

Biographical Informations

Name Dr. Amitava Chatterjee , Ph.D
Asst. Director (Retired) Chittaranjan National Cancer Institute, Kolkata

Office Address- **Emeritus Scientist** , Ramakrishna Mission Vivekananda
University (IRDM) , Narendrapur, Kolkata- 700103

e. mail I D amitavachatterjee24@gmail.com, 9830128320 (M)

Academic qualification-

1970 B. Sc (Hons) in **Physiology**, Calcutta University
1972-73 M. Sc in **Physiology**, Calcutta University
1979 Ph. D , **Biochemistry**, Bose Institute, Calcutta
University

Research Experience in Cancer Biology- over 35 years in National and International Institutions

Post Doctoral Training

1984 Recipient of “Birla International Fellowship” to go to UK
1984.1985 Research Associate, Department of Pharmacology, Baylor
College of Medicine, Tx Medical Centre, Houston, USA

Academic Appointments

1985- 1987 Faculty, Department of Pharmacology, Baylor College of
Medicine, USA

1990.1991 Faculty, Department of Pharmacology, Baylor College of
Medicine, Houston, USA

1991- 1992 Tumor Biologist, Department of Dermatology, Wellman
Laboratory of Photomedicine, Harvard Medical School,
BOSTON, USA.

2000 Apr- Jul Visiting Scientist, German Cancer Research Center, DKFZ
Heidelberg, Germany

2001 May-Aug Visiting Scientist, DKFZ, Heidelberg, Germany

2002 Apr- June Visiting Scientist, DKFZ, Heidelberg, Germany

2007 February – March, Visiting Scientist, DKFZ, Heidelberg, Germany

2007 March 6-10 , Invited Speaker at “ International Conference on Tumor
Microenvironment” AACR sponsored, Florence, Italy.

2007 July 12 – 14 Expert member and Invited speaker, Indo-German Workshop, 2007,
DKFZ, Heidelberg, Germany.

2008 , Apr – May, Invited as “Visiting Professor” to visit Institute Molecular Oncology,
IDIBELL, Barcelona, Spain

International Conference Attended

American Asson For Cancer Research 1985, 1987, 1991, 1992

U I C C , New Delhi 1994

U I C C , Sweden 1999

Metastasis Research Society, London,UK 2000 (Invited Speaker)

American Asson. Cancer Research, Florence, Italy, March, 2007 (Invited Speaker)

International Conference on Herbal Drugs, New Delhi, Dec, 2006.(Invited Speaker).

International Conference in Human Physiology, Kolkata University,Jan

2007 (Invited Speaker).

2nd Internation Symposium on Translational Research, Lonavala, India,Dec 9-12,2007 (invited Speaker).

Invited speaker at International Conference on Tumor Microenvironment, Florence,Italy March 6-10, 2007.

Invited speaker in Drug Delivery World Congress, Int Conf, Boston, USA, August, 2016

Invited Speaker in PCS Inter Conf, Mumbai, May, 2017

Publications- 75 in International Journals.

Ph.D Thesis Awarded/guided 10

Sanctioned Projects - DST, ICMR, DRDO, CSIR, NTRF, DST, W.B, Indo-German etc

Original Articles Published :

1. Chakraborty DP, **Chatterjee A** Urinary indole profile of B. Melanostictus during hydroquinone induced leucoderma and its regeneration. Clin Chim. Acta 79, 399-400, 1977.
2. Chakraborty DP, Chowdhury SKR, Dey RN, **Chatterjee A** Interrelationship of tryptophan pyrrolase in melanogenesis of B. Melanostictus Clin. Chim Acta 82, 55-59, 1978.
3. Chakraborty AK, **Chatterjee A**, Chakraborty C, Chakraborty DP. Effect of tryptophan on tyrosinase in relation to vitiligo. Experientia 36, 920, 1980
4. Chakraborty DP, **Chatterjee A**, Chakraborty AK, Chakraborty C. A method of bioassay of antivtiligo drugs Science and Culture, 47, 228-230.
5. Chakraborty DP, **Chatterjee A**, Chakraborty AK Induced depigmentation in B. Melanostictus and ascorbic acid J. Ind. Chem. Soc LVIII, 608-610, 1981.
6. **Chatterjee A**, S Ghosh, Das S, Sen S Isolation of yeast ascospores free of vegetative cell contamination. J. Gen. Microbiol. 128, 2725-2728, 1982.
7. Chakraborty C, **Chatterjee A**, Chakraborty AK, Chakraborty DP Inverse relationship between melanogenesis and endogenous hydroquinone. Experientia 40, 829, 1984.

