Curriculum Vitae

Md. Hasanuzzaman Shohag
Ph.D.
Associate Professor
Department of Pharmaceutical Sciences
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➢ Academic Qualifications

Doctor of Philosophy (Ph.D.)	Department of Cell Pharmacology Graduate School of Medicine, Nagoya University, Japan • Year & Month of Entrance and Completion: October/2011-September/2015 • Duration: 4 year
Master of Pharmacy (M.Pharm)	Department of Clinical Pharmacy & Pharmacology Faculty of Pharmacy, University of Dhaka, Bangladesh, • Year & Month of Entrance and Completion: July/2006-June/2007 • Duration: 1 year • 1st class 3rd in order of merit (73.8%).
Bachelor of Pharmacy (Hons.) (B.Pharm)	Faculty of Pharmacy, University of Dhaka, Bangladesh • Year & Month of Entrance and Completion: July/2002-June/2006 • Duration: 4 year • 1st class 3rd in order of merit (74.1%).
Higher Secondary Certificate (HSC)	Science Group, Sherpur Government College, Sherpur, Bangladesh • Year & Month of Entrance and Completion: July/2000-June/2002 • Duration: 2 year • Obtained First Division (83.8 %). • 1st in order of merit in Sherpur Govt. College.
Secondary School Certificate (SSC)	Science Group, Gazir Khamar High School, Sherpur, Bangladesh • Year & Month of Entrance and Completion: Jan/1995-June/2000 • Duration: 5 years 6 months • Obtained First Division (85.5 %)

➢ Research and Teaching Experience

Associate Professor	Apr/2022- till	Department of Pharmaceutical Sciences, North South University, Dhaka, Bangladesh.
Assistant Professor	Sep/2017- Mar/2022	Department of Pharmaceutical Sciences, North South University, Dhaka, Bangladesh.
Postdoctoral researcher	Oct/2015- Sep/2017	Department of Cell Pharmacology, Graduate School of Medicine, Nagoya University, Nagoya, Japan.
Research student	Apr/2011- Sep/2011	Department of Cell Pharmacology, Graduate School of Medicine, Nagoya University, Nagoya, Japan.
Lecturer	Nov/2010 - Mar/2011	Department of Pharmacy, University of Asia Pacific, Dhaka, Bangladesh.
Lecturer	June/2008 - Oct/2010	Department of Pharmacy, State University of Bangladesh, Dhaka, Bangladesh.

➢ Awards and Distinctions

- Received best presenter's award at the 7th Nagoya Global Retreat conference, Japan, 2015.
- Received MEXT scholarship from the Japanese Government from April 2011 to September 2015.
- Received Dean's Award 2008 for excellent academic results at the undergraduate level, B.Pharm (Hons.).
- Received scholarship from Bangladesh American Pharmacist's Association, 2004, for excellent academic results at the undergraduate level.
- Received scholarship from Ambia Khatun Foundation (from Fazlul Huq Muslim Hall, University of Dhaka), 2004 for excellent academic results at the undergraduate level.

- **Teaching experience:**
  - **Theory courses:** Have taken various courses at the undergraduate level, such as Pharmacology, Clinical Pharmacy, Basic Pathology and Toxicology, Biochemistry and Molecular Biology, Pharmaceutical Biotechnology, Pharmaceutical Dispensing, Pharmaceutical Engineering, Medicinal Chemistry, Inorganic and Organic Chemistry, Physical Chemistry, Pharmacognosy, Physiology, etc. Have also taken postgraduate level courses such as Advanced Pharmacology, Drug Use Management, Drug Regulatory Affairs.
  - **Lab courses:** Have conducted several practical courses such as Pharmacology, Pharmacognosy, Physiology, Inorganic and Organic Pharmacy, Microbiology, Pharmaceutical Analysis, Medicinal Chemistry.
  - **Projects:** Have supervised several projects of undergraduate and graduate students in the fulfillment of their degrees.
  - **Counseling:** Performed counseling of the students both in their weak areas of study and boosted motivation and build confidence.

