

## *Prof. Jayanta Kumar Pal*



**Designation:**        **Director,**

Dr. D.Y. Patil Biotechnology & Bioinformatics Institute,  
Dr. D.Y. Patil Vidyapeeth, Pune  
(Former Professor & Head, & UGC BSR Faculty Fellow), Department  
of Biotechnology, Savitribai Phule Pune University

**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 02015

**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 -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- $\alpha$ -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*.
4. Proteasomes and the regulation of melanin biosynthesis in melanoma cells.

**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. **M. Shadaksharaswamy Endowment Lecture Award (2013) for outstanding contribution in teaching & research** - Society of Biological Chemists, India.
4. **Siksha Ratan Puraskar for Teaching (2007)** - India International Friendship Society, New Delhi, India.
5. **Lupin Visiting Fellowship (UICT, Mumbai) (2006-07)**

6. **A. Krishnamurthy Award for best paper published in Indian Journal** (1997) - Society of Biological Chemists, India.
7. **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. **Adjunct Professor**, Indian institute of Science Education & Research, Pune (2006-08)
5. Recognized **Ph.D. Research Guide** in Biotechnology, Biochemistry and Zoology at University of Pune (>24 yrs.) and in Biotechnology at DY Patil University, Pune
6. **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.
7. **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. 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

**Anonymous Reviewer:**

**Research Papers:**

**A. International Journals:**

1. Nature Scientific Report
2. Journal of Biological Chemistry
3. Cellular & Molecular Life Sciences
4. Analytical Biochemistry
5. PLoS one
6. Free Radical Biology & Medicine
7. Experimental Cell Research
8. Anti-Inflammatory & Anti-Allergy Agents in Medicinal Chemistry
9. Comparative Biochemistry & Physiology
10. Archives of Biochemistry & Biophysics

11. Pesticide Biochemistry & Physiology
12. Molecular Biology Report
13. Cell Biology International
14. 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, Faculty of Biotechnology & Bioinformatics**, Dr. D.Y. Patil Vidyapeeth, Pune (20016-present)
2. **Member, Research & Recognition Committee** in Biotechnology & Bioinformatics, Dr. D.Y. Patil Vidyapeeth, Pune (20016-present)
3. **Member, Board of Research**, Dr. D.Y. Patil Vidyapeeth, Pune (2016-present).
4. **Member, Academic Council**, Dr. D.Y. Patil Vidyapeeth, Pune (2016-present).
5. **Chairman, Institutional Ethics Committee, CSIR-National Chemical Laboratory**, Pune (2016-present).
6. **Member, Ethics Committee (National AIDS Research Institute, Pune)**. 2011-present
7. **Founder Coordinator, DBT-Junior Research Fellowship Programme** of the Department of Biotechnology, Govt. of India (2003-2013).
8. **Panel Member** (subject expert) of the **Drugs Controller General of India** (Southern Zone) 2012- present.
9. **Examiner, SET (Maharashtra)** (1999-present)
10. **Ex-Member, Various Task Forces of the DBT, Govt. of India, New Delhi:**
  - a. **“DBT BUILDER Programme”** (2013- 2014)
  - b. **“DBT Research Resources, Service facilities and Platforms”** (2014- 16)
  - c. **“DBT Star College Scheme”** (2014- 2017)
  - d. **“DBT Basic Research in Modern Biology”** (2012-2014)
11. **Ex-Member, Various Task Forces of UGC:**
  - a. **UGC SAP** (2012- 2016)
  - b. **UGC UPE** committee (2015-)
  - c. **UGC Major & Minor Research** Evaluation Committees (2014-)
  - d. **UGC PDF (for Women Scientists) expert Panel** (2013- present)
12. **Ex-Chairman, DBT-JRF Examination Committee** (2013-2016)

