

## Curriculum Vitae

### Dr. Ferdous Khan

Assistant Professor  
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### Educational Qualifications

#### Ph.D.

- Awarded on 16<sup>th</sup> September, 2016
- From The United Graduate School of Agricultural Sciences, Tottori University, Japan
- Subject of the Thesis: Specific action of prostacyclin on adipogenesis at different stages of cultured adipocytes
- Major Contribution: Proposed a new mechanism of adipogenesis which can be considered for drug development

#### M. Pharm.:

- Completed M. Pharm. from the Department of Pharmaceutical Technology, Faculty of Pharmacy, University of Dhaka in the year of 2002 (held in 2006) with **first class first position**.
- Marks obtained: 73.67 %.

#### B. Pharm.:

- Completed B. Pharm. From the Faculty of Pharmacy, University of Dhaka in the year of 2001 (held in 2004) with **first class eleventh position**.
- Marks obtained: 65.43%.

#### Higher Secondary School Certificate (HSC) Examination:

- Passed from Dhaka College, Dhaka under Dhaka Board in the year of 1997 (Science Group) with **first division**.

#### Secondary School Certificate (SSC) Examination:

- Passed from Goila High School, Barisal under Jessore Board in the year of 1994 (Science Group) with **first division**.

### Awards and Scholarships

- Received Japanese Government Monbukagakusho Scholarship (MEXT) from October 2011 to September 2014 for pursuing PhD as a graduate student of The United Graduate School of Agricultural Sciences, Tottori University, Japan.
- Became Summa cum laude in the Master of Pharmaceutical Technology examination of year 2002 (held in 2006) from Department of Pharmaceutical Technology, University of Dhaka, Bangladesh.
- Received Elementary school level, Junior high school level and Secondary scholarships.

## Research Experiences

1. I received Japanese Government Monbukagakusho Scholarship from October 2011 to September 2014 as a graduate student of Doctoral Program of The United Graduate School of Agricultural Sciences, Tottori University, Japan. I have 3.5 years of research experience in the field of Molecular Biology and Biotechnology which is correlated with obesity and related disorders. My research theme was “**Specific action of prostacyclin on adipogenesis at different stages of cultured adipocytes**”. I worked under the supervision of Professor Kazushige Yokota and published 2 research articles as first author in 2 reputed journals based on my research during this period. I have also co-authored 3 research articles during this time. I have also attended 2 conferences where I was the presenter. My research works and findings were also presented in a number of conferences around the world.
2. One year research experience in the field of Pharmaceutical Technology and presented a thesis paper entitled “**Preparation and in vitro evaluation of theophylline loaded gastro-retentive floating tablets**” under the supervision of Dr. Md. Selim Reza, Professor, Department of Pharmaceutical Technology, Faculty of Pharmacy, University of Dhaka for the partial fulfillment of my MPharm degree. After completion of my MPharm I also worked with Professor Selim Reza in the subsequent years. We published 6-research articles in the reputed journals of home and abroad based on our research during this period.
3. One year research experience in the field of pharmacology and presented a project paper entitled “**Effect of magnesium on the antimicrobial activities of some antibiotics against different strains of microorganism**” under the supervision of Late Dr. Abul Hasnat, Professor, Department of Clinical Pharmacy and Pharmacology, Faculty of Pharmacy, University of Dhaka for the partial fulfillment of my BPharm. degree. We also published one research article in The Pakistan Journal of Pharmaceutical Sciences based on our research during this period.