- **Research skills:**
  - **Pharmacogenomics:** Separation and purification of genomic DNA from blood samples and performing Polymerase Chain Reaction-Restriction Fragment Length Polymorphism (PCR-RFLP) to find out the role of different candidate genes in altered drug response in various diseases.
  - **Analytical chemistry:** Pharmacoequivalence, bioavailability, and bioequivalence studies using analytical RP-HPLC. Also, qualitative and quantitative analysis of different biomolecules in different plant extracts using preparative RP-HPLC.
  - **Phosphoproteomics:** Preparation of LC-MS/MS samples from cell lines or mouse brain tissue such as the striatum, hippocampus, etc., with or

without phosphopeptide enrichment, and running the samples in Q-Exactive machine followed by the analysis of raw data in software like MaxQuant, Proteome discoverer, etc.

- **Animal experiment:** Mouse brain neostriatal and hippocampal slice culture to examine in vivo signaling substrates of PKA, PKC, MAPK, CaMKII, D1R, D2R, etc.
- **Molecular biology:** Cloning, amplification, and mutagenesis PCR, production and purification of miniprep DNA, purification of DNA by QIAGEN method, sequencing of DNA.
- **Cell biology:** Immunoprecipitation, pull-down analysis, western blotting, immunostaining, CBB and silver staining, etc.
- **Recombinant protein production** Recombinant protein production in *E.Coli*, purification using affinity beads columns, and quantification.

➢ **Membership in professional societies:**

- Registered A-grade Pharmacist in Pharmacy Council of Bangladesh (**A-4005**).
- Member of Japan Society for Cell Biology (**JSCB**).
- Member of Human Proteome Organization (**HUPO**).
- Executive Member of Bangladesh Neuroscience Society.
- Member of Dhaka University Pharmacy Alumni Association (**DUPAA**).
- Member of Japanese Universities Alumni Association (**JUAAB**).
- Member of Nagoya University Alumni Association (**NUAL**).

➢ **Links to personal research profiles:**

- **ORCID:** https://orcid.org/0000-0002-4473-5151
- **Google Scholar:** *https://scholar.google.com/citations?user=oiv1gxYAAAAJ&hl=en&oi=ao*
- **Researchgate:** *https://www.researchgate.net/profile/Md_Hasanuzzaman_Shohag*

- **Scientific Publications List [Original Research Articles]**

23. **Shohag, M.H.,** Kuddus, S.A., Brishty, E.M.S., Chowdhury, S.S., Hossain, M.T., Hasan, M., Khan, S.I., Hossain, M. and Reza, H.M. 2023. Post-market quality assessment of 22 ciprofloxacin brands by HPLC available in Bangladesh market. *Heliyon.*

24. Saha, M., D.R. Saha, T. Ulhosna, S.M. Sharker, **M.H. Shohag,** M.S. Islam, S.K. Ray, G.S. Rahman, and H.M. Reza*. 2021. QbD based development of resveratrol-loaded mucoadhesive lecithin/chitosan nanoparticles for prolonged ocular drug delivery. *Journal of Drug Delivery Science and Technology*, p.102480.

22. Kuddus, S.A., T. Tasnim, **M.H. Shohag,** T. Yasmin, M.S. Uddin, M.S. Hossain, N. Subhan, M.A. Alam, and F. Khan*. 2021. *Dillenia indica* Fruit Extract Suppressed Diet-induced Obesity in Rats by Down-regulating the mRNA Level of Proadipogenic Transcription Factors and Lipid Metabolizing Enzymes. *Current Nutrition & Food Science*, 17, p.433.

21. Kuddus, S.A., M.I. Bhuiyan, N. Subhan, **M.H. Shohag,** A. Rahman, M.M. Hossain, M.A. Alam and F. Khan*. 2020. Antioxidant-rich *Tamarindus indica* L. leaf extract reduced high-fat diet-induced obesity in rat through modulation of gene expression. *Clinical Phytoscience*, *6*(1), p.1.

