BIOGRAPHICAL SKETCH

NAME	POSITION TITLE
Silvia Deaglio, M.D., Ph.D.	Associate Professor of Medical Genetics

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
University of Torino, Italy	M.D.	1992-1998	Medicine
University of Torino, Italy	Board Certification	1998-2002	Oncology
University of Torino, Italy	Ph.D.	2002-2006	Genetics

(URL for web site: http://www.dsm.unito.it/persone/silvia.deaglio)
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Personal statement

After obtaining an MD degree and training as a medical oncologist, I started a PhD program in Genetics at the University of Turin. My research interests were focused on enzymes that can synthesize and metabolize nucleotides, such as ATP and NAD, in the extracellular environment. During the PhD, I trained at the Beth Israel Deaconess Medical Center of Harvard University with Drs. Simon Robson and Terry Strom, where we identified an ATP-degrading pathway as an integral component of the suppressive machinery of regulatory T cells. Those results were reported in a paper by the Journal of Experimental Medicine and has been quoted > 900 times. After going back to Italy at the end of 2005, I obtained my first two grants as an independent investigator and studied nucleotide-nucleoside balance in the tumor microenvironment. In 2010 I started my own research lab in the Human Genetics Foundation in Turin, Italy. This group now comprises 12 researchers. We are focusing on ATP and NAD metabolism as critical elements in the organization of the tumor microenvironment. Furthermore, we participated in a joint effort to identify recurrently mutated genes in patients with chronic lymphocytic leukemia and splenic marginal zone lymphoma. Current studies are dedicated to the understanding of the role of these genes and their mutations in the biology of the disease. In the past two years, I was visiting associate professor at Weill Cornell Medical College, in order to set up xenograft models that will allow expansion of genetically-typed primary cells.
Since September 2016 I joined the Immunogenetics and Transplant Biology Unit of the Città della Salute e della Scienza University Hospital of Torino. My efforts here are concentrated in the identification of novel genetic determinants potentially affecting kidney rejection.

Positions and Employment

1993-1998: Internal student, Laboratory of Cell Biology, Department of Genetics, Biology and Biochemistry, University of Torino.

1999-2002: Oncology fellow, Oncology Division, Molinette Hospital, Torino, Italy.

2002-2004: Clinical attending physician, Breast Cancer Clinic, Oncology Division, Molinette Hospital, Torino, Italy.

2002-2006: Ph.D. student (Genetics), Laboratory of Immunogenetics, Department of Genetics, Biology and Biochemistry, University of Torino.

2004-: 2005 Instructor in Medicine and (2005) Visiting Assistant Professor, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA (Reference: Simon Robson and Terry Strom).

Jan 2005-: Assistant Professor of Medical Genetics ("Ricercatore", "Confermato" since Jan 1, 2008), University of Torino Medical School, Torino, Italy.

Sept 2010-: **Head of the Immunogenetics Research Unit of the Human Genetics Foundation (www.hugef-torino.org), Turin, Italy.**

Oct 2011-: **Associate Professor of Medical Genetics, University of Torino Medical School, Torino, Italy.**

2014-2016: Visiting Associate Professor, Department of Pathology and Laboratory Medicine, Weill Cornell Medical Center, Cornell University, New York, NY.

Sept 2016: **Attending physician (dirigente medico), Servizio di Immunogenetica e Biologia dei Trapianti, Città della Salute e della Scienza Hospital, Turin, Italy.**

Other Professional Experience

1995: Visiting medical student, Sloan Kettering Cancer Center, New York, NY. Reference: Dr. Michael Meyers and Dr. Alan N. Houghton

2001: Visiting scientist, Department of Cell Biology and Immunology, Instituto Parasitologia y Biomedicina, C.S.I.C., Granada, Spain. Reference: Drs. Mercedes Zubiaur and Jaime Sancho

2002: Visiting scientist, Department of Hematology, University of Essen Medical School, Essen, Germany. Reference: Dr. Ulrich Duerhsen.

2007: Visiting scientist, The Feinstein Institute for Medical Research, North Shore Long Island Jewish Health System, Manhasset New York, NY. Reference: Dr. Nick Chiorazzi.

