

Prof. Vito Nicola De Pinto

Current Appointment: Full Professor, Molecular Biology, University of Catania

Dean of the PhD program in Biotechnology at the University of Catania

Vice-President of the Italian Bioenergetic Group

ORCID: 0000-0001-5513-2906

Narrative Biosketch

Vito De Pinto was a fellow of the prestigious School of Bioenergetics and Mitochondria held in Bari by prof. E. Quagliariello. In particular he was educated in the laboratory of prof. F. Palmieri, leader in the field of mitochondrial carriers. In this laboratory he made his first achievements in the field of membrane proteins.

He purified the first mitochondrial integral transmembrane protein in the whole laboratory by chromatography on HTP/celite. This protein was later found to be VDAC or mitochondrial porin, when he spent a fellowship in the laboratory of prof. R. Benz (University of Konstanz, Germany).

From this point upward his scientific interest was mainly devoted to VDAC, that he studied in all its aspects, from purification of the protein to cDNA and gene isolation and sequencing, to characterization from the functional point of view and by identifying residues important for its activity, to discovering the few patients affected by VDAC deficiency, a lethal occurrence, (this work was reported in *Lancet* and granted by Telethon).

Patents

2017 Italiano patent n. 102016000026259, title: "Composto peptidico farmacologicamente attivo, procedimento per la sua preparazione e uso" –Angela Messina, Vito De Pinto, Andrea Magrì et al.

2018 Pending international patent n. PCT/IB2017/051460 title:: "Pharmacologically active peptide compound, process for the preparation and use thereof" - Angela Messina, Vito De Pinto, Andrea Magrì et al.

Publications

1: Magrì A, Di Rosa MC, Orlandi I, Guarino F, Reina S, Guarnaccia M, Morello G, Spampinato A, Cavallaro S, Messina A, Vai M, De Pinto V. Deletion of Voltage-Dependent Anion Channel 1 knocks mitochondria down triggering metabolic rewiring in yeast. *Cell Mol Life Sci.* 2019 Oct 26. doi:10.1007/s00018-019-03342-8. [Epub ahead of print] PubMed PMID: 31655859.

2: Magrì A, Reina S, De Pinto V. VDAC1 as Pharmacological Target in Cancer and Neurodegeneration: Focus on Its Role in Apoptosis. *Front Chem.* 2018 Apr 6;6:108. doi: 10.3389/fchem.2018.00108. eCollection 2018. Review. PubMed PMID: 29682501; PubMed Central PMCID: PMC5897536.

3: Magrì A, Belfiore R, Reina S, Tomasello MF, Di Rosa MC, Guarino F, Leggio L, De Pinto V, Messina A. Hexokinase I N-terminal based peptide prevents the VDAC1-SOD1 G93A interaction and re-establishes ALS cell viability. *Sci Rep.* 2016 Oct 10;6:34802. doi: 10.1038/srep34802. PubMed PMID: 27721436; PubMed Central PMCID: PMC5056396.

4: Reina S, Checchetto V, Saletti R, Gupta A, Chaturvedi D, Guardiani C, Guarino F, Scorciapino MA, Magrì A, Foti S, Ceccarelli M, Messina AA, Mahalakshmi R, Szabo I, De Pinto V. VDAC3 as a sensor of oxidative state of the intermembrane space of mitochondria: the putative role of cysteine residue modifications. *Oncotarget.* 2016 Jan 19;7(3):2249-68. doi: 10.18632/oncotarget.6850. PubMed PMID:26760765; PubMed Central PMCID: PMC4823033.

5: Shoshan-Barmatz V, De Pinto V, Zweckstetter M, Raviv Z, Keinan N, Arbel N. VDAC, a multi-functional mitochondrial protein regulating cell life and death. *Mol Aspects Med.* 2010 Jun;31(3): 227-85. doi: 10.1016/j.mam.2010.03.002. Epub 2010 Mar 23. Review. PubMed PMID: 20346371.