

CURRICULUM VITAE

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DEMOGRAPHIC AND PROFESSIONAL INFORMATION

PERSONAL DATA

Nationality	Canadian
Status in USA	Permanent Resident
Language proficiency	English, Bengali and Japanese

EDUCATION

1996- 2000	Ph.D. Molecular Neuroscience	Kagoshima University, Japan
1991-1993	M. Phil. Biological Sciences	Rajshahi University, B'desh
1985-1986	M. Sc. Biochemistry & Molecular Biology	Rajshahi University, B'desh
1982-1985	B. Sc. (Hons.) Biochemistry & Molecular Biology	Rajshahi University, B'desh

POSTDOCTORAL TRAINING

2002-2007	Postdoctoral Fellow	University of Calgary, Canada
2000-2002	Postdoctoral Fellow	Kagoshima University, Canada

TECHNICAL EXPERTISE

Molecular Biology Techniques: Primer design, PCR, RT-PCR, cloning & sub-cloning, site-directed mutagenesis, reporter gene assay, transfection, transformation, genotyping/screening of conditional knock-out mice (Cre-PLox), Southern blotting, Northern blotting, siRNA technique, DNA fragmentation assay, DNA methylation assay, ChIP assay, TUNEL assay and Annexin V binding assay

Tissue Culture:

- Experienced in isolating & purifying a number of primary cells such as chicken dorsal root ganglion, HUVEC, VSMC, Sertoli cells, thyroid follicular cells from human thyroid gland
- Experienced in generating stable cell lines using various approaches including RNAi
- Experienced in developing salivary gland using isolated cells from human parotid gland of head and neck cancer patient
- Experienced in maintaining stem cell growth/differentiation and hybridoma cell lines
- Possess extensive expertise in cancer cell culture in 2D as well as 3D environment
- Small animal handling and surgery

Cell based assays: Cell adhesion, migration assay, invasion, signal transduction mechanisms and pathways

Biochemical Assays: SDS-PAGE & IP/Western blotting, EMSA, BrdU assay, live & dead cell assay, FACS, MTT assay and ELISA

Imaging: Live cell imaging using fluorescence tag proteins, Immunohistochemistry and cytochemistry using FISH, confocal, multi-photon microscopy

Protein Chemistry:

- Overexpression, purification, isolation, and characterization of various proteins from *recombinant* strains, mammalian tissues or cell cultures.
- Optimization of protein purification Isolation and purification of biologically active recombinant protein in large scale
- In vitro translation in cell free system
- In vitro kinase assay and protein binding assay using recombinant protein

ADMINISTRATIVE & MANAGEMENT

- Experience in managing laboratory staff including team of B.S., M.S. and Ph.D. scientists
- Experience of active collaboration with academic research groups
- Excellent organization skills with attention to detail and ability to multitask
- Excellent oral and written communication skills
- Extensive experience in preparation of manuscripts and publication, data presentation to external collaborators and at scientific conferences.
- Can function independently or within a team environment: self-motivated, dedicated.
- Experience in grant writing within a given time frame
- Possess ability to learn new methods quickly

PROFESSIONAL EXPERIENCE & ACCOMPLISHMENTS

2008-present	Instructor SAVIO Institute 1000 Old Lancaster Pike Hockessin, DE 19707
July, 2008-June 30, 2011	Research Assistant Professor Department of Biological Sciences University of Delaware, USA
Dec, 2007-June, 2008	Research Scientist Department of Biological Sciences University of Delaware, USA
Postdoctoral Award	
2003-2005	Alberta Cancer Foundation (ACF), Canada
2000-2002	Japan Society for the Promotion of Science (JSPS), Japan
Ph.D. Studentship	
1996-2000	Japan Ministry of Education, Culture, Science & Sports (Mombokaguksho)

EXTAMURAL FUNDING

2009-2012	NIH/INBRE (seed/pilot grant): Role of CIB1 in cancer progression
Grant ID	P20RR016472-09
Total Direct Cost	US \$255,281
Principal Investigator	Krishna P Sarker
My percent effort	25%

2000-2002 Recipient of Research Grant: Role of Thrombin in Ischemia-induced Neuronal Cell Death Japan Society for the Promotion of Sciences 1,000,000 JPY

PROFESSIONAL SERVICE

Reviewed scientific manuscripts & grants

MEMBERSHIP

American Society for the Advancement of Science

LEADERSHIP

1999-2000 President of Kagoshima University Foreign Students Association (KUFSA) representing more than 2000 students at the level of University Governance.

