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EDUCATION:

UNDERGRADUATE:

Dhaka University, Dhaka, Bangladesh, B.Sc (Hons) & M.Sc. (Thesis) in Biochemistry, 1992

GRADUATE:

Osaka University/Tohoku University, Japan, M.Sc. (Research) (UNESCO International Post-graduate University Course in Microbiology), 1998

Okayama University, Okayama, Japan, Ph.D. in Molecular and Cellular Biology, 2002 (with Professor Tomofusa Tsuchiya, Department of Microbiology)

POSTDOCTORAL FELLOW:

Indiana University School of Medicine 2004-2008, Department of Medical & Molecular Genetics (with Dr. David P. Gilley)

ACADEMIC APPOINTMENTS:

1993 - 1997: Lecturer, Department of Biochemistry, Dhaka University, Bangladesh

1997 - 2004: Assistant Professor, Department of Biochemistry; Department of Genetic Engineering/ Biotechnology, University of Dhaka, Bangladesh

2008 - Present: Research Associate, Department of Medical & Molecular Genetics (with Dr. David P. Gilley)

OTHER APPOINTMENTS AND PROFESSIONAL ACTIVITIES:

1992 - 1993: Biochemist, Biopharm (Asia) Ltd.

1997 - 1998: UNESCO Research Fellow, Osaka and Tohoku University, Japan

1998 - 2002: Predoctoral Research Fellow at Dept. of Microbiology, Faculty of Pharmaceutical Sciences, Okayama University, Japan

PROFESSIONAL ORGANIZATIONS:

Associate Member, American Association for Cancer Research (AACR)

Member, American Association for the Advancement of Science (AAAS)

Life Member, Bangladesh Biochemical Society (BBS)

HONORS AND AWARDS:

1986 Dean Honor List

1987 - 1988 Salauddin Kin Foundation Scholarship

1997 UNESCO Research Fellowship

1998 - 2002 Japanese Govt. (Monbusho) Scholarship

2006 Outstanding Research Award (The Catherine Peachey Fund)
2007 Scholar-in-Training Travel Award (AACR & Aflac)
2013 1st Place, Cancer Research Day Poster Award, Indiana University
Cancer Center

TEACHING ASSIGNMENTS:

1993-1997 Introductory biochemistry, Clinical Biochemistry, Laboratory Biochemistry,
Bioorganic Chemistry and Enzymology (Graduate and undergraduate courses).
2002-2004 Enzymology, Industrial Biochemistry, Mammalian Cell Culture, Bioinformatics
and Laboratory Biochemistry (Graduate and undergraduate courses).

GRADUATE STUDENT MENTOR AT INDIANA UNIVERSITY SCHOOL OF MEDICINE:

2013 Alison Bates (Graduate student)
2010 LiRen Tu (Graduate student)
2008 Benjamin Thirlby (PhD candidate)
2007 Ritobrata Goswami (PhD candidate)

PRINT AND ELECTRONIC PUBLICATIONS:

RESEARCH, SCHOLARSHIP, OR CREATIVE ACTIVITIES (Refereed Journals)

- 1) **Huda N**, Bates A, Xu D, Gilley D. Telomere dysfunction in ovarian carcinoma. **Molecular carcinogenesis** (in preparation).
- 2) Choudhury DS, Cui Y, Narayanan A, Gilley D, **Huda N**, Lo C, Zhou F, Yernool D, Irudayaraj J. Optically induced DNA methyltransferase3A interacts with human TRF1 and alter telomere length through increase in methylation marks at the subtelomeric loci. **PNAS**. 2015; Under Review.
- 3) Tu* L, **Huda* N**, Grimes BR, Slee RB, Bates AM, Cheng, L, Gilley, D. Widespread telomere instability in prostatic lesions. **Molecular carcinogenesis**. 2015 Apr 27. doi: 10.1002/mc.22326. [Epub ahead of print] (*equally contributed)
- 4) Kannan* N, **Huda* N**, Tu L, Droumeva R, Aubert G, Chavez E, Brinkman RR, Lansdorp P, Emerman J, Abe S, Eaves* C, Gilley* D. The luminal progenitor compartment of the normal human mammary gland constitutes a unique site of telomere dysfunction. **Stem Cell Reports**. 2013 Jun 4;1(1):28-37.(*equally contributed)
- 5) **Huda N**, Abe S, Gu L, Mendonca MS, Mohanty S, Gilley D. Recruitment of TRF2 to laser-induced DNA damage sites. **Free Radic Biol Med**. 2012 Sep 1; 53(5):1192-7.