13. **Ex-Chairman, DBT BITP examination committee** (2012-2016)
14. **Ex-Chairman, Board of Studies, Biotechnology**, Univ. of Pune (2005- 2009 & 2010-2012)
15. **Ex-Member, Academic council, University of Pune** (2005-09 & 2010- 12)
16. **Ex-Member, Academic Council, National Defence Academy, Pune** (2009-2013)
17. **Ex-Member, Governing Board of National Centre for Cell Science (NCCS)**, Pune (2013-2015)
18. **Ex-Member, Finance Committee, National Centre for Cell Science (NCCS)**, Pune (2013-15)
19. **Ex-Member, Institutional Biosafety Committee (Univ. of Pune, NCL, ARI till 2015)**
20. **Ex-Examiner, CSIR-UGC NET** (1998-2014)
21. **Ex-Member, UPSC Panel (New Delhi) & MPSC Panel (Mumbai)**

### **RESEARCH PAPERS IN PEER REVIEWED JOURNALS:**

86. Himadri Patel, Pritish Nilendu, Devashree Jahagirdar, **Jayanta Pal** and Nilesh Kumar Sharma (2017). Modulating secreted components of tumor microenvironment: A masterstroke in tumor therapeutics. **Cancer Biology and Therapy** (communicated).
85. 84. Shukla, E., Thorat L., Bendre, Ameya D., Jadhav, S., Pathan, E.K., **Pal, J.K.**, Nath, B.N. and Gaikwad, S.M. (2017). Cloning, sequence analysis and in silico structure prediction of trehalase from oriental midge, *Chironomous ramosus*. **Gene** (communicated).
84. Bhavnani, V., Kaviraj S. and **Pal J.** (2017). Development of an *in vitro* kinase assay based ELISA for quantitation of eIF2 $\alpha$  phosphorylation. **Appl. Biochem. Biotech.** (Communicated).
83. Pritish Nilendu, Devashree Jahagirdar, Ishita Tandon, **Jayanta Pal**, and Nilesh Sharma (2017). Blissful recipes from stromal cells to fuel tumor hallmarks, heterogeneity and hindrances to drug. **Cancer Prevention Research** (accepted).
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 (in press).
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 $\alpha$  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 $\alpha$  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 $\alpha$  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 $\alpha$  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 $\alpha$  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 $\alpha$  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 $\alpha$  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 alta 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 $\alpha$  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 $\alpha$  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 $\alpha$ : 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 $\alpha$  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 $\alpha$  kinase. **BARC News letter** (Founder's day special issue) **297**, 80-87.
46. Shimi, M.P., Sreejith, R.K. and **Pal, J.K.** (2007). A novel eIF-2 $\alpha$  kinase from *Leishmania donovani*. **GenBank EU194953** (December, 2007), NCBI.
45. Godbole, D., Mojamdar, M. and **Pal, J.K.** (2006). Increased level of p27 subunit of proteasomes and its co-localization with tyrosinase in amelanotic melanoma cells indicate its direct role in the regulation of melanin biosynthesis. **Cell Biol. Int.** **30**, 895-902.
44. Salokhe, S., Sarkar, A., Kulkarni, A., Mukherjee, S.N. and **Pal, J.K.** (2006). Flufenoxuron, an acylurea insect growth regulator, alters development of *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae) by modulating levels of chitin, soluble protein content, and HSP70 and p34cdc2 in the larval tissues. **Pestic. Biochem. Physiol.** **85**, 84-90.
43. Sarkar, A., Kulkarni, A., Chattopadhyay, S., Mogare, D., Sharma, K.K., Singh, K. and **Pal, J.K.** 2005. Lead-induced upregulation of the heme-regulated eukaryotic initiation factor 2 $\alpha$  kinase is compromised by hemin in human K562 cells. **Biochim. Biophys. Acta** **1732**, 15-22.
42. Yadav, P., Barde, P.V., Gokhale, M.D., Vipat, V., Mishra, A.C., **Pal, J.K.** and Mourya, D.T. (2005). Effect of temperature and insecticide stresses on *Aedes aegypti* larvae and their influence on the susceptibility of mosquitoes to dengue-2 virus. **Southeast Asian J. Trop. Med. Public Health** **36**, 1139-1144.
41. **Pal, J.K.**, Godbole, D. and Sharma, K. (2004). Staining of Proteins on SDS Polyacrylamide Gels and on Nitrocellulose Membranes by Alta, a Colour used as a Cosmetic. **J. Biochem. Biophys. Methods** **61**, 339-347.