RESEARCH ACTIVITIES

GRANT PROPOSALS

(Ready to submit)

1. Role of ING2 on TGF- β -induced neuroregeneration and neuroprotection
2. Controlling of breast cancer cell migration by low-intensity pulsed ultrasound (LIPUS)
3. Role of CIB2 on breast cancer progression

LIST OF PUBLICATIONS (*Total published 35, more than 700 citation reports*)

Manuscript submitted/under revision

1. Amit Katiyar, Malaya Das-Banerjee, Kausik Sarkar and **Krishna P Sarker**. Low-intensity of ultrasound (LIPUS) inhibits breast cancer cell proliferation (submitted to UMB).

Manuscript in preparation

1. CIB1 inhibits breast cancer cell adhesion and migration through inhibiting focal adhesion kinase (FAK) activation
2. Controlling of cancer cell migration by low-intensity of ultrasound (LIPUS)

Publications in peer-reviewed journals

1. S. A. Eapen, S. J. Netherton, **K. P. Sarker**, A. Chan, L. Deng, K. Riabowol, and S. Bonni (2012). *Role of ING2 in cellular differentiation* Inhibitor of growth 2 (ING2) is a regulator of myogenic differentiation (In press, PLoS ONE).
2. **K.P. Sarker**, H. Kataoka, A. Chan, S.J. Netherton, I. Pot, M.A. Huynh, X Feng, A. Bonni, K.Riabowol, S. Bonni (2008). ING2 as a novel mediator of TGF-beta -dependent responses in epithelial cells. **J Biol Chem** 283, 13269-77.
3. J. L. Rosales, **K.P. Sarker**, N. Ho, M Broniewska, P Wong, M Cheng, FA vander Hoorn, KY Lee (2007) ODF1 phosphorylation by CDK5/p35 enhances ODF1-OIP1 interaction. **Cell Physiol Biochem** 20, 311-18.
4. **K. P. Sarker**, Y. R. Hsu, I. Pot, A. Chan, S.J. Netherton, and S. Bonni (2006) Sumoylated SnoN represses transcription in a promoter-specific manner. **J Biol Chem** 281, 33008-18 (First and second author equal contribution).
5. K.K. Biswas, S. Tanchaoen, **K.P. Sarker**, K. Kawahara, T. Hashiguchi, and I. Maruyama (2006) Cepharanthine triggers apoptosis in a human hepatocellular carcinoma cell line (HuH-7) through the activation of JNK1/2 and the down regulation of Akt. **FEBS Lett** 580, 703-10.
6. **K.P. Sarker**, K.K. Biswas, K. Yamaji, M. Yamakuchi, T. Hashiguchi, KY, Lee, and I. Maruyama (2005) Inhibition of thrombin-induced vascular endothelial growth factor production by argatroban in human neuroblastoma cells. **Pathophysiol Haemost Thromb.** 34, 41-47.
7. **K. P. Sarker**, Sylvia M. Wilson and S. Bonni (2005) SnoN is a cell-type specific mediator of TGF- β responses. **J Biol Chem** 280, 13037-46.

