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CURRENT POSITION

2021-present Associate Professor in Laboratory Medicine, Department of Molecular Biotechnology and Health Sciences, University of Torino, Italy.

SCIENTIFIC TRAINING

2018-2021 Assistant Professor in Laboratory Medicine, Department of Molecular Biotechnology and Health Sciences, University of Torino, Italy.

2014-2015 Visiting Scientist at the Department of Pathology at Boston Children’s Hospital and Harvard Medical School, Boston, MA, USA

2013-2018 Senior Research Scientist, Laboratory of Molecular Oncology, Center for Experimental Research and Medical Studies (CERMS) and Department of Molecular Biotechnology and Health Sciences, University of Torino, Italy.

2007-2012 Senior Research Scientist, Fellowship on Cancer Research from Associazione Italiana Ricerca sul Cancro (AIRC), Laboratory of Molecular Oncology, Department of Biomedical Sciences and Human Oncology, University of Torino, Italy.

2002-2006 Post-doctoral Research Scientist, Laboratory of Molecular Oncology, Department of Biomedical Sciences and Human Oncology, University of Torino, Italy and **Laboratory of Protein Research Group, Department of Biochemistry and Molecular Biology, University of Southern Denmark, Odense (Prof. Ole N. Jensen)**.

1998-2002 Post-Doctoral fellow, Laboratory of Molecular Onco-Haematology, Istituto San Raffaele, Milano, Italy.

1994–1998 PhD research fellow, Department of Haematology, University of Torino, Italy.

1992-1993 Research Fellow, Department of Haematology, University of Torino, Italy.

EDUCATION

2018 Master in Bioethics, University of Torino, Italy.

2002 Master in Science Journalism, Torino.

1997–2002 Residency in Clinical Pathology (*summa cum laude*), University of Torino, Italy.

1993-1997 PhD in Experimental Haematology, University of Genova, Italy.

1987-1991 Degree with *summa cum laude* in Biological Sciences, University of Torino, Italy.

BOARD CERTIFICATION

1993 Italian Biologist Register

1997 Clinical Pathology

AWARDS

1992-1993 Fellowship Comitato Piemontese "Gigi Ghirotti" – La Stampa, Torino.

1994-1997 AIRC fellowship (delined)

1998 Student Award from Telethon.

2007-2009 FIRC fellowship

SCIENTIFIC INTERESTS

My research interests are mainly focused on the molecular mechanisms of transformation of the oncogenic tyrosine kinase Anaplastic Lymphoma Kinase (ALK) in ALK-driven tumors through high throughput screening techniques such as proteomics and gene expression profiling to mouse models. My accomplishments in the field:

- Characterization of the relevant downstream mediators of ALK in ALK-driven tumors, including Shp2 (Voena et al, Cancer Res. 2007), p130Cas (Ambrogio et al, Blood 2005), ATIC (Boccalatte, Voena et a, Blood 2009), the RHO GTPases (Ambrogio et al, Cancer Res. 2008; Choudhari et al, Blood 2016) and recently WASP (Menotti et al, Nature Medicine 2019)
- Demonstration of the driver role of EML-ALK in ALK rearranged non-small cell lung cancer (NSCLC) and its involvement in the acquisition and maintenance of a mesenchymal phenotype in ALK+ NSCLC cancer (Voena et al, Oncogenesis 2013; Voena et al, Oncotarget 2015).
- Generation of two different mouse models for ALK-driven NSCLC that recapitulate human lung cancer and provide excellent models for investigating new therapeutic approaches for ALK+ lung tumors (Voena et al, Cancer Immunol Res 2015; Alberti D et al, Nanomedicine 2015).
- Demonstration of the efficacy of an ALK vaccine to induce a potent anti-ALK response that delays tumor progression and improves survival in pre-clinical models of ALK+ lung cancers (Voena et al, Cancer Immunol Res 2015).

- Discovery of novel mechanisms of resistance to tyrosine kinase inhibitor (TKI) treatment in ALK+ ALCL, thus providing important evidences for novel therapeutic approaches in ALK-driven tumors (Ceccon et al, Oncogene 2015).