40. Salokhe, S.G., **Pal, J.K.** and Mukherjee, S.N. (2003). Effect of sublethal concentrations of flufenoxuron on growth, development and reproductive performance of *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae). **Inv. Reprod. Dev.** **43**, 141-150.
39. Sarkar, A., Chattopadhyay, S., Kaul, R. and **Pal, J.K.** (2002). Lead exposure and heat shock inhibit cell proliferation in human HeLa and K562 cells by inducing expression and activity of the heme-regulated eIF-2 $\alpha$  kinase. **J. Biochem. Mol. Biol. Biophys.** **6**, 391-396.
38. Anand, S. and **Pal, J.K.** (2002). The haem-regulated eukaryotic initiation factor 2 $\alpha$  kinase: a molecular indicator of lead-toxicity anaemia in rabbits. **Biotechnol. Appl. Biochem.** **36**, 57-62.
37. **Pal, J.K.** (2001). Proteasomes in melanoma cells - regulation of melanin biosynthesis, cell differentiation and cell transformation- few facts and speculations. **Pranikee- J. Zool. Soc. Orissa (Special Volume, 2001)**, 25-35.
36. **Pal, J.K.** and Joshi-Purandare, M. (2001). Dose-dependent differential effect of hemin on protein synthesis and cell proliferation in *Leishmania donovani* promastigotes cultured *in vitro*. **J. Biosci.** **26**, 225-231.
35. **Pal, J.K.**, Sarkar, A. and Katoch, B. (2001). Detergent-mediated destaining of coomassie brilliant blue-stained SDS polyacrylamide gels. **Ind. J. Exptl. Biology** **39**, 95-97.
34. Kar, A., Kulkarni-Shukla, S., Dey-Guha, I. and **Pal, J.K.** (2000). Temperature-induced alteration of the polytene X chromosome structure in male larvae of the strain *In(l)B<sup>M2</sup>(reverted)* of *Drosophila melanogaster*. **Genetical Research** **76**, 11-17.
33. **Pal, J.K.**, Kar, A. & More, N.S. (1999). Translational regulation of gene expression during early embryonic development. In **Recent Trends in Developmental Biology** (eds. Gakhar, S.K. & Mishra, S.N.), 27 - 46. Himalaya Publishing House, Mumbai.
32. **Pal, J.K.** (1998). Hsp90 regulates protein synthesis by activating the heme- regulated eukaryotic initiation factor 2 $\alpha$  (eIF-2 $\alpha$ ) kinase in rabbit reticulocyte lysates. **J. Biosci.** **23**, 353-360.
31. Xu, Z., **Pal, J.K.**, Thulasiraman, V., Hahn, H.P., Chen, J.-J. & Matts, R.L. (1997). The role of the 90-kDa heat-shock protein and its associated cohorts in stabilizing the heme-regulated eIF-2 $\alpha$  kinase in reticulocyte lysates during heat stress. **Eur. J. Biochem.** **246**, 461-470.
30. Anand, S. & **Pal, J.K.** (1997). Heme-regulated eukaryotic initiation factor 2 $\alpha$  kinase - a molecular indicator of haemolytic anemia. **J. Biosci.** **22**, 287-298.
29. **Pal, J. K.** & Anand, S. (1996). Expression of heme-regulated eIF-2 $\alpha$  kinase and regulation of translation during erythropoiesis and anemia. **Proc. ARI Golden Jubilee Symp. Development & Differentiation**, ARI, Pune.
28. **Pal, J.K.**, Anand, S. & Joseph, J. (1996). Association of hsp90 with the heme-regulated eukaryotic initiation factor 2 $\alpha$  kinase - a collaboration for regulating protein synthesis. **J. Biosci.** **21**, 191-205.
27. Kar, A. & **Pal, J.K.** (1995). An X-linked region in *Drosophila melanogaster* that controls the structure of the male X chromosome and perturbs sex determination. **J. Genet.** **74**, 47-59.
26. Biswas, T., **Pal, J. K.**, Naskar, K., Ghosh, D. K. & Ghosal J. (1995). Lipid peroxidation of erythrocytes during anemia of the hamsters infected with *Leishmania donovani*. **Mol. Cell. Biochem.** **146**, 99-105.
25. **Pal, J.K.** & Murakami, K. (1995). Comparative analysis of prosomes and multicatalytic proteinases from rabbit erythrocytes. **J. Biosci.** **20**, 197-209.
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1. Pal, J. K., Nerurkar, A. R. & Goel, S. C. (1980). Studies on the water soluble lens proteins of the lizard, *Calotes versicolor*. I. Fractionation and molecular weight determination. **Exp. Eye Res.** **30**, 739-746.

