

Resume

Dr. Krishna Prakash

Assitant Professor,
Centre for Biological Sciences (Biotechnology Programme)
Central University of Bihar
PO: BV College, BIT Meshra Patna Camp.
Patna-800014 (BIHAR)
Email: krishna@cub.ac.in
Tel: 0612-2784158
Fax: 0612-2227600

Profile

- ❖ Project Associate, Reproductive Cell Biology Lab, National Institute of Immunology, New Delhi
- ❖ Research Associate, Malaria Group, International Centre for Genetic Engineering and Biotechnology, New Delhi
- ❖ Ph.D. (2008) Molecular Biology, Jawaharlal Nehru University (J.N.U.), New Delhi
- ❖ M. Phil. (2004) Molecular Biology, Jawaharlal Nehru University (J.N.U.), New Delhi
- ❖ M.Sc. Biotechnology (2000), LNMU, Darbhanga, Bihar, India
- ❖ Junior and Senior Research Fellowships of CSIR and NET of UGC (2001)
- ❖ GATE (2001 and 2003)
- ❖ B.Sc. (1998) Botany (Hons.), B.R.A.B.U., Muzaffarpur

Membership of Scientific Societies

- ❖ Advisory Editorial board member of **Journal of Biomedical Sciences** (JBM, ISSN: 2161-2625).
- ❖ Reviewer of **Pharmaceutical Biology** (ISSN: 1388-0209 (print), 1744-5116 (electronic))
- ❖ Reviewer of **Molecular Biology Reports** (Springer; Impact factor: 1.875), ISSN: 0301-4851 (print version), ISSN: 1573-4978 (electronic version).
- ❖ Reviewer of **American Journal of Molecular Biology** (ISSN Print: 2161-6620 ISSN Online: 2161-6663)
- ❖ Reviewer of **Journal of Biological Chemistry**.
- ❖ Reviwer of **Journal Neuroimmunology** (ISSN: 0165-5728) IF 3.033.

Research Interest

Transcription factors and cancer:

Transcription factors are protein that serves as molecular beacon for RNA polymerase to recognize the *cis* regulatory elements (e.g. a TATA box) of gene in order to regulate the gene expression. Around 10,000 Transcription factors are known from mammalian cells. Mutation and alteration in Transcription factors lead to cause diseases. For instance, Mutation in AP1 (Activated Protein) transcription factor gene causes the cancer in animals. In this regard, we are studying two mammalian transcription factors Interferon Regulatory Factor-1 & 2 (IRF-1 and IRF-2). Both Transcription

factors belong to IRF family; biologically, control cell cycle regulation, hematopoiesis, immunomodulation and oncogenesis. IRF-1 is known to be tumor suppressor whereas IRF-2 is regarded as an oncogene. We are doing functional analysis of both the genes *in vitro* using recombinant DNA technology techniques. This study will pave way to decipher the mechanism of oncogenesis caused by both molecules also may help to devise drug to target these molecules to cure

Funding support (if any): Details: funding agency, total cost, title of the project

S.No.	Project title	Funding Agency	Cost	Remarks
01	“Molecular cloning and expression analysis of chimeric Interferon Regulatory Factor-2”	UGC start up grant (2013-15)	6 lakh	Completed

- ❖ **No. of M.Sc. students supervised for dissertation: 15**
- ❖ **Mentoring one M.Phil/Ph.D. Student**
- ❖ One Malaria RNA helicase (PFF1500c) cloned gene sequence has been submitted to the Gene Bank and the accession number is **FJ641053**.

Seminar/Workshop/Conferences/Orientation programme:

- ❖ Participated as organizing member in conference “1st international conference on human implications of Biotechnology (ICHIB-2016) organized by CUSB, Patna, during 12-14th February 2016.
- ❖ Participated and chair session in conference “1st international conference on human implications of Biotechnology (ICHIB-2016) organized by CUSB, Patna, during 12-14th February 2016.
- ❖ Attended workshop on “1-week hands-on Human /cancer cell culture techniques and MTT assay” organized by International center for Stem cells, cancer and biotechnology (ICSCCB), Pune, during 1st June to 7th June 2014.
- ❖ Attended and successfully completed the 28 days Orientation Program training at UGC-Academic Staff College, Education department, Patna University, Patna from 24th November 2015 to 21st December 2015.
- ❖ Delivered talk entitled on “Chimeric Human IRF-2: Molecular cloning and expression analysis” at 6th international conference on Stem cells and cancer (ICSCC-2015), 2-5 October 2015 Pune, India , organized by ICSCCB, Pune.
- ❖ Delivered a seminar entitled on “Expression and DNA binding activity of chimeric murine Interferon Regulatory Factor-2 (IRF-2)” under Centre for Biological Seminar series at Central University of Bihar, Patna on 25th August 2014.