PUBLICATIONS

ORCHID ID: 0000-0002-1324-1431

>50 manuscripts published in peer-reviewed journals

Citations: 3683 (Scopus)/4977(Google Scholar)

h-index: 30 (Scopus)/ 33 (Google Scholar)

SELECTED PUBLICATIONS

Voena C*, Ladetto M, Astolfi M, Provan D, Gribben JG, Boccadoro M, Pileri A, Corradini P. A novel nested-PCR strategy for the detection of rearranged immunoglobulin heavy-chain genes in B cell tumors. *Leukemia* 11:1793, 1997.

*** Corresponding author.**

Corradini P, **Voena C**, Tarella C, Astolfi M, Ladetto M, Palumbo A, Bacigalupo A, Santoro A, Majolino I, Boccadoro M, Pileri A. Molecular and clinical remissions in multiple myeloma: the role of autologous and allogeneic transplantation of hematopoietic cells. *J Clin Oncol* 17: 1, 1999.

Ambrogio C, **Voena C**, Manazza AD, Piva R, Riera L, Barberis L, Costa C, Tarone G, Defilippi P, Hirsch E, Boeri Erba E, Mohammed S, Jensen ON, Palestro G, Inghirami G, Chiarle R. p130Cas mediates the transforming properties of the anaplastic lymphoma kinase. *Blood* 106: 3907, 2005.

Voena C, Conte C, Ambrogio C, Boeri Erba E, Boccalatte F, Mohammed S, Jensen ON, Inghirami G, Chiarle R. The tyrosine phosphatase Shp2 interacts with NPM-ALK and regulates anaplastic lymphoma cell growth and migration. *Cancer Research* 67: 4278, 2007.

Chiarle R, **Voena C**, Ambrogio A, Piva R, Inghirami G. The Anaplastic Lymphoma Kinase in the pathogenesis of cancer. *Nature Reviews Cancer* 8: 11, 2008.

Boccalatte FE*, **Voena C***, Riganti C, Bosia A, D'Amico L, Riera L, Chen M, Ruggeri B, Jensen ON, Goss VL, Lee K, Nardone J, Comb MJ, Polakiewicz RD, Chiarle R, Inghirami G. The enzymatic activity of 5-aminoimidazole-4-carboxamide ribonucleotide transformylase/inosine 5'-monophosphate cyclohydrolase (ATIC) is enhanced by NPM-ALK: new insights in ALK-mediated pathogenesis and the treatment of ALCL. *Blood* 113: 2776, 2009.

*** Authors equally contributed to this work.**

Voena C*, Panizza E, Di Giacomo F, D'Amico L, Boccalatte FE, Pellegrino E, Todaro M, Recupero D, Tabbò F, Ambrogio C, Martinengo C, Bonello L, Pulito R, Hamm J, Chiarle R, Cheng M, Ruggeri B, Medico E, Inghirami G. The EGFR family members sustain the neoplastic phenotype of ALK+ lung adenocarcinoma via EGR1. *Oncogenesis*. 2: e43, 2013.

*** Co-corresponding author.**

Martinengo C, Poggio T, Menotti M, Scalzo MS, Ambrogio C, Mastini C, Pellegrino E, Riera L, Piva R, Ribatti D, Pastorino F, Perri P, Ponzoni M, Wang Q, **Voena C***, Chiarle. ALK-dependent control of hypoxia inducible factors mediates tumor growth and metastasis. *Cancer Research*, 74: 6094, 2014.

*** Co-corresponding author.**

Blasco-Patino R, Karaca E, Ambrogio A, Cheong TC, Karayol E, Minero VG, **Voena C**, Zhang F, Chiarle C. Simple and Rapid In Vivo Generation of Chromosomal Rearrangements using CRISPR/Cas Technology. *Cell Reports* 9: 1219, 2014.

Voena C, Peola S, Chiarle R. The anaplastic lymphoma kinase as an oncogene in solid tumors. *Front Bioscience* 7: 269, 2015.