20. Khan, F., S.A. Kuddus, **M.H. Shohag**, H.M. Reza, H. Murad*. 2020. Astaxanthin, the Natural Antioxidant, Reduces Reserpine Induced Depression in Mice. *Current Bioactive Compounds*, *16*(9), p.1319.

19. Yura, Y., M. Amano, M. Takefuji, T. Bando, K. Suzuki, K. Kato, T. Hamaguchi, **M.H. Shohag**, T. Takano, and Y. Funahashi, S. Nakamuta, K. Kuroda, T. Nishioka. T. Murohara, and K. Kaibuchi*. 2016. Focused proteomics revealed a novel Rho-kinase signaling pathway in the heart. *Cell Structure and Function*. 41:105-120.

18. **Shohag, M.H.,** T. Nishioka, R.U. Ahammad, S. Nakamuta, Y. Yura, T. Hamaguchi, K. Kaibuchi, and M. Amano*. 2015. Phosphoproteomic analysis using the WW and FHA domains as biological filters. *Cell structure and function*. 40(2):95-104.

17. Nishioka, T., **M.H. Shohag**, M. Amano, and K. Kaibuchi*. 2015. Developing novel methods to search for substrates of protein kinases such as Rho-kinase. *Biochimica et Biophysica Acta (BBA)-Proteins and Proteomics*. 1854:1663-1666.

16. Amano, M., T. Hamaguchi, **M.H. Shohag**, K. Kozawa, K. Kato, X. Zhang, Y. Yura, Y. Matsuura, C. Kataoka, T. Nishioka, and K. Kaibuchi*. 2015. Kinase-interacting substrate screening is a novel method to identify kinase substrates. *The Journal of cell biology*. 209:895-912.

15. Hamaguchi, T., S. Nakamuta, Y. Funahashi, T. Takano, T. Nishioka, **M.H. Shohag**, Y. Yura, K. Kaibuchi, and M. Amano*. 2014. In vivo Screening for Substrates of Protein Kinase A using

a combination of proteomic approaches and pharmacological modulation of kinase activity. *Cell structure and function*. 40(1):1-12.

14. **Shohag, M.H.***, M.A. Ullah, M.A. Azad, M.S. Islam, S. Qusar, S.F. Shahid, and A. Hasnat*. 2012. Serum Antioxidant Vitamins and Malondialdehyde Levels in Patients with Obsessive-Compulsive Disorder. *German Journal of Psychiatry*. 15:10-14.
13. **Shohag, M.H.**, A. Ullah, S. Qusar, M. Rahman, and A. Hasnat*. 2012. Alterations of serum zinc, copper, manganese, iron, calcium, and magnesium concentrations and the complexity of interelement relations in patients with obsessive–compulsive disorder. *Biological trace element research*. 148:275-280.
12. Karim, R., Z. Nahar, M.S. Islam, M.U. Ahmed, A. Mustafa, **M.H. Shohag**, A. Al Maruf, and A. Hasnat*. 2012. Serum MDA and Vitamin C level in Conversion Disorder Patients. *Dhaka University Journal of Pharmaceutical Sciences*. 10:59-64.
11. Islam, M.S., N. Akter, **M.H. Shohag**, A. Ullah, A. Al Maruf, T.A. Sultana, A.M. Latif, and A. Hasnat*. 2012. Bioequivalence Evaluation of Two Esomeprazole 20 mg Capsule Formulations in Healthy Male Bangladeshi Volunteers. *Journal of Bioequivalence & Bioavailability*. 2011.
10. Chowdhury, M.M.I., M.A. Ullah, A. Al Maruf, M.S. Islam, M.U. Ahmed, **M.H. Shohag**, M. Azad, and A. Hasnat*. 2012. Validation and Optimization of a Simple RP-HPLC Method for Determination of Trimetazidine in Human Serum and its Application in a Pharmacokinetic Study with Healthy Bangladeshi Male Volunteers. *Dhaka University Journal of Pharmaceutical Sciences*. 10:71-78.
9. Ahmed, M.U., M.S. Islam, **M.H. Shohag**, R. Karim, A. Mustafa, N.H. Bhuiyan, M. Rahim, and A. Hasnat*. 2012. Comparative pharmacokinetic and bioequivalence study of azithromycin 500 mg tablet in healthy Bangladeshi volunteers. *International journal of clinical pharmacology and therapeutics*. 50:452-458.
8. Sultana, T.A., M.S. Islam, M.N.H. Bhuiyan, **M.H. Shohag**, M.U. Ahmed, S.R. Naznin, A. Al Maruf, S.I. Huq, and A. Hasnat*. 2011. Comparative pharmacokinetic and relative bioavailability study of coated and uncoated azithromycin powder for suspension in healthy Bangladeshi male volunteers. *Arzneimittelforschung*. 61:594-598.
7. **Shohag, M.H.**, M.S. Islam, M.U. Ahmed, J.J. Joti, M.S. Islam, M. Hasanuzzaman, and A. Hasnat*. 2011. Pharmacokinetic and bioequivalence study of etoricoxib tablet in healthy Bangladeshi volunteers. *Arzneimittelforschung*. 61:617-621.
6. Sayeed, M.S.B., A. Al Maruf, M.U. Ahmed, G.M. Rahman, A. Hasnat, M.A. Ullah, and **M.H. Shohag**. 2011. Evaluation of Serum Trace Elements in Bangladeshi Dockyard Labourers. *Journal of Pharmacy Research Vol*. 4:4390-4392.

