

Curriculum vitae

Name: MAGDALENA DAVIDESCU

Work experience

Scientific and teaching laboratory technician, Category D on a fixed-term contract (01 December 2014-in course) Department of Experimental Medicine, Educational biochemistry laboratory by Corso di Laurea Infermieristica di Terni, University of Perugia -(Italy).

June 2013-November 2014-Researcher on a fixed-term contract (18 months) at the Department of Experimental Medicine - Biochemistry laboratory (Prof. Lanfranco Corazzi), University of Perugia (Italy) funded by Regione Umbria-POR UMBRIA FSE2007-2013 Asse IV "Capitale Umano, Obiettivo specifico"1", Project: "Mitochondrial respiration and glycolysis in GL15 human glioblastoma cells".

Education

January 2015-Biologist postgraduate habilitation

December 2012-PhD in Biochemistry, Department of Experimental Medicine, University of Perugia (Italy). PhD research activity: "Alteration of the mitochondrial metabolism and the effect of the antiglycolytic 3-bromopyruvate on human GL15 glioblastoma cells", supervisor Prof. L. Corazzi.

December 2008-Master in "Management and processing of biomedical images", University of Camerino-Project FIO Action 3 in collaboration with the Hospital of Perugia, Department of Endovascular Surgery. Project: "The vanguard endovascular stent".

February 2008-Master degree in Medical Biotechnology, University of Perugia (Italy). Thesis: "Study of protein-protein complexes of mutated nucleofosmin (NPM) in acute myeloid leukemia with NPM1 gene mutation", supervisor Prof. L. Binaglia.

September 2004-Bachelor degree in Medical Biotechnology, University of Perugia (Italy). Thesis: "Effect of dietary fatty acids on the protein composition of hepatoma cells", supervisor Prof. L. Binaglia.

Research activity abroad

January-June 2011-Visiting Researcher at the Department of Medicine, University of Alberta, Edmonton, Canada. Research project: "Phosphatidylethanolamine and mitochondrial function", under the supervision of Prof. Jean E. Vance, Group on Molecular and Cell Biology of Lipids.

Managed research projects

Participation to projects funded by Fondazione Cassa di Risparmio di Perugia.

2010-Lipid and protein factors involved in mitochondrial apoptosis in nervous tissue: role of cardiolipin, cytochrome c, and other pro-apoptotic factors in neural mitochondria and GL15 glioblastoma cells.

2011-Defects of cholesterol biosynthesis and cell proliferation: a study on the involved molecular mechanisms.

2012-Central nervous system infection by Group B Streptococcus. A study on mitochondrial functionality.

Main research lines

Bioenergetics of glioblastoma cells and antiglycolitics.

Effect of bacterial toxins in the bioenergetics and cell viability of intestinal glial cells.

Skills and techniques

Maintenance of primary and immortalized cell lines; cell viability and enzymatic assays; respiratory activity analysis; SDS-PAGE; 2D-PAGE; Western Blotting; PCR and qPCR; gene silencing; cloning techniques and sequence analysis; transfection and transformation techniques; fluorescence and confocal microscopy; spectrofluorimetry and spectrophotometry; isolation of membranes and subcellular fractions; extraction of lipids from tissues, cells, and membranes; isolation and purification of individual lipids; formation of liposomes; thin layer chromatography (TLC); image acquisition (VersaDoc, ChemiDoc); very good knowledge of Bioinformatics tools.

Teaching and Supervision Activities

2013-Assistant supervisor of experimental thesis.

January 2012-present-Cultore della materia" BIO10.

Awards

September 2013-Winner of the award for a worthy Poster at the 57th National Meeting of the Italian Society of Biochemistry and Molecular Biology (SIB), September 18-20, Ferrara (Italy).

Other informations

2010-present-Member of the Italian Society of Biochemistry and Molecular Biology (SIB).

