

PERSONAL INFORMATION

Francesca Granucci

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CURRENT POSITIONS

Full Prof of General Pathology
University of Milano-Bicocca
and PI of the laboratory of Innate Immunity,
INGM, Istituto Nazionale di Genetica Molecolare, Milan

PROFESSIONAL EXPERIENCE

2006-2016 Associate Professor of General Pathology

University of Milano-Bicocca

- Teaching and research activities

Field: Immunology

2001-2006 Assistant Professor

University of Milano-Bicocca

- Teaching and research activities

Field: Immunology

1997-2001 Researcher

CNR

- Research activity

Field, Immunology

1996-1997 Post Doct

Dana Farber Cancer Institute, Boston

- Research activity

Field, Immunology

EDUCATION

1992-1996 PhD in Pharmacology and Toxicology

University of Milan

- Field: immunology

1985-1990 Master degree in Biological Sciences

University of Pisa

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ADDITIONAL INFORMATION

Honours and awards

2019: IUBMB Jubilee Lecturer
 2012: Ita Askonas prize from EFIS-EJI for best female group leader in immunology
 2003: CIRE (Centro di Iniziative Regionale ed Europea) prize for important activities carried out in European projects.
 1997: Harlan Nossal prize for the best work in Experimental Immunology of SIICA congress in 1997
 1996-1997: Research fellowship of the Telethon Research Foundation for Muscular Dystrophy and Genetic Disorders

Institutional Responsibilities

2001-today: Faculty member of the University of Milano-Bicocca, Milan, Italy
 2003-today: Faculty of the International PhD School in Translational and Molecular Medicine (DIMET) of the University of Milano-Bicocca (www.DIMET.org)
 2010-2012: Member of the Department Internal Board, Dep. of Biotechnology and Bioscience, University of Milano-Bicocca, Milan, Italy.
 2014-2020: Erasmus Plus program coordinator for the Dep. of Biotechnology and Bioscience, University of Milano-Bicocca, Milan, Italy
 2014-2020: Coordinator of the internationalization activities of the Dep. Of Biotechnology and Biosciences
 2014-today: Responsible of the animal facility of the University of Milano-Bicocca

Commission of trust

2014-today Member of the board of Directors of SIICA (Società Italiana di Immunologia Clinica e Allergologia)
 2016-Today Immunology Councilor of IEIIS (International Endotoxin and Innate Immunity Society)
 Editor in Chief of the section Molecular Innate Immunity of Frontiers in Immunology
 Associate Editor of Molecular Immunology
 Associate Editor of Scientific Reports
 Associate Editor of Cells

Grants last 5 years

Title	Agency	Ruole	Duration	amount
Nanofarmaci	Fondazione regionale per la Ricerca Biomedica	Co-PI	2015-2016	500000
Activation state and functionality of dendritic cells from peripheral blood of ALS patients	ARISLA (Italian foundation against ALS)	PI	2015-2016	50.000
Role of the NFAT signalling pathway in determining inflammation during aging and neurodegeneration	Cariplo Foundation	PI	2015-2018	320.000
Study of the capacity of the NFAT transcription factors to favor cancer progression by immunoevasion and chemoresistance.	AIRC	PI	2016-2019	290000
Targeting skin to blood recirculation of antigen-specific T cells to prevent systemic and joint manifestations of psoriasis	National Psoriasis Foundation (USA)	Co-PI	2018-2019	75000
Targeting NFAT in chronic lymphocytic leukemia using novel VIVIT-nanoconstructs.	Ministry of Health	Responsabile Unità	2019-2022	90000
A regional oncology network addressing the emerging problem of colorectal cancer in young individuals using an integrative omics approach to decipher mechanisms of cancer immunoeediting as candidate targets of new therapies	Fondazione regionale per la Ricerca Biomedica	Responsabile Unità	2019-2022	675000
Deciphering the heterogeneity of dendritic cells in Human non-small cell lung cancer	AIRC	PI	2020-2025	339000
Unravelling the innate immune response towards SARS-CoV2	Fondazione Cariplo	Responsabile Unità	2020-2021	80000

