CURRICULUM VITAE

Antonella Ellena Ronchi
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Born in Milano 28/01/1964

ACADEMIC QUALIFICATIONS :
from 2007 : Professore Associato in Genetica.
1997 : Ricercatore in Genetica
1992: Specialization in Biotechnology (PhD equivalent)
1988: Degree in Biological Sciences, Universita' di Milano.

RESEARCH ACTIVITY :
2000 to present: at Dipartimento di Biotecnologie e Bioscienze, Universita' di Milano-Bicocca.
1989-2000: at Dipartimento di Genetica e di Biologia dei Microrganismi, Universita' di Milano.
1992-1993: National Institute for Medical Research, London (EMBO fellowship program), Prof. Frank Grosveld laboratory, to work on the molecular mechanisms controlling globins genes expression.

RESEARCH INTERESTS:
Mechanisms controlling cell specification and differentiation in hematopoiesis.
Molecular control of erythropoiesis:
-gene regulation in hematopoiesis
-mechanisms of Hereditary Persistence of Fetal Hemoglobin: research on globin gene activity and function (mRNA translation, inherited structural and regulatory defects, transcriptional control).
-transcriptional control of the expression of genes encoding erythroid transcription factors, in particular GATA 1 (and its transcriptional and post-transcriptional regulation), Sox6 and NR2F2.
-study of the transcriptional regulation of the "stem cell" gene c-Kit
-identification and functional analysis of genes differentially expressed during erythropoiesis
-signal transduction mechanisms controlling cell commitment and differentiation in normal and pathological (leukemias, myelodysplastic syndromes) erythropoiesis
-development of high-content high throughout assays to identify drugs reactivating fetal globins genes.

EXPERIMANTAL APPROACHES:
In vitro molecular biology and biochemical assays, cell culture, transfections, lentiviral-mediated transduction, CRISPR/Cas9-mediated knockout and mouse models are employed in these studies.

PUBLICATIONS

Mantovani R., Malgaretti N., Nicolis S., **Ronchi A.**, Giglioni B. and Ottolenghi S. "The effect of HPFH mutations in the human γ-globin promoter on binding of ubiquitous and erythroid specific nuclear factors." *Nucleic Acids Res*. 16, 7783-7797 (1988).

Nicolis S., **Ronchi A.**, Malgaretti N., Mantovani R., Giglioni B. and Ottolenghi S."Increased erythroid-specific expression of a mutated HPFH γ-globin promoter requires the erythroid factor NFE1." *Nucleic Acids Res*.17, 55O9-5516 (1989).

Giglioni B., Comi P., **Ronchi A.**, Mantovani R. and Ottolenghi S."The same nuclear proteins bind the proximal CACCC box of the human ß-globin promoter and a similar sequence in the enhancer."
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Ronchi A., Nicolis S., Santoro C. and Ottolenghi S."Increased Sp1 binding mediates erythroid-specific overexpression of a mutated (HPFH) γ-globin promoter."
Nucleic Acids Res. 17, 1O231-1O241 (1989).

Crotta S., Nicolis S., **Ronchi A.**, Ottolenghi S., Ruzzi L., Shimada Y., Migliaccio A.R. and Migliaccio G. "Progressive inactivation of the expression of an erythroid transcriptional factor in GM- and G-CSF-dependent myeloid cell lines."
Nucleic Acids Res. 18, 6863-6869 (1990)

Nicolis S., Bertini C., **Ronchi A.**, Crotta S., Lanfranco L., Moroni M., Giglioni B. and Ottolenghi S.
"An erythroid specific enhancer upstream to the gene encoding the cell-type specific transcription factor GATA-1."
Nucleic Acids Res., 19, 5285-5291 (1991)

Dalyot N., Fibach E., **Ronchi A.**, Rachmiliewitz E., Ottolenghi S. and Oppenheim A. "Erythropoietin triggers a burst of GATA-1 in normal human erythroid cells differentiating in tissue culture." *Nucleic Acids Res*., 21, 4031-4037 (1993)

Trentesaux C., Ngo Nyoung M., Aries A., Morceau F., **Ronchi A.**, Ottolenghi S., Jardillier J.C., Jeannesson P. "Increased expression of GATA-1 and NFE-2 Erythroid transcription factors during Aclacinomycin-Mediated Differentiation of Human Erythroleukemic Cells." *Leukemia*, .7, 452-457 (1993)

Migliaccio A.R., Jiang Y., Migliaccio G., Nicolis S., Crotta S., **Ronchi A.**, Ottolenghi S., Adamson J.W."Transcriptional and post-transcriptional regulation of the expression of the Erythropoietin receptor (Epo-R) gene in human Epo-responsive cell-lines. " *Blood*, 82, 3760-3769 (1993).

