
BIOGRAPHICAL SKETCH

NAME Federica Chiara	POSITION TITLE Assistant Professor
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EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Conservatorio G. Verdi Torino	Piano Diploma	1989	Piano recital
University of Torino, Italy	M.S.	1994	Cell biology
Institute for Cancer Research IRCCS, Candiolo, Italy	PhD	1999-2001	Cellular Sciences, oncology
Ludwig Institute for Cancer Research, Uppsala, Sweden	Post-doctoral training	2002-2004	Molecular Oncology/Cell Biology
Fondazione Ottolenghi, S. Luigi Hospital, Orbassano, Italy, Neurosciences Department, Leuven	Post-doctoral training	2004-2006	Neurology
University of Padova, Italy	Research grant	2007	Mitochondrial Physiology and Cancer

A. Personal Statement

I have been working in the field of molecular oncology from 1999. I started my research activity investigating the molecular determinants of neoplastic transformation in mutated receptors tyrosine kinases under the guide of leaders in the field as Paolo Comoglio and Carl Henric Heldin, and on the mitochondria role in cancer taking advantage of a tight collaboration with Paolo Bernardi, a leader in the field of mitochondrial pathophysiology.

Under the guide of Carlos Dotti, I spent two years to study the molecular bases of the survival and ageing mechanisms in neurons. In the Prof. Andrea Trevisan laboratory I improved my toxicological and pharmacological knowledge through the study of the cytotoxicity mechanism of new chemotherapy molecules designed and produced by the inorganic chemistry group of Padova university, directed by Prof. Fregona.

Recently, I focused my attention on the exploration of the molecular signaling driving Schwann cell transformation in NF1-associated tumors, still poorly characterized and the investigation of which requires competence in both oncology and neuronal biology.

B. Position and Employment

1992-1994 Internship at the laboratory of animal biology, University of Torino, Italy

1996-2001 PhD in Cellular biological and technical sciences, Molecular Oncology Department Institute for Cancer Research IRCCS, , Italy.

1999-2001 Post doctoral fellow at the Institute for Cancer Research, Candiolo, Torino, Italy

2002-2004 Post doctoral experience, Laboratory of Molecular Oncology, Ludwig Institute for Cancer Research, Uppsala, Sweden, directed by Prof. Carl Henrik Heldin.

2004-2005 Junior group leader in the Alzheimer's laboratory Turin-Leuven, directed by Prof. C. Dotti.

2005 2007 Research grant at the Biomedical Sciences Department, Medical Faculty, University of Padova, directed by Prof. P. Bernardi.

2007 Assistant Professor at the Public Health Department (now Cardiac-Toraco-Vascular Sciences and Public Health Department), University of Padova, Italy.

