BENCH SCIENTIST III

Professional Summary

Expertise in immunology arthritis mouse model and ex-vivo human skin model of psoriasis. Expertise in assays development for efficacy, safety, engagement and validation of pre-clinical assets . Proficient in modern assays technologies including RT-PCR, ELISA, FRET, ITC, and FACS. Hands-on experience with bioanalytical methods including DNA, RNA and protein measurement. Ten years of experience in RNA handling. Knowledge of GxP, SOP and electronic reports Managed multiple projects and presented results at meetings and conferences. Strong communication, collaboration, interpersonal, and leadership skills.

Core Qualifications

- Results-oriented
- Operations management
- Client-focused
- Excel in [areas of expertise]
- Proficiency in [area]
- Quick learner

Experience

Engine Group February 2014 to Current Bench Scientist III
Cincinnati , OH

- Development of assays for autoimmune and inflammatory diseases of skin.
- Develop ex vivo and in vitro assays for target engagement studies of pre-clinical assets.
- Develop and validate assays for safety biomarker and drug efficacy.
- Manage multiple projects simultaneously and analyse complex data findings.

Conducted analysis to address [issue] which led to [positive outcome].Increased sales by 17% over two-year period.Successfully led key projects which resulted in [positive outcome].

Bickford Senior Living January 2012 to January 2014 Research Associate
Portage , MI

- Study the role of Epstein-Barr Virus (EBV) deubiquitinating enzyme in translesion DNA synthesis.
- Performed cell-based assays to study crosstalk of EBV proteins with cellular proteins.
- Performed cell imaging using confocal and epifluorescence microscopy to study protein localization.
- Purified EBV deubiquitinase and developed in vitro assays to study protein-protein interactions.

Rutgers University January 2004 to January 2012 New Brunswick , NJ

- Study mechanism and dynamics of DNA replication proteins.
- Elucidated the molecular mechanisms of DNA replication by ensemble kinetics and microscopy (confocal, TIRF, epifluorescence and single-molecule FRET).
- Initiated experiments to explore in vivo complex formation and phosphorylation of de novo purine biosynthetic pathway enzymes using fluorescence microscopy.
- Utilized state-of-the-art biochemical research methods and instruments, such as Ã„KTA, SPR, ITC and FRET-microscopy for protein-protein and protein-DNA interactions.
- Developed and implemented protocols to purify human purine biosynthetic active enzymes and DNA replication proteins to high purity for binding kinetics and crystallographic studies.
- 1|P age Ravindra Kumar, Ph.D.
- Authored scientific protocols and trained new members of the group in cell culture, fluorescence microscopy, FPLC, ITC, and ELISA.
- Managed three projects simultaneously, prepared complex data findings, and presented results at lab meetings, national and international conferences.

Uppsala University January 2002 to January 2003 Visiting Researcher
City

- Investigated therapeutic potential of anti-TNF- ribozyme in experimentally induced arthritis in mice.
- Gained knowledge and expertise in collagen-induced arthritis mouse model and immunology.
- Quantified inflammatory cytokines and studied TNF- mediated apoptosis.

Education

University of North Carolina FELASA category C. Uppsala University 2013 Certificate in effective mentoring City , State 2|P age Ravindra Kumar, Ph.D. Research and training course in immunology "Antibodies in Natural and Pathological Immunity" 2003
Jawaharlal Nehru University 2004 Ph.D : Biochemistry & Molecular Biology City , India Biochemistry & Molecular Biology Advisors: Dr. Pramod K. Yadava & Dr. Sandra Kleinau Thesis: Effect of TNF- Targeted Ribozyme on Experimentally Induced Arthritis.
Jawaharlal Nehru University 1999 M.S : Life Sciences City , India Life Sciences Expression and Purification of Human TNF- from E. coli.
University of Delhi 1997 B.S : Zoology City , India Zoology
Uppsala University Sweden

Accomplishments

- Expertise in TaqMan real-time PCR, ex vivo and in vitro assays for target engagement studies of pre- clinical assets, and Luminex FlexMap.
- Experience with human and murine cell culture, FACS analysis, transfection, stable cell line construction, epifluorescence and confocal microscopy.
- Expertise and in-depth knowledge of arthritis mouse model, administration of drugs via various routes, surgery, organ collection and downstream process such as histology and total RNA purification.
- Monoclonal antibody isolation, antibody labeling with biotin and fluorescence dyes, immunoprecipitation, and immunofluorescence imaging.
- Expertise in Graph Pad Prism, Origin, Ms-Office suite, Photoshop, Adobe Illustrator, Dreamweaver, and Macromedia Flash.
- Development of kinetic assays and bioconjugation protocols for enzymes, protein-protein and protein- DNA interactions detection with ITC, SPR, FRET, cross-linking, and single-molecule FRET.
- Proficient in Ã,KTA chromatography, protein purification and characterization, spectrophotometric enzyme assays, dynamic light scattering (DLS), gel electrophoresis, PAGE, IEF, CE, western blot, and ELISA.