8. S. Tancharoen, **K.P. Sarker**, T. Imamura, K.K. Biswas, K. Matsushita, S. Tatsuyama, J. Travis, J. Potempa, M. Torii, and I. Maruyama (2005) Neuropeptide release from pulp cells via proteinase-activated receptor-2 signaling. **J Immunol** 174, 5796-04.
9. **K.P. Sarker** and K-Y Lee (2004) L6 myoblast differentiation is modulated by Cdk5 via the PI3-K-Akt-p70S6K signaling pathway. **Oncogene** 23, 6064-70.
10. J. L. Rosales, B-C Lee, M. Modarressi, **K.P. Sarker**, K.Y. Lee, Y-G, Jeong, R. Oko and K-Y Lee (2004) Outer dense fibers (ODF) serve as functional target for Cdk5/p35 in the developing sperm tail. **J Biol Chem** 279, 1224-32.
11. K. Yamaji, **K.P. Sarker**, K. Abeyama, and I. Maruyama (2004) Antiatherogenic Effects of an Egg Yolk Enriched Garlic Supplement. **Int. J Food Sci Nutri** 55, 61-6.
12. **K.P. Sarker**, K.K. Biswas, J.L. Rosales, K. Yamaji, T. Hashiguchi, K.-Y. Lee and I. Maruyama (2003) Ebselen Inhibits NO-Induced Apoptosis of Differentiated PC12 Cells via Inhibition of ASK1-p38 MAPK-p53 and JNK Signaling and Activation of p44/42 MAPK and Bcl-2. **J Neurochem** 87, 1345-53.
13. T. Arisato, T. Hashiguchi, **K. P. Sarker**, K. Arimura, M. Asano, K. Matsuo, M. Osame, and I. Maruyama (2003) Highly accumulated platelet vascular endothelial growth factor in coagulant thrombotic region. **J Thromb Haemost** 1, 2589-93.
14. K. K. Biswas, **K. P. Sarker**, K. Abeyama, K. Kawahara, S. Iino, Y. Otsubo, K. Saigo, H. Izumi, T. Hashiguchi, M. Yamakuchi, K. Yamaji, R. Endo, K. Suzuki, H. Imaizumi and I. Maruyama (2003) Membrane cholesterol but not receptors mediates anandamide-induced hepatocyte apoptosis. **Hepatology** 38, 1167-77.
15. T. Arisato, **K.P. Sarker**, K. Kawahara, T. Hashiguchi, M. Nakata, M. Osame, I. Kitajima and I. Maruyama (2003) The Agonist of protease-activated receptor-1 (PAR 1) induces vascular endothelial growth factor (VEGF) in human vascular smooth muscle cells. **Cell Mol Life Sci** 60, 1716-24.
16. K. Yamaji, **K.P. Sarker**, K. Kawahara, S. Iino, M. Yamakuchi, K. Abeyama, T. Hashiguchi and I. Maruyama (2003) Anandamide Induces Apoptosis in Human Endothelial Cells: Its Regulation System and Clinical Implications. **Thromb Haemost** 89, 875-84.
- This work has been Editorial Comment**
17. **K.P. Sarker**, K.K. Biswas, M. Yamakuchi, K. Y. Lee, T. Hashiguchi, M. Kracht, I. Kitajima and I. Maruyama (2003) ASK1-JNK/p38 MAPK Signaling Cascade Mediates Anandamide-Induced PC12 Cell Apoptosis. **J Neurochem** 85, 50-61.
18. **K.P. Sarker** and I. Maruyama (2003) Anandamide Induces Cell Death Independent of Cannabinoid Receptors or Vanilloid Receptor 1: Possible Involvement of Lipid Raft. **Cell Mol Life Sci** 60, 1200-08.
19. H. Yamahata, H. Takeshima, J. Kuratsu, **K.P. Sarker**, K. Tanioka, N. Wakimaru, M. Nakata, I. Kitajima and I. Maruyama (2002) The Role of Thrombin in the Neo-vascularization of Malignant Gliomas: An Intrinsic Modulator for the Up-regulation of Vascular Endothelial Growth Factor. **Int J Oncol** 20, 921-28.
20. K. Yamaji, **K.P. Sarker**, I. Maruyama and S. Hijukuri (2002) Antiatherogenic Effects of 1,5-Anhydro-D-fructose, a Novel Natural Sugar *In Vitro*. **Planta Med** 68, 16-19.
21. K. Tezono, **K.P. Sarker** and I. Maruyama (2001) Bioactivity of Vascular Endothelial Growth Factor (VEGF) Trapped in Fibrin Clot: Production of IL-6 and IL-8 on Monocytes by Fibrin Clot. **Haemostasis** 31, 71-79.
22. S. Yokonaka, H. Hirano, N. Wakimaru, **K.P. Sarker** and J. Kuratsu (2001) Inhibitory Effect of Epigallocatechin-gallate on Brain Tumor Cell Lines *In Vitro*. **Neuro-Oncol** 3, 22-28.
23. **K.P. Sarker**, M. Nakata, I. Kitajima, T. Nakajima and I. Maruyama (2000) Inhibition of Caspase-3 by SB203580, a Inhibitor of p38 in NO Oxide Induced Apoptosis of PC-12 Cells. **J Mol Neurosci** 15, 243-50.
24. **K.P. Sarker**, S. Obara, M. Nakata, I. Kitajima and I. Maruyama (2000) Anandamide Induces Apoptosis of PC12 Cells: Involvement of Superoxide and Caspase-3. **FEBS Lett** 449, 39-44.