**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** (16<sup>th</sup> November, 2010)

**PAPERS PRESENTED IN NATIONAL AND INTERNATIONAL CONFERENCES & AS INVITED SPEAKER:**

1. 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** (May, 2017).
2. Pal, J.K. (2017). Invited for a lecture on “*A GCN2-like eIF2 $\alpha$  kinase (LdeK1) of Leishmania donovani and its possible role in stress response*” at the **Centre for Cellular & Molecular Biology, Hyderabad** (April, 2017).
3. Pal, J.K. (2016). *Small molecule inhibitors of eIF2 $\alpha$  kinases and their therapeutic potential for human disorders. Symposium on Trends in Therapeutics* (January 29, 2016; **NIPER, Ahmedabad**).
4. Shilpa J. Rao, Shimi Meleppattu and Jayanta K. Pal (2016). *Cloning and characterization of a GCN2-like eIF2 $\alpha$  kinase (LdeK2) of Leishmania donovani and its possible role in stress response. In RNA 2016: A national Symposium of the RNA Group in India* (January 8-10, 2016; **CCMB, Hyderabad**).
5. Pal, J.K. (2015). *Research Proposal- An effective presentation of a novel idea for its scientific pursuits. December, 2015; S.P. Pune University*).
6. Pal, J.K. (2015). *Biotechnology and Law: definitions, necessary regulations and practices. UGC Refresher Course on Law in Biotechnology. (Department of Law, S.P. Pune University (January, 2015).*
7. Pal, J.K. (2014). *Invited speaker in a National Symposium on Genetic Analysis: Translational and Developmental (NSGTD) and Annual Meeting of Society for Biotechnologists (India). Department of Zoology, The University of Burdwan* (November 21-23, 2014)

8. **Pal, J.K.** (2014). Translation regulation of gene expression in the context of host-parasite relationship in protozoan parasites. In **Recent Trends on Modern Biology** (28-29 March, 2014, Department of Zoology, **University of Pune**).
9. **Pal, J.K.** (2014). Invited speaker on “Translational control as the paradigm of gene regulation in protozoan parasites” at the **International workshop on Structural Biology of parasites** (March, 2014; **National Centre for Cell Science, Pune**)
10. **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"** (February, 13-15th, 2014, **JNU, New Delhi**).
11. **Smriti P.K. Mittal, Jinumary Mathai, Abhijeet P. Kulkarni, Samit Chattopadhyay and Jayanta K. Pal** (2014). Invited lecture on “**MicroRNA miR-320a regulates erythropoietic differentiation through MAR binding protein SMAR1**” In **RNA 2014: A national Symposium of the RNA Group in India** (6-8 March, 2014; **IICB, Kolkata**).
12. **Pal, J.K.** (2013). Invited speaker in **The pleiotropic role of the heme-regulated eIF-2 $\alpha$  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) (Hyderabad University, **Hyderabad**) (December 2-5, 2013).**
13. **Pal, J.K.** (2012). Invited speaker for a Workshop on “**Catalyzing excellence..... (India Biosciences, INSA, New Delhi, 12-14 October, 2012)**).
14. **Pal, J.K.** (2012). **Invited speaker on Cytoplasmic proteins regulate translation of the heme-regulated eIF2 $\alpha$  kinase mRNA through interaction with its 5'-UTR. RNA 2012: A national Symposium of the RNA Group in India** (March, 2012; **Bangalore**).
15. **J.K. Pal** (2012). **Invited speaker on Human Resource Development in Biotechnology –An Academia-Industry tie-up is the need of the hour. 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 (Asian School of Management. February, 2012; Pune.**
16. **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**”-**Planning commission of India (IISER, Pune, July 2, 2011)**.
17. **Chatterjee, S., Panda, A.C., Berwal, S.K., Sreejith, R.K., Ritvika, C., Seshadri, V. and Pal, J.K.** (2010). The 5'-UTR of hHRI mRNA upregulates its translation under lead stress by interacting with transacting factors. **Proc. RNA2010, A National symp. RNA Group India.** 18-19 January, 2010 (**Pune**).
18. **Pal J.K.** (2010). Invited speaker on **The heme-regulated eIF-2 $\alpha$  kinase- a molecular marker for human anemia. In Recent trends in Biotechnology & Bioinformatics Symposium, Delhi University of Technology, Delhi** (Oct. 29-30, 2010).
19. **Pal J.K.** (2010). Invited speaker for a Panel Discussion on “**Evolving a national strategy for building biomedical research capacity in India**”, **Wellcome Trust-DBT-India Alliance at Hyderabad** (Oct. 29, 2010).