5. Islam, M., A. Trlni, **M.H. Shohag,** M. Ahmed, A. Maruf, and A. Hasnat*. 2011. Bioavailability of omeprazole 20 mg capsules containing omeprazole 22.5% enteric coated pellets versus a reference product in healthy Bangladeshi male subjects: an open-label, single-dose, randomized-sequence, two-way crossover study. *International journal of clinical pharmacology and therapeutics*. 49:778-786.
4. Chowdhury, M.M.I., M.A. Ullah, N. Iqbal, **M.H. Shohag**, S. Harun, K.A. Akter, B. Begum, A.M. Latif, and A. Hasnat*. 2011. Relative bioavailability and pharmacokinetic study of two trimetazidine modified release formulations in healthy Bangladeshi male volunteers. *Arzneimittelforschung*. 61:393-398.
3. Naznin, S.R., M. Khanam, A. Al Maruf, **M.H. Shohag**, M.S. Islam, S.F.B. Shahid, and A. Hasnat*. 2010. Evaluation of serum Ca, Mg, Cu, Fe, Zn and Mn in conversion disorder patients. *Dhaka University Journal of Pharmaceutical Sciences*. 9:119-124.
2. Haider, N., M.S. Islam, A. Al Maruf, **M.H. Shohag**, R. Ali, G.M. Rahman, and A. Hasnat*. 2010. Oxidative stress and antioxidant status in vitiligo patients. *Dhaka University Journal of Pharmaceutical Sciences*. 9:103-108.
1. Ullah, M.A., A. Al Maruf, M.A.K. Azad, **M.H. Shohag**, R. Sultana, A.M. Latif, and A. Hasnat*. 2010. Relative bioavailability and pharmacokinetic properties of two different enteric formulations of esomeprazole in healthy Bangladeshi male volunteers: An open-label, single-dose, randomized-sequence, two-way crossover study. *Clinical therapeutics*. 32:1419-1426.

- **Conference presentations List (oral)** ——————————————————

6. Mitu, M.M., T.R. Toma, M.A.A. Mobin, F.T. Rumpa, F. Nesa, K.N. Uddin, and **M.H. Shohag***. Genetic association of VDR (rs2228570) and KCNQ1 (rs2237895) polymorphism with susceptibility of type 2 diabetes mellitus in Bangladeshi population. 1st Jamal Nazrul Islam National Conference-2022, Chattogram, Bangladesh (May 21, 2022). [**Has been awarded the 2nd runner-up in the Medical & Health Sciences Track**]
5. Mobin, M.A.A., F. Nesa, M.M. Mitu, F. Khan, K.N. Uddin, and **M.H. Shohag***. Association between rs1801157 single nucleotide polymorphism of SDF-1β gene and type 2 diabetes mellitus in Bangladeshi population. International Conference on Innovations in Science, Engineering and Technology 2022 (ICISET 2022), Chattogram, Bangladesh (Feb 25-28, 2022). [**Has been awarded the best oral presentation from the Pharmacy and Biological Sciences Track**]

