

Curriculum vitae Dr. Domenico Marzulli

Surname: Marzulli

First name: Domenico

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Nationality: Italy

Date of birth: 26/10/1955

Gender: male

Scientific area: Life Science; Medicine

Dr. Domenico Marzulli is actually «Technologist» at the CNR, Istituto di Biomembrane e Bioenergetica (IBBE) – Bari

Education and training

1980: Degreee in Biological Science at the University of Bari, School of Science.

1983-1990: Research Fellowship at the CNR- Centro di Studio sui Mitocondri e Metabolismo Energetico (CSMME) - Bari.

1991 – at present: CNR Technologist at CNR-IBBE (formerly CSMME).

Professional and technical skill and competence

2011 Technical Manager for the CNR-IBBE Confocal Microscopy Laboratory

2006 CNR-IBBE System Administrator for personal data treatment

Training activity

2003 Teaching for the “Course in Advanced Tools of Informatics” at CNR- IBBE, Bari, Italy.

2001 Teaching for the “ Course in Basic tools of Informatics Hardware and Software” at the CNR-IBBE, Bari Italy.

Research Activity

Dr. Marzulli research activity primarily involves the mitochondrial bioenergetics topics; in particular his scientific activity is mainly focused in the study of:

- mitochondrial bioenergetics
- Cytochrome c redox state with respect to the respirator chain activity
- Role of cytochrome c in the early phase of apoptosis
- Identification of “bi-trans-membrane electron transfer” components in the mitochondrial membrane
- Mechanism of cytoplasmic NADH oxidation by using the spectroscopy and the polarographic methods
- Mitochondrial membrane potential determination by fluorescence and electrode techniques
- Mitochondrial pH variation determination on the respiratory chain activity

Moreover from 2003 Dr. Marzulli collaborates with the “Community of Sant’Egidio” and actually he is involved in the DREAM project (Drug Resource Enhancement against AIDS and Malnutrition in Africa), a global program to fight HIV infection in limited resource countries. In this contest Dr. Marzulli activity is committed to the local technicians training in biochemistry and molecular biology, and to the Quality Assurance and Quality Control. For this purpose Dr Marzulli was already in Kenya, Guineè Conakry, Malawi, Tanzania, Congo RDC and Mozambique.

Partecipazione to Research projects

2005-2007	<i>MIUR-PRIN</i> Meccanismi molecolari e aspetti fisiopatologici dei sistemi bioenergetici di membrana
2003-2004	<i>MIUR-PRIN</i> Bioenergetica: genomica funzionale, meccanismi molecolari ed aspetti fisiopatologici
2001-2002	<i>MIUR-PRIN</i> Bioenergetica: aspetti genetici, biochimici e fisiopatologici
1999-2000	<i>MIUR-PRIN</i> Bioenergetica e Trasporto di Membrana

Publications

1. Cicala, G., Massaro, A., Velardi, L., Senesi, G. S., Perna, G., **Marzulli, D.**, Melisi, D., De Pascali, G., Valentini, A. and Capozzi, V. Enhancement of surface electrical current on silicon via nanodiamond particles deposited by pulsed spray technique,