- 6) Tanaka H, Abe S, **Huda N**, Tu L, Beam MJ, Grimes B, Gilley D. Telomere fusions in early human breast carcinoma. **Proc Natl Acad Sci U S A**. 2012 Aug 28; 109(35):14098-103.
- 7) Estabrook NC, Chin-Sinex H, Borgmann AJ, Dhaemers RM, Shapiro RH, Gilley D, **Huda N**, Crooks P, Sweeney C, Mendonca MS. Inhibition of NF- κ B and DNA double-strand break repair by DMAPT sensitizes non-small-cell lung cancers to X-rays. **Free Radic Biol Med**. 2011 Dec 15; 51(12):2249-58.
- 8) **Huda N**, Tanaka H, Mendonca MS and Gilley D. 2009. DNA damage-induced phosphorylation of TRF2 phosphorylation is required for the fast pathway of DNA double-strand break repair. **Molecular and Cellular Biology**, 29(13):3597-604.
- 9) Gilley **D**, Herbert B-S, **Huda N**, Tanaka H and Reed T 2008. Factors impacting human telomere homeostasis and age-related disease. **Mechanisms of Ageing and Development**, 129: 27-34.
- 10) **Huda N**, Tanaka B, Herbert B-S, Reed T and Gilley D. (2007) Shared environmental factors associated with telomere length maintenance in elderly male twins. **Ageing Cell**, 6: 709-713.
- 11) Lee EW, **Huda N**, Kuroda T, Mizushima T, Tsuchiya T. 2003. EfrAB, an ABC multidrug efflux pump in *Enterococcus faecalis*. **Antimicrob Agents Chemother**. 2003 Dec; 47(12):3733-8.
- 12) **Huda N**, Lee E-W, Chen J, Kuroda T, Mizushima T, and Tsuchiya T. 2003. Molecular cloning and characterization of an ABC-type multidrug efflux pump VcaM from *Vibrio cholerae* non-O1. **Antimicrob. Agents Chemother**. 2003 Aug; 47(8):2413-7.
- 13) Chen J, Kuroda T, **Huda M.N.**, Mizushima T., Tsuchiya T. 2003. An RND-type multidrug efflux pump SdeXY from *Serratia marcescens*. **J. Antimicrob. Chemother.**, 52, 308-311.
- 14) **Huda, M. N.**, Chen. J, Morita Y, Kuroda T, Mizushima T, and Tsuchiya T. 2003. Gene cloning and characterization of VcrM, a Na⁺-coupled multidrug efflux pump, from *Vibrio cholerae* non-O1. **Microbiol. Immunol.**, 47(6): 419-427.
- 15) Lee E-W, Chen J, **Huda MN**, Kuroda T, Mizushima T, and Tsuchiya T. 2003. Functional cloning and expression of *emeA*, and characterization of EmeA, a multidrug efflux pump from *Enterococcus faecalis*. **Biol. Pharm. Bull**. 26(2):266-70.
- 16) Rahman SM, **Huda MN**, Uddin MN, and Akhteruzzaman S. 2002. Short-term administration of conjugated linoleic acid reduces liver triglyceride concentration and phosphatidate phosphohydrolase activity in OLETF rats. **J. Biochem. Mol. Biol.**, 35(5): 494-497.