4. Mitu, M.M., T.R. Toma, M.A.A. Mobin, F.T. Rumpa, F. Khan, K.N. Uddin, and **M.H. Shohag***. Association of VDR (rs2228570) and KCNQ1 (rs2237895) gene polymorphism with susceptibility of type 2 diabetes mellitus in Bangladesh. The 8th International Pharmacy Students Academic Forum (IPSAF) China Pharmaceutical University, China (December 11, 2021). [**Has been awarded the 2nd best oral presentation**]
3. Mitu, M.M., T.R. Toma, F.T. Rumpa, F. Khan, K.A. Akter, K.N. Uddin, and **M.H. Shohag***. Vitamin D receptor (VDR) gene FokI polymorphism in Bangladeshi patients with type-2 diabetes. *International Conference on Science and Technology for Celebrating the Birth Centenary of Bangabandhu (ICSTB-2021),* Dhaka, Bangladesh (March 11-13, 2021).
2. **Shohag, M.H.,** M. Amano, T. Nishioka, S. Nakamuta, T. Hamaguchi, and K. Kaibuchi*. Phosphoproteomic analysis using the WW and FHA domains as biological filters. *7th Nagoya Global Retreat conference*, Obu, Japan (Feb 13-14, 2015). **[Has been awarded the best oral presentation]**
1. **Shohag, M.H.,** M. Amano, T. Nishioka, S. Nakamuta, T. Hamaguchi, and K. Kaibuchi*. Phosphoproteomic analysis using the WW and FHA domains as biological filters. *The 66th Annual Meeting of the Japan Society for Cell Biology*, Nara, Japan (June 11-13, 2014).

- **Conference presentations List (poster)**

15. Mobin, M.A.A., F. Nesa, M.M. Mitu, F. Khan, K.N. Uddin, and **M.H. Shohag***. SDF-1β gene (rs1801157 single nucleotide polymorphism) and its association with type 2 diabetes mellitus in the Bangladeshi population. *1st International Conference on Drug Discovery and Development (ICDD),* Dhaka, Bangladesh (September 19-20, 2022).
14. Mitu. M.M., F. Nesa, T.R. Toma, M.A.A.A. Mobin, F. Taher, K.N. Uddin, and **M.H. Shohag***. Type 2 diabetes mellitus susceptibility with the VDR (rs2228570), and KCNQ1 (rs2237892, rs2237895, and rs2237896) polymorphisms in the Bangladeshi population. *1st International Conference on Drug Discovery and Development (ICDD),* Dhaka, Bangladesh (September 19-20, 2022).
13. Mitu, M.M., T.R. Toma, F. Nesa, M.A.A. Mobin, F.T. Rumpa, K.N. Uddin, and **M.H. Shohag***. Vitamin D receptor gene polymorphism rs2228570 and susceptibility to type-2 diabetes mellitus in Bangladeshi population. *The 2nd International Conference on Genomics, Nanotech, and Bioengineering-2022 (ICGNB-2022),* Dhaka, Bangladesh (June 26-28, 2022).

12. Kuddus, A.K., **M.H. Shohag**, E.M.S. Brishty, and H.M. Reza*. Post-market in-vitro comparative quality assessment of 22 different brands of ciprofloxacin tablets marketed in Bangladesh. *The 2nd International Conference on Genomics, Nanotech, and Bioengineering-2022 (ICGNB-2022)*, Dhaka, Bangladesh (June 26-28, 2022).

11. Fayejun, N., T.R. Toma, M.M. Mitu, N. Uddin, and **M.H. Shohag***. Correlation of genetic variants of KCNQ1 with the risk of type 2 diabetes mellitus in Bangladeshi population. *The 2nd International Conference on Genomics, Nanotech, and Bioengineering-2022 (ICGNB-2022)*, Dhaka, Bangladesh (June 26-28, 2022).

