

Curriculum vitae

Roberta Roncarati

PERSONAL DATA:

Date of birth May 15,1970
Birth place Ferrara, Italy

Home Address via Barbantini n.15
Ferrara, 44123 Italy
Cell 393 194 8729

Work Address CNR-IRGB- UOS Milan
Milano 20138 Italy
*Since 2012 c/o University of Ferrara
(agreement CNR-IRGB-UNIFE)
CUBO Experimental Medicine
Prof. M. Negrini
Laboratory of Next generation Sequencing*
E-mail: roberta.roncarati@cnr.it
roberta.roncarati@gmail.com
roberta.roncarati@irgb.cnr.it
roberta.roncarati@unife.it

<https://orcid.org/0000-0002-2371-3316>

EDUCATION BACKGROUND:

2009-present Tenured researcher
CNR- IRGB, Milan
Genetic of Cardiovascular disease
Molecular Oncology

2007-2009 PhD in Molecular Medicine
University of Milan
“Genetics of Cardiomyopathy ”

2004-2007 Tecnobios prenatale
Diagnostica prenatale e postnatale

Bologna, ITALY

2002-2004	Scientist in Cellular Immunology AVENTIS Pharmaceuticals, Immunology Platform, Bridgewater, NJ, USA.
2000-2002	Post Doctoral Fellow Laboratory of Luciano D' Adamio, MD PhD Department of Microbiology and Immunology Albert Einstein College of Medicine Bronx, NY, USA
1999-2000	Post-Doctoral Fellow: Unit of Gianluigi Condorelli, MD PhD by Dr Croce C.M. Laboratories at Kimmel Cancer Center Thomas Jefferson University, Philadelphia, PA, USA
1998-1999	Self -sponsored scientist Laboratory of Antonio Giordano, MD, PhD Thomas Jefferson University Philadelphia, PA, USA
1995-1996	Internship: Dept. of Pharmacy University of Ferrara, School of Pharmacy, Ferrara, Italy
1990-1997	Degree in Pharmaceutical Chemistry, School of Pharmacy, Ferrara, Italy.
1984-1989	Marco Polo High School, Ferrara

LABORATORY SKILLS:

- 2 years of extensive in vivo murine experience including breeding, crossing and maintaining colonies, working with transgenic mice (model of cardio deficiency, and transgenic mice carrying genes involved in the regulation of apoptosis under a cardiac-specific promoter).
- 4 years of Molecular biology techniques: DNA and RNA isolation and analysis (Gel electrophoreses, molecular cloning, PCR, site directed mutagenesis, Southern Blotting and Northern Blotting,);

- Protein isolation, affinity purification of tagged proteins, Western Blotting; In Vitro Translation Transcription
- Cell cultures: mammalian cell transfection, Immunoprecipitation, GST Pull Down, analysis of transient gene expression by CAT -assay, Luciferase assay and β -galactosyde assay, Rna interference (temporary gene knock out in cell Lines), some experience in preparation of primary neuronal culture.
- Some experience with Immunocytochemistry.
- Isolation of: PBMC from whole human blood, preparation of T cell line (mouse and human). Proliferation assay: with H3-Thymidine incorporation and with CFSE labeling technique. Study of Th1/Th2 cytokine assay with CBA test and with Luminex assay, ELISA assay. 4-Color Flow Cytometry.

Pre-natal and post-natal Diagnosis of genetic disease: DNA amplification technique (PCR) and fragment analysis using GENSCAN system and sequencing (Cistic Fibrosis: CFTR gene amplification and direct sequence of exon 7, 10 and 20; Fragile X syndrome: FMR1 gene amplification; Nonsyndromic deafness mutations in connexins 26: GJB2 gene amplification)

Professional Experience (last 10 years):

Use of novel approaches, including Next Generation Sequencing (NGS) real time PCR, and digital PCR (Biorad ddPCR):

- 1) DNA (cfDNA) obtained from "liquid biopsies" to study **circulating and genetic biomarkers of cardiovascular diseases and clinical cancer disease** which may be used to predict disease state or response to specific drug treatments;
- 2) DNA(biopsy) of patients for gene mutation discovery and epigenetic study.

