

NAME: Ciro Isidoro

POSITION: Professor of Pathology, Head of Laboratory of Molecular Pathology and Nanobioimaging

INSTITUTION AND LOCATION: Department of Health Sciences, 'A. Avogadro' University of Novara, via M. Solaroli 17, 28100 NOVARA – ITALY. Tel + 39 0321 660607; fax + 39 0321 620421
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PERSONAL DATA

born on August 29th, 1956, in Tripoli (Libia)
foreign languages (speaking/writing): english, german, french.

EDUCATIONAL BACKGROUND

- July 1983: first class degree with honor (Laurea “summa cum Laude”) Doctor in Biological Sciences at the University of Turin.
- July 1999: first class degree with honor (Laurea “summa cum Laude”) Doctor in Medicine and Surgery at the “A. Avogadro” University of Novara.

APPOINTMENTS AND ACADEMIC POSITIONS

- 1983-1987: research Assistant, post-Doctoral fellow at Department of Medicine and Experimental Oncology, University of Turin (I).
- 1987-1989: post-Doc at Institute fuer Physiologische Chemie und Pathobiochemie, by Prof. A. Hasilik, University of Muenster (Germany). Research Associate (1989-1990) at University of Muenster (Germany).
- 1990-1993: Research Associate at Department of Medicine and Experimental Oncology, University of Turin (I).
- 1990-1992: Lecturer in Pathology, Faculty of Sciences, University of Turin (I).
- 1993-1994: Visiting Scientist at INSERM Laboratoire de Biologie et Pathologie Moléculaires des Glycoprotéines, School of Medicine, X. Bichat Hospital, University of Paris.
- 1995: Lecturer at Scuola Superiore di Oncologia e Scienze Biomediche (Genova).
- 1996: Visiting Professor at Wayne State University, School of Medicine of Detroit, Department of Pharmacology (director: Prof. Bonnie F. Sloane).
- 1993-1999 Assistant Professor, Lecturer of Immunology and Pathology, Faculty of Sciences and School of Medicine “A. Avogadro” University.
- 1997 to date: Head of the Laboratory of Molecular Pathology at Dept. of Medical Sciences, Novara, “A. Avogadro” University.
- 2000- to date: Associate Professor of Pathology, Lecturer of Immunology, Cell Pathology and Environmental Medicine, Faculty of Sciences, “A. Avogadro” University.
- 2000/2002: Visiting Professor at Institute fuer Physiologische Chemie, Klinikum der Philipps-Universitaet Marburg (D),
- 2002/2008: Visiting Professor at Henry Wellcome Laboratories for Integrative Neuroscience and Endocrinology, University of Bristol (UK).
- 2005 to date: overseas advisor of PhD students at Mahidol University, Bangkok (Thailand)
- 2007 to date: head of the Section of NanoBioImaging in Molecular Pathology (Centro Nanosistemi di Alessandria, Italy)

ACADEMIC POLICY

1997 to date: Member of the Academic Administration Council

AWARDS

Fellow of the Italian Association for Cancer Research (1996)

MAJOR FIELDS OF INTEREST

- Biogenesis and function of lysosomes and lysosome-related organelles.
- Role of lysosomal proteolysis and of autophagy in cancer and neurodegenerative diseases).
- Role of lysosomes in programmed cell death.
- Functional genomic and proteomic approaches to identify regulators of lysosome-autophagy function.
- Biogenesis of lysosomal cathepsins: targeting, processing, signal transduction coupled with transport, receptors.
- Nanobiotechnology and cellular/molecular imaging in human pathology.

PUBLICATIONS

Author of 73 peer-reviewed papers published in indexed international Journals, 27 full papers and chapters published in Books and 156 poster/oral communication at National and International Congresses.
H index = 18.

PATENT:

International Patent: "Simultaneous mixed site-specific mutagenesis method".

