Dr. D.Y. Patil Vidyapeeth's
Dr. D. Y. Patil Biotechnology And Bioinformatics Institute.

Dr. Soumya Basu

Designation: Assistant Professor
Email ID : soumya.basu@dpu.edu.in
Mobile No : 02065101870
Qualification : M.Sc., PhD
Area of Specialization: Cell Biology, Cancer Biology

Academic Qualifications:

- PhD (Life Sciences), Jadavpur University, 2012 (Title of thesis: "Reactive Oxygen Species mediated Targeted Therapy in Drug-Resistant Cancer", Date of Defense: April, 2012, Mentor: Dr. Soumitra Kumar Choudhuri)
- MSc, Microbiology, Kalyani University, 2003
- BSc (Hons), Physics, Burdwan University, 2001

Professional Experience:

- *Research Associate, DBT, Jan 2013-July 2014.* Molecular Functional Imaging Laboratory, ACTREC, Mumbai
- *Sr. Research Fellow (SRF), ICMR; Feb 2008 – May 2011*. Dept. of In-vitro Carcinogenesis & Cellular Chemotherapy, Chittaranjan National Cancer Institute (CNCI), 37, S. P. Mukherjee Road, Kolkata-700 026
- *Project Assistant, UGC, Jan 2006 – Jan 2008*. Dept. of Pharmacy, Jadavpur University, Kolkata – 700 032
- *Project Assistant; 2005 – 06.* Dept. of Biophysiscs, Molecular Biology & Genetics, University of Calcutta
- *Lecturer in Microbiology; Sep 03 – Nov 04.* Kulti College, Kulti, Burdwan University, WB

Responsibilities:

- Research
- Assisting PhD students for paper writing for international journals
- Guiding M.Sc. and M.Tech. Project students
- Teaching Microbiology, Biophysics, Biochemistry, Molecular Biology and recombinant DNA technology to Microbiology Hons. Students (Part I, Part II and Part III) in Kulti College (NACC accredited), University of Burdwan (NACC accredited five star university)
- Setting up the complete theoretical and experimental facility in the newly started (2002) Microbiology Department in Kulti College. (Starting from procuring chemicals; instruments like bacteriological laminar air flow, incubator, colony counter, microscope etc.)
- Managed the duty of Departmental Head of Microbiology in Kulti College from Sept 2003-Nov 2004 (duty included teaching, allotment of syllabus to different faculties, conduct internal and university examinations, financial responsibilities)

Awards and Fellowships:

- Department of Biotechnology (DBT), Govt. of India, Research Associateship Dec. 2012
- ICMR Senior Research Fellowship, 2008 – 11
- UGC project assistantship, 2006 - 08
- GATE, 2004
- NET (LS), 2003

Publications:

- **Basu S**, Ganguly A, Chakraborty P, Sen R, Banerjee K, Chatterjee M, Efferth T, Choudhuri SK. Targeting the mitochondrial pathway to induce apoptosis/necrosis through ROS by a newly developed Schiff's base to overcome MDR in cancer. Biochimie. 2012 Jan; 94(1):166-83.
- Ganguly A, Chakraborty P, Banerjee K, Chatterjee S, **Basu S**, Sarkar A, Chatterjee M, Choudhuri SK. Iron N-(2-hydroxy acetophenone) glycinate (FeNG), a non-toxic glutathione depletor circumvents doxorubicin resistance in Ehrlich ascites carcinoma cells in vivo.Biometals. 2012 Feb; 25(1):149-63.
- Ganguly A, **Basu S**, Banerjee K, Chakraborty P, Sarkar A, Chatterjee M, Chaudhuri SK.Redox active copper chelate overcomes multidrug resistance in T-lymphoblastic leukemia cell by triggering apoptosis.Mol Biosyst. 2011 May; 7(5):1701-12.
- Ganguly A, **Basu S**, Chakraborty P, Chaterjee S, Sarkar A et al (2010) Targeting mitochondrial cell death pathway to overcome drug resistance with a newly developed iron chelate. *PLoS ONE* 5:e11253.
- **Basu S**, Majumder S, Chatterjee S, Ganguly A, Efferth T, Choudhuri S K (2009) Detection and characterization of a Glutathione conjugate of a novel copper complex. In vivo 29: 401-408.
- Chattopadhyay B, **Basu S**, Chakraborty P, Choudhuri S K, Mukherjee A K, Mukherjee M (2009) Synthesis, spectroscopic characterization, X-ray powder structure analysis, DFT study and in vitro anticancer activity of N-(2-methoxyphenyl)-3-methoxysalicylaldimine. J Mol Structure 932:90–96.
- **Basu S**, Chattopadhyay B, Ganguly A, Chakraborty P, Roy Chowdhury P, Samanta S, Mukherjee M, Mukherjee A K, Choudhuri S K (2009) Synthesis, X-ray powder structure analysis and biological properties of a mononuclear Cu(II) complex of N-2-hydroxyhippuric acid. Appl Organometal Chem 23: 527–534
- Jha T, Samanta S, **Basu S**, Halder AK, Adhikari N, Maiti M K (2009) QSAR study on some orally active Uracil derivatives as human gonadotropin–releasing–hormone receptor antagonists. Internet Electron. J Mol Des 7 (11), 234–250
- Alam M, Samanta S, Halder A K, **Basu S**, Jha T (2009) QSAR modelling of KATP-pβ channel opener R/S-3,4-dihydro-2,2-dimethyl-6-halo-4-(substituted phenylaminocarbonyl- amino)-2H-1-benzopyrans using MLR-FA techniques. *Euro J Med Chem* 44: 359-364.
- Samanta S, Alam M, **Basu S**, Majhi T, Roy D K, Jha T (2007) Chemoimmunotheraputic approach to Prolonge Survival Time in Combination with Immunization and Glutamic acid Derivatives with Antitumor Activity in Tumor-Bearing Mice. Biol Pharm Bull 30(12): 2334-2339.
- Panda P, Samanta S, Alam M, **Basu S**, Jha T (2007) QSAR for Analogs of 1,5–N,N'–Disubstituted–2–(substitutedbenzenesulphonyl) Glutamamides as Antitumor Agents. Internet Electron J Mol Des 6(9): 280–301.
- Alam M, Samanta S, Halder A K, **Basu S**, Jha T (2007) Structural finding of R/S-3,4-dihydro-2,2-dimethyl-6-halo-4-(substituted phenylaminocarbonyl- amino)-2H-1-benzopyrans as selective pancreatic beta cells KATP-pβ channel opener. Can J Chem 85(12):1053-1063.