Professional Memberships

2003-: American Association for Cancer Research (full member)

2004-: American Association of Immunologists (full member)

2008-: Italian Society for Experimental Hematology (full member)

2008-: American Association of Hematologists (full member)

2009-: Member of the European Research Initiative on CLL (ERIC)

2012-: Member of the Henry Kunkel Society

Reviewer and editorial activities for:

Journal reviewer for:

Blood, Leukemia, Cancer Research, Clinical Cancer Research, The Journal of Immunology, Haematologica, Molecular Medicine, Leukemia and Lymphoma, Leukemia Research, Expert Reviews in Hematology, Experimental Cell Research, European Journal of Haematology, Purinergic Signaling, Journal of

Transplantation, Journal of Cancer Research and Clinical Oncology, International Journal of Molecular Sciences, Human Immunology.

Grant reviewer for:
AERES, Cancer Research UK, Irish Health Research Board, European Hematology Association, Swiss National Science Foundation, Leukaemia & Lymphoma Research, Italian Ministry of Education.

Member of the Editorial board of:

2008-: "Current Signal Transduction Therapy" (http://www.bentham.org/cstt/EBM.htm)
2011-: "American Journal of Cancer Research" (http://www.ajcr.us/EditorialBoard.html)
2011-: "Journal of Cancer Therapeutics and Research" (http://www.hoajonline.com/Journal-of-Cancer-Therapeutics-and-Research.html#tabs2-2)
2012: "World Journal of Translational Medicine" (http://www.wjgnet.com/2220-6132office/)
2013: "World Journal of Biological Chemistry" (http://www.wjgnet.com/1949-8454/edboard.htm)
2014: "International Journal of Cancer Immunology and Immunotherapy"
2015: Editor for "Frontiers in Immunology", T cell biology section (http://journal.frontiersin.org/journal/immunology#editorial-board)
2015: Section Editor for Open Medicine Journal (http://degruyteropen.com/people/sdeaglio/)

Teaching Duties

- Course on Medical Genetics, Corso di Laurea in Scienze Infermieristiche (Torino and Ivrea), Università degli Studi di Torino (since 2005).
- Course on Medical Genetics for Paediatric Nurses, Università degli Studi di Torino (since 2013).
- Course on Human Genetics, Corso di Laurea in Medicina e Chirurgia, Università degli Studi di Torino (since 2002).
- Board of the PhD School on Scienze Biomediche e Oncologia Umana, Università degli Studi di Torino (since 2005). Trained more than 5 PhD students.

Honors

1996: PBI international Prize for the best abstract presented at the 1996 Immunology Cooperation Group (GCI) meeting in L'Aquila, Italy.
1998: Telethon Foundation Prize for scientific research, Roma, Italy.
1999: Optime Prize for best qualified students, Industrial Association of Torino. Torino, Italy.
2002: Cecilia Cioffrese prize for cancer research (Milano, Italy)
2004: Walter Knapp Young Investigator Award. Prize presented at the VIII HLDA Congress, December 10-14, 2004, Adelaide, Australia.
2006: Italian Cancer League Prize for translational researches in hematology (Asti, October 18, 2006)

Institutional Responsibilities

2006 – Member of the PhD School in Biomedical Sciences and Oncology

20014- Member of the MD/PhD program of the University of Turin, Italy (Tutor of 2 students)
2014- Member of the "Research Committee" of the Department of Medical Sciences, University of Turin

Selected lectures and seminars

2004:
Seminar at the San Raffaele Biomedica Park Foundation, Rome, February 2004 (Host: Giulio Cossu).
Invited Speaker at the 8th HLDA Meeting, Adelaide Australia, December 2004

2005:
Seminar at the Trudeau Institute, Saranac Lake, NY, August 2005 (Host: Frances E. Lund)
Internal Seminars, Department of Immunology, Beth Israel Deaconess Medical Center, Boston, MA

2006:
Invited speaker at the "Purines 2006" meeting, Ferrara, May 2006
Invited Speaker at the CD38 Meeting, Turin, June 2006

2007:
Invited Speaker Keystone Symposia on Regulatory T cells, Vancouver, Canada, February 2007
Seminar at the Feinstein Institute, North Shore Hospital, Manhasset NY, March 2007 (Host: Nicholas Chiorazzi)
Invited Speaker at the annual SICICS Congress, Turin, November 2007

