KIRANAM CHATTI, Ph.D.

Senior Research Scientist
Institute of Life Sciences, University of Hyderabad,
Hyderabad – 500046,
Andhra Pradesh, India.
Email: kiranamc@ilsresearch.org
Tel: +91-40-66571500

EDUCATION AND RESEARCH EXPERIENCE

2008	**Senior Research Scientist** at the **Institute of Life Sciences, Dept. of Biology**, University of Hyderabad, India.
2005 - 2008	**Post-Doctoral Research** in the State University of New York at Stony Brook, Dept. of **Physiology & Biophysics**, New York, USA.
1998 - 2004	**Ph.D. in Pharmacology & Toxicology** at the University of Mississippi Medical Center, Jackson, Mississippi, USA.
1997 - 1998	**Junior Research Fellow** at the **Centre for Cellular and Molecular Biology**, Hyderabad.
1995 - 1997	**M.Sc. in Biotechnology** at Madurai Kamaraj University, Madurai.
1992 - 1995	**B.Sc. in Genetics, Botany and Chemistry** at Nizam College, Osmania University, Hyderabad, India.

GRANTS

SERC-DST (Department of Science and Technology, India) 'Fast Track Proposal for Young Scientists' scheme (0315/2008) – Title: Phosphoproteomic analysis of cellular tyrosine kinase signalling (2010-2013).

AWARDS

American Society for Pharmacology and Experimental Therapeutics (ASPET) travel award – International Union of Pharmacology (IUPHAR), San Francisco USA, July 2002.
Fisher Scientific award - Mississippi Academy of Sciences, Tupelo USA, February 2001.
Lowell M Greenbaum award - South Eastern Pharmacology Society, USA, August 2000.
All-American Scholar - United States Achievement Academy, 2000.
CSIR (Council for Scientific and Industrial Research), India - Junior Research Fellowship (JRF) - 1997.
Jawaharlal Nehru University, India - National Fellowship (for M.Sc. Biotechnology), 1995-1997.

PUBLICATIONS

Challa AK and **Chatti K** (2009). Chemical Biology of Tyrosine Phosphorylation: Going in vivo with the Zebrafish Tyrosine Kinome. Under revision.

Rana N, Moond M, Marthi A, Bapatla S, Sarvepalli T, **Chatti K** and Challa AK (2009). Caffeine-induced effects on heart rate in zebrafish embryos and possible mechanisms of action: An effective experimental system in chemical biology. **Zebrafish.** Under review.

Xiang B*, **Chatti K***, Qiu H, Miller WT, and Muthuswamy SK (2008). BRK is coamplified with ErbB2 to promote proliferation in breast cancer. **Proc. Natl. Acad. Sci. USA** 105:12463-12468. *Equal Contribution

Mamoon NM, Smith JK, **Chatti K**, Lee S, Kundrapu K, and Duhe RJ (2007). Multiple Cysteine residues are critical to Janus Kinase 2-mediated catalysis. **Biochemistry** 46: 14810-14818.

Chatti K, Farrar WL and Duhe RJ (2004). Tyrosine phosphorylation of the Janus Kinase 2 activation loop is essential for a high activity catalytic state, but dispensible for a basal catalytic state. **Biochemistry** 43: 4272-4283.

ABSTRACTS

Cold Spring Harbor Laboratory Meeting on Phosphorylation, Signaling and Disease May 2007;
Xiang B, Qiu H, **Chatti K**, Lakshmi B, Krasnitz A, Hicks J, Wigler M, Miller WT, and Muthuswamy SK. BRK is coamplified with ErbB2 to promote proliferation in breast cancer.

American Association of Cancer Research Meeting Abstracts Apr 2006; 891.
Duhe RJ, Smith JK, Mamoon NM, Lee S, **Chatti K**. The role(s) of cysteine residues in redox regulation of Janus Kinase 2.

Mississippi Academy of Sciences Annual Meeting 2004; 49(1): 35.
Cornelius K, **Chatti K**, Duhe RJ. The use of AG-490, a protein tyrosine kinase inhibitor, to generate non-tyrosine phosphorylated rat Janus Kinase 2 mutants in Sf21 insect cells.

Mississippi Academy of Sciences Annual Meeting 2003; 48(1): 15.
Duhe RJ, **Chatti K**. Tyrosine phosphorylation of the Janus Kinase 2 activation loop is essential for a high activity catalytic state, but dispensible for a basal catalytic state.

Molecular Biology of the Cell Meeting Abstracts 2002 18: 427A; Lee S, **Chatti K**, Duhe RJ. Effects of thioredoxin on Janus kinases' activity.

XIV World Congress of Pharmacology (International Union of Pharmacology) July 2002.
Chatti K, Duhe RJ. In vitro mechanisms of rat Janus Kinase 2 regulation.

RESEARCH INTERESTS

Protein tyrosine phosphorylation: Protein tyrosine kinases (PTKs) are cellular enzymes which catalyze phosphotransfer from ATP to tyrosine residues in proteins. The human genome encodes 91 tyrosine kinases, the majority of which are directly associated (by overexpression or mutation) with defects in cell proliferation and/or differentiation, resulting in Cancer. The long-term research goal of my laboratory is to understand the spatiotemporal regulation of signalling pathways involving tyrosine phosphorylation/dephosphorylation within cells. Our current work is based on the hypothesized regulation of tyrosine kinases by non-catalytic domain interactions with their splice-variants. We will address this hypothesis by studying the regulation of BRK (breast tumour kinase) signalling by one of its splice-variants, and its effect on cell proliferation and migration. The relevance of such a mechanism in cancer initiation and progression will be addressed by studying cancer tissue samples. Our research will allow us to develop novel experimental systems which will use synthetic small molecules to probe phosphotyrosine signalling pathways. Another current research effort is the creation of profile Hidden Markov Models of tyrosine kinase protein sequences from public databases, in order to search and identify novel protein tyrosine kinases in other organisms, such as the model organism zebrafish. We are currently assembling the complete zebrafish tyrosine kinome with their phylogenetic relationships and unique sequence features. The long term goal of this work is to establish and utilize the zebrafish as an *in vivo* model to study tyrosine phosphorylation.