

## BIOGRAPHICAL SKETCH

NAME	POSITION TITLE
Maria Chiara Bonini	<ul style="list-style-type: none"> <li>- Professor, Università Vita-Salute San Raffaele, School of Medicine, Milan, Italy.</li> <li>- Deputy Director Division of Immunology, Transplantation and Infectious Diseases (DITID), Ospedale San Raffaele Scientific Institute (OSR)</li> <li>- Head of the Experimental Hematology Unit, OSR</li> <li>- Member of the Stem Cell Programme, OSR. Milano, Italy.</li> </ul>

### EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	MM/YY	FIELD OF STUDY
Università degli Studi, Medical School, Milan, Italy	M.D.	1994	Medicine (summa cum laude)
University of Pavia, Pavia, Italy	Board in Hematology	1994 -1998	Bone Marrow Transplantation, Gene Therapy, Cell Therapy (summa cum laude)
Greenberg's Lab, Fred Hutchinson Cancer Research Center, Seattle, WA	Post-doctoral training	1998 - 2000	Cancer Immunotherapy

### A. Positions and Honors

#### **EMPLOYMENT AND EXPERIENCE**

1991-1994	Undergraduate student, Experimental Hematology, Ospedale San Raffaele Scientific Institute (OSR), Milano, Italy.
1993	Undergraduate summer student, Bone Marrow Transplantation Unit, MSKCC, New York.
1995-1997	Medical fellow, Bone Marrow Transplant Unit, OSR Milano, Italy.
1996-1998	Post-doctoral fellow, TIGET (Telethon Institute for Gene Therapy), DIBIT, OSR.
1998-2000	Post-doctoral fellow, Program in Immunology, FHCRC Seattle.
1998-2004	Hematologist, Bone Marrow Transplant Unit, OSR (leave of absence 1998-2000).
2000-2008	Group Leader, Experimental Hematology Unit, OSR.
Since 2008	Head of the Experimental Hematology Unit, OSR.
Since 2014	Deputy Director Division of Immunology, Transplantation and Infectious Diseases, OSR
Since 2015	Professor, Università Vita-Salute San Raffaele, School of Medicine, Milan, Italy.

#### **PROFESSIONAL AND SCIENTIFIC ACTIVITIES**

##### **Clinical Trials:**

1994-1998	PI of the clinical trial "Transfer of the HSV-tk gene into donor peripheral blood lymphocytes for in vivo modulation of donor anti-tumor immunity after allogeneic bone marrow transplantation."
2001-2007	PI of the multicentric clinical trial TK007, sponsored by Molmed s.p.a.
2010-	Co-PI of the multicentric TK008 randomized phase III clinical trial.
2017-	PI of "A prospective observational study to evaluate the relevance of CMV- specific T-cell frequencies in patients undergoing allogeneic HSCT".

