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| **Name:** | Dr Arnab Pal |  |
| **Expertise:** | BiochemistryClinical ChemistryMolecular and Cell Biology |
| **Contact Address:** |
| Dr Arnab Pal MD PhDAssistant ProfessorDepartment of BiochemistryResearch Block A, 3rd FloorPGIMER, ChandigarhIndia, 160012+91-172-2755177(L), +91-8872016174 (M)pal.arnab@pgimer.edu.in, drarnabpal@gmail.com |
| **Education:** |
| **Sl No** | **Institution** | **Degree Awarded** | **Year** | **Subject** |
| 1 | RG Kar Medical College, University of Calcutta | MBBS | 1998 | Medicine, Surgery |
| 2 | All India Institute of Medical Sciences(AIIMS), New Delhi | MD | 2005 | Biochemistry |
| 3 | All India Institute of Medical Sciences(AIIMS), New Delhi | PhD | 2009 | Biochemistry |
| **Position:** |
| **Sl No** | **Institute** | **Position** | **From**  | **To** |
| 1 | All India Institute of Medical Sciences(AIIMS), New Delhi | Senior Demonstrator | August 2005 | August 2008 |
| 2 | North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences (NEIGRIHMS), Shillong | Assistant Professor | August 2008 | June 2011 |
| 3 | Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh | Assistant Professor | June 2011 | Till date |
| **Write-up of research and development interest/focus, past and present goals:** |
| * Six years of research on the effects of depleted oxygen concentration on DNA methylation at repeat elements in tumor cell-lines. This was the first study to evaluate the effects long term of hypoxia on DNA methylation which is one of the most important factors in influencing different aspects of tumor behavior like aggressiveness, its propensity to respond to standard modes of cancer therapy including chemo and radiotherapy.
* Molecular biology techniques - bacterial cloning, ELISA, Western blot, use of flowcytometer for cell cycle analysis and immuno-phenotyping, Real Time PCR, ChIP (Chromatin Immuno Precipitation) assay.
* Cell biology techniques- tissue culture under different conditions, cell proliferation/survival assay, transfection of different cancer cell lines by different techniques.
* I am well versed in the use of siRNA technology for transcriptional and posttranscriptional gene silencing, targeting cancer cells with the help of monoclonal antibodies.

**Area of interest:**My laboratory works in development of newer biomarkers for cancers. We are trying to develop a tumor marker for early diagnosis of Oral Squamous Cell Cancers (OSCC). In future we will be targeting other cancers relevant to major health problems in India also.The other area my laboratory is working is genetic factors determining the incidence and progression of Acne in Indian Population. |
| **Significant Recognition:** |
| Selected for Astra Zeneca International Scholar-in-Training Award in 2008 by American Association of Cancer Research. |
| **Selected list of Publications and Patents:** |
| * A Pal, A M Mondal, M Mehndiratta, S Sinha & P Chattopadhyay. HypoxiaCauses Global Demethylation with Patchy Hypermethylation of CpG Islands of Repeat DNAElements in U87MG Human GlioblastomaMultiforme Cell Line. Indian J Med Res 121(Supplement),February 2005. p80.
* S. Sen, A. Singh, A. Pal, C. Sharma, R. Kar, and N. Singh. Anti-cancer gene expression profileofcurcumin identifies new therapeutic targets in squamous cell lung carcinoma in vitro. Journal of Clinical Oncology, 2007 Vol 25, No 18S (June 20 Supplement), 2007: 18203
* S. Sen, C. Sharma, A.Pal, R. Kar, N. Singh. Multiple anticancer targets of chemopreventivecurcumin in squamous cell carcinoma in vitro. European J Cancer, Vol 6, No 3, March 2008.
* Sen S, Sharma C, Pal A, Kar R, Chattopadhyay P and Singh N. Antioxidant activity of curcumin facilitates its cancer chemotherapeutic potential in squamous cell lung carcinoma in vitro. Annals of Oncology, 2008; 19(Supple 8): 54-55
* Mehndiratta M, Palanichamy JK, Ramalingam P, Pal A, Das P, Sinha S, Chattopadhyay P.Fluorescence acquisition during hybridization phase in quantitative real-time PCR improvesspecificity and signal-to-noise ratio. Biotechniques. 2008 Dec; 45(6):625-6, 628, 630 passim.6
* Pal A, Srivastava T, Sharma MK, Mehndiratta M, Das P, Sinha S, Chattopadhyay P. Aberrant methylation and associated transcriptional mobilization of Alu elements contributes to genomic instability in hypoxia. J Cell Mol Med. 2010 Nov;14(11):2646-54. doi:10.1111/j.1582-4934.2009.00792.x.
* Anindita Sinha, Arnab Pal. Biosensors in Medicine: An Overview. NEIGRIHMS Journal of Medical & Health Sciences. (Accepted for Publication)
* Arnab Pal, DrRashnaDass, DrChandan K Nath, DrNayanDeka, DrSaurabhGohainDuwarah, DrHimesh Barman. Abnormal Liver Function Test in Scrub Typhus in Pediatric Age Group. Indian Journal of Clinical Biochemistry. Vol25 Supplement 2010; 78.
* Chandan Kumar Nath, Arnab Pal, Steven L Sailo. Chemical Analysis of Renal Stone of Patiensts Visiting North Eastern Indira Gandhi Regional Institute of Health & Medical Sciences, Shillong. Indian Journal of Clinical Biochemistry. Vol25 Supplement 2010; 75-76.
* Mehndiratta M, Palanichamy JK, Pal A, Bhagat M, Singh A, Sinha S, Chattopadhyay P. CpGHypermethylation of the C-myc Promoter by dsRNA Results in Growth Suppression.Mol Pharm. 2011 Dec 5;8(6):2302-9. doi: 10.1021/mp200177z. Epub 2011 Sep 19.
* Roy J, Mitra JK, Pal A. Magnesium sulphate versus phenytoin in eclampsia - Maternal and foetal outcome - A comparative study.Australas Med J. 2013 Sep 30;6(9):483-95. doi: 10.4066/AMJ.2013.1753.
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| **Research Support:** |
| **Sl No.** | **Title of Project** | **Funding Agency** | **Amount in Rs** | **Date of sanction and Duration** |
| 1 | Evaluation of Cripto1 as a Tumor Marker in Oral Squamous Cell Carcinoma | PGIMER | 2,10,000 | Sept 2012, 2 years |
| 2 | Cripto 1: Evaluation as a potential tumor marker in Oral Squamous Cell Carcinoma | DBT under RGYI Scheme | 30,27,600 | June 2013, 3 years |
| 3 | Clinico-Pathological Correlation of Cripto 1 Expression and Circulatory Tumor Cells in Patients of Nasopharyngeal Carcinoma | DBT under NER Twinning Scheme. | 35,95,936 | Approved, Awaiting sanction letter |
| **Membership of Professional Bodies:** |
| * Life member of Association of Clinical Biochemists of India.
* Member of Association of Medical Biochemists of India.
* Member of Indian Association of Cancer Research.
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