

Dr. Hamad Ali

Assistant professor (Department of Pharmaceutical Sciences)

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Biography

Dr. Ali has done his Pharm-D and B.Sc. from the University of Peshawar. After completing his PharmD, Dr. Ali started his career as a Quality Assurance Inspector at M.KB Pharmaceuticals, Peshawar. In 2014, Dr. Ali got Research Fellowship at Dr. Panjwani Center for Molecular Medicine and Drug Research, International Center for Chemical and Biological Sciences, University of Karachi, and completed his M. Phil. and Ph. D. in Molecular Pharmacology. After the accomplishment of his Ph.D. in 2021, Dr. Ali was appointed as an Assistant Professor of the Pharmacology at Department of Pharmaceutical Sciences, Shifa Tameer-e-Millat University, Islamabad, where he taught the PharmD Integrated Contextual Modular Curriculum (ICMC), and also designed and taught various Post-graduate courses. Currently, he is serving the Department of Pharmaceutical Sciences, Pak-Austria Fachhochschule: Institute of Applied Sciences and Technology. Dr. Ali's research interests include a unique combination of pharmacology, molecular and cell biology to perform translational research, drug discovery, and re-purposing, with a particular focus on fetal hemoglobin (HbF) induction, a molecular therapy for β -thalassemia and sickle cell anemia. His research is focused on the Pre-clinical investigation of pharmacologically-mediated HbF induction, using *in vitro* human cell lines, *ex vivo* erythropoiesis model derived from human hematopoietic stem cells (HSCs), and *in vivo* humanized β -YAC transgenic mice model, and advanced techniques in molecular pharmacology including flow cytometry, RT-qPCR, immunofluorescence microscopy, western blotting, mass spectrometry, etc. He has ample experience in cell culture technology and animal research. Dr. Ali has discovered several new potential fetal hemoglobin inducers and studied their molecular mechanisms by evaluating the involvement of γ -globin gene *trans*-acting regulators e.g., *BCL11A*, *FOP*, *KLF1*, *SOX6*, *GATA-1*, etc, and their association with HbF induction in human CD34⁺ erythroid precursors. He has published several research articles in SCI peer-reviewed international journals with a cumulative impact factor of above 60 and served as a reviewer for reputed peer-reviewed journals. He has also participated in and presented his research work at different international conferences and got the best research poster awards, Dr. Ali also filed three research patents with the Intellectual Property Organization (IPO) of Pakistan.

Education (Last Two Academic Details)

1. Completion Date: 2021
Degree title: Ph.D. in Molecular Medicine (Molecular Pharmacology)
Organization Name: Dr. Panjwani Center for Molecular Medicine and Drug Research,
International Center for Chemical and Biological Sciences, University of Karachi, Pakistan.
2. Completion Date: 2017
Degree title: M.Phil. in Molecular Medicine (Molecular Pharmacology)
Organization Name: Dr. Panjwani Center for Molecular Medicine and Drug Research,
International Center for Chemical and Biological Sciences, University of Karachi, Pakistan,
3. Completion Date: 2014
Degree title: Doctor of Pharmacy (Pharm. D.)
Organization Name: University of Peshawar, Peshawar, Pakistan

Experience

1: Teaching Experience:

1. 1st Nov 2022 – Present
Designation: Assistant Professor (Pharmacology)
Institution: Department of Pharmaceutical Sciences, PAF-IAST
 - a. Program: Biomedical Sciences (BMS)
Semester: 4th Semester
Subject: Pathology and Histopathology to Biomedical Sciences.
 - b. Program: Doctor of Pharmacy (Pharm.D.)
Semester: 1st Semester
Subject: Physiology-A.
 - c. Program: Doctor of Pharmacy (Pharm.D.)
Semester: 2nd Semester
Subject: Physiology-B.
 - d. Program: Doctor of (Pharm.D.)
Semester: 3rd Semester
Subject: Pharmacology and Therapeutics-IA
 - e. Program: Doctor of Physiotherapy (DPT)
Semester: 1st Semester
Subject: Physiology-1

f. Program: Doctor of Physiotherapy (DPT)
Semester: 2nd Semester
Subject: Physiology-I

2. 9th May 2022 – 31st Oct

Designation: Assistant Professor (Pharmacology)

