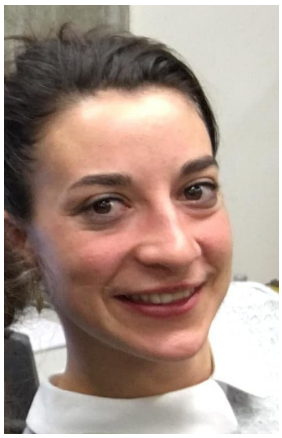
MAUD, MAYOUX
Innate Lymphoid Cells ad cancer

Institute of experimental immunology
University of Zurich
Winterthurerstrasse 190, 8057 Zurich

mayoux@immunology.uzh.ch
https://www.immunology.uzh.ch/en/researchunit/innatelymphoidcellsandcancer/research.html



NK SURVEILLANCE OF BONE METASTASIS – Natural killer, metastasis, Bone Marrow

METASTASIS IN THE BONE; ABSTRACT

Natural Killer (NK) cells are crucial in eliminating tumor cells. Our lab has shown that NK cells play an important role in controlling the elimination of tumor cells homing to the lung and of those colonizing the metastatic liver. Another most preferential targeting organ for tumor cells is the bone. Bone metastasis has unmet prevention need, remaining largely incurable with mainly palliative treatments. Breast, prostate, lung or kidney cancers account for about 80% of skeletal metastases, which lead to pain, pathologic fractures and compromise the bone functions.
In this study, we focus on breast cancer as a primary site for bone metastasis with the major aim of assessing the role of NK cells in surveilling the bone niche. In addition, we will investigate NK cell lymphopoiesis in the BM during breast cancer progression in a clinically relevant setting. We aim to characterize the bone marrow (BM) microenvironment as well as NK cell lymphopoiesis at early and late stages of tumor development by multiparametric flow cytometry and by histology using fate-map and reporter mice. Further, we will explore the crosstalk between NK cells and the other cell components of the bone metastatic niche. We expect that this knowledge will set the stage for the development of novel therapeutic NK cell-based approaches to treat this devastating disease.

SPECIAL TECHNIQUES AND EQUIPMENT
Multi-parametric flow cytometer (symphony / Aurora)
Histology (collaboration with C. Nombela Arrieta)