Université de Lyon – Project LYON10

**Title:** Involvement of the bone morphogenetic proteins (BMP) pathway in resistance to treatment of Leukemic stem cells (LSC) of acute myeloid leukemia (AML)

**Supervisor:** Véronique Maguer-Satta and Thibault Voeltzel

**Duration:** 3 months

**Project Context:**
Acute Myeloid Leukemia (AML) is a complex disease in which resistance to treatment often leads to relapse after initial remission. These relapses may at least partly be due to the presence of Leukemic Stem cells (LSC) sheltered in their bone marrow (BM) microenvironment called niche.

Our team has shown in breast cancer and Chronic Myeloid Leukemia that the Bone Morphogenetic proteins (BMPs) pathway is key in maintenance and drug response of cancer SCs.

We are now developing a 3D model of the hematopoietic niche to study LSC in a more physiological context than 2D culture.

**Project Objectives:**
The goal of the global project is now to investigate how biological changes in the BM microenvironment linked to the BMP pathway could contribute to the appearance and survival of resistant LSC.

For this 3 month fellowship, the aim will be to analyze the impact of the BMP pathway on resistance of AML cells in 2D and 3D systems co-culture models.

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Lab:
Team: BMPs, tumoral niche and resistance,
Véronique Maguer-Satta

Bibliography

Grockowiak et al, Blood 2017, In press

Comments: Numerous different Stem cell specific techniques. Standard cell culture, molecular biology & biochemistry.