2008:
Invited Speaker at the UK CLL Forum, London, April 2008
Invited Speaker at the IV International Workshop on CLL, Salzburg (Austria), May 2008
Invited Speaker at the XXVI Incontro di Aggiornamento e Formazione of the "Gruppo Italiano di Citometria", Urbino, October 2008
Invited Speaker at the X National Congresso of the Italian Society of Experimental Hematology (SIES), Bari, Italy, September 2008
Invited Speaker at the European School of Hematology (ESH) Conference on CLL, Barcelona, November 2008

2009:
Seminar at the Lyon INSERM Unit 851, March 2009 (Host: Dr. Bonnefoye-Berard)
Seminar at the PhD School of Biomolecular Sciences "Bios", University of Pisa.
Session organizer at the iwCLL Meeting, Barcellona, November 2009

2010:
Seminar at the Seragnoli Institute, Bologna, January 2010 (Host: Stefano Pileri).
Seminar at the Department of Hematology, Cardiff University, Cardiff, UK, February 2010 (Host: Chris Pepper)
Session chair and Speaker at the HLDA9 Meeting, Barcelona, March 2010
Invited Speaker at the Henry Kunkel Society, The Rockefeller University, New York, April 2010

2011
Seminar at the Beth Israel Deaconess Medical Center, Harvard University, Boston, MA. (Host: Terry B. Strom)
Invited Speaker at the 36th Congress of the Federation of European Biochemical Societies (FEBS), Turin, June 2011.
Seminar at the Cancer Research UK London Institute, London, UK (Host: Facundo Batista).
Session chair and abstract reviewer for the 53rd annual meeting of the American Society of Hematology, San Diego, CA, December 2011

2012:
Invited speaker at the Golden Helix Symposium on Genetic Medicine "Translating genes into health", Turin, April 18-20, 2012.

Seminar at the Istituto per l'Endocrinologia e Oncologia Sperimentale "G. Salvatore", Naples, Italy, July 2012 (Host: Vittorio De Franciscis).
Invited speaker at the XII SIES NATIONAL CONGRESS, 17-19 October 2012, Roma, Italy.

2013

Seminar at Cancer Science Unit, Cancer Research UK Clinical Centre, March 2013 (Host: Francesco Forconi).
Invited speaker at the FASEB Summer School on "NAD metabolism and signaling", July 2013.

2014

Seminar at the Istituto Superiore di Sanità (Rome, Italy). Host: Giorgio Fedele
Invited speaker at the Lymphoma Working Group Meeting, Cornell University, March 2014 (Host: Giorgio Inghirami).
Seminar at the Giannina Gaslini Hospital, Genoa, Italy, March 2014 (Host: Lorenzo Moretta).
Seminar at the Humanitas Foundation, Milan, May 2014 (Host: Carmelo Carlo Stella)
Invited speaker at the Purines 2014 meeting, Bonn, Germany, July 23-27 2014.
Seminar at Mount Sinai School of Medicine, December 2014 (Host: Dr. Stuart Aaronsson).

2015

Invited speaker at the 11th International CLL Workshop, Salzburg, Austria (May 2015)
Invited lecture at the Beth Israel Deaconess Medical Center, Bosto, MA (June 2015, Host: S.C. Robson)
Hematology Grand Rounds, Weill Cornell Medical Center, New York, NY (October 2015)
Session Chair, 57th Annual Metting of the American Society of Hematology, Orlando, Fl (December 2015).

2016:

Coordinator of abstract reviewers and Session Chair, 59th American Society of Hematology Meeting, San Diego, CA, December 2016.
Session Organizer and chair at the Keystone 2016 Symposium on purinergic signaling.

2017:

Invited speaker at the UK CLL Forum, London, March 7, 2017.
Seminar ECGEB, Trieste, January 31, 2017. (Host. Dr. D. Efremov)
Seminar University Federico II, Naples, February 2, 2017.
Member of the scientific committee, abstract reviewer and session chair at the iwCLL meeting, New York, May 12-15, 2017.

