

Prof. Jayanta Kumar Pal



Designation: **Director,**

Dr. D.Y. Patil Biotechnology & Bioinformatics Institute,
Dr. D.Y. Patil Vidyapeeth, Pune
Former Professor & Head, and UGC BSR Faculty Fellow,
Department of Biotechnology, **Savitribai Phule Pune University**,
Founder Coordinator, DBT-JRF Programme of DBT, Govt. of
India, New Delhi

Email ID : **director.biotech@dpu.edu.in**

Phone Number : **020-67919444**

EDUCATIONAL QUALIFICATIONS:

Ph.D. in Developmental Biology (1982) –University of Pune

M.Sc. in Zoology (1975) – Visva Bharati (Santiniketan)- **First class with Distinction, ranked First (University topper)**

B.Sc. (Hons.) in Zoology (1973) - Visva Bharati (Santiniketan)- **First class, ranked First (University topper)**

Higher Secondary in Science (1970) - W.B. Board of Secondary Education (Calcutta) – **First Class**

Certificate of Proficiency in German (1973) - Visva Bharati (Santiniketan)- **First class with Distinction**

Certificate of Proficiency in French (1984) – Alliance Francaise (Pune) - **First class with Distinction**

POSTDOCTORAL TRAINING:

Research Associate (University of Pune) – 1981-84

French Govt. High Level Fellow (Institut Jacques Monod, Paris) -1984-87

Scientist III (Tufts University, Boston, USA) – 1987-88

Senior Research Associate (Massachusetts Institute of Technology, USA) 1988-1990

EMPLOYMENT EXPERIENCE:

CSIR Pool Scientist, CSIR-Indian Institute of Chemical Biology, Kolkata (1991-1992)

Reader, Departments of Zoology & Biotechnology, University of Pune (1992-2000)

Professor, Department of Biotechnology, University of Pune (2000- 2015)

Head, Department of Biotechnology, University of Pune – For 10 yrs (2002-2006 & 2009-2015)

UGC BSR Faculty Fellow, Department of Biotechnology, University of Pune (2015-2016)

Director, Dr. D.Y. Patil Biotechnology & Bioinformatics Institute, Dr. D.Y. Patil Vidyapeeth, Tathawade, Pune -411033 (2016 -)

FIELD OF SPECIALIZATION: Cell and Molecular Biology/ Recombinant DNA Technology/ Animal Tissue Culture

Specific Areas of Research Interest:

1. Regulation of initiation of Protein Synthesis by the heme-regulated eukaryotic initiation factor 2 α kinase during anemia, thalassemia and various other cytoplasmic stresses, namely, heavy metal-toxicity, heat shock, exposure to free radicals and ionizing radiations.
2. Molecular diagnostics for anemia, thalassemia and lead-poisoning
3. Molecular mechanism of regulation of protein synthesis in *Leishmania donovani* and an attempt towards vaccine development.

AWARDS/HONOURS/MEMBERSHIP OF VARIOUS ACADEMIC BODIES:

Distinctions & Awards:

1. Fellow of the National Academy of Sciences, India
2. Fellow of the Maharashtra Academy of Sciences

3. **Dewang Mehta National Education Award of Best Professor in Biotechnology (2017)**
4. **M. Shadaksharaswamy Endowment Lecture Award (2013) for outstanding contribution in teaching & research** - Society of Biological Chemists, India.
5. Siksha Ratan Puraskar for Teaching (2007) - India International Friendship Society, New Delhi, India.
6. Lupin Visiting Fellowship (UICT, Mumbai) (2006-07)
7. **A. Krishnamurthy Award for best paper published in Indian Journal** (1997) - Society of Biological Chemists, India.
8. **Young Scientist's Award in Developmental Biology** (1984) - Indian Society of Developmental Biologists, India.

Fellowships:

1. Johnson and Johnson Fellowship in Health Sciences at Harvard-Massachusetts Institute of Technology, USA (1988-1990)
2. L'Association Claude Bernard Fellowship in Clinical Science Research at the Institute Jacques Monod, Paris (1986-87)
3. French Govt. High Level Fellowship in Molecular Biology at the Institute Jacques Monod, Paris (1984-1986)
4. DST Research Associateship (1981-1984)
5. UGC Junior & Senior Research Fellowships (1977-1981)
6. National Merit Scholarship (1973 - 1975)

Membership in Scientific Societies:

1. Member, National Academy of Sciences, Allahabad
2. Life Member, Society of Biological Chemists, India
3. Life Member, Indian Society of Developmental Biologists
4. Life Member, Indian Society of Cell Biology
5. Life Member, Indian Science Congress Association
6. Member, New York Academy of Sciences (1996-98)

ACADEMIC ACTIVITIES:

Teaching & Research Experience:

1. **Lecturer** in Zoology, Department of Biology, Bolpur College, W. Bengal (6 months)
2. **Reader** in Zoology & Biotechnology, University of Pune, Pune (8 yrs.)
3. **Professor** in Biotechnology, Department of Biotechnology, University of Pune (>15 yrs.)
4. **Professor & Director**, Dr. D.Y. Patil Biotechnology & Bioinformatics Institute, Dr. D.Y. Patil Vidyapeeth, Pune (~ 4 yrs.)
5. **Adjunct Professor, Indian institute of Science Education & Research, Pune (2006-08)**
6. **Recognized Ph.D. Research Guide** in Biotechnology, Biochemistry and Zoology at University of Pune till 2016 (>24 yrs.) and in Biotechnology at Dr. D.Y Patil Vidyapeeth, Pune

7. **Paper-setter and/or Examiner (M.Sc. & M.Phil.)** for various post-graduate Departments of University of Pune, Mumbai University, North Maharashtra University, Goa University, M.D. University (Rhotak), Ajmer University, Utkal University, Kalyani University, Visva-Bharati, BHU, Panjab University, Cochin Univ. of Sci. & Tech., NEHU, TIFR.
8. **Examiner for Ph.D. Thesis** of University of Pune, Mumbai University, Shivaji University, Nagpur University, Jadhavpur University, University of Calcutta, Delhi University, JNU (JNU, IMTECH, CCMB), BHU, Osmania University, Indian Institute of Science (Bangalore) and Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR, Bangalore), ICT (Mumbai), Kanpur University.