20. **Pal, J.K., Singh, V.B., Pavithra, L. and Chattopadhyay, S. (2009).** *Stress-induced overexpression of the heme-regulated eIF-2 $\alpha$  kinase is regulated by Elk-1 activated through ERK pathway. In **Recent Trends in Biology** (Department of Zoology, **University of Pune, Pune**) (March, 2009).*
21. Sharma, K.K., Sreejith, R. K., Chaodhary, V., Haram, S.K. and **Pal, J.K.** (2009). Effect of Silver Nanoparticles Capped with EDTA in pUC18 DNA Damage Induced by Ionizing Radiation. **Proc. ESF-EMBO (Spain)** (January, 2009).
22. Kulkarni, A.P., Mittal, S.P.K., Devasagayam, T.P.A. and **Pal, J.K.** (2009). *Oxidative stress affects protein synthesis by inducing expression and activity of the heme-regulated eIF-2 $\alpha$  kinase in K562 cells. **Proc. AFRR & 8<sup>th</sup> SFRR-India Meeting** (C.S.M. Medical University, **Lucknow**) (19-21 March, 2009).*
23. Sharma, Kiran K., Sreejith R.K., **Pal, Jayanta K.**, Choudhary, Vijay R. and Haram, Santosh K. (2009). Protective Role of Silver Nanoparticles in DNA Damage Caused by  $\square$ -Irradiation. **Proc. 78<sup>th</sup> Annual Meeting of SBC (I)**, (Oct. 30-Nov. 1, 2009), **Pune**.
24. **Pal, J.K.** (2009). *Invited speaker on Cytoplasmic stress and regulation of erythropoiesis: The heme at the steering wheel. **Proc. 78<sup>th</sup> Annual Meeting of SBC (I)**, (Oct. 30-Nov. 1, 2009), **Pune**.*
25. Sreejith, R.K., Berwal, S.K., **Pal, J.K.**, Yadav, V.N., Varshney, N.K., Gaikwad, S.M. and Suresh, C.G. (2009). Conformational characterization of human eukaryotic translation initiation factor 2 $\alpha$ : a single tryptophan protein. **Proc. 78<sup>th</sup> Annual Meeting of SBC (I)**, (Oct. 30-Nov. 1, 2009), **Pune**.
26. **Pal, J.K.** Kulkarni, A. and Mittal, S.P.K (2009). *Oxidative stress and regulation of protein synthesis and cell cycle in human K562 cells. **Proc. Indo-US Bilateral Workshop on Redox Signalling in Degenerative Diseases** (19-21 December, 2009), **Manesar, Gurgaon**.*
27. **Pal, J.K.** (2009). *Invited lecture on “Stress-induced overexpression of the heme-regulated eIF-2 $\alpha$  kinase is regulated by Elk-1 activated through ERK pathway”. In **Recent Trends in Biology** (Department of Zoology, **University of Pune, Pune**) (March, 2009).*
28. **Pal, J.K.** (2008). *Invited lecture 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).*
29. **Pal, J.K.** (2008). *Invited lecture on “Human genome and its organization” delivered at the **Indian Institute of e-Business Management, Pune** (9th July, 2008).*
30. **Pal, J.K.** (2008). *Invited lecture on “The heme-regulated eIF-2 $\alpha$  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).*
31. **Pal, J.K.** (2008). *Invited lecture 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).*