CONTRIBUTION TO SCIENCE

1. Identification of a natural ligand for CD38. We raised a panel of monoclonal antibodies to perturb CD38-mediated adhesion to the endothelial cells. This led to the identification of CD31 as a ligand for CD38. CD31/CD38 interactions occur in the early phases of lymphocyte adhesion and mediate, activation, integrin expression and secretion of a number of cytokines and chemokines. The role of CD31-CD38 interactions was then dissected in different normal and pathological conditions. Most relevant publications:

a. Deaglio S, Dianzani U, Horenstein AL, Fernandez JE, van Kooten C, Bragardo M, Funaro A, Garbarino G, Di Virgilio F, Banchereau J, et al. Human CD38 ligand. A 120-KDA protein predominantly expressed on endothelial cells. J Immunol. 1996;156(2):727-34.
b. Deaglio S, Morra M, Mallone R, Ausiello CM, Prager E, Garbarino G, Dianzani U, Stockinger H, and Malavasi F. Human CD38 (ADP-ribosyl cyclase) is a counter-receptor of CD31, an Ig superfamily member. J Immunol. 1998;160(1):395-402.
c. Deaglio S, Mallone R, Baj G, Donati D, Giraudo G, Corno F, Bruzzone S, Geuna M, Ausiello C, and Malavasi F. Human CD38 and its ligand CD31 define a unique lamina propria T lymphocyte signaling pathway. FASEB J. 2001;15(3):580-2.
d. Malavasi F, Deaglio S, Funaro A, Ferrero E, Horenstein AL, Ortolan E, Vaisitti T, and Aydin S. Evolution and function of the ADP ribosyl cyclase/CD38 gene family in physiology and pathology. Physiol Rev. 2008;88(3):841-86.

2. Identification of adenosine production as a non-redundant immunosuppressive mechanism of regulatory T cells. During this work, we discovered that regulatory T cells express CD39 and CD73, two key enzymes in the degradation of ATP and generation of adenosine. We also discovered that adenosine is an integral component of the suppressive mechanism of regulatory T cells, both in mice and in humans.
   We then hypothesized that tumor cells may hijack this mechanism, catalyzing the generation of adenosine in the tumor niche, limiting immune responses, Most relevant publications:

a. Deaglio S, Dwyer KM, Gao W, Friedman D, Usheva A, Erat A, Chen JF, Enjyoji K, Linden J, Oukka M, et al. Adenosine generation catalyzed by CD39 and CD73 expressed on regulatory T cells mediates immune suppression. J Exp Med. 2007;204(6):1257-65.
b. Sitkovsky M, Lukashev D, Deaglio S, Dwyer K, Robson SC, and Ohta A. Adenosine A2A receptor antagonists: blockade of adenosinergic effects and T regulatory cells. Br J Pharmacol. 2008;153 Suppl 1(S457-64.
c. Longhi MS, Robson SC, Bernstein SH, Serra S, and Deaglio S. Biological functions of ecto-enzymes in regulating extracellular adenosine levels in neoplastic and inflammatory disease states. Journal of molecular medicine. 2013;91(2):165-72.
d. Serra, S., A.L. Horenstein, T. Vaisitti, D. Brusa, D. Rossi, L. Laurenti, G. D'Arena, M. Coscia, C. Tripodo, G. Inghirami, S.C. Robson, G. Gaidano, F. Malavasi, and S. Deaglio. 2011. CD73-generated extracellular adenosine in chronic lymphocytic leukemia creates local conditions counteracting drug-induced cell death. Blood 118:6141-6152.
e. Serra, S., T. Vaisitti, V. Audrito, C. Bologna, R. Buonincontri, S.S. Chen, F. Arruga, D. Brusa, M. Coscia, O. Jaksic, G. Inghirami, D. Rossi, R.R. Furman, S.C. Robson, G. Gaidano, N. Chiorazzi, and S. Deaglio. 2016. Adenosine signaling mediates hypoxic responses in the chronic lymphocytic leukemia microenvironment. Blood Advances 1:47-61.

