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## BIOGRAPHICAL SKETCH

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| NAME<br>Marta Coscia, M.D., Ph. D. |                     | POSITION TITLE<br>Assistant Professor of Hematology |                                 |
| EDUCATION/TRAINING                 |                     |   |                                 |
| INSTITUTION AND LOCATION           | DEGREE              | YEAR(s)   | FIELD OF STUDY                  |
| University of Torino               | M.D.                | 1992-1998   | Medical Sciences                |
| University of Torino               | Board certification | 1998-2002   | Hematology                      |
| University of Torino               | Ph.D.               | 2005-2009   | Immunology and cellular biology |

### **Positions and employment**

- 1998-2002 Post-doctoral fellow, Post-graduate School of Hematology, Department of Medicine and Experimental Oncology, University of Torino;
- 2003-2004 Visiting Scientist hired by S.A.I.C. Inc., Experimental transplantation and Immunology Branch, National Cancer Institute, National Institute of Health, Bethesda, MA, U.S.A.;
- Nov 2007- Assistant Professor, Department of molecular biotechnology and health sciences, University of Torino and Assistant Medical Director, Division of Hematology, A.O. Città della Salute e della Scienza di Torino, Ospedale Molinette (research and clinical activity).

### **Other Professional Records**

- 1996-1998 Internship, Division of Hematology, University of Torino (clinical and research activity);
- 2002-2003 Research fellow, Experimental transplantation and Immunology Branch, National Cancer Institute, National Institute of Health, Bethesda, MA, U.S.A.;
- 2005-2007 Research fellow, Division of Hematology, University of Torino;
- 2011 Training Course "Future Advance in Management Expertise" - Percorso di formazione manageriale per Medici Specialisti in Oncoematologia (3 modules of 2 days each).
- 2012 Training Course "Future Advance in Management Expertise" - Percorso di formazione manageriale per Medici Specialisti in Oncoematologia (one module of 2 days).

### **Honors and awards**

- 2004-2005 Fellowship San Giovanni Battista Hospital, Torino, Italy (clinical and research activity);
- 2005-2006 Fellowship “Fondazione Angela Bossolasco”, Torino, Italy (clinical and research activity);
- 2005 Annual AIL (Italian Association against Leukemia) “Simona Drappo” award for young researcher;
- 2006 Josè Carreras Foundation National award for young researchers;
- 2006-2007 Fellowship AIL (Associazione Italiana contro le leucemie- linfomi e mieloma) (clinical and research activity).

### **Teaching employments**

Lecturer on “Hematology” in the Biotechnology course of the University of Torino  
 Co-teacher in the course of Hematology, Corso di Laurea in Medicina e Chirurgia, University of Torino (since 2007).  
 Teacher in the Post-graduate School of Hematology, University of Torino (since 2007).  
 Tutor within the Post-graduate School of Hematology, University of Torino (currently tutor of 3 post-graduate students).  
 Tutor within the Doctoral School in Life and Health Sciences, University of Torino (currently tutor of 3 Ph.D. fellow).

### **Selected presentations, seminars and invited lectures**

- Jan 2009 Invited speaker at MD Anderson Cancer Center (MDACC), Dept of lymphoma and myeloma.
- Jan 2009 Invited oral presentation, Keystone Symposium Mobilizing Cellular Immunity for Cancer Therapy, Plenary session.
- Dec 2010 Oral presentation at 52th American Society of Hematology (ASH) annual meeting, Orlando, FL, U.S.A.
- Mar 2011 Invited speaker at the Translational Oncology at the University Medical Center of the Johannes Gutenberg University Mainz (TRON).
- Dec 2011 Oral presentation at 53rd American Society of Hematology (ASH) annual meeting, San Diego, CA, U.S.A.