Publications:

- ❖ Santosh Kumar Mishra, Prabhat Suman, Pushpa Kumari Sharma, Nitish Kumar and **Krishna Prakash*** Human Interferon Regulatory Factor - 2 (Irf-2) : Chimeric Protein And Expression Analysis. IJBPAS, September, 2015, 4(9): 5990 - 6002
- ❖ Gandhi, V.P., Priya, A. , Priya, S., Daiya, V. , Kesari, J., **Prakash, K.**, Kumar Jha, Kumar, K. 4 , and Kumar, N. Isolation and molecular characterization of bacteria to heavy metals

isolated from soil samples in Bokaro Coal Mines, India. *Pollution*,1(3): 287-295, Summer 2015

- ❖ **Prakash K**, Kumar P, Mukherjee S, Rath PC. Chimeric murine interferon regulatory factor-2 (IRF-2) binds to IRF-E (IRF binding element), VRE β (virus response element) but not to VRE α 1. *Cell Biochem Funct.* 2014 Dec;32(8):630-6. doi: 10.1002/cbf.3050. Epub 2014 Sep 23. PubMed PMID: 25251598.
- ❖ Ajay Kumar, **Krishna Prakash**, Rajesh Kumar Sinha, Nitish Kumar. In Vitro Plant Propagation of *Catharanthus roseus* and Assessment of Genetic Fidelity of Micropropagated Plants by RAPD Marker Assay. *Applied biochemistry and biotechnology* . 01/2013; DOI: 10.1007/s12010-012-0010-4.
- ❖ Gupta N, Chakrabarti K, **Prakash K**, Wadhwa N, Gupta T, Gupta SK. Immunogenicity and contraceptive efficacy of *Escherichia coli*-expressed recombinant porcine zona pellucida proteins. *Am J Reprod Immunol.* 2013 Aug;70(2):139-52. doi: 10.1111/aji.12095. Epub 2013 Feb 27. PubMed PMID: 23444974.
- ❖ **Krishna Prakash**, Pramod C. Rath. Chimeric Oncogenic Interferon Regulatory Factor-2 (IRF-2): Degradation Products Are Biologically Active. *A.J.M.B.* Vol.2 No.4, October 2012.
- ❖ **Krishna Prakash** and Pramod C. Rath. Replacement of the C-terminal tetrapeptide (314PAPV317 to 314SSSM317) in Interferon Regulatory Factor-2 alters its N-terminal DNA binding activity. *J. Biosciences* 35(4), December 2010. *J Biosci.* 2010 Dec;35(4):547-56. PubMed PMID: 21289437.
- ❖ **Krishna Prakash** and Pramod C. Rath. Mouse IRF-2: expression, Purification and the DNA binding activity. *Molecular Biology Reports* 2011 May 11. [Epub ahead of print] PubMed PMID: 21559834.
- ❖ **Krishna Prakash** and Renu Tuteja. A novel DEAD box helicase Has1p from *Plasmodium falciparum*: N-terminal is essential for activity. *International parasitology. Parasitol Int.* 2010 Jun; 59(2):271-7. Epub 2010 Feb 11
- ❖ Satish K. Gupta, N. Gupta, P. Suman, S. Choudhurya, **K. Prakash**, T. Gupta, R. Sriraman, S. B. Nagendrakumar and V. A. Srinivasan. Contraceptive vaccines for human and animal utility. (2011) *American Journal of Reproductive Immunology* Mar;88(2):240-6. Epub 2011 Mar.
- ❖ Pardeep Kumar¹, Somnath Mukharjee¹, **Krishna Prakash**¹, R. K. Kale², P. Mclean² and Nazma zaheer baquer¹. Antidiabetic effects of *Trigonella foenum-graecum* seed powder in a rat model. (2011). *Toxicology and environmental chemistry J.* Vol. 93, No. 10, December 2011, 2085–2097.
- ❖ Neha Gupta, Kausiki Chakrabarti, **Krishna Prakash**, Tripti Gupta and Satish Kumar Gupta. Immunogenicity and contraceptive efficacy of *E. coli*-expressed recombinant porcine zona pellucida proteins. 2012. *American Journal of Reproductive Immunology.* 2013 Aug;70(2):139-52. doi: 10.1111/aji.12095. Epub 2013 Feb 27.

Book:

- ❖ Expression and Mutational study of recombinant mouse IRF-2, ISBN-NR: 978-3-639-32929-2, VDM Publisher, Germany.