, Midha Mukul, Sharma Anil, Sharma Bupender, and Kanuary V.S. Rao (2018). "THP1 cell proteome library generation using SWATH analysis." International Journal of Life Sciences.

Ajay Kumar, Shilpa Jamwal, Mukul Kumar Midha, Baseerat Hamza, Suruchi Aggarwal, Amit Kumar Yadav, Kanuary V.S. Rao (2016). "Dataset generated using hyperplexing and click chemistry to monitor temporal dynamics of newly synthesized macrophage secretome post infection by mycobacterial strains." Data in Brief.

G. Bhat, A. Masood, B. A. Ganai, Baseerat Hamza, S. Ganie, T. Shafi, A. Idris, Abdul S. Shawl, and M. A. Tantry (2016). "Gracilone, A new sesquiterpene lactone from Tanacetum gracile (Tansies)." Natural Product Research.

Baseerat Hamza (2022). "A Survey of Analytical Methods Used in Pharmaceutical Analysis." Design Engineering.

Publications under Submission:

Baseerat Hamza,SameerUllahkhan "Landscape of Breast Cancer Proteome by SWATH" (Under Revision).

Book Chapters:

Sameer U khan,Baseerat Hamza *"*Autophagy plays a dual role in drug resistance Drug Resistance in Cancer" Springer 2024.

Baseerat Hamza Phytochemical study of CEDRUS DEODARA BZT Academy 2022

Conferences:

Participated in APA International Conference at IIT New Delhi, India (2012).

Attended the 8th Annual Meeting of PS1 and the International Conference on Functional and Interaction Proteomics conducted at NIPGR, New Delhi, India (2016).

Skills:

Laboratory Techniques: LC MALDI TOF/TOF, NANO-LC 5600 Triple TOF (Sciex), Strong cation exchange (Agilent Technologies), Prominence LCMS, Single and triple quad (Shimadzu), GC-MSMS.

Chromatographic Techniques: Column, Ion Exchange, Affinity, HPLC.

ELISA.

Quantitative Labeling of Peptides: iTRAQ.

Purification and Concentration of Peptides (Ziptip).

Basic Knowledge of Bioinformatics: Protein plot, String DB, and KEGG.

Design of Experiments for Analysis of Targeted and Untargeted Proteomic Studies for Different Tissues.

Sample Preparation of Pesticides, Antibiotics, Melamine, and Safrole in Various Food Samples by LCMS and GCMS.

Design of Experiments and Design Transfer for Analysis of Sugars, Neem oil, Transformer oil, Pesticides, Drugs, and Vitamins.

Training on ISO 17025.