## Published Articles

### Published Paper (12)

1. **Khan F**, Syeda PK, Nartey MN, Rahman MS, Islam MS, Nishimura K, Jisaka M, Shono F, Yokota K. 2016. Pretreatment of cultured preadipocytes with arachidonic acid during the differentiation phase without a cAMP-elevating agent enhances fat storage after the maturation phase. *Prostaglandins Other Lipid Mediat.* **27(123)**:16-27.
2. **Khan F**, Syeda PK, Nartey MN, Rahman MS, Islam MS, Nishimura K, Jisaka M, Shono F, Yokota K. 2016. Stimulation of fat storage by prostacyclin and selective agonists of prostanoid IP receptor during the maturation phase of cultured adipocytes. *Cytotechnology* **68**:24172429.
3. Rahman MS, **Khan F**, Syeda PK, Nishimura K, Jisaka M, Nagaya T, Shono F, Yokota K. 2014. Endogenous synthesis of prostacyclin was positively regulated during the maturation phase of cultured adipocytes. *Cytotechnology* **66(4)**:635-46.
4. Rahman MS, Syeda PK, **Khan F**, Nishimura K, Jisaka M, Nagaya T, Shono F, Yokota K. 2013. Cultured preadipocytes undergoing stable transfection with cyclooxygenase-1 in the antisense direction accelerate adipogenesis during the maturation phase of adipocytes. *Appl Biochem Biotechnol.* **171(1)**:128-44.

5. Syeda PK, Hossain MS, Chowdhury AA, Rahman MS, **Khan F**, Nishimura K, Jisaka M, Nagaya T, Shono F, Yokota K. 2012. A monoclonal antibody specific for  $\Delta$ 12-prostaglandin J2 and its utilization in the immunological assay in cell culture system of adipocytes. *Hybridoma (Larchmt)*. **31(5)**:364-71.
6. Md. Shaikhul Millat Ibn Razzak, **Ferdous Khan**, Masuma Hossain, Tasmia Anika and Shamsad Afreen Moon, 2012. Impact of Sodium Lauryl Sulphate on the Release of Carbamazepine from Methocel K15M CR based Matrix Tablets. *Bangladesh Pharmaceutical Journal*. **15(1)**: 79-82.
7. **Khan, F.**, Razzak, M.S.M.I., Khan, M.Z.R., Azad, M.A.K., Chowdhury, J.A. and Reza, M.S. 2009. Theophylline Loaded Gastroretentive Floating Tablets Based on Hydrophilic Polymers: Preparation and *in vitro* Evaluation. *Pakistan Journal of Pharmaceutical Sciences*. **22 (2)**: 155-161.
8. Razzak, M.S.M.I., **Khan, F.**, Hossain, M., Khan, M.Z.R., Azad, M.A.K., and Reza, M.S. 2009. Effect of Channeling Agents on the Release Pattern of Theophylline from Kollidon SR Based Matrix Tablets. *Pakistan Journal of Pharmaceutical Sciences*. **22 (3)**: 303-307.
9. **Khan, F.**, Razzak, M.S.M.I., Khan, M.Z.R., Azam, K.R., Sadat, S.M.A. and Reza, M.S. 2008. "Preparation and *In vitro* Evaluation of Theophylline Loaded Gastroretentive Floating Tablets of METHOCEL K4M", *The Dhaka University Journal of Pharmaceutical Sciences*. **7(1)**: 65-70.
10. Razzak, M.S.M.I., **Khan, F.**, Khan, M.Z.R., Fatema, K., Islam, M.S. and Reza, M.S. 2008. "Effect of Channeling Agents on the Release Profile of Theophylline from METHOCEL K4M Based Matrix tablets" *The Dhaka University Journal of Pharmaceutical Sciences* **7(1)**: 27-32.
11. Azam, K.R., Razzak, M.S.M.I., **Khan, F.**, Islam, M.S., Rony, M.R. and Reza, M.S. 2008. Impact of Granulation Technique and Effect of Polymers on Theophylline Release from Matrix Tablets. *The Dhaka University Journal of Pharmaceutical Sciences*. **7 (2)**: 133-139.
12. **Ferdous Khan**, Younus Patoare, Pinky Karim, Mohiuddin Abdul Quadir, Israt Rayhan and Abul Hasnat, 2005. Effect of magnesium and zinc on the antimicrobial activities of some antibiotics against different strains of microorganism. *Pakistan Journal of Pharmaceutical Sciences*. **18 (4)**: 57-61.