Privitera E., Schirò R., Longoni D., **Ronchi A.**, Rambaldi A., Bernasconi S., Ottolenghi S., Masera G., Biondi A.
"Constitutive expression of GATA-1, EpoR, α and γ globin genes in myeloid clonogenic cells from Juvenile chronic myelocitic leukemia." *Blood*, 86, 323-328 (1995).

Ronchi A., Bottardi S., Mazzucchelli C., Ottolenghi S. and C. Santoro. "Differential binding of the NFE3 and CP1/NFY transcription factors to the human □ and epsilon globin CCAAT boxes".
J. Biol. Chem. 270, 21934-21941 (1995).

Ronchi A., Berry M., Raguz S., Yannoutsos N., Ottolenghi S., Grosveld F. and Niall Dillon.
"Role of the duplicated CCAAT box region in the γ-globin gene regulation and Hereditary Persistence of Fetal Hemoglobin. " *EMBO J*. 15, 143-149 (1996).

Ronchi A.,Bellorini M., Mongelli N. and Mantovani R. " CCAAT-box binding protein NFY (CBF, CP1) recognizes the minor grove and distorts DNA". *Nucleic Acids Res*. 23, 4565-4572 (1995).

Bonsi L., Grossi A., Stippoli P., Tumietto., Tonelli R., Vannucchi L., **Ronchi A.**, Ottolenghi S., Avanzi G., Pegoraro L., Bagnara G.P."An erythroid and megakaryocitic common precursor cell line (B1647) expressing both c-mlp and EpoR prolifarates and modifies globin chain syntesis in response to MGDF but not to Erythropoietin".*British Journal of Hematology* 98, 549-559 (1997).

Ronchi A., Cirò M., Basilico L., Cairns L., Corbella P., Ricciardi P., Ghysdael J., Ottolenghi S.

"Molecular heterogeneity of regulatory elements of the mouse GATA-1 gene". *Genes and Function* 1, 254-258 (1997).

Liberati C., **Ronchi A.**, Lievens P., Ottolenghi S., Mantovani R."NF-Y organizes the γ-globin CCAAT boxes region. " *J. Biol. Chem*. 273, 16880-16889 (1998).

Bolognese F, Wasner M., Dohna C.L., Gurtner A., **Ronchi A**., Muller H., Manni I., Mossner J., Piaggio G., Mantovani R., Engeland K."The cyclin B2 promoter depends on NF-Y, a trimer whose CCAAT-binding activity is cell-cycle regulated" *Oncogene* 18, 1845-1853 (1999).

Liberati C., Cera M.R., Secco P., Santoro C., Mantovani R., Ottolenghi S. and **Ronchi A.** **"**Cooperation and competition between the binding of COUP-TFII and NF-Y on human ε- and γ-globin gene promoters" *J. Biol. Chem*., 276, 41700-41709 (2001).

Cairns L., Cirò M., Minuzzo M., Morlé F., Starck J., Ottolenghi S. and **Ronchi A**. "Induction of globin mRNA expression by interleukin-3 in a Stem Cell Factor-dependent SV 40 T-antigen-immortalized multipotent hematopoietic cell line."*J. Cell. Physiology*, 195, 38-49 (2003).

Testa A., Lotti F., Cairns L., Ottolenghi S., Ferrari G. and **Ronchi A.** "Deletion of a negatively acting sequence in a chimeric gata-1 enhancer-ltr greatly increases retroviral- mediated erythroid expression." *J. Biol. Chem*., 279, 10523-10531 (2004).

