



**Dr. Aniruddha Banerji**

**Department:** Biotechnology

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**Phone:** +91-33-22551275

**Designation:** Lecturer

**Qualification:** PhD: Jadavpur University (Life Sciences 2007), Research pursued at Dept. of Receptor Biology and Tumor Metastasis, Chittaranjan National Cancer Research Institute, Kolkata.

**Research Interest:** Animal biology (wildlife biology, behavioural ecology, genetics and genetic analysis, comparative anatomy), cancer biology (cell surface receptors and cancer cell signalling, metastasis and anti-metastatic compounds, study of metalloproteinases).

### **Publications in journals:**

1. **A. Banerji**. Membrane type matrix metalloproteinases – importance in tumour biology. *Science and Culture* 70 (2004) 105-107.
2. A. Mitra., J.Chakrabarti, **A. Banerji**, A. Chatterjee. Binding of  $\alpha$ 2 monoclonal antibody to human cervical tumour cell (SiHa) surface  $\alpha$ 2 $\beta$ 1 integrin modulates MMP-2 activity. *Gynecol Oncol* 94 (2004) 33-39.
3. **A. Banerji**, J. Chakrabarti, A. Mitra, A. Chatterjee. Effect of curcumin on gelatinase A (MMP-2) activity in B16F10 melanoma cells. *Cancer Lett* 211 (2004) 235-242.
4. **A. Banerji**, J. Chakrabarti, A. Mitra, A. Chatterjee. Cell membrane-associated MT1-MMP dependant activation of pro-MMP-2 in A375 melanoma cells. *J Environ Pathol Toxicol Oncol* 24 (2005) 3 -17.
5. A. Mitra, J. Chakrabarti, **A. Banerji**, S. Das, A. Chatterjee. Culture of human cervical cancer cells, SiHa in presence of fibronectin activates MMP-2. *J Cancer Res Clin Oncol* 132 (2006) 505-513.
6. A. Mitra, J. Chakrabarti, **A. Banerji**, A. Chatterjee. Cell Membrane Associated MT1-MMP Dependent Activation of MMP-2 in SiHa (Human Cervical Cancer) Cells. *J Environ Pathol Toxicol Oncol* 25 (2006) 655-666.
7. J. Chakrabarti, A. Mitra, **A. Banerji**, A. Chatterjee. Culture of human fibrosarcoma HT-1080 cells, in presence of fibronectin activates MMP-2. *J Environ Pathol Toxicol Oncol* 25 (2006) 667-677.
8. A. Mitra, J. Chakrabarti, **A. Banerji**, A. Chatterjee, B.R. Das. Curcumin, a potential inhibitor of MMP-2 in human laryngeal squamous carcinoma cells HEp2. *J Environ Pathol Toxicol Oncol* 25 (2006) 679-689.
9. A. Mitra, J. Chakrabarti, **A. Banerji**, S. Das, A. Chatterjee. Tumour cell surface integrins and matrix metalloproteinases cross-talk: a potential area for developing anti-metastatic drugs. *Current trends in Pharmacology*, ed. Roy and Gulati (2007) Chapter 26, 437-441.
10. S. Das, **A. Banerji**, E. Frei, A. Chatterjee. Culture of human breast cancer cells (MCF-7) in presence of fibronectin in serum free medium activates MMP-2 and MMP-9. *Proc. of 4th International Conference on Tumor Microenvironment: Progression, Therapy and Prevention* (2007) 117-127.

11. S. Das, **A. Banerji**, E. Frei, A. Chatterjee. Rapid expression and activation of MMP-2 and MMP-9 upon exposure of human breast cancer cells (MCF-7) to fibronectin in serum free medium. *Life Sci* 82 (2008) 467-476.
12. **A. Banerji**, S. Das, A. Chatterjee. Culture of human melanoma cells, A375 in presence of fibronectin causes expression of MMP-9 and activation of MMP-2 in culture supernatants. *J Environ Pathol Toxicol Oncol* 27 (2008) 135-145.
13. S. Moulik, T. Sen, A. Dutta, **A. Banerji**, C. Ghosh, S. Das, A. Chatterjee. Phosphatidylinositol 3-Kinase and NF- $\kappa$ B Involved in Epidermal Growth Factor-Induced Matrix Metalloproteinase-9 Expression. *J Cancer Mol* 4 (2008) 55-60.
14. **A. Banerji**, J. Chakrabarti, A. Mitra, A. Chatterjee. Cell Surface Activation of MMP-2. *Proc. Zoological Res in Human Welfare* (2008) 235-244.
15. T. Sen, S. Moulik, P. Roychowdhury, A. Dutta, **A. Banerji**, S. Das, A. Chatterjee. Multifunctional effect of epigallocatechin-3-gallate (EGCG) in downregulation of gelatinase-A (MMP-2) in human breast cancer cell line MCF-7. *Life Sci* 84 (2009) 194-204.
16. A. Dutta, T. Sen, **A. Banerji**, S. Das, A. Chatterjee. Studies on Multifunctional Effect of All-Trans Retinoic Acid (ATRA) on Matrix Metalloproteinase-2 (MMP-2) and Its Regulatory Molecules in Human Breast Cancer Cells (MCF-7). Accepted for publication in *J Oncology* (2009) Epub July, 2009.

#### **Invited talks/ Papers presented at Conferences/ Seminars:**

1. Received **1<sup>st</sup> prize** in National Workshop on HPLC and its Applications, Kolkata, 20-22.9.2003.
2. "Modulation of gelatinase A/ matrix metalloproteinase-2 activity by curcumin" – **A. Banerji**, J. Chakrabarti, A. Mitra and A. Chatterjee. Annual Meeting of Immunology Study Group, West Bengal, Kolkata, 16.1.2004.
3. "Effect of curcumin on MMP-2 activity in B16F10 cells" – **A. Banerji**, J. Chakrabarti, A. Mitra, A. Chatterjee. Seminar on Contemporary Zoology, Kolkata, 21.7.2006.
4. "The role of cell surface integrins (fibronectin receptor) in regulation of expression and activity of matrix metalloproteinases (MMPs)" – **A. Banerji**, A. Mitra, J. Chakrabarti, S. Das, A. Chatterjee. International Conference On Frontier Researches In Physiology, Kolkata 8-10.1.2007.
5. "Integrin – Matrix Metalloproteinases (MMPs) Cross Talk" – **A. Banerji**, A. Mitra, J. Chakrabarti, S. Das, A. Chatterjee, 26<sup>th</sup> Annual Convention of Indian Association for Cancer Research and International Symposium on Translational Research in Cancer, Bhubaneswar 17-19.1.2007.
6. "Cell surface activation of MMP-2" – **A. Banerji**, J. Chakrabarti, A. Mitra, A. Chatterjee, "National Seminar on Dimensions on Zoological Research in Human Welfare", Kolkata 23-25.3.2007. Received **Young Scientist award** in Molecular Biology and Genetics.
7. "Effect of curcumin on MMP-2 activity in B16F10 murine melanoma and HEP2 human laryngeal cancer cells" – **A. Banerji**, J. Chakrabarti, A. Mitra, B.R. Das, A. Chatterjee at International Symposium on Recent Trends in Cancer Research & Treatment, Kolkata, 1 – 3.11.2007. Received **award for best Oral Presentation**.

#### **Research projects undertaken:**

UGC Major Research Project: "Anti-cancer potential of ATRA in a murine melanoma model".  
 Period: 3 years (2010-2013)  
 Present Status: Running.