32. **Pal, J.K. and Chatterjee, S. (2008).** *The role of UTRs in the stress-induced translation regulation of the heme-regulated eIF-2 $\alpha$  kinase mRNA.* **Proc. RNA meeting 2008 at the School of Life Sciences, JNU, New Delhi (28<sup>th</sup> - 29<sup>th</sup> March, 2008).**
33. Singh, V.B., Pavithra, L., Chattopadhyay, S. and **Pal, J.K. (2008).** **Stress-induced over-expression of the heme-regulated human eIF-2 $\alpha$  kinase is regulated by Elk-1, activated through ERK pathway.** **Proc. Intl. Conf. on Nuclear Architecture & Chromatin Dynamics, (CCMB, Hyderabad) (Nov. 2008).**
34. Mittal, S.P.K., Sinha, S., **Pal, J.K.** and Chattopadhyay, S. (2008). Role of SMAR1 in regulation of miRNAs and erythroid differentiation in K562 cells. **Proc. Intl. Conf. on Nuclear Architecture & Chromatin Dynamics, (CCMB, Hyderabad) (Nov. 2008).**
35. **Pal, J.K. (2008).** Invited lecture on “The heme-regulated eIF-2a 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).**
36. **Pal, J.K. (2008).** Invited lecture on “Molecular biology of stress response” delivered at the Teachers’ Orientation Workshop at the Department of Microbiology, University of Pune (18th January, 2008).
37. **Pal, J.K. (2007).** Invited Lecture (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) .
38. **Pal, J.K. (2007)**Invited Lecture 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).
39. Kulkarni, Abhijeet P., Devasagayam, T. P. A. and **Pal, Jayanta K. (2007).** Radiation- and free radical- exposure and regulation of protein synthesis by the heme-regulated eukaryotic initiation factor 2 $\alpha$  kinase. **Proc. 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).**
40. **Pal, Jayanta K., Kulkarni, Abhijeet P. and Devasagayam, T. P. A. (2007).** *Molecular mechanism of regulation of protein synthesis during various cytoplasmic stresses including radiation- and free radical exposure.* **Proc. 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).**
41. **Pal Jayanta (2007).** *Heme and the regulation of globin synthesis- a feat of a long range interaction.* **Proc. 30th All India Cell Biology Conference & Symposium (Molecules to compartments: Cross-talks & Networks) (Department of Zoology, University of Delhi) (February 2-4, 2007).**
42. Godbole, D., Coux, O. and **Pal, J.K. (2007).** Tyrosinase in amelanotic and melanotic B16 melanoma cells: study of degradation pattern and role of proteasomes. **Proc. 30th All India Cell Biology Conference & Symposium (Molecules to compartments: Cross-talks & Networks) (Department of Zoology, University of Delhi) (February 2-4, 2007).**
43. Singh, V.B., Sarkar, A. and **Pal, J.K. (2007).** Regulation of expression of the heme-regulated eIF-2 $\alpha$  kinase under various cytoplasmic stresses. **Proc. 30th All India Cell Biology**

**Conference & Symposium (Molecules to compartments: Cross-talks & Networks)**  
(Department of Zoology, **University of Delhi**) (February 2-4, 2007).