- 17) Chen J, Morita Y, **Huda M N**, Kuroda T, Mizushima T, and Tsuchiya T. 2002. VmrA, member of a novel class of Na⁺-coupled multidrug efflux pump from *Vibrio parahaemolyticus*. **J. Bacteriol.**, 184(2):572-576.
- 18) **Huda M N**, Morita Y, Kuroda Y, Mizushima T, and Tsuchiya T. 2001. Na⁺-driven multidrug efflux pump VcaM from *Vibrio cholerae* non-01, a non-halophilic bacterium. **FEMS Microbiol. Letts**, 203: 235-239.
- 19) Kaneko J, Mascarenas A L, **Huda M N**, Tomita T, and kamio Y. 1998. An N-terminal region of LukF of Staphylococcal Leukocidin/gama-hemolysis crucial for the biological activity of the toxin. **Biosci. Biotechnol. Biochem.** 62(7): 1465-1467.
- 20) **Huda MN***, Rahman SM, Shekhar HU, and Hawlader ZH. 1997. Optimization of a feeding solution for *Hirudo menilensis*. **Bangladesh J. Zool.**, 25(1): 89-90.
(*corresponding author)
- 21) Uddin MA, **Huda MN**, and Khan NH. 1996. High-performance liquid chromatographic detection of Diosbulbin D and 8-Epidiosbulbin E acetate in *Dioscorea bulbifera* tubers. **Bangladesh J. Biochem.**, 2(2): 95-101.
- 22) Shekhar HU, Alam MN, Hawlader ZH, **Huda MN**, and Hossain A. 1996. Storage effect on the physicochemical properties of soyabean oil. **Bangladesh J. Biochem.**, 2(1): 41-48.
- 23) **Huda MN**, Rahman M, Khan NH. 1995. Natural fermentation and nutritive values of *Lens esculenta* L. **Dhaka Univ. J. Biol. Sci.**, 4(2): 99-106.

ABSTRACTS PRESENTED:

- 1) **Huda N**, Bates AM, Gilley D. Cold Spring Harbor Conference, Telomeres & Telomerase April 30-May 4, 2013. Presence of telomere dysfunction in human ovarian carcinoma.
- 2) Kannan N, **Huda N**, Tu L, Droumeva R, Aubert G, Brinkman, R, Lansdorp P, Emerman J, Abe S, Eaves C, Gilley D. Cold Spring Harbor Conference, Telomeres & Telomerase April 30-May 4, 2013. The luminal progenitor compartment of the normal human mammary gland constitutes a unique site of telomere dysfunction.
- 3) Tu L, **Huda N**, Gilley D. Cold Spring Harbor Conference, Telomeres & Telomerase April 30-May 4, 2013. Pathways of telomere dysfunction in human solid tumorigenesis.
- 4) **Huda N**, Kannan N, Tu L, Eaves CJ, Gilley D. Cancer Research Day, IU, 2012.. Luminal mammary progenitors are a unique site of telomere dysfunction.
- 5) Kannan N, **Huda N**, Tanaka H, Eaves CJ, Gilley D. AACR Conference, March 3-6, 2011. Telomere regulation changes within different subpopulations in normal human mammary

tissue.