### Scientific Societies, Editorial Boards:

- 2005-2011 Member of the Board of the European Society of Gene and Cell Therapy (ESGCT)
- Since 2009: Member of Cancer Gene Therapy Committees of the American Society of Gene and Cell Therapy (ASGCT) and of ESGCT.
- 2009-2015: Associate Editor *Journal of Gene Medicine*.
- 2010: Presidential Scientific Committee XVIII Annual ESGCT Congress Milan, Oct 22-25.
- 2010-2014: Institutional Representative of EATRIS (European Infrastructure for Translational Medicine)
- Since 2011: Member of the Editorial Board of *Frontiers in Immunology*.
- 2011-2014: Member of the ASGCT Board of Directors
- 2012-2014: Chair of the ASGCT Cancer Committee
- 2012-2014 Member San Raffaele Committee for Appointment and Promotion
- 2011-2014: Associate Editor, *Human Gene Therapy*, *Human Gene Therapy Methods*,
- Since 2012: Member of the Editorial Board, *Molecular Therapy*
- 2012-2014: Associate Editor, *Human Gene Therapy Clinical Development* Gene Therapy Committee
- 2015: President of the 1st EBMT-CTIWP Scientific Symposium: For transplantation to Gene Therapy: the cellular Therapy Evolution (Milano, 11-13 Nov, 2015)
- Since 2013: Member of the Editorial Board of *Molecular Therapy*, *Molecular Therapy: Methods and Clinical Development*
- 2014-2018: Chair of the Cell Therapy and Immunobiology Working Party (CTIWP) of EBMT, Member of Scientific Council, EBMT
- Since 2014: Member of the Board of the European School of Hematology (ESH)
- Since 2015: Member of the Strategic Research Committee, European Hematology Association (EHA)
- 2016: Member of the Scientific Committee, Annual ESGCT and ISSCR Congress, 17 - 22 October 2016, Florence
- 2016: President of "Come of age... Immunotherapy for Multiple Myeloma" A joint educational symposium of CMWP and CTIWP, Berlin, Germany, Sept 30-Oct 1 2016
- 2018: President of the 2nd EBMT-CTIWP Scientific Symposium (Leiden, 18-20 Jan, 2018)
- Since 2018 Member of the Board of GIIMA
- 2018-2021: Member of ASH Awards Committee
- 2019-2022: Member of ASH Global Research Award Subcommittee
- 2019 Presidential Scientific Committee, 1<sup>st</sup> Course on cell therapy, ESH, Mandelieu
- 2020 Member of the EHA Scientific Committee
- 2020 Co-Chair of the International conference on lymphocyte engineering, [ICLE](#) 2020
- 2020 Co-Chair of the CTATL meeting
- 2021 Co-Chair of the ESMO "Advanced course on CAR-T cells in 2021 in Europe"
- 2021-2022 Member of the planning committee for the Inaugural 2021 – 2022 Joint ASTCT-EBMT Basic and Translational Scientific Retreat

**Member** of ASH, ASGCT, ESGCT, SIE, SIES, NIBIT, EHA, EBMT

**Reviewer** for: Nature Medicine, Nature Biotechnology, Nature Methods, Nature Communications, Science Translational Medicine, Blood, Journal of Clinical Investigation, Cancer Research, Clinical Cancer Research, Human Gene Therapy, The Journal of Gene Medicine, Bone Marrow Transplantation, Human Immunology, Molecular Therapy, Cytotherapy, Experimental Hematology, Hematologica, Hematological Oncology, Oncotarget, Journal of Immunology.

**Grant Reviewer** for European research Council (ERC), INSERM (FR), French National Cancer Institute (INCA, FR), The Netherland organization for Health Research and Development (ZonMw-NL) Cancer Research (UK) Innovation and Technology Fund (China), AICR (UK) Leukemia Research (UK), MIUR (IT), Association Francaise contre le Myopathies (AFM, FR), Research Promotion Foundation (Cyprus), IHU-

Strasbourg, Leukemia, Lymphoma Research (UK), Foundation against Cancer (Belgium), Fundació la Marató de TV3 (Spain), Fondation contre le cancer (Belgium), Dutch cancer Society (NL), Agencie Nationale del la Recherche (FR).

**Expert Panels and Advisory Boards:** Expert Review Panels, French National Cancer Institute (INCA) Paris (2008/2010/2011/2012/2014/2015/2017), Scientific Advisory Boards: Novartis (2014), TxCell (2016), GSK (2017), Molmed (2017), Allogene (2019), Kiadis (2019)

## **HONORS**

- 1999-2001 Cancer Research Institute Fellowship, NY, USA
- 2005 Young Investigator Award. American Society of Gene Therapy
- 2006 Young Investigator Award. Fondazione Berlucci
- 2009 Grant MIUR-IDEAS, for top 8% ranked by the European Research Council (ERC).
- 2010: Team Science Recognition Award (iSBTC, now SITC)
- 2012: Van Bekkum Award. European Society of Bone Marrow Transplantation (EBMT)
- 2012: Van Rood Award. European Federation of Immunogenetics (EFI)
- 2013: Jon Van Rood Award. Immunobiology Working Party EBMT
- 2014: Basic Science Award, EBMT.
- 2015: Van Rood Award. European Federation of Immunogenetics (EFI)
- 2016: Melvin Jones Fellow for Humanitarian Services, Lions International.
- 2016: Van Bekkum Award (EBMT)
- 2017: Basic Science Award (EBMT)
- 2019: Presidential Scientific Committee, 1st ESH Meeting on Cell therapy, Mandelieu
- 2019-2025: Coordinator of the Research Program AIRC 5x1000, call on Metastases. 17 participants, appr. 18 Million Euros
- 2020: Excellence in Science Award. ASGCT