44. Nekouian, R., Kar, A. and **Pal, J.K.** (2007). Expression of HRI in humans, and usage of HRI as a molecular marker for anemia. **Proc. National Symposium on Biophysics: Trends in Biomedical Research, Indian Biophysical Society (AIIMS, New Delhi)** (February 13-15, 2007).
45. **Pal, J.K.** (2007). *Invited Lecture 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)*
46. **Pal, J.K.** (2006). *Invited Lecture 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).*
47. **Pal, J.K.** (2006). *Invited Lecture on “The Heme-regulated eIF-2 $\alpha$  kinase and the regulation of protein synthesis”- delivered at the Institute of Microbial Technology, Chandigarh (11th October, 2006).*
48. **Pal, J.K.** (2006). *Invited Lecture on “Drug- and lead-toxicity anemia through translation regulation involving the heme-regulated eIF-2 $\alpha$  kinase” – delivered at the International workshop at the National Institute of Pharmaceutical Education & Research, Chandigarh (11th October, 2006).*
49. **Pal, J.K.** (2006). *Invited Lecture on “Lead induced activation and expression of the heme-regulated eIF-2 $\alpha$  kinase and apoptosis in human K562 cells” delivered at the School of Life Science, Visva –Bharati (January, 2006).*
50. Salokhe, S., Mukherjee, S.N. and **Pal, J.K.** (2006). Modulation of expression of HSP70 and p34cdc2 in the larval tissues of *Tribolium castaneum* during development, following exposure to sub-lethal concentrations of flufenoxuran. **Proc. Annual Conference of Indian Society of Developmental Biologists & International Symposium on Cellular Signaling during Development (Agharkar Research Institute, Pune)** (November 23-25, 2006).
51. Chatterjee, Sangeeta and **Pal, Jayanta K.** (2005). The heme regulated eIF-2 $\alpha$  kinase: mRNA structure-function relationship. **Proc. National Symposium on Recent Trends in Molecular and Medical Biophysics (University of Pune)** (January 22-25, 2005).
52. **Pal, J.K.** (2005). *Invited Lecture on “Regulation of expression and activity of the heme-regulated eIF-2 $\alpha$  kinase during various cytoplasmic stresses” delivered at the Indian Institute of Chemical Biology, Kolkata (May, 2005).*
53. Sarkar, A., Kaul, R., Chattopadhyay, S. and **Pal, J.K.** (2004). Cloning of human heme-regulated eIF-2 $\alpha$  kinase (HRI) promoter and study of its activity under various cytoplasmic stresses. **XXVII All India Cell Biology Conference & International Symposium (Frontiers in Biomedical Research & Technologies) (University of Pune, Pune)** (January 7-10, 2004).
54. Nekouian, R., Sarkar, A., Kar, A. and **Pal, J.K.** (2004). Validity of a RT-PCR-based method in diagnosis/prognosis of anemia in humans using HRI as a marker. **XXVII All India Cell Biology Conference & International Symposium (Frontiers in Biomedical Research & Technologies) (University of Pune, Pune)** (January 7-10, 2004).