No. of Ph.D., Postdoctoral, M.Phil. /M.Sc. students Guided:

1. Ph. D. : 20 +2 (in process)
2. Postdoctoral : 16
3. M.Phil. : 01
4. M.Sc. (Project) : 52 + 15 (Other Universities)
5. B.Sc. : 05

No. of Funded Research Projects Completed and in Hand:

Sr. No.	Funding Agency	Duration
1	CSIR	1993 - 1996
2	UGC	1996 - 1999
3	UGC (Minor)	1996 - 1998
4	DST (Co-PI)	1997 - 2000
5	DBT	1998 - 2002
6	CSIR	2001 - 2004
7	DST (Co-PI)	2001 - 2004
8	CSIR	2005 - 2008
9	DST	2006 - 2009
10	UGC (Univ. of Pune)	2006 - 2008
11	BRNS (DAE)	2008 - 2012
12	DST	2009 - 2012
13	DBT	2014 -2017
14	UGC	2015 -2016

15	DBT	2016- 2019
16	DST-FIST	2018-2023

Anonymous Reviewer:

A. International Journals:

1. Nature Scientific Report
2. Journal of Biological Chemistry
3. Molecular Cancer
4. Cellular & Molecular Life Sciences
5. Analytical Biochemistry
6. PLoS one
7. Free Radical Biology & Medicine
8. Experimental Cell Research
9. Anti-Inflammatory & Anti-Allergy Agents in Medicinal Chemistry
10. Comparative Biochemistry & Physiology
11. Archives of Biochemistry & Biophysics
12. Pesticide Biochemistry & Physiology
13. Molecular Biology Report
14. Cell Biology International
15. Genetica (Gene)

B. National Journals:

1. Current Science
2. Journal of Biosciences
3. Indian Journal of Biochemistry & Biophysics
4. Indian Journal of Experimental Biology
5. Indian Journal of Biotechnology
6. Indian Journal of Medical Research
7. Journal of Scientific & Industrial Research

Participation in Research Advisory/Academic Committees:

1. **Dean & Chairman, Board of Studies** in Biotechnology and Bioinformatics, Dr. D.Y. Patil Vidyapeeth
2. **Member, Research & Recognition Committee**, Dr. D.Y. Patil Vidyapeeth
3. **Member, Academic Council**, Dr. D.Y. Patil Vidyapeeth
4. **Panel Member (subject expert) of the Drugs Controller General of India** (Southern Zone) 2012- present.
5. **Chairman, Ethics Committee** (NCL; 2014-present)
6. **Member, Ethics Committee**, National AIDS Research Institute, Pune (2011-present); National Centre for Cell Science, Pune (2011-2015).
7. **Member, Institutional Biosafety Committee**, Wockhardt Research Centre, Aurangabad, ExoCan Healthcare Technologies Pvt Ltd, NCL Venture Centre; APT Testing and Research Pvt. Ltd., Pune.
8. **Examiner, BET- DBT JRF** (2004-present)
9. **Examiner, BITP – DBT** (2006 – present)

10. **Examiner, SET (Maharashtra)** (1999-present)
11. **Examiner, CSIR-UGC NET** (1998-2014)
12. **Ex-Member, Various Task Forces of the DBT, Govt. of India, New Delhi:**
 - ✓ “DBT BUILDER Programme” (2013- 2014)
 - ✓ “DBT Research Resources, Service facilities and Platforms” (2014- 16)
 - ✓ “DBT Star College Scheme” (2014- 2017)
 - ✓ “DBT Basic Research in Modern Biology” (2012-2014)
13. **National and Founder Coordinator, DBT-Junior Research Fellowship Programme** of the Department of Biotechnology, Govt. of India (2003-2013).
14. **Ex-Chairman, DBT-JRF Examination Committee** (2013-2016)
15. **Ex-Chairman, DBT BITP examination committee** (2012-2016)
16. **Ex-Member, Various Task Forces of UGC:**
 - ✓ UGC SAP (2012- 2016)
 - ✓ UGC UPE committee (2015-2016)
 - ✓ UGC committee for granting 12B status
 - ✓ UGC Major & Minor Research Evaluation Committees (2014-2016)
 - ✓ UGC PDF (for Women Scientists) expert Panel (2013- 2015)
17. **Ex-Chairman, Board of Studies, Biotechnology, Univ. of Pune** (2005- 2009 & 2010-2012)
18. **Ex-Member, Academic council, University of Pune** (2005-09 & 2010- 12)
19. **Ex-Member, Academic Council, National Defence Academy, Pune** (2009-2013)
20. **Ex-Member, Governing Board of National Centre for Cell Science (NCCS), Pune** (2013- 2015)
21. **Ex-Member, Finance Committee, National Centre for Cell Science (NCCS), Pune** (2013-15)
22. **Ex-Member, Institutional Biosafety Committee (Univ. of Pune, NCL, ARI till 2015)**
23. **Member, UPSC Panel** (New Delhi) & **MPSC Panel** (Mumbai)

RESEARCH PAPERS IN PEER REVIEWED JOURNALS:

100. Girish R. Apte, Khushboo Pandey, Kiran Bharat Lokhande, Shiva Bharadwaj, K. Venkateswara Swamy, Shuchi Nagar, Arvind Goja, **Jayanta K. Pal** and Rajesh Kumar Gupta (2020). Potentials of Pectic Polysaccharides in the inhibition of Galectins for Cancer Therapy (Communicated to **Medical Journal of Dr. D.Y. Patil Vidyapeeth**).
99. Anwesha Deep Dutta, Ajay Kumar, Kiran Lokhande, Manmohan Mitruka, K. Venkateswara Swamy, **Jayanta K. Pal**, Sachin C. Sarode and Nilesh Kumar Sharma (2020). Detection of oncometabolites 1-methylnicotinamide and nicotine imine in nails of oral cancer patients and predicted as inhibitors of DNMT1. (communicated to **Oral Oncology**).