- 6) **Huda N**, Tanaka H, Herbert B-S, Bacallao RL and Gilley D. Flight Attendant Medical Research Institute Meeting, Boston, Massachusetts. May 11-13, 2009. Targeting telomere dysfunction for early detection of breast cancer.
- 7) Tanaka H, **Huda N**, Mendonca MS, Gilley D. AACR conference on Frontiers in Basic Cancer Research, Oct 8-11, 2009. The role of the telomere-associated protein TRF2 in the DNA damage response.
- 8) **Huda N**, Tanaka H, Mendonca MS, Gilley D. The Role of Telomeres and Telomerase in Cancer Research. San Francisco, CA. December 6-9, 2007. TRF2 phosphorylation is an essential component of the rapid double-strand break damage response.
- 9) **Huda N**, Tanaka H., Herbert B-S, Reed T, Gilley D. Telomeres and Telomerase Meeting at Cold Spring Harbor Lab., New York. May 2-6, 2007. Non-genetic factors associated with telomere maintenance in elderly twins. p-76.
- 10) Liu Y, Tanaka, H, **Huda,N**, Giannone RJ, Mendonca MS, McDonald H, Wang Y, Gilley D. Telomeres and Telomerase Meeting at Cold Spring Harbor Lab., New York. May 2-May 6, 2007. Analysis of DNA damage-induced phosphorylation of human TRF2. p-98.
- 11) **Huda N**, Tanaka H, Kher R, Herbert B-S, Bacallao RL and Gilley, D. Indiana University Cancer Center's Annual Cancer Research Day. 05/10/06. Genomic instability during breast tumorigenesis.
- 12) **Huda N**, Tanaka, Kher R, Herbert B-S, Bacallao RL and Gilley D. The Amelia Project giving Wing to Research, 02/11/2006. Indianapolis, Indiana USA. Studies of genomic instability during breast tumorigenesis.
- 13) **Huda N**, Tanaka H, Takenaka Y, Herbert, B.S., Bacallao, RL and Gilley D. Indiana University, Indianapolis, Indiana USA. 06/27/2005. Telomere Fusion Junctions from Human Breast Tumors Contain Fragile Site Repetitive Elements.
- 14) **Huda N**, Tanaka H, Kher R, Herbert B-S, Bacallao RL, and Gilley, D. The Amelia Project giving Wing to Research, 02/05/2005. Indianapolis, Indiana USA. Genomic havoc induced by breakage-fusion-bridge cycles in breast cancer.
- 15) Morita Y, **Huda MN**, Chen J, Kuroda T, and Tsuchiya T. Multidrug efflux pumps in *Vibrio*. April, 2002. The 75th Annual Meeting of Japanese Bacteriological Society. 57(1):109.
- 16) Tsuchiya T, **Huda MN**, Morita Y, Kuroda T. VcaM, new ABC-type multidrug efflux pump in *Vibrio cholerae* non-01. April, 2002. The 75th Annual Meeting of Japanese Bacteriological Society. 57(1):110.

- 17) **Huda MN**, Morita Y, Kuroda T, Mizushima T, and Tsuchiya T. Characterization of an ABC type multidrug efflux pump in *Vibrio cholerae* non-01. October 2001. The 54th Pharmaceutical conference (Chugoku region). p28.
- 18) Lee E-W, **Huda MN**, Morita Y, Kuroda T, Mizushima T, and Tsuchiya T. Cloning and characterization of a multidrug efflux pump from *Enterococcus faecalis*. October 2001. The Annual Meeting of the Japanese Biochemical Society, 73(8):992.
- 19) **Huda MN**, Morita Y, Kuroda T, Mizushima T, and Tsuchiya T. Cloning of an ABC-type multidrug efflux pump from *Vibrio cholerae* non-01. April, 2001. The 74th Annual Meeting of Japanese Bacteriological Society.
- 20) Chen J, **Huda MN**, Morita Y, Kuroda T, Mizushima T, and Tsuchiya T. Development of assay systems for multidrug efflux activity using fluorescent antimicrobial drugs. April, 2001. The 74th Annual Meeting of Japanese Bacteriological Society.
- 21) **Huda MN**, Morita Y, Mizushima T, and Tsuchiya T. Characterization of an Na⁺-driven multidrug efflux pump, VmrA from *Vibrio cholerae* non-01. October 2000. The 39th Annual conference of Japanese Pharmaceutical Society and Japanese Hospital Pharmacist Society (Chugoku region).
- 22) Morita Y, **Huda MN**, Chen J, Hayashi, Mizushima T, and Tsuchiya T. Multidrug efflux pumps in Vibrios. The 34th Vibrio Symposium, Japan.
- 23) **Huda MN**, Morita Y, Kuroda T, Mizushima T, and Tsuchiya T. Cloning and characterization of a Na⁺-driven multidrug efflux pump from *Vibrio cholerae* non-01. November, 1999. The 33th Vibrio Symposium, Okinawa, Japan.

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