10. Kashfia, A.T., S.A. Kuddus, A. Shaiful, F. Islam, M.A. Alam, **M.H. Shohag**, and F. Khan*. Ethanolic extract of *Citrus sinensis* peel can ameliorate carbamazepine induced dyslipidemia in Wistar rats by modulating low-density liporptoein receptor. *The 2nd International Conference on Genomics, Nanotech, and Bioengineering-2022 (ICGNB-2022)*, Dhaka, Bangladesh (June 26-28, 2022).

9. Mobin, M.A.A., F. Nesa, M.M. Mitu, F. Khan, K.N. Uddin, and **M.H. Shohag***. rs1801157 single nucleotide polymorphism of SDF-1β gene in Type 2 Diabetes Mellitus patients of Bangladesh. *The 2nd International Conference on Genomics, Nanotech, and Bioengineering-2022 (ICGNB-2022)*, Dhaka, Bangladesh (June 26-28, 2022).

8. Mitu, M.M., T.R. Toma, M.A.A. Mobin, F.T. Rumpa, F. Khan, K.N. Uddin, and **M.H. Shohag***. Association of VDR (rs2228570) and KCNQ1 (rs2237895) gene polymorphism with susceptibility of type 2 diabetes mellitus in Bangladesh. *The 8th International Pharmacy Students Academic Forum (IPSAF) China Pharmaceutical University*, China (December 11, 2021).

7. Ahammad, R.U., Y. Funahashi, X. Zhang, E. Hossen, M.O. Faruk, **M.H. Shohag**, Y. Xu, H. Wang, S. Nakamuta, K. Kuroda, D. Tsuboi, T. Nishioka, M. Amano, K. Kaibuchi. Phosphoproteomics of NMDA pathway leads to Rho-Kinase mediated synaptic plasticity through Shank3 phosphorylation. *The 43rd Annual Meeting of the Japan Neuroscience Society*, Kobe, Japan (July 29-August 1, 2020).

6. **Shohag, M.H.,** S. Nakamuta, MIH. Chowdhury, M. Amano, T. Nishioka, D. Tsuboi and K. Kaibuchi*. Phosphoproteomic screening of Ca++/Calmodulin-dependent protein kinase II substrates. *9th Nagoya Global Retreat conference*, Obu, Japan (Feb 10-11, 2017).

5. Nishioka, T., S. Ashida, **MH. Shohag**, M. Amano, and K. Kaibuchi*. Phosphoproteomic screening of PKC substrates by KIOSS method. *The 68th Annual Meeting of the Japan Society for Cell Biology*, Kyoto, Japan (June 15-17, 2016).

4. **Shohag, M.H.,** M. Amano, R.U. Ahammad, S. Nakamuta, Y. Yura, T. Hamaguchi, T. Nishioka, and K. Kaibuchi*. Phosphoproteomic analysis using the WW and FHA domains as biological filters. *14th Human Proteome Organization World Congress (HUPO 2015)*, Vancouver, British Columbia, Canada (Sept. 27–30, 2015)

3. Amano, M., T. Nishioka, S. Nakamuta, **MH. Shohag**, and K. Kaibuchi. 2015. Comprehensive analysis of phospho-signaling pathways downstream of monoamine neurotransmitters. *Journal of Pharmacological Sciences.* 128 (3): S55-S55.

2. Amano, M., **MH. Shohag,** T. Nishioka, S. Nakamuta and K. Kaibuchi*. *8th international conference Inhibitors of Protein Kinases*, Warshaw, Poland (Sep 21-25, 2014).

1. Kozawa, K., K. Kato, T. Hamaguchi, **M.H. Shohag**, X. Zhang, T. Nishioka, M. Amano, and K. Kaibuchi. 2012. Cooperative regulation of cellular contractility by Rho-kinase/Scrib/Shroom2 complex. *Molecular Biology of the Cell.* 23.