

CURRICULUM VITAE

Last Name: Bruno

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Sex: Female

Nationality: Italian

Birth Date: 11/11/1974

Place of Birth: Pinerolo (TO), Italy

Languages: Italian, English

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Studies:

1993-1998: Degree in Biological Science, with a score of 107 out of possible top of 110.

1999-2003: PhD in Human Oncology

2003-2007: PostDoctoral fellowship.

2008-2009: at present time works at the Department of Internal Medicine, University of Torino, Molecular Biotechnology center (MBC), Via Nizza 52, Torino, Italy (Co.Co.Pro with Sis.Ter S.p.A. for the project: Role of the human bone marrow mesenchymal stem cells in tissue regeneration after induction of experimental acute kidney injury)

Professional experience: Date, subject of study and place

- 1999-2001: Ex-vivo expansion and lentiviral gene transfer of human primitive cord blood stem cells capable of hematopoietic long term engraftment. Department of Oncological Science, University of Torino (Italy), Laboratory of Clinical Oncology, directed by Prof. Aglietta and Prof. Piacibello, Institute for Cancer Research and Treatment (IRCC), Candiolo (TO).
- 2001-2003: Expansion and differentiation of human hematopoietic progenitor and stem cells from different sources (cord blood, bone marrow, mobilized peripheral blood). Department of Oncological Science, University of Torino (Italy), Laboratory of Clinical Oncology, Institute of Cancer Research and Treatment (IRCC), Candiolo (TO).
- 2003-2004: Isolation and characterization of renal progenitor cells from adult human kidney. Department of Internal Medicine, University of Torino (Italy), San Giovanni Battista Hospital, Laboratory of Renal Immunopathology, directed by Prof. Camussi.
- 2004-2007: Isolation, characterization and functional in vitro and in vivo studies of progenitor cells isolated from kidney and renal tumours and from normal adult liver. Study of the contribution of CD133⁺ renal progenitor cells to tumor angiogenesis. Department of Internal Medicine, University of Torino, Molecular Biotechnology Center (MBC), Laboratory of Renal and Vascular Physiopathology, directed by Prof. Camussi .
- 2007-2009: Study of the possible role of microvesicles derived from human bone marrow mesenchymal stem cells in the repair of experimental models of acute kidney injury. Department of Internal Medicine, University of Torino, Molecular Biotechnology Center (MBC), Laboratory of Renal and Vascular Physiopathology, directed by Prof. Camussi, in collaboration with Prof. Tetta from Fresenius Medical Care.

Scientific Meetings

- European Working Group on Clinical Cell Analysis. European school of flow cytometry. Third Workshop Summer School. Clinical Cytometry in Hematology. Università d'Urbino, Italy, 17-19 September, 2000.
- XVI Congresso Nazionale della Società Italiana di Cancerologia. Torino, 5-6-7 ottobre, 2000.
- The 42ND Annual Meeting of the American Society of Hematology. San Francisco, California, December 1-5, 2000.
- Caratterizzazione ed isolamento delle Cellule Staminali a scopo di Trapianto. Torino, 26 settembre, 2001.
- Hematopoietic stem cell therapy: the basic question. Milano (Italy), 1 February 2002.
- Practical Training Course "Advanced Technologies in Stem Cell Growth and Development" (European Commission, 5th Framework Programme For RTD "Quality of Life and Management of Living Resource"- Accompanying Measure). Pisa (Italy), May 27-June 7 2002.
- 7th Congress of the European Hematology Association. 6-9 June, Florence, Italy, 2002. Oral communication: "*In vitro* and *in vivo* megakaryocyte differentiation capacity of fresh and expanded cord blood CD34⁺ cells".
- VII Congresso della Società Italiana di Ematologia Sperimentale. 15-17 Settembre, Modena (Italy), 2002. Oral communication: "Cord Blood CD34⁺ cell megakaryocytic differentiation ability after extensive *ex-vivo* expansion: *in vitro* and *in vivo* models".
- DNA course on FACSVantage SE. Milano (Italy), 8-9 January, 2003.
- The International Conference II, Hematopoietic Stem Cells Research and Clinical Applications. 13-15 February, Paris, 2003.
- Third Interdisciplinary Euroconference on ANGIOGENESIS. October 24-27, Dublin (Ireland), 2003.
- Adult Stem Cells a challenge for the future. March 21-23, Bologna, Italy, 2004.
- Adult stem cells: from the basic to the bedside. October 21, Florence, Italy, 2005.
- The first ESH-EBMT-EUROCORDER Euroconference on Stem Cell Research. April 15-17, 2005 in Cascais, Portugal
- Participated as a lecturer in the Fourth course on "Genetic and Renal disease" with a lesson entitled: "Stem cells in the adult kidney and their possible role in renal repair". June 8-10, 2006 in Genova, Italy.