NGS Platform used: Illumina NextSeq 550; Ion Torrent: PGM and Ion S5, Ion Chef System

- 1-**Library preparation** from Tissue and from Liquid Biopsy (plasma/serum from blood of patients; bronchial washing in lung cancer patients);
- 2-**Target panel Ion Torrent:** The Oncomine Pan-Cancer Cell-Free Assay; Ion AmpliSeq Comprehensive Cancer Panel; Oncomine Cell-Free Assays for Liquid Biopsy Clinical Research (Breast and Lung cancer)
- 3- **Target custom panel** sequencing (DNA Methylation study)
- 4- Whole exome sequencing (**WES**); Whole genome sequencing study (**GWAS**) study design, SNP prior SNP Prioritization and validation (in familial disease)
- 5-**Micro RNA library** preparation (Illumina) and **sequencing**

Biospeciments:

- Liquid biopsy : cfDNA/RNA investigation for mutation detections;

- Bronchial washing (Lung cancer): for diagnostic purposes (gene mutation study, gene fusion, and target therapy and therapy resistance);
- Plasma(cfDNA/RNA), for library generation and NGS sequencing
- Plasma (exosomes and microvesicles): microRNA expression studies using NGS
- Bronchial washing :DNA methylation study (ddPCR and NGS)

Research Appointments

2009/2012

PI: Laboratory of Cardiovascular Genetics
 CNR c/o IRCCS Mutimedica
 Via Fantoli 16/15 Milan

2012-present

Collaboration with Prof. Massimo Negrini Lab's
 Diagnostic markers in oncology
 Department of Morphology, Surgery and Experimental Medicine,
 University of Ferrara,
 44121, Ferrara , Italy

Project Support

Ministry of Health : Ricerca Finalizzata 2014-2017

Project Code: RF-2011-02348194

Applicant Institution: IRCCSMultiMedica Milano

Project Title: *Innovative diagnostic approach for hereditary cardiomyopathies*

PUBLICATIONS

27- Irene Salamon, Elena Biagini, Paolo Kunderfranco, **Roberta Roncarati**, Marisa Santostefano, Giovanni Vitale, Noemi Laprovitera, Elena Cavarretta, Antonio Pisani, Eleonora Riccio, Luciana Tomasi, Raffaello Ditaranto, Valeria Aiello, Irene Capelli, Manuela Ferracin, Gaetano La Manna, Nazzareno Galiè, Letizia Spinelli, Gianluigi Condorelli. *Circulating miR-184 is a Potential Biomarker of Cardiac and Renal Damage in Anderson-Fabry Disease*. JACC dic 2020 **submitted**

26- Manuela Ferracin, Emi Dika, Elisabetta Broseghini, Elisa Porcellini, Martina Lambertini, Mattia Riefolo, Giorgio Durante, Phillipe Loher, **Roberta Roncarati**, Cristian Bassi, Cosimo Misciali, Massimo Negrini, Isidore Rigoutsos, Eric Londin, and Annalisa Patrizi. *Unraveling the role of microRNA and isomiRNA networks in multiple*

primary melanoma pathogenesis Experimental & Molecular Medicine nov 2020
submitted

25- **Roberta Roncarati**, Laura Lupini, Elena Miotto, Elena Saccenti , Susanna Mascetti, Luca Morandi, Cristian Bassi, Debora Rasio, Elisa Callegari, Valentina Conti, Rosa Rinaldi, Giovanni Lanza, Roberta Gafà , Alberto Papi, Antonio Frassoldati, Silvia Sabbioni, Franco Ravenna, Gian Luca Casoni, and Massimo Negrini. *Molecular testing on bronchial washings for the diagnosis and predictive assessment of lung cancer. Molecular Oncology*. Article accepted on 5 May, 2020. DOI:10.1002/1878-0261.12713

24- Bruna Gigante, Laura Papa, Anja Bye, Paolo Kunderfranco, Chiara Viviani, **Roberta Roncarati**, Carlo Briguori, Ulf de Faire, Matteo Bottai & Gianluigi Condorelli. *MicroRNA signatures predict early major coronary events in middle-aged men and women* . *Cell Death & Disease* volume 11, Article number: 74 (2020)

23-Roncarati R, Lupini L., Shankaraiah R. C, Negrini M.
“*The Importance of microRNAs in RAS Oncogenic Activation in Human Cancer*” *Front Oncol*. 2019; 9: 988. doi: 10.3389/fonc.2019.00988