8. Freeman JW, **Chatterjee A**, Busch H Discrimination of epitope identified by monoclonal antibodies by competitive binding to nitrocellulose bound antigens. *J. Immunol. Methods* 78, 259- 265, 1985.
9. Freeman JW, **Chatterjee A**, Ross B, Busch H, Epitope discrimination and immunochemical charecterization of nucleolar phosphoprotein C23 using the monoclonal antibodies. *Mol. & Cell. Biochem.* 68, 87-96, 1985.
10. Busch H, Busch RK, Chan PK, **Chatterjee A**, Freeman JW, Ross B, Black A, Yaneva M. Nucleolar antigens in cancer tissues, *International Academy of Tumor Marker Oncology*, 1, 69-80, 1986.
11. **Chatterjee A**, Freeman JW and Busch H, Development of panel of monoclonal antibodies against HeLa nuclear and nucleolar antigens associated with cell proliferation. *Am. Asson. Cancer Resh. Atlanta, USA* 1987.
12. **Chatterjee A**, Freeman JW and Busch H, Identification and partial charecterisation of a 40 kD nucleolar antigen associated with cell proliferation. *Cancer Resh*, 47, 1123-1129, 1987.
13. Busch H, Freeman JW, Busch RK, **Chatterjee A**, Black A. At last : meaningful and reproducible immunological distinctions between cancer cells and normal resting cells. *Clinical Immunology News Letter* 8, 17-20, 1987.
14. Busch H, Busch RK, Black A, Chan PK, **Chatterjee A**, Durban E, Freeman JW, Ochs R, Tan EM, Ross B, Yaneva M. Novel nucleolar antigens in autoimmune diseases. *J. Reumatol* 14, 70-77, 1987.
15. **Chatterjee A**, Freeman JW, Busch H Identification and partial charecterisation of a 105, 000 Mr nucleolar antigen associated with cell proliferation. *Cancer Resh* 47, 6329, 1987.
16. Busch H, Busch Rk, Chan PK, **Chatterjee A**, Freeman JW, Ross B, Black A, Yaneva M. Nucleolar antigens in cancer tissues. *Human Tumor markers* Page 203-221, 1987.
17. Busch H, Busch RK, Freeman JW, Black A, Rabinovsky E, **Chatterjee A**, Reddy AB, Yaneva M. Nucleolar G antigens as cancer targets. *J. Tumor Marker Oncol.* 2, 141-151, 1987.
18. **Chatterjee A**, Durban E, Busch H. Charecterisation of a nuclear antigen associated with cell proliferation. *Cancer Resh.* 48, 7159-7163, 1988.
19. Reddy AB, **Chatterjee A**, Rothblum LI, Black A, Busch H. Isolation and charecterisation of a complementary DNA to proliferating cell nucleolar antigen P-40. *Cancer Resh.* 49, 1763-1767, 1989.
20. **Chatterjee A**, Dutta K, Roychowdhury J. Identification of a novel 80 kD antigen associated to cell proliferation. *Cancer Letter* 47, 199-204, 1989.
21. **Chatterjee A**, Busch RK, Zung D, Zahang WW, Busch H, Purification of a group of HeLa nuclear proteins that binds to a proliferating cell nuclear protein P 120 gene. *Biochem Biophys Res Commun.* 180, 805-815, 1991.
22. **Chatterjee A**, Biswas N, Chowdhury S, Roychowdhury J. Idewntification of a 60 kD antigen associated malignant growth of human breast tissue. *Oncology* 53, 422-425, 1996.
23. **Chatterjee A**. Integrins- New Frontier in Cancer Biology. *Ind. Jour. Exp. Resh.* 34, 923-926, 1996