Phys. Status Solidi A. (2015) doi: 10.1002/pssa.201532080

2. Yeast growth in raffinose results in resistance to acetic-acid induced programmed cell death mostly due to the activation of the mitochondrial retrograde pathway.
Guaragnella N, Zdravlević M, Lattanzio P, **Marzulli D**, Pracheil T, Liu Z, Passarella S, Marra E, Giannattasio S.
Biochim Biophys Acta. 2013 Jul 29;1833(12):2765-2774.
3. MED1101: A new dialdehydic compound regulating P2×7 receptor cell surface expression in U937 cells.
Muzzachi S, Blasi A, Ciani E, Favia M, Cardone RA, Marzulli D, Reshkin SJ, Merizzi G, Casavola V, Soleti A, Guerra L
Biol. Cell (2013) 105, 1–15
4. CFTR regulation in human airway epithelial cells requires integrity of the actin cytoskeleton and compartmentalized cAMP and PKA activity
Stefania Monterisi, Maria Favia, Lorenzo Guerra, Rosa A. Cardone, **Domenico Marzulli**, Stephan J. Reshkin, Valeria Casavola and Manuela Zaccolo
J Cell Sci. 125(2012)1-12
5. Valinomycin induced energy-dependent mitochondrial swelling, cytochrome c release, cytosolic NADH/cytochrome c oxidation and apoptosis.
Lofrumento DD, La Piana G, Abbrescia DI, Palmitessa V, La Pesa V, **Marzulli D**, Lofrumento NE.
Apoptosis.10(2011)1004-1013.
6. Ceramide-induced activation of cytosolic NADH/cytochrome c electron transport pathway: An additional source of energy for apoptosis.
Gorgoglione V, Palmitessa V, Lofrumento DD, La Piana G, Abbrescia DI, **Marzulli D**, Lofrumento NE.
Arch Biochem Biophys. 504(2010)210-20.
7. Interaction of nitric oxide with the activity of cytosolic NADH/cytochrome c electron transport system.
Laraspata D, Gorgoglione V, La Piana G, Palmitessa V, **Marzulli D**, Lofrumento NE.
Arch Biochem Biophys. 489(2009)99-109.
8. Effect of magnesium ions on the activity of the cytosolic NADH/cytochrome c

electron transport system.

La Piana G, Gorgoglione V, Laraspata D, **Marzulli D**, Lofrumento NE.

FEBS J. 275(2008)6168-79.

9. Protective effect of magnesium and potassium ions on the permeability of the external mitochondrial membrane.

Gorgoglione V, Laraspata D, La Piana G, **Marzulli D**, Lofrumento NE.

Arch Biochem Biophys. 461(2007)13-23

10. Porin and cytochrome oxidase containing contact sites involved in the oxidation of cytosolic NADH.

La Piana G, **Marzulli D**, Gorgoglione V, Lofrumento NE.

Arch Biochem Biophys.;436(2005)91-100.

11. Cytochrome c-induced cytosolic nicotinamide adenine dinucleotide oxidation, mitochondrial permeability transition, and apoptosis.

La Piana G, **Marzulli D**, Consalvo MI, Lofrumento NE.

Arch Biochem Biophys. 410(2003)201-11.

12. Modulation of cytochrome c-mediated extramitochondrial NADH oxidation by contact site density.

Marzulli D, La Piana G, Fransvea E, Lofrumento NE.

Biochem Biophys Res Commun. 259(1999)325-30.

13. Inhibition by butylmalonate of proton influx in nonphosphorylating mitochondria.

Fransvea E, La Piana G, **Marzulli D**, Lofrumento NE.

Arch Biochem Biophys. 355(1998)93-100.

14. Mitochondrial membrane potential supported by exogenous cytochrome c oxidation mimics the early stages of apoptosis.

La Piana G, Fransvea E, **Marzulli D**, Lofrumento NE.

Biochem Biophys Res Commun. 246(1998)556-61.

15. Cycloheximide sensitivity of orotic acid biosynthesis induced by ammonia and glycine administration.

Vasudevan S, Laconi E, Rao PM, Rajalakshmi S, Sarma DS, La Piana G, Fransvea E,

Marzulli D, Lofrumento NE.

Eur J Biochem. 251(1998)597-604.

16. Proton translocation linked to the activity of the bi-trans-membrane electron transport chain.

Marzulli D, La Piana G, Cafagno L, Fransvea E, Lofrumento NE.

Arch Biochem Biophys. 1995 May 10;319(1):36-48.

17. Oxidation and reduction of exogenous cytochrome c by the activity of the respiratory chain.

Lofrumento NE, **Marzulli D**, Cafagno L, La Piana G, Cipriani T.

Arch Biochem Biophys. 1991 Jul;288(1):293-301.