98. Kiran Lokhande, Girish Apte, **J.K. Pal** and Rajesh K. Gupta (2020). Sensing the interactions between carbohydrate-binding agents and N-linked glycans of SARS-CoV-2 spike glycoprotein using molecular docking and simulation studies. **J. Biomol. Struct. Dyn.** (in press).
97. Rajesh Kumar Gupta, Girish R. Apte, Kiran Bharat Lokhande, Satyendra Mishra and **Jayanta K. Pal** (2020). Carbohydrate Binding Agents: Potential of Repurposing for COVID-19 therapy. **Current Protein & Peptide Science**. DOI: 10.2174/1389203721666200918153717.
96. Nilesh Kumar Sharma, Sachin C. Sarode, Gargi S. Sarode, Shankargouda Patil and **Jayanta K. Pal** (2020). Dietary choices modulate colorectal cancer stem cell: A role of FXR nuclear receptor. **Nutrition and Cancer**: Jul 16;1-8. doi: 10.1080/01635581.2020.1792949.
95. Nilesh K. Sharma and **Jayanta K. Pal** (2020). Metabolic link lactate modulates epigenomic landscape: A concerted role of pro-tumor microenvironment and macroenvironment during carcinogenesis. **Current Molecular Medicine 20**, doi: 10.2174/1566524020666200521075252.
94. Bhavika Gupta, Daizy Sadaria, Vaishnavi U. Warriar, Amina I. Makandar, Ravi Kant, Gautam Sethi, Manoj Garg, **Jayanta K. Pal**, Amit Awasthi, Eiji Yuba & Rajesh Kumar Gupta (2020). Plant lectins and their usage in preparing targeted nanovaccines for cancer immunotherapy. **Seminars in Cancer Biol.** doi: 10.1016/j.semcancer.2020.02.005
93. Vaishnavi U Warriar, Amina I Makandar, Manoj Garg, Gautam Sethi, Ravi Kant, **Jayanta K Pal**, Eiji Yuba, and Rajesh Kumar Gupta (2019). Engineering anti-cancer nanovaccine based on antigen cross-presentation. **Bioscience Reports 39** SR20193220 <https://doi.org/10.1042/BSR20193220>
92. Jha, M.K., Rao, S.J., Sarode, A.Y., Saha, B., Kar, A. and **Pal, J.K.** (2019). A *Leishmania donovani* dominant-negative mutant for eIF2 α kinase LdeK1 elicits host-protective immune response. **Parasite Immunology DOI: 10.1111/pim.12678.**
91. Tandon, Ishita, Pal, Roshni, **Pal J.K.** and Sharma N.K. (2019). Extra-chromosomal circular nuclear DNA: An extra piece of evidence in tumor heterogeneity. **Future Oncology DOI:10.2144/foa-2019-0024.**
90. Rajashri Shende, Sarah Sze Wah Wong, Srikanth Rapole, Rémi Beau, Oumaima Ibrahim-Granet, Michel Monod, Karl-Heinz Gührs, **Jayanta Kumar Pal**, Jean-Paul Latgé, Taruna Madan, Vishukumar Amanianda and Arvind Sahu (2018). *Aspergillus fumigatus* conidial metalloprotease Mep1p aids in immune evasion by cleaving complement components. **J. Biol. Chem. 293**,15538-15555. <https://doi.org/10.1074/JBC.RA117.001476>.
89. Shilpa J. Rao, Ekta Shukla, Varsha Bhatia, Bharat Lohiya, Sushama M. Gaikwad, Anita Kar and **Jayanta K. Pal** (2018). LdIMPACT, an IMPACT-like Protein with a Nuclease Activity from *Leishmania donovani*. **Int. J. Biol. Macromol. 119**, 962-973. <https://doi.org/10.1016/j.ijbiomac.2018.06.204>
88. Shukla, E., Thorat L., Bendre, Ameya D., Jadhav, S., Pathan, E.K., **Pal, J.K.**, Nath, B.N. and Gaikwad, S.M. (2018). Cloning and characterization of trehalase: a conserved glycosidase from oriental midge, *Chironomus ramosus*. **3Biotech 8**, 352. <http://doi.org/10-1007/s13205-018-1376-y>.

87. Sunil K. Berwal, Varsha Bhatia, Ameya Bendre, C. G. Suresh, Sangeeta Chatterjee and **Jayanta K. Pal** (2018). Activation of HRI is mediated by Hsp90 during stress through modulation of the HRI-Hsp90 complex. **Int. J. Biol. Macromol.** **118**, 1604–1613. <https://doi.org/10.1016/j.ijbiomac.2018.06.204>.
86. **Pal, Jayanta K.**, Berwal, Sunil K. and Soni, Rupali N. (2018). A single-step simultaneous protein staining procedure for polyacrylamide gels and nitrocellulose membranes by Alta during western blot analysis. In *Protein Gel Detection and Imaging*. **Methods Molecular Biology** **1853**:95-103. doi: 10.1007/978-1-4939-8745-0_12. (eds. Kurien, B.T. and Scofield, R.H.), Springer Nature.
85. Nilendu, P., Sarode, Sachin C., Jahagirdar, Devashree, Tandon, Ishita, Patil, Shankargouda, Sarode, Gargi S., **Pal, Jayanta K.** and Sharma, Nilesh K. (2018). Mutual concessions and compromises between stromal cells and cancer cells: driving tumor development and drug resistance. **Cellular Oncology** **41**(4), 353-367. doi: 10.1007/s13402-018-0388-2.
84. Sourabh Palrecha, Dushant Lakade, Abhijeet Kulkarni, **Jayanta K. Pal** and Manali Joshi (2018). Computational insights into the interaction of small molecule inhibitors with HRI kinase domain. **J. Biomol. Struct. Dyn.** **7**:1-9 doi: 10.1080/07391102.2018.1465850.
83. Himadri Patel, Pritish Nilendu, Devashree Jahagirdar, **Jayanta Pal** and Nilesh Kumar Sharma (2018). Modulating secreted components of tumor microenvironment: A masterstroke in tumor therapeutics. **Cancer Biology and Therapy** **19**(1), 3-12. doi: 10.1080/15384047.2017.1394538.
82. Chatterjee, Sangeeta, Rao, Shilpa J. and **Pal, Jayanta K.** (2017). Pathological variations in 5'-untranslated regions of human genes. In: **Encyclopedia Life Sci. (October, 2017)**. John Wiley & Sons, Ltd: Chichester. DOI: 10.1002/9780470015902.a0022408.pub2.
81. Bhavnani, V., Kaviraj, S., Panigrahi, P., Suresh, C.G., Yapara, S. and **Pal, J.** (2017). Elucidation of molecular mechanism of stability of the heme-regulated eIF2 α kinase upon binding of its ligand, hemin in its catalytic kinase domain. **J. Biomol. Str. Dynamics.** <https://doi.org/10.1080/07391102.2017.1368417>.
80. Nilendu, P., Kumar, A., Kumar, A., **Pal, J.K.** and Sharma, N.K. (2017). Breast cancer stem cells as last soldiers eluding therapeutic burn: A hard nut to crack. **Int. J. Cancer.** doi: 10.1002/ijc.30898
79. Barage, S., Kulkarni, A., **Pal, J.K.** and Joshi, M. (2017). Unravelling the structural interactions between PKR kinase domain and its small molecule inhibitors using computational approaches. **Journal of Molecular Graphics and Modeling** **75**, 322-329.
78. Bhavnani, V., Kaviraj, S., Savergave, L., Singh, A., Raghuwanshi, A.K., Kumar, A. and **Pal, J.** (2017). HRI: A stress response eIF2 α kinase exhibits structural and functional stability at high temperature and alkaline conditions. **Int. J. Biol. Macromol.** **95**, 528-538.
77. Rao, S.J., Chatterjee, S. and **Pal, J.K.** (2017). The untranslated regions of mRNA and their role in regulation of gene expression in protozoan parasites. **J. Biosci.** **42**, 189-207.
76. Tidke, P.R., Maurya, D.K., Kulkarni, A.P., Devasagayam, T.P.A. **Pal, J.K.** (2016). Radiation-induced oxidative stress regulates protein synthesis by modulating the expression of the heme regulated eIF-2 α kinase in human K562 cells. **Ind. J. Biochem. Biophys.** **53**, 95-103.