Since 2001, the lab has been funded from the Italian Ministry of University and Research (MIUR and FIRB-ideas 2008, associated to ERC starting grant program), Telethon, the Italian Ministry of Health, The European Union (FP-IV, FP-V, FP-VI, FP-VII, H2020), the Italian Association for Cancer Research (AIRC), Fondazione Cariplo. In 2019 she received funding as a PI of an AIRC 5x1000 Program (appr. 18 Million Euro in 7 years).

## **TEACHING ACTIVITIES**

- 2001-2015 Assistant Professor in Hematology, Università Vita-Salute San Raffaele (Uni-SR), Milano.
- 2004-2015 Assistant Professor, Faculty of Medicine, “Specialty School of Hematology”, “School of Biotechnology, Uni-SR.
- Since 2004 Supervisor and examiner of PhD Students (International PhD Program in Cellular and Molecular Medicine, PhD Open University Program, Università Vita-Salute San Raffaele, Milano and other Universities throughout Europe).
- 2014 National Scientific License for a position of Full Professor 06/D3: Hematology, Rheumatology and Oncology (call 2012)
- 2014 National Scientific License for a position of Full Professor in 06/N1: Sciences of medical Technologies and Professions (call 2012)
- 2014 National Scientific License for a position of Full Professor in 06/A2: General and Clinical Pathology (call 2012)
- 2014-2016: Member of the Pedagogic Committee, School of Medicine, Uni-SR.
- 2014-2016: Member of the Board of the PhD Program in Molecular Medicine, Uni-SR.
- Since 2015 Full Professor, Faculty of Medicine, Università Vita-Salute San Raffaele, Milano.
- Since 2017 In charge of the class “*Hematology*”, Università Vita-Salute San Raffaele, School of Medicine- International MD Program, Milan, Italy
- Since 2017 In charge of the class “*Cell and Gene Therapy and animal models*”, Università Vita-Salute San Raffaele, School of Biotechnology, Milan, Italy

Since 2017 Secretary Specialty School of Hematology, Uni-SR  
Since 2019 Member of the Pedagogic Committee, School of Biotechnology, Uni-SR.

**Science outreach activities:**

Since 2014 Lecturer at high-schools  
Since 2014 Training of high-school students  
2016 TEDxLuiss talk  
2019 Pint of Science

**RESEARCH ACTIVITY**

The main research focus of my lab is the development, preclinical and clinical validation of T-cell based gene therapy approaches to treat cancer. I had the privilege to initiate the preclinical and clinical use of suicide gene therapy applied to allogeneic stem cell transplantation (allo-HSCT). This approach aims at benefitting from the graft-versus-leukemia potential of allogeneic lymphocytes in the context of allo-HSCT, while selectively controlling graft-versus-host disease, their major complication. Pioneered in OSR in the '90s (Bonini et al., Science 1997), optimized and tested in different academic and, since 2000, industry-sponsored clinical trials, (Bonini et al., Nat Med 2003; Ciceri et al., Blood 2007; Ciceri, Bonini et al, Lancet Oncology 2009; Vago et al., Blood 2012; Oliveira et al.. Science Translational Medicine 2015), the suicide gene therapy approach has obtained approval from EMA in 2016, thus representing the first cell based gene therapy product approved for cancer patients in Europe. I have been involved in every step of this long and exciting scientific path, thus learning important lessons on the many hurdles that need to be faced to foster cellular therapy from the pioneering phase to the stage of real life. I then exploited this experience in projects designed to redirect T cell specificity against tumor antigens.