Voena C, Menotti M, Mastini C, Di Giacomo F, Dario Livio Longo DL, Castella B, Chiara Ambrogio C, Boggio Merlo ME, Wang Q, Minero VG, Martinengo C, D'Amico L, Panizza E, Mologni L, Cavallo F, Altruda F, Butaney M, Capelletti M, Jänne PA, Inghirami G, Chiarle R. Efficacy of an ALK cancer vaccine against ALK-rearranged lung tumors. *Cancer Immunology Research* 3: 1333, 2015.

Ceccon M, Boggio Merlo ME, Mologni L, Poggio T, Varesio LM, Menotti M, Bombelli, Rigolio R, Manazza A, Ambrogio C, Giudici G, Casati C, Mastini C, Compagno M, Turner S, Gambacorti-Passerini C, Chiarle R, **Voena C**. R. Excess of NPM-ALK oncogenic signaling promotes cellular apoptosis and drug dependency. *Oncogene* 35: 3854, 2016.

Choudhari R, Minero VG, Menotti M, Pulito R, Brakebusch C, Compagno M, **Voena C***, Ambrogio C, Chiarle R. Redundant and non-redundant roles for Cdc42 and Rac1 in lymphomas developed in NPM-ALK transgenic mice. *Blood* 127: 1297, 2016.

*** Co-corresponding author.**

Voena C, Chiarle R. Advances in cancer immunology and cancer immunotherapy. *Discovery Medicine* 21: 125, 2016.

Voena C, Varesio LM, Zhang L, Menotti M, Poggio T, Di Giacomo F, Panizza E, Compagno M, Monti S, Chiarle R. ALK oncogene regulates epithelial-mesenchymal transition (EMT) in ALK-rearranged Non-Small Cell Lung Carcinoma through repression of the epithelial splicing regulatory proteins 1 and 2 (ESRP1 and ESRP2). *Oncotarget* 7: 33316, 2016.

Compagno C, Qi W, Pighi C, Cheong TC, Meng F, Poggio T, Yeap LS, Atabay E, Blasco RB, Langellotto F, Ambrogio C, **Voena C**, Wiestener A, Kasar SN, Brown JR, Sun J, Wu CJ, Gostissa M, Alt F, Chiarle R. Phosphatidylinositol 3-Kinase (PI3K)delta blockade increases genomic instability in B cells. *Nature* 542: 483, 2017.

Menotti M, Ambrogio C, Cheong TC, Pighi C, Mota I, Cassel SH, Compagno M, Wang Q, Dall'Olio R, Minero VG, Poggio T, Sharma GG, Patrucco E, Mastini C, Choudhari R, Pich A, Zamo A, Piva R, Giliani S, Mologni L, Collings CK, Kadoch C, Gambacorti-Passerini C, Notarangelo LD, Anton IM, **Voena C***, Chiarle R. Wiskott-Aldrich Syndrome protein (WASP) is a tumor suppressor in T cell lymphoma. *Nature Medicine* 25:130, 2019.

*** Co-corresponding author.**

Voena C* and Chiarle R. RHO Family GTPases in the Biology of Lymphoma. *Cells* 8:646, 2019.
IF: 4.366

*** Co-corrisponding author.**

Di Marco MV and **Voena C.** Review: biological implications of oncogenic rearrangements in non-small cell lung cancer. *Precision Cancer Medicine* 5: 26, 2022.

Mura G, Martinengo C, Menotti M, Karaka Atabay E, Ambrogio A, Chiarle R, **Voena C.** Regulation of ALK activity by CD45 phosphatase in anaplastic large cell lymphoma. *Frontiers Oncology* 12:1085672, 2023.

PROJECTS AND FUNDING – PRINCIPAL INVESTIGATOR

2023-2025: Fondazione CRT

2023-2025: 101072735 –HORIZON – MSCA – 2021 – DN

2020-2024: AIRC (Associazione Italiana Ricerca sul Cancro) (AIRC-IG Id.23146).

2022: RILO Funding - University of Torino, Italy.

2021: RILO Funding - University of Torino, Italy.

2020: RILO Funding - University of Torino, Italy.

PROFESSIONAL MEMBERSHIPS

Ordine Nazionale dei Biologi Italiani

European Association for Cancer Research (EACR) since November 2011

Società Italiana di Ricerca Traslazionale e delle Professioni Sanitarie (SIRTEPS)