

Dr Antonella Bobba

Curriculum vitae

NAME Antonella
SURNAME Bobba
BORN IN Naples (Italy) on 31/03/1960
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Actually she is “Primo Ricercatore” (Senior Reseacher) at the Institute of Biomembrane and Bioenergetics (IBBE) CNR, Via Amendola 165/A, Bari, Italy

Education and training

1982: Degree in Biological Sciences "cum laude" at University of Bari
1984: Researcher at the Centro di Studio sui Mitocondri e Metabolismo Energetico -CNR
2001 Senior Researcher at the Institute of Biomembrane and Bioenergetics (IBBE)

Stages

1987 Fellowship at the Institut fuer Physiologische Chemie, Physikalische Biochemie und Zellbiologie der Ludwig-Maximilians-Universitat Munchen, Germany.

Professional experience

1984-1993 Member of the Board of Examiners in Biological Chemistry
1990 Member of the Scientific and Organizing Secretariat in the Workshop "Antigenic Properties of Myelin and the Role of Myelin in Pathology", Naples 22-23 October 1990
2002-2009 Member of the Institute Committee at IBBE-CNR
2003-to present “Referente Servizi Telematici Interni” at IBBE-CNR
2003-to present “Referente Web” at IBBE-CNR
2010-to present Head of Section (Commessa) “Interrelazione nucleo/ citoplasma/ mitocondri nell'omeostasi cellulare” at IBBE

Research Activity

The research activity is mainly focused on:

- 1) characterization of the molecular mechanisms of neurodegeneration. Deciphering the early events of the apoptotic cell death program in neuronal cell cultures
- 2) Studies concerning the molecular analysis of genetic disease characterized by an high incidence in the Mediterranean area (21-OH deficiency, Wilson Disease, Cystic Fibrosis).
- 3) Purification and characterization of membrane proteins in non-denaturing conditions. Purification of proteins in native, lipid-bound forms from myelin membrane. Studies on structure and function of myelin proteins and on the interaction of myelin proteins with different ligands and model membranes.
- 4) Studies on the physiopathological role of myelin proteins in vivo. Interaction of purified native myelin proteins with immunocompetent cells.

Publications

International journal: 43
Book with international editorial board: 10
National journal: 11
International congress: 41
National congress: 23

Main Publications

1. Bobba A, Petragallo VP, Marra E, and Atlante A, "Alzheimer's Proteins, Oxidative Stress, and Mitochondrial Dysfunction Interplay in a Neuronal Model of Alzheimer's Disease," (2010) *International Journal of Alzheimer's Disease*, vol. 2010, Article ID 621870, 11 pages, doi:10.4061/2010/621870
2. Atlante A, Bobba A, Paventi G, Pizzuto R, Passarella S. Genistein and daidzein prevent low potassium-dependent apoptosis of cerebellar granule cells. (2010) *Biochem Pharmacol.* 79, 758–767
3. Bobba A, Atlante A, Petragallo P and Marra E. Different sources of reactive oxygen species contribute to low potassium-induced apoptosis in cerebellar granule cells (2008) *Int J Mol Med.* 21, 737-745.
4. Atlante A, Amadoro G, Bobba A, de Bari L, Corsetti V, Pappalardo G, Marra E, Calissano P, Passarella S. A peptide containing residues 26-44 of tau protein impairs mitochondrial oxidative phosphorylation acting at the level of the adenine nucleotide translocator. (2008) *Biochim Biophys Acta* 1777:1289-300.
5. Bobba A, Atlante A, Moro L, Calissano P, Marra E. (2007) Nitric oxide has dual opposite roles during early and late phases of apoptosis in cerebellar granule neurons. *Apoptosis.* 12, 1597-1610.
6. Atlante A, de Bari L, Bobba A, Marra E, Passarella S, Transport and metabolism of L-lactate occur in mitochondria from cerebellar granule cells and are modified in cells undergoing low potassium dependent apoptosis, *BBA - Bioenergetics* (2007), 1767, 1285-1299.
7. Atlante A, Bobba A, de Bari L., Fontana F., Calissano P, Marra E and Passarella P. (2006) Caspase-dependent alteration of the ADP/ATP translocator triggers the mitochondrial permeability transition which is not required for the low-potassium-dependent apoptosis of cerebellar granule cells. *J. Neurochem.* 97, 1166-1181.
8. Vacca RA, Valenti D, Bobba A, Merafina RS, Passarella S, Marra E. (2006) Cytochrome c Is Released in a Reactive Oxygen Species-Dependent Manner and Is Degraded via Caspase-Like Proteases in Tobacco Bright-Yellow 2 Cells en Route to Heat Shock-Induced Cell Death. *Plant Physiol.* 141, 208-219.
9. Atlante,A., Giannattasio,S. Bobba,A., Gagliardi,S., Petragallo,V., Calissano,P., Marra,E., Passarella,S. (2005) An increase in the ATP levels occurs in cerebellar granule cells en route to apoptosis in which ATP derives from both oxidative phosphorylation and anaerobic glycolysis. *Biochem. Biophys. Acta – Bioenergetics*, 1708(1), 50-62
10. Bobba,A, Atlante,A., Azzariti,A., Sgaramella,G., Calissano,P., Marra,E. (2004) Mitochondrial impairment induces excitotoxic death in cerebellar granule cells. *International Journal of Molecular Medicine* 13, 873-876.