Manuscripts under communication:

- A newly synthesized redox-active copper chelate induces apoptosis in multi-drug resistant cancer cells through mitochondrial pathways. **Soumya Basu**, Paramita Chakraborty, Kaushik Banerjee, Abhinaba Sinha, Soumitra Kumar Choudhuri.
- A redox-active, glutathione-depleter Schiff's base reverses doxorubicin resistance in vitro and in vivo. **Soumya Basu**, Kaushik Banerjee, Soumitra Kumar Choudhuri.

Manuscripts under preparation:

- Redox active copper chelate increases antioxidant enzymes activity in vital organs in Erlich Ascite Carcinoma mice model. **Soumya Basu**, Soumitra Choudhuri.

Invited Book Chapter under communication:

- Use of BRET for measuring protein-protein interactions. Shalini Dimri, **Soumya Basu,** Abhijit De. Methods In Molecular Biology, Humana Press

Proceedings Publication:

- Banerjee K, Ganguly A, **Basu S** and Choudhuri S K. P-Glycoprotein (ABCB1) Mediated Collateral Sensitivity to a newly synthesized Platinum complex overcomes multidrug resistance in cancer. UGC-Sponsored National Level Seminar on "Microbiology: Development and Challenges in Basic and Applied Research". 2011 April
- Banerjee K, Ganguly A, **Basu S** and Choudhuri S K. P-Glycoprotein Mediated Collateral Sensitivity to Overcome Multidrug Resistance in Cancer through a Newly Synthesized Platinum Complex. 30th Annual Convention of Indian Association for Cancer Research and International Symposium on "Signaling Network and Cancer". 2011 February. **Basu S**, Ganguly A, Banerjee K, Choudhuri S K. Reactive oxygen species mediated induction of apoptosis by a copper complex overcomes drug resistance. 29th Annual Convention of Indian Association for Cancer Research and Symposium on Biology of Cancer Stem Cells. **2010** Feb**:** p88.
- Choudhuri SK, Chatterjee S, Ganguly A, **Basu S**, Chakraborty P, Biswas J. Overcoming multidrug resistance (mdr) trrough oxidative stress- A novel approach. International Symposium on Prognostic and Predictive Factors in Cancer Management. **2008** Dec : 36-37.
- **Basu S**, Samanta S, Jha T. Synthesis of some 5-*N*-substituted-2 (substituted benzenesulphonyl) glutamines as potential anticancer agents. National Symposium on 21st Century Research in Biochemistry and Biophysics, **2007**, p 112.
- **Basu S**, Kundu S. Network Properties of Amino Acids within Protein Structures: A Comparative Study. National Symposium on Molecules, Interactions and Design, A Biophysical Perspective, Indian Biophysical Society, **2006** Jan, p 113.

Workshops/Conferences Attended:

- **Basu S**, Ganguly A, Banerjee K, Choudhuri S K. Reactive oxygen species mediated induction of apoptosis by a copper complex overcomes drug resistance. 29th Annual Convention of Indian Association for Cancer Research and Symposium on Biology of Cancer Stem Cells. 2010 Feb: p88.
- **Basu S**, Samanta S, Jha T. Synthesis of some 5-*N*-substituted-2 (substituted benzenesulphonyl) glutamines as potential anticancer agents. National Symposium on 21st Century Research in Biochemistry and Biophysics, 2007, p 112.
- **Basu S**, Kundu S. Network Properties of Amino Acids within Protein Structures: A Comparative Study. National Symposium on Molecules, Interactions and Design, A Biophysical Perspective, Indian Biophysical Society, 2006 Jan, p 113.