55. **Pal, J.K.** and Godbole, D. (2004). Staining of proteins on SDS polyacrylamide gels by Alta, a clour used as a cosmetic. **XXVII All India Cell Biology Conference & International Symposium (Frontiers in Biomedical Research & Technologies) (University of Pune, Pune)** (January 7-10, 2004).
56. Salokhe, S.G., Sarkar, A., Mukherjee, S.N. and **Pal, J.K.** (2004). Influence of sub-lethal concentrations of an insect growth regulator flufenoxuron (Cascade R) on certain biological and molecular phenotypes in *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae). **XXVII All India Cell Biology Conference & International Symposium (Frontiers in Biomedical Research & Technologies) (University of Pune, Pune)** (January 7-10, 2004).
57. Rane, Sarika, Kulkarni-Shukla, S., Dey-Guha, I, **Pal, J.K.**, Mishra, R.K. and Kar, A. (2004). Purification and characterization of a chromosome condensing activity from the strain in (1) BM2 (reinvverted) of *Drosophila melanogaster*. **XXVII All India Cell Biology Conference & International Symposium (Frontiers in Biomedical Research & Technologies) (University of Pune, Pune)** (January 7-10, 2004).
58. Chatterjee, Sangeeta and **Pal, Jayanta K.** (2004). The heme regulated eIF-2 $\alpha$  kinase: mRNA structure-function in relation to regulation of protein synthesis. **Proc. 2nd RNA Group Meeting. (Saha Institute of Nuclear Physics, Kolkata)** (December 2004).
59. **Pal, J.K.** (2003). *Drug- and lead-toxicity anemia through translation regulation involving the heme-regulated eIF-2 $\alpha$  kinase. A Discussion Meeting of the RNA Group The First Symposium on 'RNA Research in India' (Indian Institute of Science, Bangalore) (February 1-2, 2003).*
60. **Pal, J.K.**, Sarkar, A., Kaul-Ghanekar, R. and Chattopadhyay, S. (2003). *Heme-signalling targets both cytoplasm and nucleus in the regulation of initiation of protein synthesis in mammalian cells. FAOBMB Satellite Symposium on "Molecular Aspects of Cellular Signalling" (University of Hyderabad, Hyderabad) (December 3- 4, 2003),, pp. 15.*
61. Teke, S.P., Sahastrabudhe, N.M., Salokhe, S.G., **Pal, J.K.** and Mukherjee, S.N. (2003). Designing the experiment to analyze the effectiveness of sublethal concentrations of insecticide. **Fifth International Triennial Calcutta Symposium on Probability and Statistics (Calcutta University and Calcutta Statistical Association, Calcutta)** (December 28-31, 2003).
62. Godbole, Dhanashri and **Pal Jayanta K.** (2002). Proteasomes and regulation of melanin biosynthesis in mouse melanoma cells. **26th All India Cell Biology Conference (ACTREC, Navi Mumbai)** (December 12-14, 2002).
63. Sarkar, A., Chattopadhyay, S., Kaul, Ruchika, and **Pal, J.K.** (2001). Inhibition of protein synthesis during lead poisoning is mediated by the heme-regulated eIF-2 $\alpha$  kinase. **25th All India Cell Biology Conference (Indian Institute of Science, Bangalore)** (November 1-3, 2001).
64. **Pal, J.K.** and Anand, S. (2000). *The heme-regulated eIF-2 $\alpha$  kinase: a molecular indicator of heavy metal-induced anemia in rabbits. Proc. 87th Ind. Sci. Cong. (University of Pune, Pune) (January 3-7, 2000) III, pg. 19.*
65. **Pal, J.K.** and Joshi-Purandere, M. (2000). Heme-dependent protein synthesis and proliferation of promastigotes of *Leishmania donovani*, the causative agent of Kala-azar. **Proc. 87th Ind. Sci. Cong. (University of Pune, Pune)** (January 3-7, 2000) III, pg. 15-16.

66. Sarkar, A., Chattopadhyay, S., Kaul, Ruchika, and **Pal, J. K.** (2000). *Heavy metal exposure and heat shock induce overexpression of the heme-regulated eIF-2 $\alpha$  kinase in human cells cultured in vitro.* **24th All India Cell Biology Conference (JNU, New Delhi)** (November 24-26, 2000).
67. **Pal, J.K.**, Anand, S. and Sarkar, A. (2000). *The heme-regulated eIF-2 $\alpha$  kinase, a regulator of protein synthesis, as a potential molecular indicator of anemia, heavy-metal toxicity and heat shock.* **69th Annual Meeting of the Society of Biological Chemists, India (Science City, Calcutta)** (December 7-9, 2000).
68. **Pal, J.K.** (1999). *Invited Lecture 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).
69. **Pal, J.K.** (1998). *Invited (A. Krishnamurthi Award) Lecture on "The heme-regulated eIF-2 $\alpha$  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).
70. **Pal, J.K.** (1998). *Invited Lecture 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).
71. **Pal, J. K.** and Joshi-Purandare, M. (1998). *Heme-dependent protein synthesis and differentiation in Leishmania donovani - a target for chemotherapy.* **Proc. XXI All India Cell Biology Conference (Ind. Inst. Sci., Bangalore).**
72. **Pal, J.K.** (1998). *The heme-regulated eIF-2 $\alpha$  kinase - a molecular indicator of hemolytic anemia.* **67th Annual Meeting of the Society of Biological Chemists, India (JNU, New Delhi)** (December 19-21, 1998).
73. Anand, S. and **Pal, J.K.** (1998). **67th Annual Meeting of the Society of Biological Chemists, India (JNU, New Delhi)** (December 19-21, 1998).
74. Anand, S. & **Pal, J. K.** (1997). *The heme-regulated eukaryotic initiation factor 2 $\alpha$  kinase - a molecular marker for hemolytic anemia.* **Proc. Golden Jubilee Symposium on Enzymology: Clinical and Industrial aspects (Lokmanya Tilak Municipal General Hospital, Mumbai),** pp. 23.
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