

Anna Maria Porcelli, PhD

Assistant Professor of Biochemistry
Dept of Pharmacy and Biotechnonology
University of Bologna, Bologna, Italy

Work address:

Dept. of Pharmacy and Biotechnology-FABIT
Interdepartmental Industrial Research Center on Health Sciences & Technologies
University of Bologna, Bologna, Italy
Lab and office location: Via Irnerio 42, Bologna

Education

- 1996 Degree in Biological Sciences summa cum laude, University of Bologna
- 1997 National Board, University of Bologna
- 2001 Ph.D. in Cellular Biology and Physiology, University of Bologna

Post-graduate research training

- 1999-2001 Visiting research at the Dept. of Experimental and Diagnostic Medicine, University of Ferrara; Supevisor Prof. R. Rizzuto;
- 2001-2002 Post-doc fellow, Dept. of Biology, University of Bologna
- 2002 Short term fellowship “Marco Polo from University of Bologna” at the Dept. of Biochemistry and Molecular Biology, MUSC (Charleston,USA) Supervisor Prof. Y.A. Hannun
- 2002-2003 Post-doc position, Dept. of Biochemistry and Molecular Biology, MUSC (Charleston, USA); Supervisor Prof. Y.A. Hannun
- 2005-2008 Post-doc position, Dept. of Biology, University of Bologna

Academic Position

2008- to day Assistant Professor of Biochemistry, Dept. of Pharmacy and Biotechnonology, University of Bologna

Certification

- 1999 FEBS Advanced Course ‘Targets and functions of lipid-derived messenger’, at the Mario Negri Sud Consortium, S.Maria Imbaro (Chieti, Italy)
- 2000 FEBS Advanced Course “Expression and regulation of mitochondrial oxidative phosphorylation and disorders in human pathology”, Martina Franca (Bari, Italy)
- 2004 1st Training Course on ‘ Concept and Methods in Programmed Cell Death’, 12th Euroconference on Apoptosis, Chania (Crete, Greece)
- 2006 Advanced in microscopy Carlo Zeiss, University of Ferrara (Ferrara, Italy)
- 2006 3rd Training Course on ‘Concepts and Methods in Programmed Cell Death’ Chia (Cagliari, Italy)

Awards

- 2003 ‘Assunta Baccarini-Melandri 2002’ award from Gruppo Italiano di Bioenergetice Biomembrane
- 2006 ‘Oreal Italia per le Donne e la Scienza’ award by L’Oreal Italia and the Italian National Committee for UNESCO

Commitees

- Member of the commitee for the admission to PhD ‘Biologia Cellulare e Molecolare’ A.a. 2010-2011 and 2011-2012;
- Member of the commitee for the admission to the degree program ‘Biologia Molecolare e Cellulare’ A.a 2010-2011and 2011-2012.

Conference organization

- 4th International Meeting of the Sphingolipid Club, Bertinoro, Italy (June 2005);
- Annuale meeting of Biomembranes and Bioenergetics Italian Group (GIBB), Bertinoro, Italy (June 2006).
- Annuale meeting of Biomembranes and Bioenergetics Italian Group (GIBB), Bertinoro, Italy (June 2010).

Research Activity

In the last eight years, the main stream of research is focused on dissecting the details of the metabolic status of a model for the study of mitochondria in cancer, namely oncocyctic tumors, presenting mitochondrial hyperplasia as a distinctive hallmark. The collaborations with other Italian and foreign groups, as evident from publications, led to the identification of specific genetic and molecular markers in oncocyctic tumors which are associated to defective mitochondrial energy metabolism. The research is now focusing on the understanding of the mechanisms by which mitochondrial mutations are selected for in oncocyctic and non oncocyctic cancer cells, and the impact they have on the hypoxic and bioenergetics response. The identification of a correlation between the defective energy metabolism, the deregulated expression of certain genes involved in both mitochondrial biogenesis and in proliferation and invasiveness, has exploited both *in vitro* and in *in vivo* models (nude mice). The aim is currently to clarify the biological meaning of such selected mutations in lowering the tumorigenic potential, and hopefully suggest therapeutic strategies.

Research Support

Marie Curie Initial Training Networks (ITN) FP7-PEOPLE-2012-ITN “MEET - Mitochondrial European Educational Training 2013-2017; Role on project: Workpackage Leader University of Bologna (PI Prof. M. Seri)

Progetto di Ricerca di Interesse Nazionale (PRIN) 2008-2010 “Role of mitochondria in the regulation of apoptosis and autophagy: molecular mechanisms and effects of pathogenic mutations”. Role on project: PI of Unit (National Coordinator Prof. P. Pinton)

Participation to/management of research projects

Fondazione Veronesi 2011-2013 “Disrupting mitochondrial complex I to trigger pseudonormoxia: an anticancer strategy” Role on project: Investigator (PI Dr G. Gasparre)

Liddy Shriver Sarcoma Initiative 2011-2013 “CD99 engagement and apoptosis in Ewing’s sarcoma: role of mitochondria and mitochondrial DNA mutations”. Role on project: Investigator (PI Prof. M. Rugolo)

Progetto Futuro in Ricerca (FIRB): 2010-2013 “Significato funzionale delle mutazioni del DNA mitocondriale nei tumori”. Role on project: Investigator (PI Dr. G. Gasparre)

Progetto Nazionale AIRC 2009-2011 “TRANSMIT - Translational significance of mitochondrial mutations in tumors.” Role on project: Investigator (PI Prof. G. Romeo)

Telethon project GGP06233B 2007-2011 “Pathogenic mechanisms for degeneration of retinal ganglion cells in mitochondrial optic neuropathies.” Role on project: Investigator (PI Dr. V. Carelli)

Progetto di Ricerca di Interesse Nazionale (PRIN) 2006-2008 “Variability and function of mitochondrial mutations in physiological and pathological conditions.” Role on project: Investigator (PI Prof. G. Romeo)

Progetto Regionale AIRC 2005-2007 “Functional genomics of thyroid oncocyctoma.” Role on project: Investigator (PI Prof. G. Tallini)

Technical skills and competences

Anna Maria Porcelli has developed an extensive experience in the scientific field of biochemistry, bioenergetics, signal transduction and molecular genetics, with a particular focus on the functional significance of mitochondrial mutations and their impact on metabolic and hypoxia adaptation of cancer cells. Her technical skills are: generation and maintenance of cells lines; cybrid generation and clonal selection; transfection techniques; subcellular fractionation and mitochondria isolation; SDS-Page and Blue/Clear Native Page; immunoblotting and immunoprecipitation; spectrophotometric and spectrofluorimetric techniques; fluorescence microscopy and live cell imaging. Anna Maria Porcelli has a long and consolidated competence in writing and management of research project, in administration of the project financial budget, in the coordination of multi-partner research, in supervision of experimental plans, in integration of the scientific work, in discussion/analysis of data and in writing scientific papers.

Teaching

2000-2008: Adjunctive Professor for “Basic techniques for mammalian cell propagation and methods for cellular biochemistry”, Degree in Biological Sciences, University of Bologna;

2008-2011: Biochemical Methodologies, Degree in Biological Sciences, Dept. of Biology, University of Bologna;

2011-2012: Cellular Biochemistry, Degree in Biological Sciences, Dept. of Biology, University of Bologna;

2012-2013: Cellular Biochemistry, Degree in Biotechnology, University of Bologna.