C. Selected peer-reviewed publications:

- **CHIARA F.**, MICHELI P, PUGLIESE L, COMOGLIO PM (2003). Mutations in the met oncogene unveil a "dual switch" mechanism controlling tyrosine kinase activity. **The Journal of Biological Chemistry**, vol. 278; p. 29352-29358, ISSN: 0021-9258
- **CHIARA F.**, BISHAYEE S, HELDIN CH, DEMOULIN JB (2004). Autoinhibition of the platelet-derived growth factor beta-receptor tyrosine kinase by its C-terminal tail. **The Journal of Biological Chemistry**, vol. 279; p. 19732-19738, ISSN: 0021-9258
- **CHIARA F.**, GOUMANS MJ, FORSBERG H, AHGREN A, RASOLA A, ASPENSTROM P, WERNSTEDT C, HELLBERG C, HELDIN CH, HEUCHEL R (2004). A gain of function mutation in the activation loop of platelet-derived growth factor beta-receptor deregulates its kinase activity. **The Journal of Biological Chemistry**, vol. 279; p. 42516-42527, ISSN: 0021-9258
- MARTIN MG, PERGA S, TROVO L, RASOLA A, HOLM P, RANTAMAKI T, HARKANY T, CASTREN E, **CHIARA F***, DOTTI CG (2008). Cholesterol loss enhances TrkB signaling in hippocampal neurons aging in vitro. **Molecular Biology of the Cell**, vol. 19; p. 2101-2112, ISSN: 1059-1524, doi: 10.1091/mbc.E07-09-0897
- **Chiara F is Corresponding Author**
- MARTIN M, TROVÒ L, PERGA S, SADOWSKAA A, RASOLA A, **CHIARA F.** and CARLOS DOTTI (2009). Cyp46-mediated cholesterol loss promotes survival in stressed hippocampal neurons. **Neurobiology of Aging**, ISSN: 0197-4580, doi: 10.1016
- **CHIARA F.**, CASTELLARO D, MARIN O, PETRONILLI V, BRUSILOW W.S, JUHASZOVA M, SOLLOTT S.J, FORTE M, BERNARDI P. AND ANDREA RASOLA (2008). Hexokinase II Detachment from Mitochondria Triggers Apoptosis through the Permeability Transition Pore Independent of Voltage-Dependent Anion Channels. **PLOS ONE**, ISSN: 1932-6203
- RASOLA A, SCIACOVELLI M, **CHIARA F.***, PANTIC B, BRUSILOW WS, BERNARDI P (2010). Activation of mitochondrial ERK protects cancer cells from death through inhibition of the permeability transition. **Proceedings of The National Academy of Sciences of The United States of America (PNAS)**, vol. 107; p. 726-731, ISSN: 0027-8424, doi: 10.1073/pnas.0912742107
***CHIARA F is co-second author**
- LEMBO-FAZIO L, NIGRO G, NOEL G, ROSSI G, **CHIARA F.**, TSILINGIRI K, RESCINIO M, RASOLA A. AND BERNARDINI ML (2010). Gadd45 α activity is the principal effector of Shigella mitochondria-dependent epithelial cell death in vitro and ex vivo. **Cell Death & Disease**. Chief editors: Gerry Melino, Pierluigi Nicotera, Guido Kroemer
- MARZANO C, RONCONI L, **CHIARA F.**, GIRON MC, FAUSTINELLI I, CRISTOFORI P, TREVISAN A, FREGONA D (2010). Gold(III)-dithiocarbamate anticancer agents: Activity, toxicology and histopathological studies in rodents. **International Journal of Cancer**, ISSN: 0020-7136, doi: 10.1002/ijc.25684