### **Clinical Research activity**

Sub-investigator and local principal investigator in prospective and observational clinical trials in chronic lymphocytic leukemia

## **RESEARCH SUPPORT**

### **Ongoing research support**

- 2012 Ricerca sanitaria finalizzata ex 60%. Titolo del progetto: “Studio dei meccanismi che regolano la farmaco-resistenza ed identificazione di nuovi targets terapeutici nella leucemia linfatica cronica”. Role: Principal Investigator.
- 2012 AIRC Investigator Grant 2012. Titolo del progetto: Cooperation between adenosinergic and hypoxic signals in the organization of the leukemic niche. Principia Investigator: Silvia Deaglio. Role: Collaborator.

- 2012 FIRB 2012. Titolo del progetto: Ottimizzazione della terapia oncologica: nuovi farmaci attivi contro la "MULTI DRUG RESISTANCE". Principale Investigator: Simona Saponara. Role: componente Unità di Ricerca.
- 2011 My First AIRC Grant – MFAG 11475. Titolo del progetto: A new pharmacological strategy to contemporarily reverse chemo- and immune-resistance in human tumors. Principal Investigator: Chiara Riganti. Role: Collaborator.
- 2011 Programma di Ricerca Scientifica di Rilevante Interesse Nazionale (PRIN). Titolo del progetto: Microambiente immunologico nei pazienti con mieloma multiplo quale sistema per comprendere e superare i meccanismi della recidiva clinica e della resistenza. Principal Investigator: Angelo Vacca. Role: componente Unità di Ricerca (PI Unità di ricerca: Massimo Massaia).

### **Completed research support**

- 2010 Cassa di Risparmio di Torino (CRT) Foundation "Interactions between the tumor cells and the microenvironment in modulating progression and multi-drug resistance in chronic lymphocytic leukemia". Role: Principal Investigator.
- 2009 Compagnia di San Paolo, titolo del progetto: "Fattori solubili e stroma nei linfomi coinvolti nella immunosoppressione". Principal Investigator: Alessandro Poggi. Role: componente dell'unità di ricerca (PI Unità di ricerca: Massimo Massaia).
- 2009 Finpiemonte, Piattaforma Innovativa Biotecnologie per le scienze della vita, Progetto PiSTEM 2009. Titolo del progetto: Approcci innovativi per l'attivazione e l'immunità verso i tumori. Principal Investigator: Giorgio Inghirami. Role: componente dell'unità di ricerca (PI Unità di ricerca: Massimo Massaia).
- 2008 Regione Piemonte Ricerca Sanitaria Finalizzata bis (PI Marta Coscia): "Novel antitumor therapies targeting the tumor microenvironment and the host immune system". Role: Principal Investigator.
- 2008 Ricerca sanitaria finalizzata ex 60% (PI Marta Coscia): "The mevalonate metabolic pathway as a therapeutic target in chronic lymphocytic leukemia". Role: Principal Investigator.
- 2008 Fondazione CRT, "Progetto Alfieri CRT", Principale Investigator: Roberto Chiarle. Role: componente dell'unità di ricerca.
- 2005 Programma di Ricerca Scientifica di Rilevante Interesse Nazionale (PRIN). Titolo del progetto: Gamma/delta T cells as effectors of immune responses in neoplastic diseases: mechanisms of activity and clinical applications. Principal Investigator: Massimo Massaia. Role: componente dell'unità di ricerca (PI Unità di ricerca: Massimo Massaia).
- 2004 Compagnia di San Paolo, Progetto Speciale Oncologia. Titolo del progetto: Il Centro Onco-ematologico Subalpino (COES) come modello di applicazione della ricerca traslazionale mirata al prolungamento della sopravvivenza ed al

miglioramento della qualità di vita del paziente oncologico. Ruolo: componente dell'unità di ricerca (PI Unità di ricerca: Massimo Massaia).

2001 FIRB Progetti Autonomi. Titolo del progetto: immunoregolazione ed immunoterapia nel mieloma multiplo: ruolo delle cellule dendritiche (DC) e dei linfociti T regolatori (Treg). Principale Investigator: Massimo Massaia. Role: componente dell'unità di ricerca (PI Unità di ricerca: Massimo Massaia).

