BIOGRAPHICAL SKETCH

NAME **Andrea Brendolan**	POSITION TITLE Group Leader

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	MM/YY	FIELD OF STUDY
University of Modena, Italy	M.S.	02/1995	Pharmacology
University of Modena/Weill Cornell Medical Center, New York	Ph.D.	03/2005	Developmental Immunology

RESEARCH APPOINTMENTS AND TRAININGS

2008 – Present	Group Leader, Unit of Lymphoid Organ Development Division of Experimental Oncology, San Raffaele Scientific Institute, Milano, Italy
2007 – 2008	Visiting Scientist**,** Immune Surveillance Unit**,** RIKEN Research Center for Allergy and Immunology Yokohama Institute, Yokohama, Japan
2006 – 2007	Postdoctoral Fellow, Department of Cell and Developmental Biology Weill Medical College of Cornell University, New York, NY
2001 – 2005	Research Fellow, Department of Cell and Developmental Biology Cornell University Medical Center, New York, NY
1998 – 2001	Research Fellow, Department of Immunology and Rheumatology Stanford University School of Medicine, Stanford, CA

RECENT MAJOR ACHIEVEMENTS

The focus of our research is to understand the role of fibroblastic stromal cells of lymphoid tissues in physiological and pathological conditions with major focus on cancer. Lymphoid stromal cells are emerging as important regulators of tissue homeostasis and immune functions, by providing cues for positioning, survival and function of immune cells, including leukemia/lymphoma cells. However, how the stromal microenvironment is generated and remodelled during physiological and pathological conditions is largely unknown. By using genetic lineage tracing, we demonstrated that all mature lymphoid fibroblastic stromal cells originate from embryonic multipotent mesenchymal progenitors (Castagnaro et al., *Immunity 2013*). We also showed that differentiation of stromal progenitors is controlled by a set of oncogenic transcription factors regulating key signalling pathways (Lenti et al., *Journal of Clinical Investigation 2016*). Moreover, by translating basic principles of lymphoid organogenesis we developed 3D lympho-organoids and demonstrated the therapeutic regeneration of lymphatic and immune cell functions upon lympho-organoid transplantation (lenti et al., *Stem Cell Reports 2019*). We have also undertaken a comprehensive effort aiming to decipher the composition and evolution of the fibroblastic stromal microenvironment in chronic lymphocytic leukemia (CLL). Using mouse models, we have uncovered the existence of a retinoic acid (RA)-dependent stroma-leukemia crosstalk that promotes tumor progression and demonstrated that inhibition of RA signalling reduces the expansion of leukemic blasts and prolongs survival (Farinello et al. *Nature Communications 2018*). We are currently exploiting scRNAseq coupled to multicolour confocal imaging to map to evolution of the different stromal cell niches during CLL progression.

RECENT PUBLICATIONS

1) Lenti E, Bianchessi S, Proulx ST, Palano MT, Genovese L, Raccosta L, Spinelli A, Drago D, Andolfo A, Alfano M, Petrova TV, Mukenge S, Russo V, **Brendolan** A. Therapeutic regeneration of lymphatic and immune cell functions upon lympho-organoid transplantation. 2019. *Stem Cell Reports,* doi: 10.1016/j.stemcr.2019.04.021.

2) Farinello D, Woziński M, Lenti E, Genovese L, Bianchessi S, Migliori E, Sacchetti N, di Lillo A, Bertilaccio MTS, de Lalla C, Valsecchi R, Gleave SB, Lligé D, Scielzo C, Mauri L, Ciampa MG, Scarfò L, Bernardi R, Lazarevic D, Gonzalez-Farre B, Bongiovanni L, Campo E, Cerutti A, Ponzoni M, Pattini L, Caligaris-Cappio F, Ghia P, **Brendolan A.** A retinoic acid-dependent stroma-leukemia crosstalk promotes chronic lymphocytic leukemia progression. 2018. *Nature Comm.* 3;9:1787.

3) Golub R., Tang, J., Watanabe T., and **Brendolan A.** Origin and Immunological functions of spleen stromal cells. 2018. *Trends in Immunology*, 39:503-514.

4) Sanarico AG, Ronchini C, Croce A, Memmi EM, Cammarata UA, De Antoni A, Lavorgna S, Divona M, Giacò L, Melloni G, **Brendolan A**, Simonetti G, Martinelli G, Mancuso P, Bertolini F, Lo-Coco F, Melino G, Pelicci PG and F Bernassola. The E3 ubiquitin ligase WWP1 sustains the growth of acute myeloid leukemia. 2018. *Leukemia,* 32:911-919.

5) Lenti E, Farinello D, Castagnaro D, Nederreither K, Lavorgna G, Tonon G, Blasi and **A. Brendolan.** TLX1 Controls Retinoic Acid Signaling to Ensure Spleen Development. 2016. *Journal of Clinical Investigation,* 126:2452-64.

6) Valsecchi R, Coltella N, Belloni D, Ponente M, Ten Hacken E, Scielzo C, Scarfò L, Bertilaccio MT, Brambilla P, Lenti E, Martinelli Boneschi F, **Brendolan A**, Ferrero E, Ferrarini M, Ghia P, Tonon G, Ponzoni M, Caligaris Cappio F, Bernardi R. HIF-1α regulates the interaction of chronic lymphocytic leukemia cells with the tumor microenvironment. 2016. *Blood,* 127:1987-97.

7) Genovese L, and **A. Brendolan**. Lymphoid tissue mesenchymal stromal cells in development and tissue remodeling. 2016. *Stem Cell International,* ID. 8419104.

8) Castagnaro L, Lenti E, Maruzzelli S, Spinardi L, Migliori E, Farinello D, Sitia G, Harrelson Z, Evans SM, Guidotti LG, Harvey RP, and **A. Brendolan.** Nkx2.5/Islet1+ spleen mesenchymal progenitors generate different stromal cell lineages and participate in organ regeneration. 2013. *Immunity,* 38:782-91.