3. Identification of the role of CD38 in the chronic lymphocytic leukemia niche. Clinical observations indicate that CD38 may be expressed by a subset of CLL patients, generally those with an inferior clinical outcome. We built on this observation, identifying CD38 as a critical “molecular drift”, guiding CLL cells from the blood to privileged niches within the lymph nodes and the bone marrow. We then used and enzymatically dead CD38 mutant to show that its enzymatic activities lead to the production of second

messengers that increase cytoplasmic Ca^{2+} levels, facilitating signals regulating cell movement. Most relevant publications:

a. Deaglio S, Capobianco A, Bergui L, Durig J, Morabito F, Duhrsen U, and Malavasi F. CD38 is a signaling molecule in B-cell chronic lymphocytic leukemia cells. Blood. 2003;102(6):2146-55.
b. Deaglio S, Vaisitti T, Aydin S, Bergui L, D'Arena G, Bonello L, Omede P, Scatolini M, Jaksic O, Chiorino G, et al. CD38 and ZAP-70 are functionally linked and mark CLL cells with high migratory potential. Blood. 2007;110(12):4012-21.
c. Vaisitti T, Aydin S, Rossi D, Cottino F, Bergui L, D'Arena G, Bonello L, Horenstein AL, Brennan P, Pepper C, et al. CD38 increases CXCL12-mediated signals and homing of chronic lymphocytic leukemia cells. Leukemia. 2010;24(5):958-69.
d. Vaisitti T, Audrito V, Serra S, Buonincontri R, Sociali G, Mannino E, Pagnani A, Zucchetto A, Tissino E, Vitale C, et al. The enzymatic activities of CD38 enhance CLL growth and trafficking: implications for therapeutic targeting. Leukemia. 2015;29(2):356-68.

4. Identification of the role of the NAD-biosynthetic enzyme nicotinamide phosphorybosyl transferase (NAMPT), also known as visfatin or pre-B colony enhancing factor (PBEF) in the tumor microenvironment. Our data indicate that NAMPT is secreted in the extracellular compartment by activated tumor cells. Here, NAMPT induces differentiation of monocytes into alternatively activated monocytes, which then skew T cell responses and promote leukemic growth.

a. Audrito V, Vaisitti T, Rossi D, Gottardi D, D'Arena G, Laurenti L, Gaidano G, Malavasi F, and Deaglio S. Nicotinamide blocks proliferation and induces apoptosis of chronic lymphocytic leukemia cells through activation of the p53/miR-34a/SIRT1 tumor suppressor network. Cancer research. 2011;71(13):4473-83.
b. Audrito V, Serra S, Brusa D, Mazzola F, Arruga F, Vaisitti T, Coscia M, Maffei R, Rossi D, Wang T, et al. Extracellular nicotinamide phosphoribosyltransferase (NAMPT) promotes M2 macrophage polarization in chronic lymphocytic leukemia. Blood. 2015;125(1):111-23.

5. Identification recurrently mutated genes in fludarabine-resistant CLL cells. This project originated as a multicentric collaboration, aimed at sequencing the exome of CLL cells obtained from fludarabine-resistant patients. It led to the identification of mutations in NOTCH1, SF3B1 and BIRC3 genes. We then went on to analyze the functional role of NOTCH1 in CLL cells. The same approach was also used to study the genomic landscape of patients with splenic marginal zone lymphoma (SMZL), with the identification of mutations in NOTCH2 and KLF2 and a preliminary evaluation of their function in these cells.

a. Rossi D, Deaglio S, Dominguez-Sola D, Rasi S, Vaisitti T, Agostinelli C, Spina V, Bruscaggin A, Monti S, Cerri M, et al. Alteration of BIRC3 and multiple other NF-kappaB pathway genes in splenic marginal zone lymphoma. Blood. 2011;118(18):4930-4.
b. Rossi D, Trifonov V, Fangazio M, Bruscaggin A, Rasi S, Spina V, Monti S, Vaisitti T, Arruga F, Fama R, et al. The coding genome of splenic marginal zone lymphoma: activation of NOTCH2 and other pathways regulating marginal zone development. J Exp Med. 2012;209(9):1537-51.
c. Arruga F, Gizdic B, Serra S, Vaisitti T, Ciardullo C, Coscia M, Laurenti L, D'Arena G, Jaksic O, Inghirami G, et al. Functional impact of NOTCH1 mutations in chronic lymphocytic leukemia. Leukemia. 2014;28(5):1060-70.
d. Piva R*, Deaglio S*, Fama R, Buonincontri R, Scarfo I, Bruscaggin A, Mereu E, Serra S, Spina V, Brusa D, et al. The Kruppel-like factor 2 transcription factor gene is recurrently mutated in splenic marginal zone lymphoma. Leukemia. 2015;29(2):503-7.*: shared first authors.
e. Pozzo, F., T. Bittolo, F. Arruga, P. Bulian, P. Macor, E. Tissino, B. Gizdic, F.M. Rossi, R. Bomben, A. Zucchetto, D. Benedetti, M. Degan, G. D'Arena, A. Chiarenza, F. Zaja, G. Pozzato, D. Rossi, G. Gaidano, G. Del Poeta, S. Deaglio, V. Gattei, and M. Dal Bo. 2016. NOTCH1 mutations associate with low CD20 level in chronic lymphocytic leukemia: evidence for a NOTCH1 mutation-driven epigenetic dysregulation. Leukemia 30:182-189.