24. Chowdhury SK and **Chatterjee A**. Reversal of resistance against doxorubicin by a newly developed compound, Oxalibis(N-Phenyl)hydroxamic acid in vitro. *Anti Cancer Drug*, 9, 825- 832, 1998.
25. Sengupta S, Ray S, Chattopadhyay N, Biswas N, **Chatterjee A**. Effect of AllTrans Retinoic acid on metastatic potential of B16F10 cells. *J.Exp. Clin. Cancer Resh.* 19. No-1, 81-88, 2000.
26. Ray S, Chattopadhyay N, Biswas N, **Chatterjee A**. Regulatory molecules in tumor metastasis. *J. Env.Pathol. Toxicol. Oncol* 18, No-9, 251-259,1999.
27. Chattopadhyay N, Ray S, Biswas N, **Chatterjee A** Effect of All Trans Retinoic Acid on Integrin receptors of cervical cancer cells(SiHa) *Gyn. Oncol* 75, 215-221, 1999.
28. Chattopadhyay N, **Chatterjee A**. Studies on the expression of alfaVbeta3 integrin receptor in non malignant and malignant human cervical tumor tissue *J.Exp. Clin. Cancer Resh*,20, no-2,269-275, 2001
29. Chattopadhyay N, **Chatterjee A**. Role of alfaVbeta3 integrin receptor in the invasive potential of cervical cancer cells. *J. Env.Toxicol.Pathol. Oncol* 20, no-4,211-221, 2001.
30. Ray S, Chattopadhyay N, Sanyal U, Biswas N, **Chatterjee A**. Integrin Modulating Factor: A 30 kD protein that modulates the activity of alfa5beta1 integrin receptor in cervical cancer cells. *J. Env. Toxicol. Pathol. Oncol.* 20, no-4,199-209 2001.
31. Sengupta S, Chattopadhyay N, Ray S, Mitra A, Dasgupta S, **Chatterjee A**. Role of alfaVbeta3 integrin receptor in breast tumor *J. Exp. Clin. Cancer Resh.* 20,no-4,203-208, 2001
32. Chattopadhyay N, Mitra A, Frei E , **Chatterjee A** AlfaVbeta3 Integrin receptor expressed on human cervical cell (SiHa) surface has associated matrixmetalloproteinase activity. *J. Cancer Resh. Clin. Oncol*,127, 653-658, 2001
33. Ray S, Chattopadhyay N, Siddiqi M, Mitra A, **Chatterjee A** Curcumin exhibits antimetastatic properties by modulating Integrin receptors ,collagenase activity, and expression of Nm 23 and E-cadherin. *J. Env. Pathol.Toxicol.Oncol.* 21, no4, 347-354, 2002
34. Mitra A, Chakraborty J, Chattopadhyay N, **Chatterjee A**. Studies on membrane associated MMP2 in human cervical tumor . *J.Env.Pathol.Toxicol.Oncol* , vol-22, no-2, 2003.
35. Mitra A,Chakraborty J,**Chatterjee A**. Ligation of $\alpha 5\beta 1$ integrin by alfa5 monoclonal antibody modulates expression and activity of MMP2 & MMP7 in B16F10 melanoma cells . *J. Env. Pathol. Toxicol.Oncol*, Vol-22 (3), 167-178, 2003.
36. Banerji. A, Chakraborti, J, Mitra. A, **Chatterjee. A** Effect of Curcumin on Gelatinase A (MMP-2) in B16F10 cells *Cancer. Lett.* Vol-211, no-2, 235-242, 2004.
37. Mitra.A, Chakraborti.J, Banerji.A,**Chatterjee.A** Binding of alfa2 monoclonal antibody to alfa2 beta1 Integrin activates GlatinaseA(MMP2) in human cervical tumor cells(SiHa) *Gynae. Oncol* vol-94, no-1, 33-39, 2004.
38. Banerji A, Chakraborti J, Mitra A, **Chatterjee A** Cell membrane associated MT1-MMP dependent activation of proMMP-2 in A375 melanoma cells. *Jour. Env. Pathol. Toxicol. Oncol.* Vol 24(1), 1-16, 2005.