A recent achievement from my lab is represented by the TCR gene editing project (Provasi, Genovese et al., Nature Medicine 2012; Mastaglio et al., Blood 2017). This project aims at redirecting T cell specificity against tumor antigens through genome editing. We initially exploited ZFN, and more recently CRISPR/Cas9, and efficiently disrupted the endogeneous TRAC and TRBC genes, thus allowing to completely redirect T cell specificity through a lentiviral mediated transfer of tumor specific TCR genes in mature T cells. TCR edited T cells proved more effective and specific than T cells modified by TCR gene transfer *in vitro* and *in vivo*. The project has been validated with TCRs specific for WT1 and NY-ESO-1 derived peptides. We are currently exploiting TCRs specific for additional tumor antigens, recently isolated in the lab. With this project we learned to edit the genome of T cells in conditions that do not perturb their homeostasis, and that allow to preserve an early functional differentiation phenotype.

An additional relevant activity of the lab is represented by the Immunomonitoring sub-Unit. This section of the lab is dedicated to the analyses of immunological correlates with clinical outcome in the context of hematopoietic stem cell transplantation (ie: Cieri et al., Blood 2015; Peccatori et al., Leukemia 2015; Greco BBMT 2016), cellular therapy (ie: Noviello, Mol. Ther. 2014; Cossu, EMBO Mol. Med. 2015;) and Gene Therapy (ie: Mavilio, et al., Nat. Med. 2006; Biasco et a., STM 2015). In recent years we investigated the role of central memory (T<sub>CM</sub>) and memory stem T cells (T<sub>SCM</sub>) in allo-HSCT and in gene therapy clinical trials. These T cell subsets proved endowed with high expansion and persistence ability, and innovative protocols for their *in vitro* expansion and genetic engineering have been developed in the lab (Kaneko et al., Blood 2009, Bondanza et al., Blood 2011, Cieri et al., Blood 2013, Cieri et al., Blood 2015, Oliveira, STM 2015; rev in Gattinoni et al., Nat Med 2017).

My major aim today, is to actively participate to the exciting transition of cellular therapy from the investigational phase to the phase of real life by developing and validating innovative cellular therapy products.

**SCIENTIFIC PRODUCTION**

132 papers in international scientific journals (Average IF>10), 7 contributions to books. Cumulative citation

index (SCOPUS) of 9594. Scopus “h” index: 50. Inventor of 8 international patents, of which 6 have already been granted and licensed. ORCID N. 0000-0002-0772-1674. Research abstracts submitted to ASH, ASGCT, ESGCT, EBMT, EHA Annual Meetings were selected for Plenary Sessions among the top abstracts, at the 1994, 2003, 2005, 2007, 2008, 2009, 2010, 2012, 2013, 2014, 2016, 2017, 2018 annual conferences. Invited speaker to more than 130 International Meetings, Workshops and Universities.

### Peer-reviewed Publications

1. Mavilio F, Ferrari G, Rossini S, Nobili N, Bonini C, Casorati G, Traversari C, and Bordignon C. Peripheral blood lymphocytes as target cells of retroviral vector-mediated gene transfer. *Blood*. 1994 Apr 1;83(7):1988-97. PMID:8142665
2. Bordignon C, Bonini C, Verzeletti S, Nobili N, Maggioni D, Traversari C, Giavazzi R, Servida P, Zappone E, Benazzi E, and et al. 1995. Transfer of the HSV-tk gene into donor peripheral blood lymphocytes for in vivo modulation of donor anti-tumor immunity after allogeneic bone marrow transplantation. *Hum Gene Ther*. 1995 Jun;6(6):813-9. PMID:7548281. DOI:10.1089/hum.1995.6.6-813
3. Bonini C, Ferrari G, Verzeletti S, Servida P, Zappone E, Ruggieri L, Ponzoni M, Rossini S, Mavilio F, Traversari C and Bordignon C. 1997. HSV-TK gene transfer into donor lymphocytes for control of allogeneic graft-versus-leukemia. *Science*. 1997 Jun 13;276(5319):1719-24. doi:10.1126/science.276.5319.1719. PMID:9180086

