

CURRICULUM VITAE RAFFAELLA BONECCHI

Actual qualification: Associate professor of General Pathology and Immunology MED/04
Department Biomedical Sciences, Humanitas University, Via Montalcini, 20089 Pieve Emanuele, Milan.

Education

1996: Degree in Biological Science, University of Milano, Italy
1999: Degree in pharmacological research, Mario Negri Institute, Milano, Italy
2007: PhD The Open University, London, UK

Research and professional experience

1994-1996: internship at University of Milano, Department of Physiology and Biochemistry, Milano, Italy.
1996-1999: fellow at Mario Negri Institute of Pharmacological Research, Milano, Italy
1999-2000: fellow of the Italian Foundation of Cancer Research (FIRC)
2000-2003: Assistant Professor of General Pathology and Immunology at University of Brescia, Department of Biomedical Sciences and Biotechnology, Brescia, Italy
2003-2014: Assistant Professor of General Pathology and Immunology at University of Milan, Department of Translational Medicine, Milano, Italy
2012: National scientific qualification as associate professor for the sector 06 / A2 GENERAL PATHOLOGY AND CLINICAL PATHOLOGY
2015-pres: Associate professor of General Pathology and Immunology at Humanitas University, Department of Biomedical Sciences, Rozzano, Milano, Italy
2018 National scientific qualification as full professor for the sector 06 / A2 GENERAL PATHOLOGY AND CLINICAL PATHOLOGY

Teaching activity

From 2000-2015: General pathology and immunology in the medical and surgical degree courses, nursing sciences and medical biotechnology at the Universities of Brescia and Milan.
From 2015-pres: Coordinator of the course of Mechanisms of diseases of the Master's degree in Medicine of Humanitas University.
From 2015-pres: Coordinator of the course of Patogenesi e Microbiologia of the Nursing degree of Humanitas University.
2006-2012: Member of the Doctorate of "Experimental Pathology and Neuropathology" of the University of Milan
2012-2015: Member of the Doctorate of "Experimental Medicine and Medical Biotechnology" of the University of Milan
2015-pres: Member of the Doctorate of "Molecular and experimental Medicine" of the Humanitas University.

Editorial activity

2000-pres: Reviewer for: British Journal of Pharmacology, The Journal of Immunology, European Journal of Immunology, International Immunology, Blood, PLoS ONE, Oncotarget, Cancer Immunology and Immunotherapeutics.
2011-pres: Academic editor for PLoS ONE
2016-pres: Academic editor for Frontiers Immunology

Research grants

2000 CNR for young researchers. "Characterization of new molecules involved in dendritic cell migration"
2004 PRIN: "Role of chemokines and chemokine receptors in inflammatory pulmonary diseases".
2007 PRIN "New molecules involved in tumor growth, tumor-induced lymphangiogenesis and lymph node modulation"
2008 Ministry of health for young researchers: "Understanding in vivo MSC-mediated immunosuppression: scientific bases for clinical protocol".
2008 FIRB Future in research "Modulation of trafficking and function of innate immune cells through inhibition of chemotactic receptors"

2008 CARIPLO "The role and mechanism of function of CXCR4 in the adaptive response-related pathology of WHIM syndrome patients".

2009 PRIN: "Role of the atypical chemokine receptor ACKR2 in leukocyte bone marrow mobilization"

2015 AIRC Investigator Grant: "Role of the atypical chemokine receptor ACKR2 in tumor progression"

2015 CARIPLO Biomedical science for young scientists: "The roles of the epigenetic genes Uhrf1 and Ezh2 in neointima formation and the inflammatory response during atherosclerosis development"

2018 AIRC Investigator Grant: "Targeting chemokine receptors to improve tumor cancer therapy"

2019 PRIN: "Emerging players shaping the responses of tumor inflammatory infiltrate"

2020 Ricerca Finalizzata 2019 "Role and predictive potential of distinct circulating and tumor-associated leukocyte subsets in progression and therapeutic response of malignant gliomas "

Main focus of the research activity

Innate immunity; Inflammation and cancer; Monocytes and neutrophils; Chemokine and chemokine receptors; Atypical or decoy chemokine receptors

Citation Report

Scopus: Sum of the Times Cited: 6363; h-index: 33

Google scholar: Sum of the Times Cited: 8914; h-index: 37

Scientific societies

1996-pres Italian Society of Immunology, Clinical Immunology and Allergology (SIICA).