22-Lupini L., Moretti A., Bassi C., Schirone A., Pedriali M., Querzoli P., **Roncarati R.**, Frassoldati A. & Negrini M. “*High-sensitivity assay for monitoring ESR1 mutations in circulating cell-free DNA of breast cancer patients receiving endocrine therapy*” *Scientific Reports* volume 8, Article number: 4371 (2018). Published: 12 March 2018

21-Roncarati, R., Viviani Anselmi, C., Losi, M.A., Papa, L., Cavarretta, E., Da Costa Martins, P., Sacconi Jotti, G., Latronico, M.V.G., Galastri, L., De Windt, L., Betocchi, S., Condorelli, G. “*Circulating miR-29a, among other up-regulated microRNAs, is the only biomarker for both hypertrophy and fibrosis in patients with hypertrophic cardiomyopathy*”. *Journal of the American College of Cardiology. J Am Coll Cardiol*. Volume 63, Issue 9, 11 March 2014, Pages 920-927

20-Chiara Viviani Anselmi, Carlo Briguori, **Roberta Roncarati**, Laura Papa, Gabriella Visconti, Amelia Focaccio, Francesca De Micco, Michael V.G. Latronico, Paolo Pagnotta, and Gianluigi Condorelli. “*Routine Assessment Of On-Clopidogrel Platelet Reactivity And Gene Polymorphisms In Predicting Clinical Outcome Following Drug-Eluting Stent Implantation In Patients With Stable Coronary Artery Disease*” *JACC: Cardiovascular Interventions*, Volume 6, Issue 11, November 2013, Pages 1166–1175

19-"Anselmi, Chiara Viviani; Briguori, Carlo; Roncarati, Roberta; Papa, Laura; Visconti, Gabriella; Focaccio, Amelia; De Micco, Francesca; Latronico, Michael VG; Pagnotta, Paolo; Condorelli, Gianluigi; ", Reply: platelet reactivity is preferred over genotyping in monitoring efficacy of antiplatelet therapy, *JACC: Cardiovascular Interventions*, 7, 4, 448-449, 2014, *JACC: Cardiovascular Interventions*

18-**Roberta Roncarati**, Chiara Viviani Anselmi, Peter Krawitz, Giovanna Lattanzi, Yskert von Kodolitsch, Andreas Perrot, Elisa di Pasquale, Laura Papa, Paola Portararo, Marta Columbaro, Alberto Forni, Giuseppe Faggian, Gianluigi Condorelli and Peter N Robinson. "Doubly heterozygous LMNA and TTN Mutations Revealed by Exome Sequencing in a Severe Form of Dilated Cardiomyopathy". *Eur J Hum Genet*. 2013 Oct;21(10):1105-11. doi: 10.1038/ejhg.2013.16. Epub 2013 Mar 6.

17-Rivera NV1, Carreras-Torres R, **Roncarati R**, Viviani-Anselmi C, De Micco F, Mezzelani A, Koch W, Hoppmann P, Kastrati A, Stewart AF, Chen L, Roberts R, Karssen LC, Amin N, Trimarco V, Izzo R, Iaccarino G, Condorelli G, Puca AA, Pagnotta P, Airoidi F, Trimarco B, van Duijn CM, Condorelli G, Briguori C. "Assessment of the 9p21.3 locus in severity of coronary artery disease in the presence and absence of type 2 diabetes." *BMC Med Genet*. 2013 Jan 23;14:11

16-Cristina Mennia, Lucia Boffia, Francesca Cesana, Chiara Viviani Anselmi, Stefano Nava, Francesca Bertola, Anna Maria Di Blasio, **Roberta Roncarati**, Valentina Trimarco, Marina Marino, Bruno Trimarco, Guido Grassia, Cristina Giannattasio, Giuseppe Mancía" *Variant on chromosome 9p is associated with left ventricular mass: results from two cohorts of essential hypertensives.* " *Journal of Hypertension* Volume 30, Issue 11, November 2012, Pages 2144-2150

15-**Roberta Roncarati**, Michael VG Latronico, Beatrice Musumeci, Stefania Aurino, Annalaura Torella, Marie-Louise Bang, Giulia Saccani, Annibale A Puca, Massimo Volpe, Vincenzo Nigro, Camillo Autore, and Gianluigi Condorelli. "Unexpectedly Low Mutation Rates in beta-Myosin Heavy Chain and Cardiac Myosin Binding Protein Genes in Italian Patients with Hypertrophic Cardiomyopathy." *Journal of Cellular Physiology*, (2011), 226(11)2894-900.