75. **Pal, Jayanta K**, Chatterjee, Sangeeta and Rao, Shilpa J. (2016). Pathological Variations in 3'-Untranslated Regions of Human Genes. In: **Encyclopedia Life Sci. (November 2016)**. John Wiley & Sons, Ltd:Chichester. DOI: 10.1002/9780470015902.a0022450.pub2
74. Shukla, E. Thorat, L., Bhavnani, Varsha, Bendre, A.D., **Pal J.K.**, Nath, B.B. and Gaikwad, S.M. (2016). Molecular cloning and in silico studies of physiologically significant trehalase from *Drosophila melanogaster*. In. **J. Biol. Macromol.** DOI: **10.1016/j.ijbiomac.2016.06.097**.
73. Pujari, R., Jose, J., Bhavnani, V., Kumar, N., Shastry, P. and **Pal, J.K.** (2016). Tamoxifen-induced cytotoxicity in breast cancer cells is mediated by glucose-regulated protein 78 (GRP78) via AKT (Thr308) regulation. **Int. J. Biochem. Cell Biol.** **77**, 57–67.
72. Kolekar, Pandurang, Pataskar, Abhijeet, Kulkarni-Kale, Urmila, **Pal, Jayanta** and Kulkarni, Abhijeet (2016). IRESPred: Web Server for Prediction of Cellular and Viral Internal Ribosome Entry Site (IRES). **Sci. Rep.** **6**, 27436; doi: 10.1038/srep27436.
71. Rao, S.J., Meleppattu, S. and **Pal, J.K.** (2016). A GCN2-like eIF2 α kinase (LdeK1) of *Leishmania donovani* and its possible role in stress response. **PLoS ONE** **11(6)**: e0156032. doi:10.1371/journal.pone.0156032.
70. **Pal, J.K.**, Rao, S.J. and Godbole, D.J. (2015). Detection of blotted proteins on nitrocellulose/PVDF membranes by Alta. **Methods Mol Biol.** **1314**, 279-285. In **Detection of Blotted Proteins: Methods and Protocols** (eds. Kurien, B.T. and Scofield, R.H.), Humana Press, New York. doi: 10.1007/978-1-4939-2718-0_29.
69. Ghosh S., Jagtap S., More P., Shete U.J., Maheshwari N.O., Rao S. J., Kitture R., Kale S., Bellare J.R., Patil S., **Pal J.K.** and Chopade B.A. (2015). *Dioscorea bulbifera* mediated synthesis of novel AucoreAgshell nanoparticles with potent antibiofilm and antileishmanial activity. **J. Nanomaterials** <http://dx.doi.org/10.1155/2015/562938>.
68. Sonali Rohamare, Sushama Gaikwad, Dafydd Jones, Varsha Bhavnani, **Jayanta Pal**, Ranu Sharma, Prathit Chatterjee (2014). Cloning, expression and *in silico* studies of a serine protease from a marine actinomycete (*Nocardiosis* sp. NCIM 5124). **Process Biochemistry** **50**, 378-387.
67. **Pal, Jayanta K.** and Chatterjee, Sangeeta (2014). Translation regulation of gene expression and human diseases. In **Gene and its Engineering** (ed. Das, H.K.). **Chapter 15**, pp. 219-233. Wiley India, New Delhi.
66. **Pal, Jayanta K.** and Chatterjee, Sangeeta (2014). Translation of mRNA into protein: Classic and recent experiments. In **Gene and its Engineering** (ed. Das, H.K.). **Chapter 14**, 194-218. Wiley India, New Delhi.
65. Mittal, Smriti P.K., Kulkarni, Abhijeet P., Mathai, Jinumary, Chattopadhyay, Samit and **Pal, J.K.** (2014). Dose-dependent differential response of mammalian cells to cytoplasmic stress is mediated through the heme-regulated eIF-2 α kinase. **Int. J. Biochem. Cell Biol.** **54**, 186-197.
64. Godbole, D. Coux, O. and **Pal, J.K.** (2014). Tyrosinase Degradation in Amelanotic Melanoma Cells is mediated by cytoplasmic factors in addition to proteasome-mediated mechanism. **Proc. Natl. Acad Sci. India Section B: Biol. Sci.** 10.1007_s40011-014-0358-z.