### Conference Papers

1. Biosynthesis of prostacyclin and its action is up-regulated during the maturation phase of adipocytes. **Khan, F.**, Rahman, M. S., Fatema, P. K. S. K., Islam, M. S., Nishimura, K., Jisaka, M., Nagaya, T., Shono, F., and Yokota, K. *40th Annual Meeting of Chu-Shikoku Division in the Japan Society for Bioscience, Biotechnology, and Agrochemistry* 2014
2. Biosynthesis of prostaglandin I2 at different life stages of cultured adipocytes as determined by the immunological assay for its stable hydrolysis product. **Khan, F.**, Rahaman, M. S., Syeda, P. K., Nishimura, K., Jisaka, M., Nagaya, T., Shono, F., and Yokota, K. *36th Annual Meeting of Chu-Shikoku Region, Japan Society for Bioscience, Biotechnology, and Agrochemistry* 2013

3. Stimulation of adipogenesis with 11-deoxy-11-methylene-PGD<sub>2</sub>, a stable, isosteric analogue of PGD<sub>2</sub>, during the maturation phase of adipocytes. Fatema, P. K. S. K., **Khan, F.**, Nishimura, K., Jisaka, M., Nagaya, T., Shono, F., and Yokota, K. *The 86th Annual Meeting of the Japanese Biochemical Society 2013: adipogenesis, adipocyte, 11-deoxy-methylene-PGD<sub>2</sub>, a stable isosteric analogue of PGD<sub>2</sub>*
4. Stable transfection of cultured preadipocytes with cyclooxygenase-1 in the antisense direction up-regulates adipogenesis during the maturation phase of adipocytes. Rahman, M. S., Syeda, P. **K. Khan, F.**, Nishimura, K., Jisaka, M., Nagaya, T., Shono, F., and Yokota, K. *13th International Conference on Bioactive Lipids in Cancer, Inflammation and Related Diseases 2013*
5. Pro-adipogenic effect of 11-deoxy-11-methylene-prostaglandin (PG) D<sub>2</sub>, a stable, isosteric analogue of PGD<sub>2</sub>, during the maturation phase of adipocytes. Fatema, P. K. S. K., **Khan, F.**, Nishimura, K., Jisaka, M., Nagaya, T., Shono, F., and Yokota, K. *36th Annual Meeting of Chushikoku Region, Japan Society for Bioscience, Biotechnology, and Agrochemistry 2013*
6. Biosynthesis of prostacyclin serving as a biomarker for enhanced adipogenesis program in cultured adipocytes. Rahman, M. S., **Khan, F.**, Syeda, P. K., Nishimura, K., Jisaka, M., Nagaya, T., Shono, F., and Yokota, K. *13th International Conference on Bioactive Lipids in Cancer, Inflammation and Related Diseases 2013*
7. Up-regulation of prostacyclin biosynthesis and its response after the maturation phase of adipocytes. Rahman, M. S., **Khan, F.**, Fatema, P. K. S. K., Islam, M. S., Nishimura, K., Jisaka, M., Nagaya, T., Shono, F., and Yokota, K. *The 87th Annual Meeting of the Japanese Biochemical Society 2014*
8. Association of GSTP1 and ABCC4 polymorphisms with response and toxicity of cyclophosphamide-based chemotherapy on Bangladeshi breast cancer patients. Islam, M. S., Islam, M. S., **Khan, F.**, Fatema, P. K. S., Hasnat, A., and Yokota, K. *40th Annual Meeting of Chu-Shikoku Division in the Japan Society for Bioscience, Biotechnology, and Agrochemistry 2014*
9. 11-Deoxy-11-methylene-prostaglandin (PG) D<sub>2</sub> exerts pro-adipogenic effect on cultured adipocytes during the maturation phase through cellular mechanism different from that of natural PGD<sub>2</sub>. Fatema, P. K. S. K., Islam, M. S., **Khan, F.**, Nishimura, K., Jisaka, Nagaya, T., Shono, F., and Yokota, K. *40th Annual Meeting of Chu-Shikoku Division in the Japan Society for Bioscience, Biotechnology, and Agrochemistry 2014*