Impact of immune-fragilities on COVID-19 susceptibility and severity	Fondazione Veronesi	Responsabile Unità	2020-2021	50000
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Publications last 10 years

1. Broggi A, Ghosh S, Sposito B, Spreafico R, Balzarini F, Lo Cascio A, Clementi N, De Santis M, Mancini N, Granucci F, Zanoni I. Type III interferons disrupt the lung epithelial barrier upon viral recognition. *Science*. 2020 Jun 11:eabc3545. doi: 10.1126/science.abc3545. Online ahead of print. PMID: 32527925
2. Borriello F, Zanoni I, Granucci F. Cellular and molecular mechanisms of antifungal innate immunity at epithelial barriers: The role of C-type lectin receptors. *Eur J Immunol*. 2020 Mar;50(3):317-325. doi: 10.1002/eji.201848054. Epub 2020 Feb 6. Review.
3. Facchini FA, Di Fusco D, Barresi S, Luraghi A, Minotti A, Granucci F, Monteleone G, Peri F, Monteleone I. Effect of chemical modulation of toll-like receptor 4 in an animal model of ulcerative colitis. *Eur J Clin Pharmacol*. 2020 Mar;76(3):409-418. doi: 10.1007/s00228-019-02799-7. Epub 2020 Jan 25.
4. Broggi A, Granucci F, Zanoni I. Type III interferons: Balancing tissue tolerance and resistance to pathogen invasion. *J Exp Med*. 2020 Jan 6;217(1). pii: e20190295. doi: 10.1084/jem.20190295.
5. Bouzin M, Marini M, Zeynali A, Borzenkov M, Sironi L, D'Alfonso L, Mingozi F, Granucci F, Pallavicini P, Chirico G, Collini M. Photo-activated raster scanning thermal imaging at sub-diffraction resolution. *Nat Commun*. 2019 Dec 4;10(1):5523. doi: 10.1038/s41467-019-13447-0.
6. Rizzuto MA, Salvioni L, Rotem R, Colombo M, Zanoni I, Granucci F, Prosperi D. Are nanotechnological approaches the future of treating inflammatory diseases? *Nanomedicine (Lond)*. 2019 Sep;14(17):2379-2390. doi: 10.2217/nnm-2019-0159.
7. Diani M, Casciano F, Marongiu L, Longhi M, Altomare A, Pigatto PD, Secchiero P, Gambari R, Banfi G, Manfredi AA, Altomare G, Granucci F, Reali E. Increased frequency of activated CD8+ T cell effectors in patients with psoriatic arthritis. *Sci Rep*. 2019 Jul 26;9(1):10870. doi: 10.1038/s41598-019-47310-5.
8. Scodellaro R, Bouzin M, Mingozi F, D'Alfonso L, Granucci F, Collini M, Chirico G, Sironi L. Whole-Section Tumor Micro-Architecture Analysis by a Two-Dimensional Phasor-Based Approach Applied to Polarization-Dependent Second Harmonic Imaging. *Front Oncol*. 2019 Jun 19;9:527. doi: 10.3389/fonc.2019.00527. eCollection 2019.
9. Marongiu L, Gornati L, Artuso I, Zanoni I, Granucci F. Below the surface: The inner lives of TLR4 and TLR9. *J Leukoc Biol*. 2019 Jul;106(1):147-160. doi: 10.1002/JLB.3MIR1218-483RR. Epub 2019 Mar 22.
10. Santus W, Mingozi F, Vai M, Granucci F, Zanoni I. Deep Dermal Injection As a Model of *Candida albicans* Skin Infection for Histological Analyses. *J Vis Exp*. 2018 Jun 13;(136). doi: 10.3791/57574.
11. Gornati L, Zanoni I, Granucci F. Dendritic Cells in the cross hair for the generation of tailored vaccines. *Front Immunol*. 2018,
12. Grasselli C, Ferrari D, Zalfa C, Soncini M, Mazzoccoli G, Facchini FA, Marongiu L, Granucci F, Copetti M, Vescovi AL, Peri F, De Filippis L. Toll-like receptor 4 modulation influences human neural stem cell proliferation and differentiation. *Cell Death Dis*. 2018 Feb 15;9(3):280.
13. Granucci F. The family of LPS signal transducers increases. The arrival of chanzymes. *Immunity*. 2018 Jan 16;48(1):4-6.
14. Zanoni I, Granucci F, Broggi A. Interferon (IFN)-λ Takes the Helm: Immunomodulatory Roles of Type III IFNs. *Front Immunol*. 2017 Nov 28;8:1661. doi: 10.3389/fimmu.2017.01661.