List of Publications

1. Macchioni L, **Davidescu M**, Fettucciari K, Petricciuolo M, Gatticchi L, Gioè D, Villanacci V, Bellini M, Marconi P, Roberti R, Bassotti G, Corazzi L. (2017) Enteric glial cells counteract *Clostridium difficile* Toxin B through a NADPH oxidase/ROS/JNK/caspase-3 axis, without involving mitochondrial pathways. *Sci Rep.* 7:45569, doi: 10.1038/srep45569.
2. Chiasserini D, **Davidescu M**, Orvietani PL, Susta F, Macchioni L, Petricciuolo M, Castigli E, Roberti R, Binaglia L, Corazzi L. (2017) 3-Bromopyruvate treatment induces alterations of metabolic and stress-related pathways in glioblastoma cells. *J Proteomics* 152:329-338, doi: 10.1016/j.jprot.2016.11.013.
3. Castellini C, Dal Bosco A, Mattioli S, **Davidescu M**, Corazzi L, Macchioni L, Rimoldi S, Terova G. (2016) Activity, Expression, and Substrate Preference of the $\Delta(6)$ -Desaturase in Slow- or Fast-Growing Rabbit Genotypes. *J Agric Food Chem.* 4:792-800, doi: 10.1021/acs.jafc.5b05425.
4. **Davidescu M**, Macchioni L, Scaramozzino G, Marchetti MC, Migliorati G, Vitale R, Corcelli A, Roberti R, Castigli E, Corazzi L. (2015) The energy blockers bromopyruvate and lonidamine lead GL15 glioblastoma cells to death by different p53-dependent routes. *Sci Rep.* 5:14343, doi: 10.1038/srep14343.
5. Macchioni L, **Davidescu M**, Roberti R, Corazzi L. (2014) The antiglycolytics bromopyruvate and lonidamine: effects on the bioenergetics of brain mitochondria. *J. Bioenerg. Biomembr.* 5:389-394, doi: 10.1007/s10863-014-9577-5.
6. Macchioni L, Fettucciari K, **Davidescu M**, Vitale R, Ponsini P, Rosati E, Corcelli A, Marconi P, Corazzi L. (2013) Impairment of brain mitochondrial functions by β -hemolytic Group B Streptococcus. Effect of cardiolipin and phosphatidylcholine. *J. Bioenerg. Biomembr.* 45:519-529 ISSN: 0145-479X, doi: 10.1007/s10863-013-9525-9.
7. Tasseva G, Bai HD, **Davidescu M**, Haromy A, Michelakis E, Vance JE. (2013) Phosphatidylethanolamine deficiency in mammalian mitochondria impairs oxidative phosphorylation and alters mitochondrial morphology. *J Biol. Chem.* 288:4158-4173, doi: 10.1074/jbc.M112.434183.
8. **Davidescu M**, Sciacaluga M, Macchioni L, Angelini R, Lopalco P, Rambotti MG, Roberti R, Corcelli A, Castigli M, Corazzi L. (2012) Bromopyruvate mediates autophagy and cardiolipin degradation to monolyso-cardiolipin in GL15 glioblastoma cells. *J. Bioenerg. Biomembr.* 44:51-60, doi: 10.1007/s10863-012-9411-x.
9. Macchioni L, **Davidescu M**, Sciacaluga M, Marchetti C, Migliorati G, Coaccioli S, Roberti R, Corazzi L, Castigli E. (2011) Mitochondrial dysfunction and effect of antiglycolytic bromopyruvic acid in GL15 glioblastoma cells. *J Bioenerg Biomembr.* 43:507-518, doi: 10.1007/s10863-011-9375-2.
10. Macchioni L, **Davidescu M**, Mannucci R, Francescangeli E, Nicoletti I, Roberti R, Corazzi L. (2011) H₂O₂ disposal in cardiolipin-enriched mitochondria is due to increased cytochrome c peroxidase activity. *Biochim. Biophys. Acta-Mol. Cell Biol. of Lipids* 1811:203-208, ISSN: 1388-1981.
11. Macchioni L, Corazzi T, **Davidescu M**, Francescangeli E, Roberti R, Corazzi L. (2010) Cytochrome c redox state influences the binding and release of cytochrome c in model membranes and in brain mitochondria. *Mol. Cell. Biochem.* 341:149-157, ISSN: 0300-8177.

12. Macchioni L, **Davidescu M**, Francescangeli E, Corazzi L.(2010) Cardiolipin contribution to H₂O₂ disposal in brain mitochondria. *Chemistry and Physics of Lipids* 163:52, ISSN 0009-3084, doi: 10.1016/j.chemphyslip.2010.05.156.

Abstracts

- M. Petricciuolo, **M. Davidescu**, L. Gatticchi, L. Corazzi, A. Corcelli, R. Vitale, L. Macchioni (2017) *Palmitate lipotoxicity in enteric glial cells*. 59th Congress of the Italian Society of Biochemistry and Molecular Biology (SIB), September 20-22, Caserta (Italy).
- D. Chiasserini, **M. Davidescu**, P.L. Orvietani, F. Susta, L. Macchioni, R. Roberti, L. Corazzi, L. Binaglia (2016) *Differential protein expression in glioblastoma cells induced by 3-bromopyruvate*. Italian Proteomics Association XI Annual conference, May 16-19, Perugia (Italy).
- L. Macchioni, **M. Davidescu**, K. Fettucciari, P. Ponsini, G. Bassotti, L. Corazzi (2015) *Clostridium difficile Toxin B induces enteric glial cell death through ROS generation and activation of JNK*. 58th Congress of the Italian Society of Biochemistry and Molecular Biology (SIB), September 14-16, Urbino (Italy).
- **M. Davidescu**, L. Macchioni, R. Roberti, L. Corazzi, E. Castigli (2013) *Bromopyruvate and Lonidamine against GL15 glioblastoma cells*. 57th National Meeting of the Italian Society of Biochemistry and Molecular Biology (SIB), September 18-20, Ferrara (Italy).
- L. Macchioni, K. Fettucciari, **M. Davidescu**, R. Vitale, P. Ponsini, E. Rosati, M.G. Rambotti, A. Corcelli, P. Marconi, L. Corazzi (2013) *Impairment of brain mitochondrial functions by β -hemolytic Group B Streptococcus. Effect of cardiolipin and phosphatidylcholine*. 54th International Conference on the Bioscience of Lipids (ICBL), September 17-21, Bari (Italy).
- G. Tasseva, D. Bai, **M. Davidescu**, A. Haromy, E.D. Michelakis, E.J. Vance (2012) *Phosphatidylethanolamine deficiency in mammalian mitochondria reduces cell growth and oxidative phosphorylation and causes aberrant mitochondrial morphology*. 53rd International Conference on the Bioscience of Lipids (ICBL)/Canadian Lipoprotein Conference (CLC) September 4-9, Banff (Canada).
- **M. Davidescu**, L. Macchioni, E. Francescangeli, L. Corazzi (2009) *Cytochrome c (cyt c) redox state and release from brain mitochondria: a H₂O₂-cardiolipin independent mechanism*. 54th National Meeting of the Italian Society of Biochemistry and Molecular Biology, September 23-27, Catania, (Italy).

In riferimento alla legge 196/2003 autorizzo espressamente l'utilizzo dei miei dati personali e professionali riportati nel mio curriculum vitae.

Data

14 novembre 2017

In fede

Magdalena San'elise