14-Malovini, A., Illario, M., Iaccarino, G., Villa, F., Ferrario, A., **Roncarati, R.**, Viviani Anselmi, C. Novelli, V., Cipolletta, E., Leggiero, E., Orro, A, Rusciano, M. R., Milanese, L., Maione, A.S, Condorelli, G., Bellazzi R., Puca, A.A. "Association study on long-Living Individuals from Southern Italy Identifies rs10491334 in CAMKIV which Regulates Survival Proteins". *Rejuvenation Research* 2011 Jun;14(3):283-91. DOI: 10.1089/rej.2010.1114

13-Viviani Anselmi, C., Ferreri, C., V Novelli, **Roncarati, R.**, Bronzini, R., Marchese, G., Somalvico, F., Condorelli, G., Montenero, A.S., Puca, A.A. "Fatty acid percentage in erythrocyte membranes of atrial flutter/fibrillation patients and controls". *J Interv Card Electrophysiol*. 2010 Mar;27(2):95-9.

12-Viviani Anselmi, C., Malovini, A., **Roncarati, R.**, Novelli, V., Villa, F., Condorelli, G., Bellazzi, R., Puca, A.A.. "Association of FOXO3A locus with extreme longevity in the Southern Italian Centenarian Study". *Rejuvenation Research*, 2008 vol. 12; p. 95-103, ISSN: 1549-1684, doi: 10.1089/rej.2008.0827.

11-Viviani Anselmi, C., Novelli, V., **Roncarati, R.**, Malovini, A., Bellazzi, R., Bronzini, R., Marchese, G., Condorelli, G., Montenero A.S., Puca, A.A. “*Association of rs2200733 at 4q25 with atrial flutter / fibrillation diseases in Italian population*”. *Heart*. 2008 Nov; 94(11):1394-6. .

10-Novelli V, Viviani Anselmi C, **Roncarati R**, Guffanti G, Malovini A, Piluso G, Puca AA. “*Lack of replication of genetic associations with human longevity*”. *Biogerontology*. 2008 Apr;9(2):85-92.

9-Condorelli, G., Drusco, A., Stassi, G., Bellacosa, A., **Roncarati. R.**, Iaccarino, G., Russo, M. A., Gu, Y., Dalton, N., Chung, C., M. V. G. Latronico M. V. G., Napoli, C., Sadoshima J., Cioce C. M., and John Ross, Jr ”*Akt induces enhanced myocardial contractility and cell size in vivo in transgenic mice.*” *Proc Natl Acad Sci USA*, (2002) 99: 12333-8.

8-Tarr, PE, Contursi, C., **Roncarati. R.**, Noviello, C., Ghersi, E., Scheinfeld, MH., Zambrano, N., Russo, T., D' Adamio, L. “*Evidence for a role of Nerve Growth Factor Receptor Trk A in Tyrosine Phosphorylation and Processing of β -APP*”. *Biochem Biophys Res Commun*. (2002), 295; 324-329.

7-Borghi R., Pellegrini L., Lacana' E., Diaspro A., Pronzato M.A., Vitali A., **Roncarati R.** Stocchi P., Zaccheo D., D' Adamio L. & Tabaton M. “*Neuronal apoptosis is accompanied by amyloid β -protein accumulation in the endoplasmic reticulum*”. *J Alzheimer's Disease* (2002) 4: 31-7.

6-Tarr PE, **Roncarati R**, Pelicci G, Pelicci PG, D' Adamio L. “*Tyrosine phosphorylation of the β -amyloid precursor protein cytoplasmic tail promotes interaction with Shc*”. *J BioI Chem*. (2002) 277: 16798-804 .

5-Roncarati R, Sestan N, Scheinfeld MH, Berechid BE, Lopez PA, McGlade JC, Rakic P, D' Adamio L. “*The gamma-secretase-generated intracellular domain of beta-Amyloid precursor protein binds Numb and inhibits Notch signaling*”. *Proc Natl Acad Sci USA*, (2002) 99: 7102-7.

4-Scheinfeld, M.H., **Roncarati. R.**, Vito, P., Lopez, P.A., Abdallah, M., and D' Adamio, L. “*Jun NH2-terminal kinase (JNK) interacting protein 1 (JIP1) binds the cytoplasmic domain of the Alzheimer's beta-amyloid precursor protein (APP)*”. *J BioI Chem*. (2002) 277, 3767-75.