### Editorials:

- "New Lead to Safer Marrow Transplants", *Science*, 1997, 276,: 1646.
- "This Week in Science: controlling graft-versus-host disease", *Science*, 1997, 276,: 1646.
- "News and Views: Taming the sinister side of BMT: Dr. Jekyll and Mr. Hyde." by Drew Pardoll *Nature Medicine*, 1997, 3: 833-834.
- "News: Science and Medicine". Prospects for allogeneic bone-marrow transplantation improved. *The Lancet*, 1997, 349, 1819.
4. Bonini C, Bordignon C, Potential and limitations of HSV-TK-transduced donor peripheral blood lymphocytes after allo-BMT. *Hematol Cell Ther*. 1997 Oct;39(5):273-4. doi:10.1007/s00282-997-0273-3
  5. Bonini C, Ciceri F, Marktel S, and Bordignon C. Suicide-gene-transduced T-cells for the regulation of the graft-versus-leukemia effect. *Vox Sang*. 1998;74 Suppl 2:341-3. PMID:9704465 REVIEW
  6. Verzeletti S, Bonini C, Marktel S, Nobili N, Ciceri F, Traversari C, and Bordignon C. Herpes simplex virus thymidine kinase gene transfer for controlled graft-versus-host disease and graft-versus-leukemia: clinical follow-up and improved new vectors. *Hum Gene Ther*. 1998 Oct 10;9(15):2243-51. doi:10.1089/hum.1998.9.15-2243 PMID:9794208
  7. Marktel S, Bonini C, Bordignon C. Potential of gene therapy in bone marrow transplantation. *BioDrugs* 11:1-6. REVIEW
  8. Bonini C and Bordignon C. 1999. Suicide Gene Therapy for Control of Graft-Versus-Host Disease. *The Immunologist* 7: 93-97. REVIEW
  9. Weissinger E M, Franz M, Voss C, Bonini C, Kremmer E, and Kolb H J. 2000. Expression of HSV-TK suicide gene in primary T lymphocytes: the dog as a preclinical model. *Cytokines, cellular & molecular therapy* 6:25-33.
  10. Riddell S R, Warren E H , Gavin M A , Akatsuka Y, Lewinsohn D, Mutimer H, Cooper L, Topp M S, Bonini C, and Greenberg P D. 2000. Immunotherapy of human viral and malignant diseases with genetically modified T-cell clones. *Cancer journal (Sudbury, Mass)* 6 Suppl 3:S250-258. REVIEW
  11. Thomis D C, Marktel S, Bonini C, Traversari C, Gilman M, Bordignon C, and Clackson T. 2001. A Fas-based suicide switch in human T cells for the treatment of graft-versus-host disease. *Blood* 97:1249-1257.
  12. Bonini C, Lee S P , Riddell S R , and Greenberg P D. 2001. Targeting antigen in mature dendritic cells for simultaneous stimulation of CD4+ and CD8+ T cells. *J Immunol* 166:5250-5257.
  13. Marktel S, Magnani Z, Ciceri F, Cazzaniga S, Riddell S R , Traversari C, Bordignon C, and Bonini C. 2003. Immunologic potential of donor lymphocytes expressing a suicide gene for early immune reconstitution after hematopoietic T-cell-depleted stem cell transplantation. *Blood* 101:1290-1298.

