



Mario Zoratti

Curriculum vitae

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Birth: May 6, 1950, at Ragogna (UD), Italy

Position: Research Director, Italian National Research Council (CNR)

Education:

06/1979: Ph.D. in Organic Chemistry (Univ. of California, Santa Cruz, USA)

10/1974: Laurea in Industrial Chemistry (cum laude, University of Padova)

Career:

02/2013-06/2014: Acting Director, CNR Neuroscience Institute

2008-present: Head of the Padova section of the CNR Neuroscience Institute

07/2006-present: Research Director, CNR

07/1997-06/2006: "Primo Ricercatore", CNR

04/1982-06/1997: Researcher, CNR

05/1980-04/1982: Contract Researcher, CNR

Other:

2002-2009: member of the Advisory Committee of the Institute of Neuroscience

1985-2002: member of the Scientific Council of the CNR Center for Biomembranes

1988-92, 2000-02: in the Council of the Italian Group for Biomembranes and Bioenergetics

2001-2003: Contract Professor in Cellular Biochemistry, University of Padova

1997-2001: Contract Professor in Cellular Biochemistry, University of Bologna

1989, 1993: Short-term lecturer at the University of Paris XI

08/1985-02/1986: Visiting scientist (University of California, Irvine, USA)

06/1979-04/1980: Post-doc (University of California, Santa Cruz, USA)

Bibliometric data (as of Jan. 10, 2015):

Total papers in journals with IF: 113 (first/last/corr. author in: 71)

Total IF: 538

Total citations (Web of Knowl.): 6270

Other papers (book chapters, extended proceedings etc.): 15 (f./l./c. au. in: 12)

Communications at congresses: >150

H factor (ISI Web of Knowledge): 37; Google Scholar: 43.

Research

Dr Zoratti was educated as an organic chemist, receiving a Ph.D. from the University of California in this field. In 1980 he was recruited by the then Center for Mitochondrial Physiology of the CNR, in Padova. His group has made significant contributions in the fields of mitochondrial and prokaryotic physiology, discovering and characterizing from the biophysical and functional points of view various channels in the membranes of these organelles/cells. Dr. Zoratti organized and coordinated an EEC-financed European project dealing with these topics (1990-93). His interest in this research area continues; he has lately focused on the role of these channels in cancer. He then investigated the role of pores in the transport of macromolecules (proteins, DNA) across biomembranes and the mechanism of action of the ulcer-causing *H. pylori* toxin, VacA. The discovery that polyphenols block the VacA channels led to Dr. Zoratti's current interest in polyphenols. An appreciation of the biomedical potential of these natural compounds and of the obstacles posed by their poor absorption and rapid metabolism led to his currently main project, which uses their chemical elaboration to reduce the obstacles to their pharmacological exploitation.

20 selected publications

Mitochondrial channels: ion fluxes and more.

Szabo I, Zoratti M.

Physiol Rev. 2014 Apr;94(2):519-608

Pharmacokinetics and tissue distribution of pterostilbene in the rat.

Azzolini M, La Spina M, Mattarei A, Paradisi C, Zoratti M, Biasutto L.

Mol Nutr Food Res. 2014 Nov;58(11):2122-32.

Prodrugs of quercetin and resveratrol: a strategy under development.

Biasutto L, Zoratti M.

Curr Drug Metab. 2014 Jan;15(1):77-95.

Clofazimine, Psora-4 and PAP-1, inhibitors of the potassium channel Kv1.3, as a new and selective therapeutic strategy in chronic lymphocytic leukemia.

Leanza L, Trentin L, Becker KA, Frezzato F, Zoratti M, Semenzato G, Gulbins E, Szabo I.

Leukemia 27:1782-5 (2013).

Inhibitors of mitochondrial Kv1.3 channels induce Bax/Bak-independent death of cancer cells.

Leanza L, Henry B, Sassi N, Zoratti M, Chandy KG, Gulbins E, Szabò I.

EMBO Mol Med. 4:577-93 (2012).

Mitochondrial effects of plant-made compounds.

Biasutto L, Szabo I, Zoratti M.

Antioxid Redox Signal. 15:3039-59 (2011).

Mitochondrially targeted anti-cancer agents.

Biasutto L, Dong LF, Zoratti M, Neuzil J.

Mitochondrion 10:670-81 (2010).

Intermediate conductance Ca^{2+} -activated potassium channel (KCa3.1) in the inner mitochondrial membrane of human colon cancer cells.

De Marchi U, Sassi N, Fioretti B, Catacuzzeno L, Cereghetti GM, Szabò I, Zoratti M. *Cell Calcium* 45:509-16 (2009).

Mitochondrial potassium channel Kv1.3 mediates Bax-induced apoptosis in lymphocytes.

Szabó I, Bock J, Grassmé H, Soddemann M, Wilker B, Lang F, Zoratti M, Gulbins E. *Proc Natl Acad Sci U S A.* 105:14861-6 (2008).

Ester-based precursors to increase the bioavailability of quercetin.

Biasutto L, Marotta E, De Marchi U, Zoratti M, Paradisi C. *J Med Chem.* 50:241-53 (2007).

The *Helicobacter pylori* VacA toxin is a urea permease that promotes urea diffusion across epithelia.

Tombola F, Morbiato L, Del Giudice G, Rappuoli R, Zoratti M, Papini E. *J Clin Invest.* 108:929-37 (2001).

Formation of anion-selective channels in the cell plasma membrane by the toxin VacA of *Helicobacter pylori* is required for its biological activity.

Szabò I, Brutsche S, Tombola F, Moschioni M, Satin B, Telford JL, Rappuoli R, Montecucco C, Papini E, Zoratti M. *EMBO J.* 18:5517-27 (1999).

Helicobacter pylori vacuolating toxin forms anion-selective channels in planar lipid bilayers: possible implications for the mechanism of cellular vacuolation.

Tombola F, Carlesso C, Szabò I, de Bernard M, Reyrat JM, Telford JL, Rappuoli R, Montecucco C, Papini E, Zoratti M. *Biophys J.* 76:1401-9 (1999).

The mitochondrial permeability transition.

Zoratti M, Szabò I. *Biochim Biophys Acta.* 1241:139-76 (1995).

A patch-clamp study of *Bacillus subtilis*.

Szabó I, Petronilli V, Zoratti M. *Biochim Biophys Acta.* 1112:29-38 (1992).

The mitochondrial megachannel is the permeability transition pore.

Szabó I, Zoratti M. *J Bioenerg Biomembr.* 24:111-7 (1992).

The giant channel of the inner mitochondrial membrane is inhibited by cyclosporin A.

Szabó I, Zoratti M. *J Biol Chem.* 266:3376-9 (1991).

The inner mitochondrial membrane contains ion-conducting channels similar to those found in bacteria.

Petronilli V, Szabò I, Zoratti M. *FEBS Lett.* 259:137-43 (1989).

Ion-conducting channels in a gram-positive bacterium.

Zoratti M, Petronilli V.

FEBS Lett. 240:105-9 (1988).

The mechanism of non-aryne hydroxydehalogenation of unactivated aryl halides.

Zoratti M, Bunnett JF

J Org Chem. 45:1769-76 (1980).