## PEER-REVIEWED PUBLICATIONS

1. Brusa D, Serra S, Coscia M, Rossi D, D'Arena G, Laurenti L, Jaksic O, Fedele G, Inghirami G, Gaidano G, Malavasi F, Deaglio S (2013). The PD-1/PD-L1 axis contributes to T cell dysfunction in chronic lymphocytic leukemia. *Haematologica*. Epub ahead of print, doi:10.3324/haematol.2012.077537.
2. Riganti C, Castella B, Kopecka J, Campia I, Coscia M, Pescarmona G, Bosia A, Ghigo D, Massaia M (2013). Zoledronic Acid restores Doxorubicin chemosensitivity and immunogenic cell death in multidrug-resistant human cancer cells. *PLoS One*. Epub ahead of print doi: 10.1371/journal.pone.0060975. Print 2013.
3. Coscia M, Vitale C, Peola S, Foglietta M, Rigoni M, Griggio V, Castella B, Angelini D, Chiaretti S, Riganti C, Guarini A, Drandi D, Ladetto M, Bosia A, Foà R, Battistini L, Boccadoro M, Fournié JJ, Massaia M (2012). Dysfunctional V $\gamma$ 9V $\delta$ 2 T cells are negative prognosticators and markers of dysregulated mevalonate pathway activity in chronic lymphocytic leukemia cells. *Blood* [Epub ahead of print].
4. Serra S, Horenstein AL, Vaisitti T, Brusa D, Rossi D, Laurenti L, D'Arena G, Coscia M, Tripodo C, Inghirami G, Robson SC, Gaidano G, Malavasi F, Deaglio S (2011). CD73-generated extracellular adenosine in chronic lymphocytic leukemia creates local conditions counteracting drug-induced cell death. *Blood*. 118:6141-52.
5. Coscia M, Pantaleoni F, Riganti C, Vitale C, Rigoni M, Peola S, Castella B, Foglietta M, Griggio V, Drandi D, Ladetto M, Bosia A, Boccadoro M, Massaia M (2011) IGHV unmutated CLL B cells are more prone to spontaneous apoptosis and subject to environmental prosurvival signals than mutated CLL B cells. *Leukemia*, 25:828-837.
6. Castella B, Riganti C, Fiore F, Pantaleoni F, Caneparo ME, Peola S, Foglietta M, Palumbo A, Bosia A, Coscia M, Boccadoro M, Massaia M (2011). Immune modulation by zoledronic acid in human myeloma: an advantageous cross-talk between V $\gamma$ 9V $\delta$ 2 T cells,  $\alpha\beta$  CD8 $^{+}$  T cells, regulatory T cells, and dendritic cells. *J Immunol*. 187:1578-90.
7. Castella B, Vitale C, Coscia M, Massaia M (2011). V $\gamma$ 9V $\delta$ 2 T cell-based immunotherapy in hematological malignancies: from bench to bedside. *Cell Mol Life Sci*. 68:2419-32.
8. Coscia M, Quaglino E, Iezzi M, Curcio C, Pantaleoni F, Riganti C, Holen I, Mönkkönen H, Boccadoro M, Forni G, Musiani P, Bosia A, Cavallo F, Massaia M (2010). Zoledronic acid repolarizes tumor-associated macrophages and inhibits mammary carcinogenesis by targeting the mevalonate pathway. *J Cell Mol Med*. 14:2803-15.
9. Mariani S, Hwang SY, Foglietta M, Bonello L, Vitale C, Coscia M, Fiore F, Bruno B, Massaia M (2009). Comprehensive assessment of the TCRBV repertoire in small T-cell samples by means of an improved and convenient multiplex PCR method. *Exp Hematol* 37:728-38.
10. Biragyn A, Coscia M, Nagashima K, Sanford M, Young HA, Olkhanud P (2008). Murine beta-defensin 2 promotes TLR-4/MyD88-mediated and NF-kappaB-dependent atypical death of APCs via activation of TNFR2. *J Leukoc Biol* 83:998-1008.