- Stemness the bright and the dark side: normal and cancer stem cells. 19-22 September 2006, Catanzaro (Italy). Oral communication: “Resident CD133+ renal progenitor cells contribute to tumor angiogenesis”.
- 14th annual meeting of the International Society for cellular therapy (ISCT). 17-22 May 2008, Miami, Florida, USA
- World Congress of Nephrology (WCN). 22-26 May 2009, Milan, Italy. Oral communication: “Human mesenchymal stem cells-derived microvesicles protect from acute tubular injury”.

Awards

- Award of the ERA-EDTA for best abstracts. Abstract: “CD133+ renal progenitor cells contribute to development and angiogenesis of renal carcinoma. Glasgow, 2006”.
- Award of the World Congress of Nephrology for best abstract presented by young authors. Abstract: “Human mesenchymal stem cells-derived microvesicles protect from acute tubular injury”. Milan, 2009.

Lab skills:

- Hematopoietic progenitor cells, endothelial cells and renal progenitor cells purification with immunomagnetic selection and cell sorting
- Cell culture techniques: hematopoietic cells (liquid and semi-solid assay), endothelial cells, mesenchymal stem cells, renal and hepatic stem cells in vitro cultures
- Cells cryopreservation.
- Flow-cytometric analyses
- Gene transfer with lentiviral and retroviral vectors
- Lentiviral production
- Fluorescence microscopy techniques
- Immunohistochemistry techniques
- RNA purification and RT-PCR
- DNA and plasmid purification
- Immunoprecipitation and Western Blot
- Experience on animal models

List of Publications:

1. G. Cavalloni, A. Danè, W. Piacibello, S. Bruno, E. Lamas, C. Bréchet, M. Aglietta. The involvement of human-NUC gene in polyploidization of K562 cell line. **Experimental Hematology**, Vol. 28: 1432-1440 (2000).
2. W. Piacibello, L. Gammaitoni, S. Bruno, M. Gunetti, F. Fagioli, G. Cavalloni, M. Aglietta. The negative influence of IL-3 on the expansion of human cord blood in vivo long term repopulating stem cells. **Journal of hemotherapy and stem cells research**, Vol. 9: 945-956 (2000).
3. S. Bruno, L. Gammaitoni, M. Gunetti, F. Sanavio, F. Fagioli, M. Aglietta, W. Piacibello. Different growth factors requirements for the ex-vivo amplification of transplantable human cord blood cells in a NOD/SCID mouse model. **The Journal of biological regulators & homeostatic agents**, Vol. 15: 38-48 (2001).
4. M. Berger, F. Fagioli, W. Piacibello, F. Sanavio, K. Mareschi, E. Biasin, S. Bruno, L. Gammaitoni, M. Gunetti, E. Madon, M. Aglietta. Role of different medium and growth factors on placental blood stem cell expansion: an in vitro and in vivo study. **Bone Marrow Transplantation**, Vol. 29: 443-448 (2002).
5. L. Ailles, M. Schimdt, F. Santoni de Sio, H. Glimm, S. Cavalieri, S. Bruno, W. Piacibello, C. Von Kalle, L. Naldini. Molecular evidence of lentiviral vector mediated gene transfer into human self-renewing, multi-potent, long-term NOD/SCID repopulating hematopoietic cells **Molecular Therapy**, Vol. 6: 615-626 (2002).
6. W. Piacibello, S. Bruno, F. Sanavio, S. Droetto, M. Gunetti, L. Ailles, F. Santoni de Sio, A. Viale, L. Gammaitoni, A. Lombardo, L. Naldini, M. Aglietta. Lentiviral gene transfer and ex-vivo expansion of human primitive stem cells capable of primary, secondary and tertiary multilineage repopulation in NOD/SCID mice. **Blood**, Vol. 100: 4391-4400 (2002).
7. L. Gammaitoni, S. Bruno, F. Sanavio, M. Gunetti, O. Kollet, G. Cavalloni, M. Falda, F. Fagioli, T. Lapidot, M. Aglietta, W. Piacibello. Ex-vivo expansion of human adult stem cells capable of primary and secondary hemopoietic reconstitution. **Experimental Hematology**, Vol. 31: 261-270 (2003).
8. S. Bruno, M. Gunetti, L. Gammaitoni, A. Danè, G. Cavalloni, F. Sanavio, F. Fagioli, M. Aglietta, W. Piacibello. In vitro and in vivo megakaryocyte differentiation capacity of fresh and ex-vivo expanded cord blood cells: rapid and transient megakaryocyte reconstitution. **Haematologica**, Vol. 88: 379-387 (2003).