### Training

1. I have successfully completed one month industrial training in Beximco Pharmaceuticals Ltd. The second largest pharmaceutical industry of Bangladesh.
2. Attended a two weeks training program on “Current Good Manufacturing Practice (CGMP) in Pharmaceutical Industry” organized by Beximco Pharmaceuticals Ltd. On December 2004.
3. I have successfully completed two month training on SPSS (Statistical Package for the Social Sciences) in the Department of Statistics in University of Dhaka.

## Areas of Expertise

- **Molecular biology and Biochemistry:** DNA and RNA extraction from cultured cells and sequencing, primer designing, gene cloning, plasmid construction, transfection, DNA amplification, prokaryotic protein expression and purification, Real-time PCR, DNA/RNA gel electrophoresis, SDS-PAGE, western blot, DNA sequencing, gel-shift assay, RNAi experiment, polyclonal antibody production,
- **Cell-culture:** Primary and cell line, 3T3-L1 cell culture, SP-2 cell culture, primary cell collection and culture from thymus and spleen.
- **Immunology:** Antigen preparation by conjugation, Polyclonal and Monoclonal antibody production, ELISA.
- **Microbiology:** Handling and culture of different type gram, positive and gram negative bacteria, extraction and sequencing of DNA from cultured bacteria, aseptic techniques.
- **Analytical:** HPLC, LCMS/MS, DNA, RNA, protein and lipid quantification.
- **Pharmaceutical Technology:** Preparation and in vitro evaluation of gastro-retentive floating tablets.

## Area of Interest

Now, I am particularly interested to explore the genetic background of adipogenesis. More specifically, how different type of bioactive lipids and food ingredients can alter the expression of pro-adipogenic and anti-adipogenic genes. In this way I would like to shed some light on the on-going stride to understand obesity and related disorders which ultimately causes metabolic syndrome: the greatest threat to humankind.

## Professional Experiences

1. Currently, I am working as an Assistant Professor in Department of Pharmaceutical Sciences under the School of Health and Life Sciences, North South University, Bangladesh.
2. I worked as an Assistant Professor in Department of Pharmacy, Daffodil International University from 2 May 2015 to 19 July 2016. I performed the responsibility of Head (In-Charge) from 29 September 2015 to 19 July 2016.
3. I served as an Assistant Professor in Department of Pharmacy, ASA University Bangladesh, on 1<sup>st</sup> February 2011 and worked until 30<sup>th</sup> September 2011 before going to Japan as a graduate student of Doctoral Program of The United Graduate School of Agricultural Sciences, Tottori University.
4. I was appointed as a Lecturer in the Department of Pharmacy, State University of Bangladesh on 2<sup>nd</sup> July 2005 and was promoted to Assistant Professor on 1<sup>st</sup> March 2010. I worked as an Assistant Professor in the Department of Pharmacy, State University of Bangladesh until 31<sup>st</sup> January 2011.
5. I worked as a Quality Control Officer in Beximco Pharmaceuticals Ltd., the 2<sup>nd</sup> largest pharmaceutical company of Bangladesh from 19<sup>th</sup> August 2004 to 1<sup>st</sup> July 2005.

## Memberships

- Editorial Board member of International Journal of Applied Research
- BPS (2007-) Bangladesh Pharmaceutical Society Association
- PGA (2007-) Pharmacy Graduates Association, Bangladesh

## Personal Information

Fathers Name : Late A. Wahab Khan  
Mothers Name : Mrs. Halima Begum  
Date of Birth : 4<sup>th</sup> May, 1979  
Nationality : Bangladeshi  
Religion : Islam  
Sex : Male  
Marital status : Married  
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## Reference

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- 3. Md. Selim Reza (PhD)** Professor,  
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