- eCollection 2017. Review.
15. Granucci F, Prosperi D. Nanoparticles: "magic bullets" for targeting the immune system. *Semin Immunol.* 2017 Dec;34:1-2. doi: 10.1016/j.smim.2017.10.002. No abstract available.
 16. Santus W, Barresi S, Mingozzi F, Broggi A, Orlandi I, Stamerra G, Vai M, Martorana AM, Polissi A, Köhler JR, Liu N, Zanoni I, Granucci F. Skin infections are eliminated by cooperation of the fibrinolytic and innate immune systems. *Science Immunol.* 2017 Sep 22;2(15). pii: eaan2725. doi: 10.1126/sciimmunol.aan2725.
 17. Prosperi D, Colombo M, Zanoni I, Granucci F. Drug nanocarriers to treat autoimmunity and chronic inflammatory diseases. *Semin Immunol.* 2017 Dec;34:61-67. doi: 10.1016/j.smim.2017.08.010. Epub 2017 Aug 30. Review.
 18. Broggi A, Tan Y, Granucci F*, Zanoni I*. IFN- λ suppresses intestinal inflammation by non-translational regulation of neutrophil function. *Nat Immunol.* 2017 Oct;18(10):1084-1093. doi: 10.1038/ni.3821. Epub 2017 Aug 28. . *equal contribution, co-corresponding
 19. Rusconi M, Gerardi F, Santus W, Lizio A, Sansone VA, Lunetta C, Zanoni I, Granucci F. Inflammatory role of dendritic cells in Amyotrophic Lateral Sclerosis revealed by an analysis of patients' peripheral blood. *Sci Rep.* 2017 Aug 10;7(1):7853. doi: 10.1038/s41598-017-08233-1.
 20. Diani M, Galasso M, Cozzi C, Sgambelluri F, Altomare A, Cigni C, Frigerio E, Drago L, Volinia S, Granucci F, Altomare G, Reali E Blood to skin recirculation of CD4+ memory T cells associates with cutaneous and systemic manifestations of psoriatic disease. *Clin Immunol.* 2017 Jul;180:84-94. doi: 10.1016/j.clim.2017.04.001. Epub 2017 Apr 6.
 21. Mingozzi F, Spreafico R, Gorletta T, Soncini MC, Cigni C, Di Gioia M, Caccia M, Sironi L, Collini M, Rusconi M, Chirico G, Zanoni I and Granucci F Lymph node-resident NK cells become anti-tumor effectors upon prolonged contact with dendritic cells. *EMBO Mol Med* 2016 Sep 1;8(9):1039-51
 22. Sgambelluri F, Diani M, Frigerio E, Drago L, Granucci F, Banfi G, Altomare G, Reali E. A role for CCR5+CD4 T cells in cutaneous psoriasis and for CD103+ CCR4+ CD8 Teff cells in the associated systemic inflammation. *J. of Autoimmunity* 2016 Jun;70:80-9
 23. Broggi A, Granucci F. Microbe- and danger-induced inflammation. *Mol Immunol.* 2015 Feb;63(2):127-33. doi: 10.1016/j.molimm.2014.06.037
 24. Granucci F, Lutz MB, Zanoni I The nature of activatory and tolerogenic dendritic cell-derived signal 2. *Front Immunol.* 2014 Feb 6;5:42. doi: 10.3389/fimmu.2014.00042. eCollection 2014.
 25. Zanoni I, Spreafico R, Bodio C, Di Gioia M, Cigni C, Broggi A, Gorletta T, Caccia M, Chirico G, Sironi L, Collini M, Colombo MP, Garbi N, Granucci F. IL-15 cis presentation is required for optimal NK cell activation in lipopolysaccharide-mediated inflammatory conditions. *Cell Report.* 2013 Sep 26;4(6):1235-49. doi: 10.1016/j.celrep.2013.08.021. Epub 2013 Sep 19
 26. Zanoni I, Granucci F. Role of CD14 in host protection against infections and in metabolism regulation. *Front Cell Infect Microbiol.* 2013 Jul 24;3:32. doi: 10.3389/fcimb.2013.00032. eCollection 2013.
 27. Broggi A, Zanoni I, Granucci F. Migratory conventional dendritic cells in the induction of peripheral T cell tolerance. *J Leukoc Biol.* 2013 Nov;94(5):903-11. doi: 10.1189/jlb.0413222. Epub 2013 Jul 29.
 28. Granucci F, Lutz MB, Zanoni I. The nature of activatory and tolerogenic dendritic cell-derived signal 2. *Front Immunol.* 2013 Jul 16;4:198. doi: 10.3389/fimmu.2013.00198. eCollection 2013..
 29. Vitali C, Mingozzi F, Broggi A, Barresi S, Zolezzi F, Bayry J, Raimondi G, Zanoni I, Granucci F. Migratory, and not lymphoid-resident, dendritic cells maintain peripheral self-tolerance and prevent autoimmunity via induction of iTreg cells. *Blood.* 2012 Aug 9;120(6):1237-45.