9. F. Leone, E. Perissinotto, G. Cavalloni, V. Fonsato, S. Bruno, N. Surrenti, D. Hong, A. Capaldi, M. Geuna, W. Piacibello, M. Aglietta. Expression of the c-ERB-2/HER2 proto-oncogene in normal hematopoietic cells. **Journal of Leukocyte Biology**, Vol. 74: 593-601(2003).
10. S. Bruno, M. Gunetti, L. Gammaitoni, E. Perissinotto, L. Caione, F. Sanavio, F. Fagioli, M. Aglietta, W. Piacibello. Fast but durable megakaryocyte and platelet production in NOD/SCID mice transplanted with ex-vivo expanded human cord blood CD34+ cells. **Stem Cells**, Vol. 22: 135-143 (2004).
11. L. Gammaitoni, K. C. Weisel, M. Gunetti, K-D Wu, S. Bruno, S. Pinelli, A. Bonati, M. Aglietta, M. A. S. Moore, W. Piacibello. Elevated telomerase activity, minimal telomere loss in cord blood long-term cultures with extensive stem cell replication. **Blood**, Vol. 104: 4440-4448 (2004).
12. S. Droetto, A. Viale, L. Primo, N. Jordaney, S. Bruno, M. Pagano, W. Piacibello, F. Bussolino, M. Aglietta. Vasculogenic potential of long term repopulating cord blood progenitors. **The FASEB Journal**, Vol. 18: 1273-1275 (2004).
13. M.B. Herrera, B. Bussolati, S. Bruno, V. Fonsato, G. Mauriello Romanizzi, G. Camussi. Mesenchymal stem cells contribute to the renal repair of acute tubular epithelial injury. **International Journal of Molecular Medicine**, Vol. 14: 1035-1041 (2004).
14. B. Bussolati*, S. Bruno*, C. Grange, S. Buttiglieri, MC Deregibus, D. Cantino, G. Camussi. Isolation of renal progenitor cells from adult human kidney. In press: **American Journal of Pathology**, Vol 166: 545-555 (2005). (*equally contributed).
15. C. Grange, B. Bussolati, S. Bruno, V. Fonsato, A. Sapino, G. Camusi. Isolation and characterization of human breast tumor-derived endothelial cells. **Oncology Reports**, Vol 15(2):381-386 (2006)
16. B. Bussolati, C. Grange, S. Bruno, S. Buttiglieri, M.C. Deregibus, L. Tei, S. Aime, G. Camusi. Neural-cell adhesion molecule (NCAM) is expressed by immature and renal tumor-derived endothelial cells and favors endothelial cell organization into capillary-like structures. **Experimental Cell Research**, 312: 913-924 (2006).
17. L. Gammaitoni*, S. Lucchi*, S. Bruno*, M. Tesio, M. Gunetti, Y. Pignochino, G. Migliardi, L. Lazzari, M. Aglietta, P. Rebulli, W. Piacibello. Serial transplantation in NOD/SCID mice of transduced human CD34⁺ cord blood cells. Efficient oncoretroviral gene transfer and ex vivo expansion under serum-free conditions. **Stem Cells**, 24: 1201-1212 (2006). (*equally contributed).

18. S. Bruno, B. Bussolati, P. Scacciatella, S. Marra, F. Sanavio, C. Tarella, G. Camussi. Combined administration of G-CSF and GM-CSF stimulates monocyte-derived pro-angiogenic cells in patients with acute myocardial infarction. **Cytokine**, 34: 56-65 (2006).
19. S. Bruno, B. Bussolati, C. Grange, F. Collino, M.E. Graziano, U. Ferrando, G. Camussi. CD133⁺ renal progenitor cells contribute to tumor angiogenesis. **American Journal of Pathology**, 169: 2223-2235 (2006).
20. MB Herrera, S. Bruno, S. Buttiglieri, C. Tetta, S. Gatti, MC Deregibus, B. Bussolati, G. Camussi. Isolation and characterization of a stem cells population from adult human liver. **Stem Cells**, 24(12):2840-2850 (2006).
21. Herrera MB, Bussolati B, Bruno S, Morando L, Mauriello-Romanazzi G, Sanavio F, Stamenkovic I, Biancone L, Camussi G. Exogenous mesenchymal stem cells localize to the kidney by means of CD44 following acute tubular injury. **Kidney Int.** 72(4):430-441 (2007).
22. Deregibus MC, Cantaluppi V, Calogero R, Lo Iacono M, Tetta C, Biancone L, Bruno S, Bussolati B, Camussi G. Endothelial progenitor cell derived microvesicles activate an angiogenic program in endothelial cells by a horizontal transfer of mRNA. **Blood.** 110(7):2440-2448 (2007).
23. Bussolati B, Bruno S, Grange C, Ferrando U, Camussi G. Identification of a tumor-initiating stem cell population in human renal carcinomas. **The FASEB Journal.** 22(10):3696-3705 (2008).
24. Bruno S, Bussolati B, Grange C, Collino F, Verdun Cantogno L, Herrera MB, Biancone L, Tetta C, Segoloni G, Camussi G. Isolation and characterization of resident mesenchymal stem cells in human glomeruli. **Stem Cells and Development.** 18(6):867-80 (2009).
25. Bruno S, Grange C, Deregibus MC, Calogero RA, Saviozzi S, Collino F, Morando L, Busca A, Falda M, Bussolati B, Tetta C, Camussi G. Mesenchymal stem cell-derived microvesicles protect against acute tubular injury. **Journal of American Society of Nephrology.** 20(5):1053-1067 (2009).