- TREVISAN A, NICOLLI A, **CHIARA F.** (2010). Are rats the appropriate experimental model to understand age-related renal drug metabolism and toxicity?. **Expert Opinion on Drug Metabolism & Toxicology**, vol. 6; p. 1451-1459, ISSN: 1742-5255, doi: 10.1517/17425255.2010.531701
- **CHIARA F.**, GAMBALUNGA A., SCIACOVELLI M., NICOLLI A., RONCONI L., FREGONA D., RASOLA A., TREVISAN A. (2012). Chemotherapeutic induction of mitochondrial oxidative stress activates GSK-3 α / β and Bax, leading to permeability transition pore opening and tumor cell death **Cell Death & Disease** - LONDON, ENGLAND: NATURE PUBLISHING GROUP, - London,United Kingdom: Macmillan Magazines Limited -[Baltimore, Md.] : Williams & Wilkins, [c1987]
- **CHIARA F.**, RASOLA A (2013). GSK-3 and mitochondria in cancer cells. **Frontiers In Oncology**, vol. 3, p. 1-6, ISSN: 2234-943X, doi: 10.3389/fonc.2013.00016
- MONGILLO M, **CHIARA F.**, RANZATO M, TREVISAN A (2010). Strategy for hepatitis A seroprevalence survey in a population of young people. **VACCINE**, vol. 28; p. 6985-6988, ISSN: 0264-410X, doi: 10.1016/j.vaccine.2010.08.044
- **CHIARA F.**, BARTOLUCCI GB, MONGILLO M, FERRETTO L, NICOLLI A TREVISAN A. (2013). Hepatitis B vaccination at three months of age: a successful strategy?. **VACCINE**, vol. 31, p. 1696-1700, ISSN: 0264-410X, doi: 10.1016/j.vaccine.2013.01.046
- **CHIARA, F.**, BARTOLUCCI, G.B., CATTAL, M., PIAZZA, A., NICOLLI, A., BUJA, A., TREVISAN, A; Pages 62-68; Hepatitis B vaccination of adolescents: Significance of non-protective antibodies; **VACCINE** Volume 32, Issue 1, 17 December 2013
- **CHIARA, F.**; A, RASOLA, A. GSK-3 and mitochondria in cancer cells; *Frontiers in Oncology*Open Access Volume 3 FEB, 2013, Article number Article 00016;
- NICOLLI, **CHIARA, F.**, GAMBALUNGA, A.EMAIL AUTHOR, CARRIERI, BARTOLUCCI, TREVISAN, A. Reliability of urinary excretion rate adjustment in measurements of hippuric acid in urine; **International Journal of Environmental Research and Public Health** Open Access Volume 11, Issue 7, 11 July 2014, Pages 7036-7044
- NARDON, C.A, **CHIARA, F.**, BRUSTOLIN, L.A, GAMBALUNGA, A.B, CISCATO, F.C, RASOLA, A.C, TREVISAN, A.B, FREGONA, D. Gold(III)-pyrrolidinedithiocarbamate Derivatives as Antineoplastic Agents; **ChemistryOpen** Open Access Volume 4, Issue 2, 1 April 2015, Pages 183-191
- TREVISAN, A. NICOLLI, A., **CHIARA, F.** Hepatitis B: Prevention, protection and occupational risk; *Future Virology* Volume 10, Issue 1, 1 January 2015, Pages 53-61
- TREVISAN, A., MORANDIN, M., FRASSON, C., PANTALEONI, A., DONAZZAN, A., BALLARIN, D., NICOLLI, A., BARTOLUCCI, G.B., **CHIARA, F.** Prevalence of measles virus-specific IgG antibodies according to vaccination schedule in medical students of Padua University; **Future Virology** Volume 10, Issue 7, 1 July 2015, Pages 817-826
- BORELLA-VENTURINI, M., FRASSON, C., PALUAN, F., DE NUZZO, D., DI MASI, G., GIRALDO, M., **CHIARA, F.**, TREVISAN, A Tetanus vaccination, antibody persistence and decennial booster: A serosurvey of university students and at-risk workers; **Epidemiology and Infection**, Volume 145, Issue 9, 1 July 2017, Pages 1757-1762
- SCINTILLA, S.A, BRUSTOLIN, L.A, GAMBALUNGA, A.B, **CHIARA, F.** TREVISAN, A.B, NARDON, C. FREGONA, D. Ru(III) anticancer agents with aromatic and non-aromatic dithiocarbamates as ligands: Loading into nanocarriers and preliminary biological studies; **Journal Of Inorganic Biochemistry** Vol 166, 1 JANUARY 2017, PAGES 76-86
- MASGRAS, I, CISCATO, F. , BRUNATI, A.M. , TIBALDI, E. INDRACCOLO, S. , CURTARELLO, M. , **CHIARA, F.** , CANNINO, G. PAPALEO, E. , LAMBRUGHI, M. , GUZZO, G. , GAMBALUNGA, A. PIZZI, M. GUZZARDO, V. , RUGGE, M. , VULJAN, S.E. , CALABRESE, F. , BERNARDI, P. , RASOLA, A. Absence of Neurofibromin Induces an Oncogenic Metabolic Switch via Mitochondrial ERK-Mediated Phosphorylation of the Chaperone TRAP1; **Cell Reports** Open Access Volume 18, Issue 3, 17 January 2017, Pages 659-672

D. Research Support (last five years)

2012: Institutional grant of the Università di Padova for a project titled: "**Probing the mechanism of action of novel gold-based peptidomimetic anticancer agents: chemical and in vitro biochemical investigations**" (two years, completed). Role on Project: PI

2013: Research project of the Padova University titled: "**Study of the molecular determinants sustaining the neurofibromas onset in patients affected by neurofibromatosis type 1**" (two years). Role on Project: PI

2014: Grant of the Padova University project titled. "**Generation and characterization of a new three-dimensional experimental model in vitro suitable for the investigation of the molecular events sustaining the neoplastic transformation leading to neurofibroma formation in children affected by neurofibromatosis type 1** ." (two years).

2014: Research project of the Padova University titled: "**Molecular bases of neurofibromas in patients affected by neurofibromatosis type 1**" (two years). Role on Project: PI

2016- BIRD "Search of the molecular mechanisms sustaining Peripheral Nerve Sheat Tumors in patients affected by Neurofibromatosis type 1"

2016-2017: John Hopkins University grant (JHO) NF1 The Neurofibromatosis Therapeutic Acceleration. Completed. Program Role on the project: PI