Institution: Department of Basic Medical Sciences, Shifa Tameer-e-Millat University, Islamabad (STMU)

- a. Gastrointestinal System (GIS) Module, Block-VII: Anatomy and Physiology of GIS; Pathology and Pharmacology & Therapeutics of Upper and lower GIS disorders to Pharm.D. Freshman Year (2nd Year). Pharm-D Integrated Contextual Modular Curriculum (ICMC) system
- b. Neuroscience-II (CNS) Module, Block XII: Anatomy, Physiology of CNS; Pathology and Pharmacology & Therapeutics of CNS Disorders to Pharm.D. Junior Year (4th Year). Pharm-D Integrated Contextual Modular Curriculum (ICMC) system,
- c. Pharmaceutical Microbiology and Immunology to Pharm.D. 4th Semester.
- d. M.Phil. Courses: Central Dogma of Life
- e. Ph.D. Courses: Epigenetic Regulation

Publications

1. **Hamad Ali**, Faisal Khan, and Syed Ghulam Musharraf. “Cilostazol-mediated reversion of γ -globin silencing is associated with a high level of HbF production: A potential therapeutic candidate for β -globin disorders” *Biomedicine and Pharmacotherapy* 142(2021) Aug 13. pp. 112058. ISSN: 0753-3322.
<https://www.sciencedirect.com/science/article/pii/S0753332221008416>
2. **Hamad Ali**, Faisal Khan, and Syed Ghulam Musharraf. “Acyclovir induces fetal hemoglobin via downregulation of γ -globin repressors, *BCL11A* and *SOX6* trans-acting factors.” *Biochemical Pharmacology* 190(2021) May 16;190: pp. 114612. DOI: ISSN: 0006-2952.
<https://www.sciencedirect.com/science/article/pii/S0006295221002185>
3. Nurmeen Adil¹, **Hamad Ali**¹, Amna Jabbar Siddiqui, Arslan Ali, Ayaz Ahmed, Hesham R. El-Seedi, and Syed Ghulam Musharraf. “Evaluation of cytotoxicity of areca nut and its commercial products on normal human gingival fibroblast and oral squamous cell carcinoma cell lines. *Journal of Hazardous Materials*. 403(2021) Feb 5;403: pp. 123872. ISSN: 0304-3894. ¹ **First author**
<https://www.sciencedirect.com/science/article/pii/S0304389420318616>
4. Khan, Faisal, **Hamad Ali**, and Syed Ghulam Musharraf. “Tenofovir disoproxil fumarate-mediated γ -globin induction is correlated with the suppression of trans-acting factors in CD34+ progenitor cells: A role in the reactivation of fetal hemoglobin.” *European Journal of Pharmacology* 927(2022), 15 July 2022, 175036. ISSN: 00142999.

<https://www.sciencedirect.com/science/article/pii/S0014299922002977>

5. **Hamad Ali**, Fizza Iftikhar, Sarah Shafi, Hina Siddiqui, Ishtiaq Ahmad Khan, M. Iqbal Choudhary, and Syed Ghulam Musharraf. "Thiourea derivatives induce fetal hemoglobin production in-vitro: A new class of potential therapeutic agents for β -thalassemia." *European Journal of Pharmacology* 855(2019) Jul 15: pp.285-293. ISSN: 0014-2999.

<https://www.sciencedirect.com/science/article/pii/S0014299919303371>

Patent

1. Repurposing of Acyclovir for the Treatment of β -Thalassemia and Sickle Cell Anemia. Syed Ghulam Musharraf, **Hamad Ali**, Muhammad Iqbal Choudhary, Atta ur Rahman, Patent Application No. 868/2019, Filing date 24-12-2019.
2. Repurposing of Tenofovir Disoproxil Fumarate for the Treatment of β -Thalassemia and Sickle Cell Anemia. Syed Ghulam Musharraf, Faisal Khan, **Hamad Ali**, Patent Application No. 445/2020. Filing date 1-7-2020.
3. Fetal hemoglobin reactivation activity of cilostazol (6-[4-(1-cyclohexyl-1*H*-tetrazole-5-yl)butoxy]-3,4-dihydro-2(1*H*)-quinolinone). Syed Ghulam Musharraf, **Hamad Ali**, Faisal Khan Patent Application No. 232/2021, Filing date 24-03-2021.