39. Evelyn Y-L. Kim, Claas Gronewold **Amitava Chatterjee**, Claus- Wilhelm von der Lieth, Christian Kliem, Lutz Langbein, Birgit Schmauser, Manfred Wiessler, Eva Frei. Saccharide mimetics containing galactose and fucose specifically label tumor cell surface and inhibit cell adhesion to fibronectin. *Chem Bio Chem*, vol-6, 1- 10, 2005.
40. Mitra. A, Chakraborty. J, Banerji. A and **Chatterjee. A** Cell Membrane mediated MT1-MMP dependent activation of Gelatinase A(MMP-2) in human cervical tumor cell(SiHa). *J.Env.Pathol.Toxicol.Oncol* , v-25, no-4,655-666, 2006.
41. Chakraborti.J,Mitra.A, Banerji A and **Chatterjee.A** Culture of HT-1080 cells in presence of fibronectin activates MMP-2, *Jour.Env.Toxicol.Pathol.Oncol* v-25,n0-4,667-677,2006.
42. Mitra A, Chakrabarti J, Bannerji. A, Das S and **Chatterjee A** Culture of SiHa cells in presence of fibronectin in serum free culture medium activates MMP-2. *Jour. Can. Resh. Clin. Oncol* , v-132,505-513,2006.
43. Mitra A, Chakraborti J, Banerji A, **Chatterjee A**, B R Das Curcumin a potential inhibitor of MMP-2 in human laryngeal squamous carcinoma cells *J. Env. Pathol. Toxicol. Oncol. J.Env.Pathol.Toxicol.Oncol*, v-25,n0-4,679-689, 2006.
44. Das S , Bannerji A, Frei A and **Chatterjee A** Culture of MCF-7 human breast cancer cells in serum free medium in presence of fibronectin activates MMP-2 and MMP-9, *Life Sciences* vol-82,467-476, 2008
45. Ashok K Chakrabortya, Josane de Frietas Sousa, Debjit Chakraborty, Yoko Funasaka, Mahasweta Bhattacharyaa, **Amitava Chatterjee**, John Pawelek, GnT-III, a GnT-V Antagonist, Suppresses Melanogenesis and Motility in Macrophage-Melanoma Fusion Hybrids, *GENEv-334*, 166-173, 2006
- 46.Mitra A, Chakraborty J, Bannerji A, Das S, **Chatterjee A**. Integrin -MMP Interrelation. A potential area to develop anti metastatic drugs- *Trends in Pharmacology*, edited by Roy & Gulati Chapter 26. 2006.
47. Maity G, Mandal S, **Chatterjee A**, Bhattacharyya D. Purification & Characterization of a low molecular cytotoxic phospholipase A2 from Russel's viper venom : A multifunctional protein. *Jour. Chromato. B*,v-845, 232- 243, 2007.
48. Moullick S, **Chatterjee A**. Vascular endothelial growth factor (VEGF) & tumour angiogenesis. *Indian J Med Res* 125(6):715-6 (2007) PMID 17704546.
49. Das S, Banerji A, Frei E, **Chatterjee A**. 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.* 2008 Feb 27;82(9-10):467-76.
50. Moullick S, Sen T, Dutta A, Ghosh C, Bannerji A, Das S,**Chatterjee A**. Phosphatidylinositol 3-Kinase and NF-κB Involved in Epidermal Growth Factor-Induced Matrix Metalloproteinase-9 Expression. *Jour .Cancer Mols.* Vol-4(2),55-60, 2008.
- 51.Banerji A, **Chatterjee A**. Culture of A-375 cancer cells on fibronectin coated plates activates MMP-2 and MMP-9, *Jour. Toxicol. Pathol. Oncol*, vol-27(2), 135-145, 2008
52. Sen T, Moullick S, Roychowdhury P, Dutta A, Banerji A, Das S, **Chatterjee A**. Multifunctional effect of epigallocatechin-3-gallate (EGCG) in downregulation of gelatinase-A (MMP-2) in human breast cancer cell line MCF-7. *Life Sciences* vol-84,194-204, 2009.