Publications

Kumar, R., Whitehurt, C., Pagano, J.S. The Rad6/18 Ubiquitin Complex Interacts with the Epstein - Barr virus Deubiquitinating Enzyme, BPLF1, and Contributes to Virus Infectivity. J Virol. 2014 Mar 26. [Epub ahead of print] Wang, L., Xu, X., Kumar, R., Mati, B., Liu, C. T., Ivanov, I., Lee, T.H., and Benkovic, S.J. Probing DNA clamps with single-molecule force spectroscopy. Nucleic Acid Research, 41(16), 7804-7814 (2013). Hedglin M., Kumar R., and Benkovic S.J. in DNA Replication (eds Marcel Mechali Stephen D. Bell, and Melvin L. & DePamphilis) Ch. 11, Cold Spring Harbor Laboratory Press (2012). Kumar, R., Nashine, V.C., Mishra, P. P., Benkovic, S. J., and Lee, T. H. Stepwise loading of yeast clamp revealed by ensemble and single-molecule studies. PNAS, 107, 19736-19741 (2010). Nelson, S. W*., Kumar, R*., and Benkovic, S. J. RNA primer handoff in bacteriophage T4 DNA replication: the role of single-stranded DNA-binding protein and polymerase accessory proteins. Journal of Biological Chemistry, 283, 22838-22846 (2008). [* Joint first authors] An, S., Kumar, R., Sheets, E. D., and Benkovic, S. J. Reversible compartmentalization of de novo purine biosynthetic complexes in living cells. Science 320, 103-106 (2008). Yadava, R. S., Kumar, R., and Yadava, P. K. Expression of lexA targeted ribozyme in Escherichia coli BL-21 DE3) cells. Molecular and Cellular Biochemistry, 271, 197-203 (2005). Kumar, R., Dammai, V., Yadava, P. K., and Kleinau, S. Gene targeting by ribozyme against TNF-alpha mRNA inhibits autoimmune arthritis. Gene Therapy, 12, 1486-1493 (2005). Chauhan, N., Kumar, R., Badhai, J., Preet, A., and Yadava, P. K. Immunogenicity of cholera toxin B epitope inserted in Salmonella flagellin expressed on bacteria and administered as DNA vaccine. Molecular and Cellular Biochemistry, 276, 1-6 (2005). Yadava R., Dammai, V., Kumar R., and Yadava PK. in Trends in Animal Biotechnology (ed Srivastava AK) Ch. 3, 42-59, Oxford University Press (2003). ABSTRACTS: Lee TH., Benkovic SJ., Mishra PM., and Kumar R. Mechanism of Yeast Clamp Loading on DNA. Biophysical Journal, Volume: 100(3), 2011 Benkovic, SJ., An, S., Kumar, R., and Sheet E. Studies of de novo Purine Biosynthetic Complexes in Living Cells. FASEB JOURNAL, Volume: 22, 2008 3|P age Ravindra Kumar, Ph.D. Kumar, R., Yadava, P.K., and Kleinau, S. TNF-alpha targeting ribozyme as potential tool for gene therapy of rheumatoid arthritis. Scandinavian J. Immunol, Volume: 58, 2003. SELECTED PRESENTATIONS: Georgia State University, Department of Chemistry, Atlanta, GA. Nov.18, 2010. (Invited talk) Gordon Research Conference (Single-molecule approaches to biology). Barga, Italy. Jun. 2010. (Poster) Gordon Research Conference (DNA damage, mutation and cancer). Ventura, CA. Mar. 2010. (Poster) Jawaharlal Nehru University, School of Life Science, New Delhi, India. Dec. 24, 2007. (Invited talk) 5th Cambridge Symposium, Nucleic Acids Chemistry and Biology. Cambridge, UK. Aug. 2003. (Poster) Scandinavian Society for Immunology. Reykjavik, Iceland. Aug. 2003. (Talk and Poster) 4|P age Ravindra Kumar, Ph.D.

Skills

art, conferences, ELISA, imaging, meetings, mentoring, Natural, pathway, protocols, Research, safety, scientific

Additional Information

- Immigration Status: Permanent Resident (Green Card)
- AWARDS & HONORS: Invited and provided funds by Uppsala University to complete my graduate research. 2002-2003 th Avecia Award to attend 5 Cambridge Symposium Cambridge University, United Kingdom. 2003 Best poster award winner, International Symposium on Molecular Toxicology & Environmental Health, India. 2003 Junior & Senior Research Fellowship from CSIR-UGC Govt. of India. 1999- 2002