63. Joshi, Manali, Kulkarni, Abhijeet and **Pal, Jayanta K.** (2013). Small molecule modulators of eukaryotic initiation factor 2 α kinases, the key regulators of protein synthesis. **Biochimie**95, 1980-1990.
62. Mittal, Smriti P.K., Mathai, Jinumary, Kulkarni, Abhijeet P., **Pal, J.K.** and Chattopadhyay, Samit. (2013). Mir-320a regulates erythroid differentiation through MAR binding protein SMAR1. **Int. J. Biochem. Cell Biol.**45, 2519-2529.
61. Chatterjee, S., Panda, A.C., Berwal, S., Sreejith, R.K., Ritvika, C., Seshadri, V. and **Pal, J.K.** (2013). Vimentin is a component of a complex that binds to the 5'UTR of human heme-regulated eIF2 α kinase mRNA and regulates its translation. **FEBS Lett.**587, 474-480.
60. **Pal, J.K.**, Berwal, S.K. and Soni, R.N. (2012). A single-step simultaneous protein staining procedure for polyacrylamide gels and nitrocellulose membranes by alfa during Western blot analysis. **Methods Mol Biol.** 869, 551-559. In **Protein Electrophoresis: Methods and Protocols** (eds. Kurien, B.T. and Scofield, R.H.), Humana Press, New York.
59. Sinha, Surajit, Malonia, Sunil Kumar, Mittal, Smriti P.K., Mathai, Jinumary, **Pal, Jayanta K.** and Chattopadhyay, Samit (2012). Chromatin remodelling protein SMAR1 inhibits p53 dependent transactivation by regulating acetyl transferase p300. **Int. J. Biochem. Cell Biol.**44, 46-52.
58. Sreejith, R.K., C. G. Suresh, Siddharth H. Bhosale, VarshaBhavnani, Avinash Kumar, Sushama M. Gaikwad and **Jayanta K. Pal** (2012). Conformational transitions of the catalytic domain of heme-regulated eukaryotic initiation factor 2 α kinase, a key translational regulatory molecule. **J. Fluorescence**22, 431-441.
57. **Pal, J.K.** and Banerjee, T. (2012). Book review: Annual Review of Cell and Developmental Biology, 2011. Randy Schekman, Larry Goldstein and Ruth Lehman (eds). Annual Reviews Vol. 27. pp. xiii + 816. **Curr. Sci.** 102, 1318-1319.
56. Chatterjee, S., Berwal, S.K. and **Pal, J.K.** (2010). Pathological variations in 5'-untranslated regions of human genes. In: **Encyclopedia Life Sci. (Sept., 2010)**. John Wiley & Sons, Ltd:Chichester. [DOI:10.1002/9780470015902.a0022408].
55. Berwal, S.K., Sreejith, R.K. and **Pal, J.K.** (2010). Distance between RBS and AUG plays an important role in overexpression of recombinant proteins. **Anal. Biochem.** 405, 275-277.
54. **Pal, J.K.**, Chatterjee, S. and Berwal, S. K. (2010). Pathological variations in 3'-untranslated regions of human genes. In: **Encyclopedia Life Sci. (March, 2010)** John Wiley & Sons, Ltd:Chichester. [DOI:10.1002/9780470015902.a0022450].
53. Kulkarni, Abhijeet P., Mittal, Smriti P.K., Devasagayam, T.P.A. and **Pal, Jayanta K.** (2010). Activation of the Heme Regulated eIF-2 α Kinase is mediated by Hsp90 and Hsp70 during oxidative stress. **Ind. J. Biochem. Biophys.** 47, 67-74.
52. Sinha, S., Malonia, S.K., Mittal, S.P.K., Singh, K., Kadreppa, S. Kamat, R., Mukhopadhyay, R., **Pal, J.K.** and Chattopadhyay, S. (2010). Coordinated regulation of p53 apoptotic targets *BAX* and *PUMA* by SMAR1 through an identical MAR element. **EMBO J.** 29, 830-42.

51. Sreejith, R.K., Yadav, V.N., Varshney, N.K., Berwal, S.K., Suresh, C.G., Gaikwad, S.M. and **Pal, J.K.** (2009). Conformational characterization of human eukaryotic initiation factor 2 α : A single tryptophan protein. **Biochem. Biophys. Res. Commun.** **390**, 273-279.
50. Kulkarni, Abhijeet P., Mittal, Smriti P.K., Devasagayam, T.P.A. and **Pal, Jayanta K.** (2009). Oxidative Stress perturbs cell proliferation in human K562 cells by modulating protein synthesis and cell cycle. **Free Radical Research** **43**, 1090-110.
49. Chatterjee, S. and **Pal, J.K.** (2009). The role of 5'- and 3'-UTR of mRNAs in human diseases. **Biol. Cell** **101**, 251-262.
48. Singh, Vir B., Pavitra, L., Chattopadhyay, Samit and **Pal, Jayanta K.** (2009). Stress-induced overexpression of the heme-regulated human eIF-2 α kinase is regulated by Elk-1, activated through ERK pathway. **Biochem. Biophys. Res. Commun.** **379**, 710-715.
47. Kulkarni, A.P., **Pal, J.K.** and Devasagayam, T.P.A. (2008). Radiation and free radical exposure and regulation of protein synthesis by the heme-regulated eukaryotic initiation factor 2 α kinase. **BARC News letter** (Founder's day special issue) **297**, 80-87.
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5. **Pal, J. K.** & Modak, S. P. (1984). Immunochemical characterization and quantitative distribution of crystallins in the epithelium and differentiating fiber cell populations of chick embryonic lens. **Exp. Eye Res.** **39**, 415-434.
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3. **Pal, J. K.**, Nerurkar, A. R. & Goel, S. C. (1982). Studies on the water soluble lens proteins of the lizard, *Calotes versicolor*. II. Electrophoretic and immunological characterization. **J. Exp. Zool.** **224**, 299-306.
2. Nerurkar, A.R., **Pal, J. K.** & Goel, S. C. (1981). Studies on the water-soluble lens proteins of vertebrates with particular reference to low molecular weight fractions. **Exp. Eye Res.** **33**, 183-195.

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Book:

1. **Pal, Jayanta K. and Ghaskadbi, Saroj S. (2009).** **Fundamentals of Molecular Biology.** pp. 1- 408. Oxford University Press (New Delhi).