53. Dutta A, Sen T, Banerji A, Das S, **Chatterjee A**. 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). *Journal of Oncology*, Volume 2009, 1- 12.
54. Maity G, Fahreen S, Banerji A, Sen T, Dutta A, Roychowdhury P, **Chatterjee A**. Fn-Integrin mediated signaling in human cervical cancer cells (SiHa), *Mol Cell Biochem* vol-336,(1-2), 65-74, 2010.
55. Dutta A, Sen T, **Chatterjee A**. Culture of K562 human myeloid leukemia cells in presence of fibronectin expresses and secretes MMP-9 in serum free culture medium. *International Jour of Exp Clin Pathol*, vol-3(3), 288-302, 2010
57. Sil H, Sen T, Moulick S, **Chatterjee A**. Black Tea Polyphenol (Theaflavin) Downregulates MMP-2 in Human Melanoma Cell Line A375 by Involving Multiple Regulatory Molecules. *Jour Env Patho toxicol Oncol* vol-29(1) 55-68, 2010.
58. Sen T, Dutta A, Maity G, **Chatterjee A**. Fibronectin induces matrix metalloproteinase-9 (MMP-9) in human laryngeal carcinoma cells by involving multiple signaling pathways. *Biochimie*. Volume 92, Issue 10, October 2010, 1422-1434.
59. Sen T, Dutta A, **Chatterjee A**, EGCG downregulates Gelatinase-B (MMP-9) by involvement of FAK/ERK, NF- κ B and AP-I in the human breast cancer cell line MDA-MB-231. *Anti Cancer Drugs* vol-21 (6), 632-644, 2010.
60. Dutta A, Sen T, **Chatterjee A**. All-trans retinoic acid (ATRA) downregulates MMP-9 by modulating its regulatory molecules. *Cell Adh Migr*. 2010 Jul-Sep; 4(3):409-18.
61. Sen T, **Chatterjee A**. Epigallocatechin-3-gallate (EGCG) downregulates EGF-induced MMP-9 in breast cancer cells: involvement of integrin receptor $\alpha 5\beta 1$ in the process. *Eur J Nutr*. 2011 Sep; 50(6):465-78.
62. Maity G, Choudhury P R, Sen T, Ganguly K K, Sil H, **Chatterjee A**. Culture of human breast cancer cell line (MDA-MB-231) on fibronectin-coated surface induces pro-matrix metalloproteinase-9 expression and activity. *Tumour Biol*. 2011 Feb; 32(1):129-38.
63. Maity G, Sen T, **Chatterjee A**. Laminin induces matrix metalloproteinase-9 expression and activation in human cervical cancer cell line (SiHa). *J Cancer Res Clin Oncol* (2011) 137:347–357.
64. Sil H, Sen T, **Chatterjee A**. Fibronectin – Integrin ($\alpha 5\beta 1$) modulates migration and invasion of murine melanoma cell line B16F10 by involving MMP-9, *Oncology Research*, vol 19, 2011, 335-348.
65. Pal S, Ganguly K K, Moulik S, **Chatterjee A**. Modulation of MMPs by cell surface integrin receptor $\alpha 5\beta 1$. (Accepted for publication in *Anti-cancer Agents in Medical Chemistry*., September, 2011)
66. Ganguly K K, Sen T, Pal S, Biswas J, **Chatterjee A**. Studies on Focal Adhesion Kinase in Human Breast Cancer cell MDA-MB-231. (Accepted for publication in *Advances in Biological Chemistry*, Nov, 2011).
67. Ganguly K K, Sen T, Mandal S, Biswas J, **Chatterjee A**. Studies on Focal Adhesion Kinase in Human Breast Cancer Tissue. (Accepted for publication in *Journal of Cancer Therapy*, Dec, 2011).
68. Kirat Ganguly, Sekhar Pal, **Amitava Chatterjee**, Integrin and Metastasis, Cell Migration and Adhesion (accepted for publication, Jan 2013).

69. Nanda D, Sil H, Moulik S, Biswas J and **Chatterjee A** et al, MMP-9 in breast cancer JEPTO (accepted for publication, Oct 2013).
70. Sil H, Moulik S, Biswas J, **Chatterjee A** et al MMP-2 in human breast cancer , Jour of Tumor (Published April 2015)
71. Moulik S, Pal S, Biswas J, **Amitava Chatterjee**, Role of ERK-----MDA-MB-231, Jour of Tumor, (published, Jan 2014)
72. Pal S, Moulik S, Dutta A, **Chatterjee A**, Extracellular matrix protein laminin induces matrix metalloproteinase-9 in human breast cancer cell line MCF-7, Cancer Microenvironment (Accepted for publication, April, 2014)
- 73 Sil H and Chatterjee A- AlfaV beta3- MMP-2 Crosstalk, Jour of Tumor, 2015
- 74- Chatterjee et al- Effect of Black Tea Polyphenols on Cell-ECM Interaction and MMP- American Journal of Plant Sciences (accepted for publication, March 2017)
- 75- Chatterjee et al- Activated Salivary MMP-2- A potential breast cancer marker- Proceedings of Open Conference- Bentham Press, 2016 (accepted for publication, December, 2016).