CURRICULUM VITAE

RajaRajeswari Muthukrishnan

EDUCATION

PhD *Biochemistry & Molecular Biology* 2003-2008

Indiana University, Indianapolis, Indiana
Thesis Title: Identification of minimal cis-element and cognate trans-factors required for the regulation of *Rac2* gene expresssion during K562 cell differentiation
Supervisor: Dr. David G. Skalnik

MSc *Microbial Gene Technology* 1999-2001

Madurai Kamaraj University, Madurai, India
Thesis Title: Characterization of putative lipase gene from *Escherichia coli K12*
Supervisor: Dr. S Shanmugasundaram

BSc *Biochemistry and Biotechnology* 1996-1999

Avinashlingam University, Coimbatore, India

RESEARCH AND TEACHING EXPERIENCE

Research Assistant Indiana University, Indiana 2003-2008

- Regulation of *Rac2* gene expression during the differentiation of human chronic myelogenous leukemia cell line
- Regulation of the hematopoietic expression of Rac2 in transgenic mice

Teaching Assistant Madurai Kamaraj University, India 2001-2002

- Course: Protein structure and Function (Graduate level).

SKILLS

DNA

- Isolation - Mammalian and bacterial cells
- Southern blot analysis
- Cloning strategies
- Mouse genotyping
- Homologous recombination (bacterial DNA)
- Field inversion gel electrophoresis

RNA

- Isolation - Mammalian cell lines and tissues (mouse)
- RNase protection assay
- Semiquantitative RT-PCR
- qRT-PCR
- Northern blot analysis

Protein

- Western blot analysis
- Flow cytometry
- Immunohistochemistry (Lacz staining)
- Immunofluorescence
- Reporter gene assay (luciferase and β-gal assay)

DNA-protein interactions

- Electrophroetic mobility shift assay (EMSA)
- Chromatin immunoprecipitation assay (ChIP)

AWARDS AND HONORS

- Travel grant –Indiana University School of Medicine (2006, 2007)
- ASCB Predoctoral Travel award 2007

PUBLICATION

Muthukrishnan R and Skalnik DG. "AP1 regulates *RAC2* gene expression during myeloid cell differentiation" (submitted).

CONFERENCE ABSTRACTS

Muthukrishnan R and Skalnik DG. "Regulation of *RAC2* gene expression during differentiation of human chronic myelogenous leukemia cell line K562" American Society for Cell Biology, 46th Annual meeting, San Deigo, CA, 2006.

Muthukrishnan R and Skalnik DG. "AP1 regulates *RAC2* gene expression during myeloid cell differentiation" American Society for Cell Biology, 47th Annual meeting, Washington DC, 2007.

ORAL PRESENTATION

Muthukrishnan R and Skalnik DG, “Regulation of rac2 gene expression during the differentiation of human chronic myelogenous leukemia cell line”, Midwest Society for Pediatric Research”, 46th Annual Meeting, Indianapolis, Indiana, 2007.