Patent:

1. **Pal, J. K., Godbole, D. and Sharma, K. (2010).** **"Method of staining proteins using Alta". An United States Patent 7833797** (16th November, 2010)

INVITED TALKS AT VARIOUS NATIONAL AND INTERNATIONAL CONFERENCES

Few Selected ones are listed:

1. Pal, J.K. (2019). Invited talk on "A dominant negative mutant strain of *Leishmania donovani* for an eIF2 α kinase with a potential for a host-protective immune response" at the **10th RNA Group Meet at Rajiv Gandhi Centre for Biotechnology at Trivandrum** during May 2-4, 2019.
2. Pal, J.K. (2019). Invited talk on "Chemosensitizing breast cancer cells: A novel approach towards cancer therapy" at a **National Conference on "Cellular and Molecular Basis of Cancer: Molecules to Mechanisms (CMBC-2019)"** organized by Department of Biotechnology, **Savitribai Phule Pune University** during February 7 - 9, 2019.
3. Pal, J. K. (2019). Invited talk on "Tampering with protein synthesis machinery as a tool to minimize ill effects of chemotherapy for breast cancer" at a State level conference entitled, **"Interdisciplinary Advances in Applied Biotechnology-2019" organized by Dr. D. Y. Patil Arts, Commerce & Science College (SP Pune University), Pimpri** during January 24 – 23, 2019.
4. Pal, J.K. (2019). Invited talk on "The complexity of protozoan parasites hindering vaccine development - a strategy for a way forward" at the Science Academies' **Lecture Workshop on "Modern Trends in Biological Sciences" organized by New Arts, Commerce & Science College, Parner** during January 9 – 11, 2019.
5. Pal, J.K. (2019). Invited talk on "Fostering creativity and innovation in the science classroom- a need of the hour" at the Science Academies' Lecture Workshop on **"Modern Trends in Biological Sciences" organized by New Arts, Commerce & Science College, Parner** during January 9 – 11, 2019.
6. Pal J.K. (2018). Invited talk on "A mutant strain of *Leishmania donovani* (dominant negative for an eIF2 α kinase) as a potential vaccine candidate for Leishmaniasis" at **XLII All India Cell Biology Conference and 2nd International Conference on Trends in Cell and Molecular Biology' in BITS Pilani K K Birla Goa Campus, Goa**, during 21st December to 23rd December, 2018.
7. Pal, J.K. (2018). Invited talk on "NET/SET for Junior Research Fellowship/Lecturer-ship: Essentials for qualifying" at the **Workshop on Competitive Examinations at Dr. D.Y. Patil Biotechnology & Bioinformatics, DPU, Tathawade, Pune** on November 24, 2018.
8. Pal, J.K. (2018). Invited talk on "Design of a mutant strain of *Leishmania donovani* as a potential vaccine candidate for Leishmaniasis" at the **UGC Refresher Course in Life Science, SGB Amravati University** on 11th September, 2018.

9. Pal, J.K. (2018). Invited talk on “A mutant strain of *Leishmania donovani* as a potential vaccine candidate for Leishmaniasis at the **UGC Refresher Course on interdisciplinary Biology at Department of Botany, S.P. Pune University** on August 29, 2018.
10. Pal, J.K. (2017). Invited talk on “Deeper insights in Biology continue to inspire us and fuel Biotechnology evolution” at the Science Academies’ Lecture Workshop on “**Understanding and Exploring the Interfaces between Biology & Biotechnology**” at **Modern College of Arts, Science & Commerce, Pune** during November 1-3, 2017.
11. Pal, J.K. (2017). Invited talk on “NET/SET for Junior Research Fellowship/Lecturer-ship: Essentials for qualifying” at the **One-day Workshop on preparing for NET/SET/BET Exams. at Modern College of Arts, Science & Commerce, Pune** on September 23, 2017.
12. Pal, J.K. (2017). Invited talk on “Biotechnology teaching curriculum – Are we on the right track? -**An Introspection**” at the **Industry-Academic meeting at S.P. Pune University** on May, 2017).
13. Pal, J.K. (2017). Invited talk on “A GCN2-like eIF2 α kinase (LdeK1) of *Leishmania donovani* and its possible role in stress response” at the **Centre for Cellular & Molecular Biology, Hyderabad** (April, 2017).
14. Pal, J.K. (2016). Invited talk on “Small molecule inhibitors of eIF2 α kinases and their therapeutic potential for human disorders” at the **Symposium on Trends in Therapeutics organized at NIPER, Ahmedabad** on January 29, 2016
15. Pal, J.K. (2016). Invited talk on “Cloning and characterization of a GCN2-like eIF2 α kinase (LdeK2) of *Leishmania donovani* and its possible role in stress response” at the **RNA 2016: A national Symposium of the RNA Group in India organized at CCMB, Hyderabad** during January 8-10, 2016.
16. Pal, J.K. (2015). Invited talk on “Research Proposal- An effective presentation of a novel idea for its scientific pursuits” organised at **S.P. Pune University** on December, 2015.
17. Pal, J.K. (2015). Invited talk on “Biotechnology and Law: definitions, necessary regulations and practices” at the **UGC Refresher Course on Law in Biotechnology, at the Department of Law, S.P. Pune University** (January, 2015).
18. Pal, J.K. (2014). Invited talk on “Dose-dependent differential response of mammalian cells to cytoplasmic stress” delivered at the **National Symposium on Genetic Analysis: Translational and Developmental (NSGTD) and Annual Meeting of Society for Biotechnologists (India). Department of Zoology, The University of Burdwan** during November 21-23, 2014.
19. Pal, J.K. (2014). Invited talk on “Translation regulation of gene expression in the context of host-parasite relationship in protozoan parasites” at the **Recent Trends on Modern Biology organized at the Department of Zoology, University of Pune** during 28-29 March, 2014.
20. Pal, J.K. (2014). Invited talk on “Translational control as the paradigm of gene regulation in protozoan parasites” at the **International workshop on Structural Biology of parasites organized at National Centre for Cell Science, Pune** during March, 2014.
21. Pal, J.K. (2014). Invited as a Panelist for discussion on “Way Forward: A panel discussion on a road map on Life Sciences teaching and research in university system in India”, at the School of Life Science Symposium on “**Vistas of Life Sciences, now and beyond**” **organized at Jawaharlal Nehru University, New Delhi** during February, 13-15, 2014.
22. Pal, J.K. (2014). Invited talk on “MicroRNA miR-320a regulates erythropoietic differentiation through MAR binding protein SMAR1” at **RNA 2014: A national Symposium of the RNA Group in India organized at Indian Institute of Chemical Biology, Kolkata** during March 68, 2014.