Collavin L., Gostissa M., Avolio F., Secco P., **Ronchi A.**, Santoro C., Del Sal G. "Modification of the erythroid transcription factor GATA-1 by SUMO-1". *PNAS*, 101:8870-5 (2004).

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Bosè F., Fugazza C., Casalgrandi M., Capelli A., Cunningham J.M., Zhao Q., Jane S., Ottolenghi S. and **Ronchi A**. "Functional interaction of Cp2 with Gata-1 in the regulation of erythroid promoters". *Molecular and Cellular Biology* 26:3942-54 (2006).

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Zanoni I, Ostuni R, Capuano G, Collini M, Caccia M, **Ronchi A**, Rocchetti M, Mingozzi F, Foti M, Chirico G, Costa B, Zaza A, Ricciardi-Castagnoli P, Granucci F. CD14 regulates the dendritic cell life cycle after LPS exposure through NFATactivation. *Nature* 264-8 (2009).

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Shimizu R, Hasegawa A, Ottolenghi S, **Ronchi A**, Yamamoto M. Verification of the in vivo activity of three distinct cis-acting elements within the Gata1 gene promoter-proximal enhancer in mice. *Genes Cells* 11:1032-41 (2013).

Ronchi A, Ottolenghi S. To respond or not to respond to hydroxyurea in thalassemia: a matter of stress adaptation? *Haematologica* 9:657-9 (2013).

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Barbarani G, Fugazza C, Barabino SML, **Ronchi AE**. SOX6 blocks the proliferation of BCR-ABL1(+) and JAK2V617F(+) leukemic cells. *Sci Rep*. Mar 4;9(1):3388. PMID: 30833651 (2019).

Barbarani G, Fugazza C, Strouboulis J, **Ronchi AE**. The Pleiotropic Effects of GATA1 and KLF1 in Physiological Erythropoiesis and in Dyserythropoietic Disorders. *Front Physiol*. Feb 12;10:91. PMID: 30809156 (2019).

Fugazza C, Barbarani G, Elangovan S, Marini MG, Giolitto S, Font-Monclus I, Marongiu MF, Manunza L, Strouboulis J, Cantù C, Gasparri F, Barabino SML, Nakamura Y, Ottolenghi S, Moi P, **Ronchi AE**. The Coup-TFII orphan nuclear receptor is an activator of the γ-globin gene. *Haematologica*. 2020 Feb 27:haematol.2019.241224. doi: 10.3324/haematol.2019.241224. Online ahead of print.

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Gloria Barbarani, Agata Łabedz and **Ronchi AE** Beta-Hemoglobinopathies: The Test Bench for Genome Editing-Based Therapeutic Strategies. Frontiers in Genome Editing. Manuscript accepted for publication

Gloria Barbarani, Agata Labedz, Sarah Stucchi, Alessia Abbiati and **Ronchi AE**. Physiological and aberrant γ-globin transcription during development. Frontiers in Cell and developmental biology. Manuscript accepted for publication

REVIEWER for different international journals including: Haematologica, Cancer Research, BBA, Cell Cycle, Frontiers, Stem cells and Development, Differentiation, Human Mutation, Journal of Translational Medicine, Hemasphere, Neoplasia, PLoS One, BMC Dev. Biology, IUBMBlife.

REVIEWER of Italian and International grant and fellowships programs

COORDINATOR of the European Marie Curie projects:

- - HEM-ID: hematopoietic cell identity: genetic and epigenetic regulation in normal and malignant hematopoiesis (HEM-ID PITN-GA-2011-289611). 11 partners, from 7 countries. Duration: 1 November 2011 - 31 October 2015. Project budget: 3.269.702,05€

- -ARCH: age-related changes in hematopoiesis (ARCH H2020-MSCA-ITN-2018-813091). 15 Beneficiaries + 5 Partner organizations from 10 Countries. Staring date: June 1st 2919-ongoing. Project budget: 3,969,936.36€. https://arch-project.eu

Milano, 23 Marzo 2021

Autorizzo il trattamento dei miei dati personali ai sensi del regolamento (EU) 2016/679 in materia di protezione dei dati personali ai fini della procedura in oggetto.

In fede
Antonella Ellena Ronchi