

CURRICULUM VITAE

M.BHARATH VIJAYARAGAVAN

Masters in Biomedical sciences

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Sex: Male; Age: 23

Objective:

Cell Signaling is an important event in cell, to maintain normal physiological conditions like apoptosis, differentiation, proliferation and maintenance, development, transportation (endocytosis and exocytosis), defense mechanisms, inter-cellular control etc, by activation or deactivation of signaling molecules. Dysregulation of signaling events leads to pathological manifestations like cancer, autoimmune disorders, and neurological disorders etc., In spite of its clinical significance, knowledge about their cell signaling is very limited and till date we have not solved most of the signaling network involved in many of the pathological conditions. I would like to learn and understand this complicated network of cell signaling like membrane trafficking, endocytosis, exocytosis, receptor turn-over & expression, intracellular trafficking, in immune cells involved in various pathological conditions.

Educational Qualification:

DEGREE	INSTITUTION	YEAR	PROGRESS
M.Sc., Bio Medical Sciences (5 Years Integrated Programme)	Bharathidasan University Tamil Nadu.	2007-2012	CGPA-8/10
Higher Secondary Certificate (HSC)	Sivananda Higher Secondary School Coimbatore.	2005-2007	80.2% (First Class)
Secondary School Leaving Certificate (SSLC)	Ramakrishna Mission Matriculation School Chennai.	2004-2005	80.1% (First Class)

Highlighting subjects in Masters:

Genetic Engineering, Proteomics, Neuroscience, Cardiology, Drug discovery, Pharmacology, Immunology, Microbiology, Biochemistry, Bioinformatics, Molecular biology, Cancer biology, Immune and Molecular Diagnosis, Biostatistics, Biomedical Instrumentation

Research Experience:

Title: “Quantitative exploration of NF- κ B pathway with particular focus on I κ B α and I κ B δ ”

Abstract of Masters Dissertation thesis (six months):

The main goal of the project was to quantitatively explore the biochemical reactions, such as transcription, constitutive and signal induced degradation of I κ B α and I κ B δ to gain new mechanistic insights on their cross-regulatory role in signal responsiveness. We have combined biochemistry (EMSA, Immunoblot) and genetics (knockout and knockin cells) to pinpoint the key difference between these two I κ Bs. I carried out this work under the guidance of **Dr.Soumen Basak**, Systems Immunology Laboratory, **National Institute of Immunology, India.**

Title: PCR amplification and Cloning of S100b

I did my short term “in house” project (July-September 2010) “PCR amplification and cloning of S100B” under the guidance of **Dr.Narkunaraja Shanmugam**, Diabetes and Cardiovascular research laboratory, Bharathidasan University.

Title: Expression of S100b mRNA in Rat tissues

Studied the expression of S100b mRNA in all the Rat tissues by RT and qRT PCR techniques under the guidance of **Dr.Narkunaraja Shanmugam**, Diabetes and Cardiovascular research laboratory, Bharathidasan University.

Title: Localization and Expression of proteins in Mice and Human Tissues

Studied the *localization and expression of ApolipoproteinE in the Mice cerebral cortex during aging* by Immunohistochemistry and western blot techniques, under the guidance of **Dr. M.K.Thakur**, Biochemistry and Molecular Biology Laboratory, Department of Zoology, Banaras Hindu University as IAS Fellow.

Title: DNA –Protein interaction study

Studied *The promoter study for the ApoE protein during aging* by gel retardation assay (EMSA) using radioactive oligonucleotides, under the guidance of **Dr.M.K.Thakur**, Biochemistry and Molecular Biology Laboratory, Department of Zoology, Banaras Hindu University.

Awards and Achievements:

Summer Research Fellowship:

Awarded “Summer Research Fellowship - 2009” (May 2009 to July 2009) by Indian Academy of Science (IAS) & Indian National Science Academy (INSA). During this fellowship I did a summer project on “Localization and Expression of proteins in mice and human tissues” under the guidance of Dr. M.K.Thakur Banaras Hindu University, Varanasi.

Areas of interest:

Cell signaling
RNA biology
Cancer biology

Techniques known (hands on experience):

Cell culture techniques

Passaging, Cell line maintenance, Transfection, Preparation of stable cell lines using Retroviral mediated transduction.

Molecular biology techniques

Bacterial culture in liquid and solid media, Cloning of genes (plasmid DNA isolation from Bacteria, restriction analysis of plasmids, ligation, transformation) PCR for cloning Agarose gel Electrophoresis. Isolation of RNA, Genomic DNA.

Biochemical techniques

Isolation of proteins and lipids from tissue, Enzyme Assay, different methods protein estimation, Gel exclusion, Thin layer Chromatography and ELISA.

Histology and Histochemical techniques

Perfusion of animals, Dissection of animals, Tissue processing, Use of microtome, staining methods for proteins and nucleic acid, Compound and fluorescence microscopy.

DNA-protein interaction

Isolation of Nuclear Protein from tissues and cells, Labelling of oligo and DNA using Radioisotopes. EMSA (Gel Retardation assay).

Proteomics Study

Induction with IPTG and expression of recombinant protein, Batch purification of GST tagged recombinant protein.

Protein blotting study

Preparation of proteins from tissue and cells for SDS-PAGE proteins, Native PAGE, CBB and silver staining of SDS-PAGE, Western Blotting.

Bioinformatics and statistics

Use of different bioinformatics and statistical tools for analysis of results.

Events Participated:

1. Participated in “**National Symposium on Current Perspectives in Animal Biotechnology**” organized by Bharathidasan University, Trichy.
2. Participated in state level symposium on “**Science day & Bioconcorenzza-09**” organized by Tamil Nadu agricultural University (TNAU), Coimbatore

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References:

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Declaration:

I hereby declare that the information furnished above is true to the best of my knowledge.

M.Bharath Vijayaragavan.