30. Zanoni I, Granucci F. Regulation and dysregulation of innate immunity by NFAT signaling downstream of pattern recognition receptors (PRRs). *Eur J Immunol.* 2012 Aug;42(8):1924-31.
31. Zanoni I, Ostuni R, Barresi S, Di Gioia M, Broggi A, Costa B, Marzi R and Granucci F. Mechanism of lipopolysaccharide-induced skin edema formation in the mouse. *J Clinical Investigation* 2012 May;122(5):1747-57. doi: 10.1172/JCI60688
32. Zanoni I, Ostuni R, Marek LR, Barresi S, Barbalat R, Barton GM, Granucci F*, Kagan JC*. CD14 controls the LPS-induced endocytosis of Toll-like receptor 4. *Cell.* 2011 Nov 11;147(4):868-80. *equal contribution, co-corresponding
33. Ostuni R, Zanoni I, Granucci F. Deciphering the complexity of Toll-like receptor signaling. *Cell Mol Life Sci.* 2010 Dec;67(24):4109-34. Epub 2010 Jul 31.
34. Zanoni I, Granucci F. The regulatory role of dendritic cells in the induction and maintenance of T-cell tolerance. *Autoimmunity.* 2011 Feb;44(1):23-32. Epub 2010 Jul 29.
35. Zanoni I, Granucci F. Regulation of antigen uptake, migration, and lifespan of dendritic cell by Toll-like receptors. *J Mol Med (Berl).* 2010 Sep;88(9):873-80. Epub 2010 Jun 18
36. Granucci F, Zanoni I. The dendritic cell life cycle. *Cell Cycle.* 2009 Dec;8(23):3816-21. Epub 2009 Dec 4.
37. Zanoni I, Ostuni R, Capuano G, Collini M, Caccia M, Ronchi AE, 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 NFAT activation. *Nature.* 2009 Jul 9;460(7252):264-8.

Milano, 23/06/2020

Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".