Dr. Muhammad Zeeshan Bhatti

Associate Professor

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Profile

Dr. Muhammad Zeeshan Bhatti is an Associate Professor in the Department of Biotechnology at the National University of Medical Sciences (NUMS). He earned his PhD from East China Normal University, Shanghai, China. An interdisciplinary scientist, Dr. Bhatti's research integrates drug discovery, phytochemistry and natural products, cancer therapeutics, pharmacology, and anti-inflammatory, and nanomedicine. By bridging medicinal chemistry with innovative antimicrobial strategies, his work addresses critical challenges at the forefront of modern medicine. A prolific contributor to his field, he has authored more than 48 peer-reviewed publications and 5 book chapters. He actively serves the global scientific community as an editorial board member and reviewer for several high-impact international journals

Research Interest

Drug Discovery, Phytochemistry and Natural Products, Molecular Pharmacology, Medicinal Chemistry, Cancer Therapeutics, Anti-inflammatory, Nanomedicine, Antimicrobial Agents

Selected Publications

Ismail H, Rafey SS, Yaseen T, Khalid D, Bhatti MZ *, Shahzad S, Shahzad S, Saleem S, Rahman A, Alotaibi MO, Turkistani A, Akram B, Batiha GES. Environmental Enrichment as a Therapeutic Strategy Against Methamphetamine Induces Depressive Behaviors in Mice. PLOS One (2025) 20(10): e0333626. https://doi.org/10.1371/journal.pone.0333626.

Anwar A, Haneef S, Ismail H, Bhatti MZ *, Ullah N, Murtaza Iram, Mirza B. Evaluating the biological activity of rolB-transgenic Nicotiana tabacum plants using phytochemical and pharmacological approaches. Plant Biosystems. (2024), 158(6), 1428–1442. https://doi.org/10.1080/11263504.2024.2421234.

Ming J, Bhatti MZ #,*, Ali A, Zhanga Z, Wanga N, Mohyuddin A, Chen J, Zhanga Y, Rahman FU. Vitamin B6 based Pt(II) complexes: Biomolecule derived potential cytotoxic agents for thyroid cancer. Metallomics. (2022) https://doi.org/10.1093/mtomcs/mfac053.

Bhatti MZ, Pan L, Wang T, Shi P, Li L. REGγ potentiates TGF-β/Smad signal dependent epithelial-mesenchymal transition in thyroid cancer cells. Cellular Signalling. (2019) 64, 109412. https://doi.org/10.1016/j.cellsig.2019.109412.

Rahman FU, Bhatti MZ #, Ali A, Duong HQ, Zhang Y, Yang B, Koppireddia S, Lina Y, Wanga H, Lia ZT, Zhang DW. Homo- and heteroleptic Pt(II) complexes of ONN donor hydrazone and 4-picoline: A synthetic, structural and detailed mechanistic anticancer investigation. European Journal of Medicinal Chemistry. (2018), 143, 1039–1052. https://doi.org/10.1016/j.ejmech.2017.11.044.

Awards/Achievements/Grants

Green-synthesis, Characterization and Biological Activities of Nanoparticles using Medicinal Plants. (NUMS-IRF 2024-2025)

Anticancer Mechanism Investigation of Ruthenium Complexes against Liver Cancer Cells. (HEC-NRPU 2022-2024)

The Anti-Cancer Effects and Mechanisms of Vitamin B6 derived Pt(II) Complexes on Thyroid Cancer Cells. (HEC-SRGP 2021-2022)

Unraveling the Anticancer Potential of Transition Metal Complexes of Nitrogen and Oxygen Donor Ligands: Design, Synthesis and Characterization. (HEC-SRGP 2021-2022).

Outstanding International Graduate Award, East China Normal University (2017)

Distinguished Academic Achievement Award, East China Normal University (2015).

Distinguished Academic Achievement Award, East China Normal University (2014).