3-Condorelli, G., **Roncarati. R.**, Ross, J., Pisani, A., Stassi, G., Todaro, M., Trocha, S., Drusco, A., Gu, Y., Russo, M.A., Frati, G., Jones, S.P., Lefer, D., Napoli, C., G., Croce, C.M. “*Heart-targeted over expression of caspase 3 in mice increases infarct size and depresses cardiac function*”. *Proc.Natl.Acad.Sci USA* (2001) 98: 9977-82.

2-Esposito, E., **Roncarati. R.** Cortesi, R., Cervellati, F., Nastruzzi, C. “*Production of Eudragit micro particles by spray-drying technique: influence of experimental*

parameters on morphological and dimensional characteristics.” Pharm. Dev. Technol. (2000) 5: 267-78.

1-Condorelli, G., Morisco, C., Stassi, G., Notte, A., Farina, F., Sgaramella, G., de Rienzo, A, **Roncarati. R.** Trimarco, B., Lembo, G. “*Increased cardiomyocyte apoptosis and changes in proapoptotic and ant apoptotic genes bax and bcl-2 during left ventricular adaptations to chronic pressure overload in the rat.*” *Circulation* (1999) 99: 3071-8.

Abstract in journals:

3-Di Pasquale E, Nakahama H, Kunderfranco P, Miragoli M, Forni A, **Roncarati R**, Carullo P, Faggian G, Condorelli G. “*Generation of iPSC-based cardiomyocytes for investigating mechanisms of dilated cardiomyopathy due to Lamin A/C mutations*” *Cardiovascular Research. Volume 103, Issue suppl 1, 15 July 2014(abstract)*

2-Jones SP; Girod WG; Stassi G; **Roncarati R**; Condorelli G; Jefferson T; Lefered DJ; “*Cardiomyocyte apoptosis is attenuated following myocardial ischemia-reperfusion injury in transgenic mice overexpressing bcl-xl in the heart*” *Circulation issue: 17, volume: 98, (1998) supplement:, S pages: 74 -74(abstract)*

1- G Condorelli, A Pisani, T Jefferson, G Stassi, **R Roncarati**, T Ryoke, YS Gu, CM Croce, J Ross “*Targeted expression of CASPASE 3 in transgenic mice induces contractile dysfunction and cardiomyocyte degeneration which is prevented by Bcl-xl*” *Circulation. (1998) Volume 98, N.17, Pag461-462(abstract)*

References:

Massimo Negrini, PhD
Professore Genetica
Dipartimento di Morfologia, chirurgia e medicina sperimentale
Sezione di Patologia, oncologia e biologia sperimentale
Via Fossato di Mortara 64/b 44121 Ferrara
0532 455399 Ufficio
massimo.negrini@unife.it

Carlo M. Croce, M.D.
Director, Kimmel Cancer Center
Thomas Jefferson University
233 S. loth Street
Philadelphia PA 19107
Phone: (215) 503 4645
Fax: (215) 923 4498
Email: carlo.croce@mail.tju.edu

Gianluigi Condorelli, M.D., Ph.D.
Associate Professor, University of Rome "La Sapienza"
Associate Research Scientist, Institute of Molecular Medicine
University of California, San Diego
School of Medicine
9500 Gilman Drive BSB 5020
La Jolla, CA 92093-0641
Phone: 858 5343347
Fax: 858 5341626
Email: gcondorelli@ucsd.edu

Luciano D' Adamio, M.D., PhD.
Associate Professor, Albert Einstein College of Medicine,
1300 Morris Park Ave,
ULLMANN Bldg., Room 1209
Bronx, NY 10461
Phone: (718) 430 3244
Fax: (718) 430 8711
Email: Ldadamio@aecom.yu.edu

Roland Kurrle
Head of Cellular Immunology
AVENTIS Pharmaceutical
1041, Route 202-206
Bridgewater, NJ, 08807
Phone: (908) 231 3095
Fax:(908) 231
E-mail: Roland.Kurrle@aventis.com

Professor Luciano Bovicelli
Professore ordinario della
IIa clinica ostetrica e
ginecologica dell'Università
di Bologna;
Direttore della Clinica Ostetrica e
Ginecologica,
Policlinico Sant'Orsola, Bologna,
Italy.
Phone: 051 241030
Fax :051 253747

*I authorize, without reservation, the processing of personal data according to D. Lgs.
196/2003 on privacy*

Roberta Roncarati