f. Arruga, F., B. Gizdic, C. Bologna, S. Cignetto, R. Buonincontri, S. Serra, T. Vaisitti, K. Gizzi, N. Vitale, G. Garaffo, E. Mereu, F. Diop, F. Neri, D. Incarnato, M. Coscia, J. Allan, R. Piva, S. Oliviero, R.R. Furman, D. Rossi, G. Gaidano, and S. Deaglio. 2016. Mutations in NOTCH1 PEST-domain orchestrate CCL19-driven homing of Chronic Lymphocytic Leukemia cells by modulating the tumor suppressor gene DUSP22. Leukemia, in press.

g. Arruga, F., and S. Deaglio. 2017. Mechanisms of Resistance to Targeted Therapies in Chronic Lymphocytic Leukemia. Handb Exp Pharmacol, in press.

6. Identification of factors predicting therapeutic responses in metastatic melanoma. This project, developed in collaboration with Dr. M. Mandalà (Bergamo, Italy) aims at characterizing from a genetic, molecular and metabolic point of view BRAF-mutated metastatic melanomas that develop resistance to targeted therapies. Relevant publications:

a. Massi, D., D. Brusa, B. Merelli, M. Ciano, V. Audrito, S. Serra, R. Buonincontri, G. Baroni, R. Nassini, D. Minocci, L. Cattaneo, E. Tamborini, A. Carobbio, E. Rulli, S. Deaglio*, and M. Mandala*. 2014. PD-L1 marks a subset of melanomas with a shorter overall survival and distinct genetic and morphological characteristics. Ann Oncol 25:2433-2442. *: shared last authors.

b. Massi, D., D. Brusa, B. Merelli, C. Falcone, G. Xue, A. Carobbio, R. Nassini, G. Baroni, E. Tamborini, L. Cattaneo, V. Audrito, S. Deaglio, and M. Mandala. 2015. The status of PD-L1 and tumor-infiltrating immune cells predict resistance and poor prognosis in BRAFi-treated melanoma patients harboring mutant BRAFV600. Ann Oncol 26:1980-1987.

c. Audrito, V., S. Serra, A. Stingi, F. Orso, F. Gaudino, C. Bologna, F. Neri, G. Garaffo, R. Nassini, G. Baroni, E. Rulli, D. Massi, S. Oliviero, R. Piva, D. Taverna, M. Mandala, and S. Deaglio. 2017. PD-L1 up-regulation in melanoma increases disease aggressiveness and is mediated through miR-17-5p. Oncotarget 8:15894-15911.

Complete List of Published Work in My Bibliography:
https://www.ncbi.nlm.nih.gov/myncbi/collections/bibliography/48168277/
Metrics:
Total number of papers in PubMed: 133
Total number of papers as first/last/corresponding: 46
Total IF: 870
Mean IF: 6.52
H index: 42

RESEARCH SUPPORT

Ongoing Research Support

Sponsor: Italian Association for Cancer Research
Grant Number 17314 Deaglio (PI) 01/01/2016 - 12/31/2018
Title: "Understanding tumor-host interactions and therapy resistance in chronic lymphocytic leukemia: moving up a NOTCH?"
Objective: Mechanistic project to understand the function of NOTCH1 and the role of its mutations in CLL

Sponsor: Italian Ministry of Health, Young Investigator call 2011
Grant Number GR-2011-02346826 Deaglio (co-PI) 11/15/2014 - 11/15/2017
Title: "Pleiotropic transcriptional control mechanisms of CD49d expression in trisomy 12 chronic lymphocytic leukemia: implications for novel therapeutic approaches".