Major Publications

1. Jaillon S, Ponzetta A, Di Mitri D, Santoni A, Bonecchi R, Mantovani A. Neutrophil diversity and plasticity in tumour progression and therapy. *Nat Rev Cancer*. 2020 Sep;20(9):485-503.
2. Capucetti A, Albano F, Bonecchi R. Multiple Roles for Chemokines in Neutrophil Biology. *Front Immunol*. 2020 Jul 9;11:1259.
3. Mollica Poeta V, Massara M, Capucetti A, Bonecchi R. Chemokines and Chemokine Receptors: New Targets for Cancer Immunotherapy. *Front Immunol*. 2019 Mar 6;10:379.
4. Massara M, Bonavita O, Savino B, Caronni N, Mollica Poeta V, Sironi M, Setten E, Recordati C, Crisafulli L, Ficara F, Mantovani A, Locati M, Bonecchi R. ACKR2 in hematopoietic precursors as a checkpoint of neutrophil release and anti-metastatic activity. *Nat Commun*. 2018 Feb 14;9(1):676.
5. Locati M, Mantovani A, Bonecchi R. Atypical matters in myeloid differentiation. *Nat Immunol*. 2017 Jun 20;18(7):711-712.
6. Biswas SK, Bonecchi R. Colonic Macrophages "Remote Control" Adipose Tissue Inflammation and Insulin Resistance. *Cell Metab*. 2016 Aug 9;24(2):196-8
7. Bonecchi R, Garlanda C, Mantovani A, Riva F. Cytokine decoy and scavenger receptors as key regulators of immunity and inflammation. *Cytokine*. 2016 Nov;87:37-45.
8. Bonecchi R, Graham GJ. Atypical Chemokine Receptors and Their Roles in the Resolution of the Inflammatory Response. *Front Immunol*. 2016 Jun 10;7:224.
9. Bonavita O, Massara M, Bonecchi R. Chemokine regulation of neutrophil function in tumors. *Cytokine Growth Factor Rev*. 2016 Aug;30:81-6.
10. Massara M, Bonavita O, Mantovani A, Locati M, Bonecchi R. Atypical chemokine receptors in cancer: friends or foes? *J Leukoc Biol*. 2016 Jun;99(6):927-33.
11. Savino B, Caronni N, Anselmo A, Pasqualini F, Borroni EM, Basso G, Celesti G, Laghi L, Turlaki A, Boneschi V, Brambilla L, Nebuloni M, Vago G, Mantovani A, Locati M, Bonecchi R. ERK-dependent downregulation of the atypical chemokine receptor D6 drives tumor aggressiveness in Kaposi sarcoma. *Cancer Immunol Res*. 2014 Jul;2(7):679-89.
12. Borroni EM, Cancellieri C, Vacchini A, Benureau Y, Lagane B, Bachelier F, Arenzana-Seisdedos F, Mizuno K, Mantovani A, Bonecchi R, Locati M. β -arrestin-dependent activation of the cofilin pathway is required for the scavenging activity of the atypical chemokine receptor D6. *Sci Signal*. 2013 Apr 30;6(273).
13. Savino B, Castor MG, Caronni N, Sarukhan A, Anselmo A, Buracchi C, Benvenuti F, Pinho V, Teixeira MM, Mantovani A, Locati M, Bonecchi R. Control of murine Ly6C(high) monocyte traffic and immunosuppressive activities by atypical chemokine receptor D6. *Blood*. 2012 May 31;119(22):5250-60.
14. Bonecchi R, Locati M, Mantovani A. Chemokines and cancer: a fatal attraction. *Cancer Cell*. 2011 Apr 12;19(4):434-5.
15. Mantovani A, Savino B, Locati M, Zammataro L, Allavena P, Bonecchi R. The chemokine system in cancer biology and therapy. *Cytokine Growth Factor Rev*. 2010 Feb;21(1):27-39.
16. Savino B, Borroni EM, Torres NM, Proost P, Struyf S, Mortier A, Mantovani A, Locati M, Bonecchi R. Recognition versus adaptive up-regulation and degradation of CC chemokines by the chemokine decoy

- receptor D6 are determined by their N-terminal sequence. *J Biol Chem.* 2009 Sep 18;284(38):26207-15.
17. Borroni EM, Bonecchi R, Mantovani A, Locati M. Chemoattractant receptors and leukocyte recruitment: more than cell migration. *Sci Signal.* 2009 Feb 24;2(59):pe10.
 18. Bonecchi R, Borroni EM, Anselmo A, Doni A, Savino B, Mirolo M, Fabbri M, Jala VR, Haribabu B, Mantovani A, Locati M. Regulation of D6 chemokine scavenging activity by ligand- and Rab11-dependent surface up-regulation. *Blood.* 2008 Aug 1;112(3):493-503.
 19. Martinez de la Torre Y, Buracchi C, Borroni EM, Dupor J, Bonecchi R, Nebuloni M, Pasqualini F, Doni A, Lauri E, Agostinis C, Bulla R, Cook DN, Haribabu B, Meroni P, Rukavina D, Vago L, Tedesco F, Vecchi A, Lira SA, Locati M, Mantovani A. Protection against inflammation- and autoantibody-caused fetal loss by the chemokine decoy receptor D6. *Proc Natl Acad Sci U S A.* 2007 Feb 13;104(7):2319-24.
 20. Mantovani A, Bonecchi R, Locati M. Tuning inflammation and immunity by chemokine sequestration: decoys and more. *Nat Rev Immunol.* 2006 Dec;6(12):907-18.
 21. Bonecchi R, Sozzani S, Stine JT, Luini W, D'Amico G, Allavena P, Chantry D, Mantovani A. Divergent effects of interleukin-4 and interferon-gamma on macrophage-derived chemokine production: an amplification circuit of polarized T helper 2 responses. *Blood.* 1998 Oct 15;92(8):2668-71.
 22. Bonecchi R, Bianchi G, Bordignon PP, D'Ambrosio D, Lang R, Borsatti A, Sozzani S, Allavena P, Gray PA, Mantovani A, Sinigaglia F. Differential expression of chemokine receptors and chemotactic responsiveness of type 1 T helper cells (Th1s) and Th2s. *J Exp Med.* 1998 Jan 5;187(1):129-34.