25. Y. Wang, Y. Liu, **K.P. Sarker**, M. Nakashima, T. Seizawa, A. Kishida, M. Nakata, I. Kitajima and I. Maruyama (2000) Polymixi B Binds to Anandamide and Inhibits Its Cytotoxic Effect. **FEBS Lett** 470, 151-55.
26. **K.P. Sarker**, T. Uchimura, T. Nakajima, M. Sorimachi, I. Kitajima and I. Maruyama (2000) Epinephrine Prevents Nitric Oxide/Peroxyntirite-induced Neuronal Cell Death Through Beta adrenergic Receptor Activation. **Neurosci Res Comm** 26, 27-39.
27. **K.P. Sarker**, H. Yamahata, M. Nakata, T. Arisato, T. Nakajima, I. Kitajima, and I. Maruyama (1999) Recombinant Thrombomodulin Inhibits Thrombin-induced Vascular Endothelial Cell Growth Factor(VEGF) in Neuronal Cells. **Haemostasis** 26, 343-52.
28. **K.P. Sarker**, T. Nakaima, I. Kitajima and I. Maruyama (1999) Increased Production of Vascular Endothelial Growth Factor (VEGF) by Angiotensin II in Neuro-2a cells. **Neurosci Res Comm** 25, 79-88.
29. **K.P. Sarker**, T. Uchimura, T. Nakajima, I. Kitajima, and I. Maruyama (1999) Serum Prevents Thrombin-induced Neuroblastoma (Neuro-2a) Cell Death. **J Kagoshima Conf on Cereb Dis** 17, 95-99.
30. **K.P. Sarker**, K. Abeyama, J. Nishi, M. Nakata, T. Tokioka, T. Nakajima, I. Kitajima and I. Maruyama (1999) Inhibition of Thrombin-induced Neuronal Cell Death by Recombinant Thrombomodulin and E5510, a Synthetic Thrombin Receptor Signaling Inhibitor. **J Thromb Haemosta** 82, 1071-77.
31. J. Nishi, A. Kamenosono, **K.P. Sarker**, S. Yoshino, J. Ikei, and Y. Matsuda (1997) Bacille Calmette-Guerin Osteomyelitis. **Pedia Infect Dis J** 16, 332-33.
32. **K.P. Sarker**, A. Islam, R. Islam, A. Hoque, and O.I Joarder (1996) *In Vitro* Propagation of *Rauvolfia Serpentina* Through Tissue Culture. **Planta Med** 26, 358-59.
33. **K.P. Sarker**, R. Islam, A. Islam, A. Hoque, and O.I. Joarder (1996) Plant Regeneration of *Rauvolfia Serpentina* by Organogenesis from Callus Cultures. **Plant Tissue Cult** 6, 63-65.
34. R. Islam, **K.P. Sarker**, A.T.M. Nadiruzzaman, and O.I. Joarder (1994) *In vitro* Regeneration of Plants from Cotyledons of *Momordica Charantia* L. **Plant Tissue Cult** 4, 105-09.
35. **K.P. Sarker**, M. Misbahuddin, N. Ahmed, ZS, Asadi, and N. Absar (1993) Effects of pH Changes on Catecholamine Secretion from Perfused Bovine Adrenal Gland. **Teachers Association J** 6, 21-24.

LIST OF THESES

1. **Doctor of Philosophy (Ph. D):** Inhibition of thrombin-induced neuronal cell death by recombinant thrombomodulin and E5510, a synthetic thrombin receptor signaling inhibitor.
2. **Master of Philosophy (M. Phil):** Studies on the propagation and secondary metabolites of *Rauvolfia Serpentina* through tissue culture.
3. **Master of Science (M. Sc):** Effects of pH changes on catecholamine secretion from perfused bovine adrenal gland.

HISTORY OF MENTORING/SUPERVISING UNDERGRADUATE/GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS IN RESEARCH

Amit Katiyar	Graduate Student, University of Delaware (2010-2011), USA
Ethan Lane	Undergraduate Student, University of Delaware (2011), USA
Malaya Das-Banerjee	Postdoctoral fellow, University of Delaware (2010-2011), USA
Cathleen Hallett	Undergraduate Student, University of Delaware (2010-2011), USA
Kristina Maratta	Undergraduate Student, University of Delaware (2011), USA
Mary O'Connor	Undergraduate Student, University of Delaware (2011), USA
Sarah Park	Summer Student from Yale University 2010, USA
Edward Baley	Undergraduate Student, University of Delaware (2007-2009), USA
Angela Chan	Graduate student, University of Calgary (2005-2007) CANADA
Roger Hsu	Graduate student, University of Calgary (2004-2006), CANADA

Curriculum Vitae
Krishna P. Sarker, Ph.D.

David Chan

Potential High School Student, Lee Lab, University of Calgary,
(2003-2004), CANADA

Salunya Tancharoen

Graduate Student, Kagoshima University, 2000-2002, JAPAN

Kamal K Biswas

Graduate student, Kagoshima University (2000- 2002), JAPAN

Kazuko Yamaji

Graduate student, Kagoshima University (2000-2002), JAPAN