Sponsor: Fondazione Italiana Ematologi Oncologi Pediatri
Deaglio (co-PI) 05/01/2016 - 04/30/2019
Title: "Functional genomics applied to pediatric cancers: from mutations, to function, to therapy".
Objective: Identification and functional analysis of recurrently mutated genes in pediatric sarcomas

Sponsor: Halozyme Therapeutics
Deaglio (PI) 06/01/2016 -
05/31/2017Title: Analysis of the therapeutic potential of pegylated-ADA in chronic lymphocytic leukemia

Sponsor: Immune Target, Inc.
Deaglio (PI) 09/01/2016 - 08/31/2017
Title: Evalutation of the effects of a novel NF-kB inhibitor in chronic lymphocytic leukemia and Richter Syndrome models

Main completed Research Support

Sponsor: **Italian Association for Cancer Research** Deaglio (PI)
1/1/2013-12/31/2015
Grant Number 89259
Title: "**Cooperation between adenosinergic and hypoxic signals in the organization of the leukemic niche"**
Aims:
Aim 1: To determine the effects of hypoxia on the adenosinergic axis in CLL and in bystander cells
Aim 2: To determine whether adenosine signaling may activate an hypoxic signature
Aim 3: To determine the effects of adenosine signaling under hypoxic conditions in T lymphocytes from CLL patients
Aim 4: To test the impact of pharmacological targeting of adenosine receptors in CLL

Sponsor: **Italian Ministry of Health** Deaglio (PI) 11/15/2010-
11/15/2014
Grant Number Young Investigator Call 2008, 1138053
Title: **Identification of novel prognostic factors and therapeutic targets for Richter's Syndrome**
Aim 1: To define the role of extracellular nucleotides in favoring transformation of CLL to Richter Syndrome
Aim 2: To discover the role the host genetic polymorphism in predisposing to Richter Syndrome
Aim 3: To determine the role of immune checkpoint inhibitors in favoring transformation of CLL to Richter Syndrome

Aim 4: To set-up animal models of Richter's syndrome

Sponsor: **Italian Ministry of Education** Deaglio (PI)
01/01/2011-5/31/2014
Grant number: Progetto Giovani Ricercatori, call 2008, RBFR08ATLH
Title: **Soluble factors, membrane receptors and genetic regulation in tumor/host interactions**
Aim 1: evaluate whether the signals mediated by extracellular nucleotides collaborate with the chemokine network in directing neoplastic cells towards growth-permissive microenvironments, while at the same time protecting against the action of the immune system
Aim 2: to analyze the expression of HLA-G, a non-classical histocompatibility molecule, in a wide cohort of CLL patients and to evaluate its role in the regulation of the interactions between leukemic cells and the host immune system.
Aim 2: To analyze the influence of the interactions between the genetic background of the host and tumor cell biology on the phenotypic heterogeneity of CLL

Sponsor/ Italian Ministry of Health, Young Investigator call 2010
Grant Number GR-2010-2317594 Deaglio (co-PI)
11/15/2013 - 11/15/2015
Title: "New genetic lesions characterizing high risk chronic lymphocytic leukemia: clinical and functional implications"
Objective: Multitask program designed to understand the functional role of the main genetic lesions characterizing chemotherapy-resistant CLL cases.

Sponsor/Cariplo Foundation – Biomedical Research Grants
Grant Number Deaglio (co-PI)
01/01/2014 - 4/30/2016
Title: "Deciphering the molecular basis of splenic marginal zone lymphoma by whole exome sequencing and functional genomics".
Objective: Functional genomics studies to characterize the most common genetic mutations in SMZL patients

Sponsor/ Italian Ministry of Education, Futuro in ricerca 2012 grant
Grant Number RBFR12D1CB Deaglio (co-PI)
03/31/2014 - 03/31/2016
Title: "Identification and functional characterization of genomic lesions in lymphoid malignancies"
Objective: Multitask program designed to characterize the molecular event leading to transformation of chronic lympohocytic leukemia and splenic marginal zone lymphoma.