23. Pal, J.K. (2013). Invited talk on “The pleiotropic role of the heme-regulated eIF-2 α kinase from cell survival/apoptosis, stress response” (**M. Shadkshara Swamy Endowment Lecture Award delivered**) at the **82nd Annual Meeting of the Society of Biological Chemists, India at University of, Hyderabad** during December 2-5, 2013.
24. Pal, J.K. (2012). Invited talk for a Workshop on “Catalyzing excellence in teaching at the University” organized by **India Biosciences, at Indian National Science Academy, New Delhi** during October 12-14, 2012).
25. Pal, J.K. (2012). Invited talk on “Cytoplasmic proteins regulate translation of the hemeregulated eIF2 α kinase mRNA through interaction with its 5'-UTR” at **RNA 2012: A National Symposium of the RNA Group in India at Indian Institute of Science, Bangalore** during March, 2012.
26. J.K. Pal (2012). Invited talk on “Human Resource Development in Biotechnology –An Academia-Industry tie-up is the need of the hour” at the. International symposium on **Academia – Industry (Corporates and SMEs) Linkages: Barriers and prospects in case of Developing Nations – A search for effective and sustainable partnership model organized by Asian School of Management, Pune** during February, 2012.
27. Pal, J.K. (2011). Invited speaker for a panel discussion on “**Formulation of 12th Plan proposals with the mandate to recommend strategies to improve science education to enhance the number and quality of future academic as well as industrial researchers of the country**” organised by the **Planning commission of India at Indian Institute of Science Education & Research (IISER), Pune**, on July 2, 2011.
28. Pal, J.K. (2010). Invited talk on “The 5'-UTR of hHRI mRNA upregulates its translation under lead stress by interacting with transacting factors” at the **RNA 2010, A National Symposium of RNA Group India organized by the Department of Biotechnology, University of Pune**, during January 18-19, 2010.
29. Pal J.K. (2010). Invited talk on “The heme-regulated eIF-2 α kinase- a molecular marker for human anemia at the **Recent trends in Biotechnology & Bioinformatics Symposium, Delhi University of Technology, Delhi** during October 29-30, 2010.
30. Pal J.K. (2010). Invited speaker for a Panel Discussion on “**Evolving a national strategy for building biomedical research capacity in India**”, by the **Wellcome Trust-DBT-India Alliance at Hyderabad** on October 29, 2010.
31. Pal, J.K. (2009). Invited talk on “Stress-induced overexpression of the heme-regulated eIF-2 α kinase is regulated by Elk-1 activated through ERK pathway” at the **Recent Trends in Biology Symposium organized by the Department of Zoology, University of Pune, Pune** during March, 2009.
32. Pal, J.K. (2009). Invited talk on “Cytoplasmic stress and regulation of erythropoiesis: The heme at the steering wheel at the **78th Annual Meeting of SBC (I), organized by the National Centre for Cell Science, Pune** during (October 30-Nov. 1, 2009), Pune.
33. Pal, J.K. (2009). Invited talk on “Oxidative stress and regulation of protein synthesis and cell cycle in human K562 cells” at the **Indo-US Bilateral Workshop on Redox Signalling in Degenerative Diseases held at Manesar, Gurgaon** during December 19-21, 2009.
34. Pal, J.K. (2009). Invited talk on “Stress-induced overexpression of the heme-regulated eIF2 α kinase is regulated by Elk-1 activated through ERK pathway” at the **Recent Trends in Biology Symposium organized by the Department of Zoology, University of Pune, Pune** during March, 2009.
35. Pal, J.K. (2008). Invited talk on “Molecular diagnostics for anemia and lead-poisoning: From lab to field” delivered at the **Department of Genetics, Maharashtra University of Health Sciences, Pune** (19th September, 2008).

36. Pal, J.K. (2008). Invited talk on “Human genome and its organization” delivered at the **Indian Institute of e-Business Management, Pune** (9th July, 2008).
37. Pal, J.K. (2008). Invited talk on “The heme-regulated eIF-2 α kinase and the regulation of protein synthesis: Regulation of expression and activity during various cytoplasmic stress” delivered at the **Advanced Centre for Training, Research and Education in Cancer (ACTREC), Mumbai** (26th June, 2008).
38. Pal, J.K. (2008). Invited talk on “Molecular diagnostics for anemia and lead-poisoning: From lab to field” delivered at the **Seminar on Advances in Animal Biotechnology at the School of Life Sciences, SRTM University, Nanded** (15th March, 2008).
39. Pal, J.K. (2008). Invited talk on “The role of UTRs in the stress-induced translation regulation of the heme-regulated eIF-2 α kinase mRNA”. at the **RNA meeting 2008, School of Life Sciences, JNU, New Delhi** (28th - 29th March, 2008).
40. Pal, J.K. (2008). Invited talk on “The heme-regulated eIF-2 α kinase and the regulation of protein synthesis: Regulation of expression and activity during various cytoplasmic stress” delivered at **N.S. Wadia College, Pune** (29th February, 2008).
41. Pal, J.K. (2008). Invited talk on “Molecular biology of stress response” delivered at the **Teachers’ Orientation Workshop at the Department of Microbiology, University of Pune** (18th January, 2008).
42. Pal, J.K. (2007). Invited talk (Key note address) on “Human Resource Development in Biotechnology- a teacher’s perspective” delivered at Bioadvantage (2007), **National Conference on Biotechnology & Biobusiness, MITCON Institute of Management, Pune** (19th May, 2007) .
43. Pal, J.K. (2007). Invited talk on “Molecular diagnostics for anemia and lead-poisoning: From lab to field” delivered at the **Seminar on Emerging Trends in Biotechnology at K.K. Wagh Arts, Commerce, Science and Computer Science College, Nashik** (17th February, 2007).
44. Pal, J.K. (2007). Invited talk on “Molecular mechanism of regulation of protein synthesis during various cytoplasmic stresses including radiation- and free radical exposure” at the **Third Biennial Meeting of SFRR-Asia & Sixth Annual meeting of SFRR-India (Emerging Trends in Free Radical and Anti-oxidant Research) (Fariyas Holiday Resort, Lonavala)** (January 8-11, 2007).
45. Pal, J.K. (2007). Invited talk on “Heme and the regulation of globin synthesis- a feat of a long range interaction”. At the **30th All India Cell Biology Conference & Symposium (Molecules to compartments: Cross-talks & Networks), Department of Zoology, University of Delhi.** (February 2-4, 2007).
46. Pal, J.K. (2007). Invited talk on “Translational Regulation of Gene Expression In Human Health and Disease” delivered under the **Lupin Visiting Fellowship Scheme (2007) at the Institute of Chemical Technology, University of Mumbai, Mumbai** (9th February, 2007)
47. Pal, J.K. (2006). Invited talk on “Human Resource Development in Biotechnology” – delivered on the eve of the **Maharashtra Biotechnology Day at Hilton top, Mumbai organized by the Confederation of Indian Industries & the Govt. of Maharashtra** (Nov. 14, 2006).
48. Pal, J.K. (2006). Invited talk on “The Heme-regulated eIF-2 α kinase and the regulation of protein synthesis”- delivered at the **Institute of Microbial Technology, Chandigarh** (11th October, 2006).
49. Pal, J.K. (2006). Invited talk on “Drug- and lead-toxicity anemia through translation regulation involving the heme-regulated eIF-2 α kinase” delivered at the **International workshop at the National Institute of Pharmaceutical Education & Research, Chandigarh** (11th October, 2006).