Inventors: Carlo Follo, Ciro Isidoro

Deposited at International Bureau of WIPO on 19th November 2007

International application No. PCT/IB2007/003629

PUBLICATIONS FROM THE LAST FIVE YEARS (2007-2011)

- 1: Panyasrivanit M, Greenwood MP, Murphy D, Isidoro C, Auewarakul P, Smith DR. Induced autophagy reduces virus output in dengue infected monocytic cells. *Virology*. 2011 Sep 15;418(1):74-84.
- 2: Castino R, Fiorentino I, Cagnin M, Giovia A, Isidoro C. Chelation of lysosomal iron protects dopaminergic SH-SY5Y neuroblastoma cells from hydrogen peroxide toxicity by precluding autophagy and Akt dephosphorylation. *Toxicol Sci*. 2011 Oct;123(2):523-41.
- 3: Follo C, Ozzano M, Mugoni V, Castino R, Santoro M, Isidoro C. Knock-down of cathepsin D affects the retinal pigment epithelium, impairs swim-bladder ontogenesis and causes premature death in zebrafish. *PLoS One*. 2011;6(7):e21908.
- 4: Pagano L, Samà L, Morani F, Prodam F, Rudoni M, Boldorini R, Valente G, Marzullo P, Baldelli R, Appetecchia M, Isidoro C, Aimaretti G. Thyroid Incidentaloma identified by (18) F-fluorodeoxyglucose Positron Emission Tomography with CT (FDG-PET/CT): clinical and pathological relevance. *Clin Endocrinol (Oxf)*. 2011 May 16. doi: 10.1111/j.1365-2265.2011.04107.x.
- 5: Castino R, Pucer A, Veneroni R, Morani F, Peracchio C, Lah TT, Isidoro C. Resveratrol Reduces the Invasive Growth and Promotes the Acquisition of a Long-Lasting Differentiated Phenotype in Human Glioblastoma Cells. *J Agric Food Chem*. 2011 Apr 27;59(8):4264-72.
- 6: Nicotra G, Castino R, Follo C, Peracchio C, Valente G, Isidoro C. The dilemma: does tissue expression of cathepsin D reflect tumor malignancy? The question: does the assay truly mirror cathepsin D mis-function in the tumor? *Cancer Biomark*. 2010 Jan 1;7(1):47-64.
- 7: Nicotra G, Manfredi F, Follo C, Castino R, Fusco N, Peracchio C, Kerim S, Valente G, Isidoro C. High expression of cathepsin D in non-Hodgkin's lymphomas negatively impacts on clinical outcome. *Dis Markers*. 2010;28(3):167-83.
- 8: Castino R, Bellio N, Follo C, Murphy D, Isidoro C. Inhibition of PI3k class III-dependent autophagy prevents apoptosis and necrosis by oxidative stress in dopaminergic neuroblastoma cells. *Toxicol Sci*. 2010 Sep;117(1):152-62. Epub 2010 Jun 4.
- 9: Nicotra G, Mercalli F, Peracchio C, Castino R, Follo C, Valente G, Isidoro C. Autophagy-active beclin-1 correlates with favourable clinical outcome in non-Hodgkin lymphomas. *Mod Pathol*. 2010 Jul;23(7):937-50. Epub 2010 May 14.
- 10: Gianotti E, Bertolino CA, Benzi C, Nicotra G, Caputo G, Castino R, Isidoro C, Coluccia S. Photoactive hybrid nanomaterials: indocyanine immobilized in mesoporous MCM-41 for "in-cell" bioimaging. *ACS Appl Mater Interfaces*. 2009 Mar;1(3):678-87.
- 11: Pucer A, Castino R, Mirković B, Falnoga I, Slejkovec Z, Isidoro C, Lah TT. Differential role of cathepsins B and L in autophagy-associated cell death induced by arsenic trioxide in U87 human glioblastoma cells. *Biol Chem*. 2010 May;391(5):519-31.
- 12: Pietronave S, Forte G, Locarno D, Merlin S, Zamperone A, Nicotra G, Isidoro C, Nardo PD, Prat M. Agonist monoclonal antibodies against HGF receptor protect cardiac muscle cells from apoptosis. *Am J Physiol Heart Circ Physiol*. 2010 Apr;298(4):H1155-65. Epub 2010 Jan 8.