14. Bonini C, Grez M, Traversari C, Ciceri F, Marktel S, Ferrari G, Dinauer M, Sadat M, Aiuti A, Deola S, Radrizzani M, Hagenbeek A, Apperley J, Ebeling S, Martens A, Kolb H J, Weber M, Lotti F, Grande A, Weissinger E, Bueren J A, Lamana M, Falkenburg J H, Heemskerk M H, Austin T, Kornblau S, Marini F, Benati C, Magnani Z, Cazzaniga S, Toma S, Gallo-Stampino C, Introna M, Slavina S, Greenberg P D, Bregni M, Mavilio F, and Bordignon C. 2003. Safety of retroviral gene marking with a truncated NGF receptor. *Nature Medicine* 9:367-369.
15. Cavalieri S, Cazzaniga S, Geuna M, Magnani Z, Bordignon C, Naldini L, and Bonini C. 2003. Human T lymphocytes transduced by lentiviral vectors in the absence of TCR activation maintain an intact immune competence. *Blood* 102:497-505.
16. Zino E, Di Terlizzi S, Carugo C, Baggi L, Galli A, Bonini C, Rossini S, Mazzi B, and Fleischhauer K. 2004. Rapid detection of all HLA-B\*27 alleles (B\*2701-B\*2725) by group-specific polymerase chain reaction. *Tissue antigens* 63:88-92.
17. Zino E, Frumento G, Marktel S, Sormani M P , Ficara F, Di Terlizzi S, Parodi A M, Sergeant R, Martinetti M, Bontadini A, Bonifazi F, Lisini D, Mazzi B, Rossini S, Servida P, Ciceri F, Bonini C, Lanino E, Bandini G, Locatelli F, Apperley J, Bacigalupo A, Ferrara G B, Bordignon C, and Fleischhauer K. 2004. A T-cell epitope encoded by a subset of HLA-DPB1 alleles determines nonpermissive mismatches for hematologic stem cell transplantation. *Blood* 103:1417-1424.
18. Liao X, Li Y, Bonini C, Nair S, Gilboa E, Greenberg P D, and Yee C. 2004. Transfection of RNA encoding tumor antigens following maturation of dendritic cells leads to prolonged presentation of antigen and the generation of high-affinity tumor-reactive cytotoxic T lymphocytes. *Mol Ther* 9:757-764.
19. Levings M K, Gregori S, Tresoldi E, Cazzaniga S, Bonini C, and Roncarolo M G. 2005. Differentiation of Tr1 cells by immature dendritic cells requires IL-10 but not CD25+CD4+ Tr cells. *Blood* 105:1162-1169.
20. Bondanza A, Ciceri F, and Bonini C. 2005. Application of donor lymphocytes expressing a suicide gene for early GVL induction and later control of GVH reactions after bone-marrow transplantation. *Methods in molecular medicine* 109:475-486.
21. Hedfors I A, Beckstrom K J, Benati C, Bonini C, and J. E. Brinckmann. 2005. Retrovirus mediated gene transduction of human T-cell subsets. *Cancer Immunol Immunother* 54:759-768.
22. Muraro S, Bondanza A, Bellone M, Greenberg P D, and Bonini C. 2005. Molecular modification of idiotypes from B-cell lymphomas for expression in mature dendritic cells as a strategy to induce tumor-reactive CD4+ and CD8+ T-cell responses. *Blood* 105:3596-3604.
23. Ciceri F, Bonini C, Gallo-Stampino C, and Bordignon C. 2005. Modulation of GvHD by suicide-gene transduced donor T lymphocytes: clinical applications in mismatched transplantation. *Cytotherapy* 7:144-149. REVIEW
24. Bondanza A, Valtolina V, Magnani Z, Ponzoni M, Fleischhauer K, Bonyhadi M, Traversari C, Sanvito F, Toma S, Radrizzani M, La Seta-Catamancio S, Ciceri F, Bordignon C, and Bonini C. 2006. Suicide gene therapy of graft-versus-host disease induced by central memory human T lymphocytes. *Blood* 107:1828-1836.
25. Recchia A, Bonini C, Magnani Z, Urbinati F, Sartori D, Muraro S, Tagliafico E, Bondanza A, Stanghellini M T, Bernardi M, Pescarollo A, Ciceri F, Bordignon C, and Mavilio F. 2006. Retroviral vector integration deregulates gene expression but has no consequence on the biology and function of transplanted T cells. *Proceedings of the National Academy of Sciences of the United States of America* 103:1457-1462.
26. Di Terlizzi S, Zino E, Mazzi B, Magnani C, Tresoldi C, Perna S K, Bregni M, Rossini S, Ciceri F, Bordignon C, Bonini C, and Fleischhauer K. 2006. Therapeutic and diagnostic applications of minor histocompatibility antigen HA-1 and HA-2 disparities in allogeneic hematopoietic stem cell transplantation: a survey of different populations. *Biol Blood Marrow Transplant* 12:95-101.
27. Vantaggiato C, Formentini I, Bondanza A, Bonini C, Naldini L, and Brambilla R. 2006. ERK1 and ERK2 mitogen-activated protein kinases affect Ras-dependent cell signaling differentially. *Journal of biology* 5:14.