11. Piva R, Ruggeri B, Williams M, Costa G, Tamagno I, Ferrero D, Gai V, Coscia M, Peola S, Massaia M, Pezzoni G, Allievi C, Pescalli N, Cassin M, di Giovine S, Nicoli P, de Feudis P, Strepponi I, Roato I, Ferracini R, Bussolati B, Camussi, Jones-Bolin S, Hunter K, Zhao H, Neri A, Palumbo A, Berkers C, Ovaa H, Bernareggi A, Inghirami G (2008). CEP-18770: A novel, orally active proteasome inhibitor with a tumor-selective pharmacologic profile competitive with bortezomib. *Blood* 111:2765-75.
12. Matta GM, Battaglio S, Dibello C, Napoli P, Baldi C, Ciccone G, Coscia M, Boccadoro M, Massaia M (2007). Polyclonal immunoglobulin E levels are correlated with hemoglobin values and overall survival in patients with multiple myeloma. *Clin Cancer Res* 13:5348-54.
13. Mariani S, Muraro M, Pantaleoni F, Fiore F, Nuschak B, Peola S, Foglietta M, Palumbo A, Coscia M, Castella B, Bruno B, Bertieri R, Boano L, Boccadoro M, Massaia M (2005). Effector gd T cells and tumor cells as immune targets of zoledronic acid in multiple myeloma. *Leukemia*, 18: 139-45.
14. Fiore F, Nuschak B, Peola S, Mariani S, Muraro M, Foglietta M, Coscia M, Bruno B, Boccadoro M, Massaia M (2005). Exposure to myeloma cells lysates affects the immune competence of dendritic cells and favors the induction of TR1-like regulatory T cells. *Eur J Immunol* 35:1155-63.
15. Coscia M, Mariani S, Battaglio S, Di Bello C, Fiore F, Foglietta M, Pileri A, Boccadoro M, Massaia M (2004). Long-term follow-up of idiotype vaccination in human myeloma as a maintenance therapy after high-dose chemotherapy. *Leukemia* 18: 139-145.
16. Coscia M and Byragn A (2004). Cancer Immunotherapy with chemoattractant peptides. *Semin Cancer Biol* 14:209-218.
17. Coscia M, Kwak LW (2004). Therapeutic idiotype vaccines in B lymphoproliferative diseases. *Expert Opin Biol Ther* 4:959-963.
18. Ruffini PA, Biragyn A, Coscia M, Harvey LK, Cha SC, Bogen B, Kwak LW (2004). Genetic fusions with viral chemokines target delivery of nonimmunogenic antigen to trigger antitumor immunity independent of chemotaxis. *J Leukoc Biol.* 76:77-85.
19. Biragyn A, Ruffini PA, Coscia M, Harvey LK, Neelapu S, Baskar S, Kwak LW (2004). Chemokine receptor-mediated delivery directs self-tumor antigen efficiently into the class II processing pathway in vitro and induces protective immunity in vivo. *Blood* 104:1961-1969.
20. Mariani S, Coscia M, Even J, Peola S, Foglietta M, Boccadoro M, Sbaiz L, Restagno G, Pileri A, Massaia M (2001). Severe and long-lasting disruption of T-cell receptor diversity in human mieloma after high-dose chemotherapy and autologous peripheral blood progenitor cell infusion. *Br J Haematology* 113: 1051-1059.
21. Besostri B, Beggiato E, Bianchi A, Mariani S, Coscia M, Peola S, Foglietta M, Boccadoro M, Pileri A, Moretta L, Massaia M (2000). Increased expression of non-functional killer inhibitory receptor CD94 in CD8+ cells of myeloma patients. *Br J Haematol* 109: 46-53.
22. Massaia M, Borriore P, Battaglio S, Mariani S, Beggiato E, Napoli P, Voena C, Bianchi A, Coscia M, Besostri B, Peola S, Stiefel T, Even J, Novero D, Boccadoro M, Pileri A. (1999). Idiotype vaccination in human myeloma: generation of tumor-specific immune responses after high-dose chemotherapy. *Blood* 94: 673-683.

### Scientific interests

- Translational research in B lymphoproliferative disorders
- Mechanisms of interactions between tumor, microenvironment and immune system
- Clinical trials in chronic lymphocytic leukemia