50. Pal, J.K. (2006). Invited talk on “Lead induced activation and expression of the hemeregulated eIF2 α kinase and apoptosis in human K562 cells” delivered at the **School of Life Science, Visva –Bharati** (January, 2006).
51. Pal, J.K. (2005). Invited talk on “The heme regulated eIF-2 α kinase: mRNA structure-function relationship” delivered at the National Symposium on **Recent Trends in Molecular and Medical Biophysics (University of Pune)** (January 22-25, 2005).
52. Pal, J.K. (2005). Invited talk on “Regulation of expression and activity of the heme-regulated eIF-2 α kinase during various cytoplasmic stresses” delivered at the **Indian Institute of Chemical Biology, Kolkata** (May, 2005).
53. Pal, J.K. (2003). Invited talk on “Drug- and lead-toxicity anemia through translation regulation involving the heme-regulated eIF-2 α kinase” delivered at **A Discussion Meeting of the RNA Group The First Symposium on ‘RNA Research in India’ (Indian Institute of Science, Bangalore)** (February 1-2, 2003).
54. Pal, J.K. (2003). Invited talk on “Heme-signalling targets both cytoplasm and nucleus in the regulation of initiation of protein synthesis in mammalian cells” delivered at **FAOBMB Satellite Symposium on “Molecular Aspects of Cellular Signalling” (University of Hyderabad, Hyderabad)** (December 3- 4, 2003).
55. 54. Pal, J.K. (2000). Invited talk on “The heme-regulated eIF-2 α kinase, a regulator of protein synthesis, as a potential molecular indicator of anemia, heavy-metal toxicity and heat shock” delivered at the **69th Annual Meeting of the Society of Biological Chemists, India (Science City, Calcutta)** (December 7-9, 2000).
56. Pal, J.K. (1999). Invited talk on “Protein synthesis, an integral part of the pathway of gene expression, its mechanism and regulation” delivered at the **Refresher course in Biochemistry, Department of chemistry, University of Pune** (November 22-23,1999).
57. 56. Pal, J.K. (1998). Invited talk (A. Krishnamurthi Award Lecture) on “The heme-regulated eIF2 α kinase, a molecular indicator of hemolytic anemia” delivered at the **67th Annual Meeting of the Society of Biological Chemists, India (JNU, New Delhi)** (December 19-21, 1998).
58. Pal, J.K. (1998). Invited talk on “Early embryogenesis - a paradigm of translational regulation of gene expression” delivered at the **Refresher Course in Life Sciences at the Department of Biochemistry, University of Hyderabad** (November, 1998).
59. 58. Pal, J.K. (1998). Invited talk on “The heme-regulated eIF-2 α kinase - a molecular indicator of hemolytic anemia” delivered at the **67th Annual Meeting of the Society of Biological Chemists, India (JNU, New Delhi)** (December 19-21, 1998).
60. 59. Pal, J. K. (1997). Invited lecture on “Eukaryotic initiation factor 2 α kinases and the regulation of protein synthesis during embryonic development and cell differentiation” delivered at the **National Symposium on Dev. Biol. (Utkal University, Bhubaneswar)**.
61. 60. Pal, J. K. (1997). Invited talk on “HSP90 regulates protein synthesis by activating hemeregulated eukaryotic initiation factor 2 α (eIF-2 α kinase) in rabbit reticulocyte lysates” delivered at the **International Workshop on Molecular Biology of Stress Responses (Banaras Hindu University, Varanasi)** (October 14-17, 1997).
62. Pal, J. K. (1997). Invited talk on “Leishmania donovani - a protozoan parasite as a model for cell differentiation” delivered at the **International Symposium on Dev. Growth & Differ. (Mahabaleshwar)**.
63. Pal, J.K. (1996). Invited talk on “Expression of heme-regulated eIF-2 α kinase and regulation of translation during erythropoiesis and anemia” delivered at **Agharkar Research Institute (ARI) Golden Jubilee Symposium on Development and Differentiation (ARI, Pune)** (March 26, 1996).

64. Pal, J.K. (1994). Invited talk on “Role of hsp90 in the regulation of protein synthesis” delivered at the **DAE Symposium on Stress & Adaptive Responses in Biological Systems (M.S. University, Baroda)** (March 23-25, 1994).
65. Pal, J.K. (1993). Invited talk on “Hsp90 and the regulation of protein synthesis during erythropoiesis and anemia” delivered at the **International Symposium on Cellular and Molecular Aspects of Developmental Regulation (University of Pune, Pune)** (November 27-December 1, 1993).
66. Pal, J.K. (1991). Invited talk on “Proteasomes in melanoma cells - regulation of melanin biosynthesis, cell differentiation and cell transformation- few facts and speculations” delivered at the **National Symposium on Dev. Biol. (Utkal University, Bhubaneswar)** (February, 1991).

Countries visited for Postdoctoral research and also under Faculty exchange programme:

- **France (Paris):** 1984-1987; 2003; 2005
- **France (Montpellier):** 2003 & 2005
- **Poland (Cracow):** 1985
- **UK (London):** 1986
- **USA (Cambridge):** 1987-1990