28. Mavilio F, Pellegrini G, Ferrari S, Di Nunzio F, Di Iorio E, Recchia A, Maruggi G, Ferrari G, Provasi E, Bonini C, Capurro S, Conti A, Magnoni C, Giannetti A, and De Luca M. 2006. Correction of junctional epidermolysis bullosa by transplantation of genetically modified epidermal stem cells. *Nature Medicine* 12:1397-1402. DOI:10.1038/nm1504
29. Ciceri F, Bonini C, Markt S, Zappone E, Servida P, Bernardi M, Pescarollo A, Bondanza A, Peccatori J, Rossini S, Magnani Z, Salomoni M, Benati C, Ponzoni M, Callegaro L, Corradini P, Bregni M, Traversari C, and Bordignon C. 2007. Antitumor effects of HSV-TK-engineered donor lymphocytes after allogeneic stem-cell transplantation. *Blood* 109:4698-4707.
30. Traversari C, Markt S, Magnani Z, Mangia P, Russo V, Ciceri F, Bonini C, and Bordignon C. 2007. The potential immunogenicity of the TK suicide gene does not prevent full clinical benefit associated with the use of TK-transduced donor lymphocytes in HSCT for hematologic malignancies. *Blood* 109:4708-4715.

Editorial:

“Inside Blood: Pierre Tiberghien: Altruistic donor T cells. *Blood* 2007 109:4595”.