13. Valente G, Nicotra G, Arrondini M, Castino R, Capparuccia L, Prat M, Kerim S, Tamagnone L, Isidoro C. Co-expression of plexin-B1 and Met in human breast and ovary tumours enhances the risk of progression. *Cell Oncol*. 2009;31(6):423-36.
14. Isidoro C, Biagioni F, Giorgi FS, Fulceri F, Paparelli A, Fornai F. The role of autophagy on the survival of dopamine neurons. *Curr Top Med Chem*. 2009;9(10):869-79.
15. Pasquali L, Longone P, Isidoro C, Ruggieri S, Paparelli A, Fornai F. Autophagy, lithium, and amyotrophic lateral sclerosis. *Muscle Nerve*. 2009 Aug;40(2):173-94.
16. Pasquali L, Lazzeri G, Isidoro C, Ruggieri S, Paparelli A, Fornai F. Role of autophagy during methamphetamine neurotoxicity. *Ann N Y Acad Sci*. 2008 Oct;1139:191-6.
17. Castino R, Thepparit C, Bellio N, Murphy D, Isidoro C. Akt induces apoptosis in neuroblastoma cells expressing a C98X vasopressin mutant following autophagy suppression. *J Neuroendocrinol*. 2008 Oct;20(10):1165-75.
18. Castino R, Peracchio C, Salini A, Nicotra G, Trincheri NF, Démoz M, Valente G, Isidoro C. Chemotherapy drug response in ovarian cancer cells strictly depends on a cathepsin D-Bax activation loop. *J Cell Mol Med*. 2009 Jun;13(6):1096-109.
19. Castino R, Lazzeri G, Lenzi P, Bellio N, Follo C, Ferrucci M, Fornai F, Isidoro C. Suppression of autophagy precipitates neuronal cell death following low doses of methamphetamine. *J Neurochem*. 2008 Aug;106(3):1426-39.
20. Castino R, Delpal S, Bouguyon E, Demoz M, Isidoro C, Ollivier-Bousquet M. Prolactin promotes the secretion of active cathepsin D at the basal side of rat mammary acini. *Endocrinology*. 2008 Aug;149(8):4095-105.
21. Fornai F, Longone P, Ferrucci M, Lenzi P, Isidoro C, Ruggieri S, Paparelli A. Autophagy and amyotrophic lateral sclerosis: The multiple roles of lithium. *Autophagy*. 2008 May 16;4(4):527-30.
21. Hamano T, Gendron TF, Causevic E, Yen SH, Lin WL, Isidoro C, Deture M, Ko LW. Autophagic-lysosomal perturbation enhances tau aggregation in transfectants with induced wild-type tau expression. *Eur J Neurosci*. 2008 Mar;27(5):1119-30.
22. Fornai F, Longone P, Cafaro L, Kastsuichenka O, Ferrucci M, Manca ML, Lazzeri G, Spalloni A, Bellio N, Lenzi P, Modugno N, Siciliano G, Isidoro C, Murri L, Ruggieri S, Paparelli A. Lithium delays progression of amyotrophic lateral sclerosis. *Proc Natl Acad Sci U S A*. 2008 Feb 12;105(6):2052-7.
23. Trincheri NF, Follo C, Nicotra G, Peracchio C, Castino R, Isidoro C. Resveratrol-induced apoptosis depends on the lipid kinase activity of Vps34 and on the formation of autophagolysosomes. *Carcinogenesis*. 2008 Feb;29(2):381-9.
24. Erdmann S, Ricken A, Merkwitz C, Struman I, Castino R, Hummitzsch K, Gaunitz F, Isidoro C, Martial J, Spanel-Borowski K. The expression of prolactin and its cathepsin D-mediated cleavage in the bovine corpus luteum vary with the estrous cycle. *Am J Physiol Endocrinol Metab*. 2007 Nov;293(5):E1365-77.
25. Follo C, Isidoro C. A fast and simple method for simultaneous mixed site-specific mutagenesis of a wide coding sequence. *Biotechnol Appl Biochem*. 2008 Feb;49(Pt 2):175-83.
26. Castino R, Bellio N, Nicotra G, Follo C, Trincheri NF, Isidoro C. Cathepsin D-Bax death pathway in oxidative stressed neuroblastoma cells. *Free Radic Biol Med*. 2007 May 1;42(9):1305-16.
27. Follo C, Castino R, Nicotra G, Trincheri NF, Isidoro C. Folding, activity and targeting of mutated human cathepsin D that cannot be processed into the double-chain form. *Int J Biochem Cell Biol*. 2007;39(3):638-49.
28. Trincheri NF, Nicotra G, Follo C, Castino R, Isidoro C. Resveratrol induces cell death in colorectal cancer cells by a novel pathway involving lysosomal cathepsin D. *Carcinogenesis*. 2007 May;28(5):922-31.

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