31. Bonini C, Bondanza A, Perna S K, Kaneko S, Traversari C, Ciceri F, and Bordignon C. 2007. The suicide gene therapy challenge: how to improve a successful gene therapy approach. *Mol Ther* 15:1248-1252. REVIEW
32. Zino E, Vago L, Di Terlizzi S, Mazzi B, Zito L, Sironi E, Rossini S, Bonini C, Ciceri F, Roncarolo M G, Bordignon C, and Fleischhauer K. 2007. Frequency and targeted detection of HLA-DPB1 T cell epitope disparities relevant in unrelated hematopoietic stem cell transplantation. *Biol Blood Marrow Transplant* 13:1031-1040.
33. Hollatz G, Grez M, Mastaglio S, Quaritsch R, Huenecke S, Ciceri F, Bonini C, Esser R, Klingebiel T, Kreuter J, and Koehl U. 2008. T cells for suicide gene therapy: activation, functionality and clinical relevance. *Journal of immunological methods* 331:69-81.
34. Mazzi B, Clerici T D, Zanussi M, Lupo Stanghellini M T, Vago L, Sironi E, Peccatori J, Bernardi M, Carrera P, Palini A, Rossini S, Bordignon C, Bonini C, Ferrari M, Ciceri F, and Fleischhauer K. 2008. Genomic typing for patient-specific human leukocyte antigen-alleles is an efficient tool for relapse detection of high-risk hematopoietic malignancies after stem cell transplantation from alternative donors. *Leukemia* 2008 Nov;22(11):2119-22. doi: 10.1038/leu.2008.98.
35. Vago L, Forno B, Sormani M P, Crocchiolo R, Zino E, Di Terlizzi S, Lupo Stanghellini M T, Mazzi B, Perna S K, Bondanza A, Middleton D, Palini A, Bernardi M, Bacchetta R, Peccatori J, Rossini S, Roncarolo M G, Bordignon C, Bonini C, Ciceri F, and Fleischhauer K. 2008. Temporal, quantitative and functional characteristics of single-KIR positive alloreactive NK cell recovery account for impaired graft versus leukemia activity after haploidentical HSCT. *Blood*. 112(8):3488.
36. Barozzi P, Potenza L, Riva G, Vallerini D, Quadrelli C, Bosco R, Morselli M, Forghieri F, Volzone F, Rossi G, Ferri C, Bonini C, Ciceri F, Bordignon C, Whitby D, Schulz T F, Torelli G, and Luppi M. 2008. Changes in T-Cell Responses Against Human Herpesvirus-8 Correlate with the Disease Course of Iatrogenic Kaposi's Sarcoma in a Patient with Undifferentiated Arthritis. *Seminars in arthritis and rheumatism*. 2009 Dec;39(3):170-5.
37. Barozzi P, Bonini C, Potenza L, (first 3 authors equal contribution), Masetti M, Cappelli G, Gruarin P, Whitby D, Gerunda G E, Mondino A, Riva G, Vallerini D, Quadrelli C, Bosco R, Ciceri F, Bordignon C, Schulz TF, Torelli G, Luppi M. Changes in the immune responses against human herpesvirus-8 in the disease course of posttransplant Kaposi sarcoma. *Transplantation* 2008 Sep 15;86(5):738-44.
38. Kaneko S, Mastaglio S, Bondanza A, Punzoni M, Sanvito F, Aldrighetti A, Radrizzani M, La Seta-Catamancio S, Provasi E, Mondino A, Nagasawa T, Fleischhauer K, Russo V, Traversari C, Ciceri F, Bordignon C and Bonini C. IL-7 and IL-15 allow the generation of suicide gene-modified alloreactive self-renewing central memory human T lymphocytes. *Blood* 2009 Jan 29;113(5):1006-15. DOI:10.1182/blood-2008-05-156059
39. Maruggi G, Porcellini S, Facchini G, Kimi Perna S, Cattoglio C, Sartori D, Ambrosi A, Schambach A, Baum C, Bonini C, Bovolenta C, Mavilio F, Recchia A. Transcriptional enhancers induce insertional gene deregulation independently from the vector type and design. *Mol Ther*. 2009 May;17(5):851-6. Epub 2009 Mar 17.

40. Ciceri F, Bonini C, (FC, CB, equal contribution), Lupo Stanghellini M T, Bondanza A, Traversari C, Salomoni M, Turchetto L, Colombi S, Bernardi M, Peccatori J, Pescarollo A, Servida P, Magnani Z, Kimi Perna S, Valtolina V, Crippa F, Callegaro L, Spoldi E, Crocchiolo R, Fleischhauer K, Ponzoni M, Vago L, Rossini S, Santoro A, Todisco A, Apperley J, Olavarria E, Slavin S, Weissinger E M, Ganser A, Stadler M, Yannaki E, Fassas A, Anagnostopoulos A, Bregni M, Gallo Stampino C, Bruzzi P, and Bordignon C. Infusion of suicide gene-engineered donor lymphocytes after family haploidentical haemopoietic transplantation for leukemia (the TK007 trial): a non-randomised phase I/II study. *Lancet Oncol.* 2009 May;10(5):489-500. Epub 2009 Apr 1. DOI:10.1016/S1470-2045(09)70074-9

Editorial:

"Immune reconstitution after HLA mismatched haemopoietic stem-cell transplantation." Ringdén O, Karlsson H, Omazic B. *Lancet Oncol.* 2009 May;10(5):440.

41. Vago L, Kimi Perna S, Zanussi M, Mazzi B, Barlassina C, Lupo-Stanghellini M T, Perrelli N F, Cosentino C, Torri F, Angius A, Forno B, Casucci M, Bernardi M, Peccatori J, Corti C, Bondanza A, Ferrari M, Rossini S, Roncarolo M G, Bordignon C, Bonini C, Ciceri F, Fleischhauer K. Loss of mismatched HLA in leukemia after stem-cell transplantation. *N Engl J Med.* 2009 Jul 30;361(5):478-88. DOI: 10.1056/NEJMoa0811036

Editorial:

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### Patents

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