CTM U1231 SCIENTIFIC SEMINAR

November 28, 2022
1 to 2 pm, Amphitheatre Masson, UFR des Sciences de Santé
Chairman: Dr Tony Jourdan

Invited speaker: Pr Fouad Lafdil
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Impact of the liver immune microenvironment in tumor initiation and progression

Primary liver cancers (PLC) including hepatocellular carcinoma (HCC) and intrahepatic cholangiocarcinoma (ICC) rank among the deadliest cancers worldwide and often develop in patients with chronic liver diseases in an inflammatory context. Despite significant advances in PLC diagnosis and treatments, HCC (accounting for 80% of all PLC) and ICC (15% of PLC) incidence is still increasing with a 5-year survival rate of less than 25% for HCC after surgical resection in western countries. The management of unresectable HCC diagnosed at late stage (70% of cases) is a major challenge, with an urgent need to develop alternative treatments.
The recent advances in cancer therapy revealed that unbalanced inflammatory response is responsible for a tumor progression and constitute a novel and attractive target.

Over the past 10 years, with a particular expertise in the field of liver pathophysiology we developed experimental models to study inflammatory responses in the context of various liver diseases. The main objective of this axis of the developed projects is to decipher the mechanisms by which the hepatic immune response can initiate the carcinogenic process and / or participate to the progression of liver cancers. Consequently, identifying immunomodulatory pathways that can serve as targets for innovative strategies to prevent or treat liver cancers.
Among the released inflammatory factors frequently found in chronic liver diseases, the impact of two selected cytokines will be presented. The protumor impact of IL-17 in liver cancer initiation opposed to antitumor properties of IL-27 cytokine that inhibits liver cancer cell proliferation.

The purposes of the seminar will be **i)** to understand how a cytokine could lead to the transformation of normal cells into cancer cells, and **ii)** how tumor cells could escape from anti-tumor immune cell responses. The developed approaches would help us to evaluate new immuno-therapeutic strategies aiming at preventing cancer occurrence, or restoring an efficient anti-tumor responses.

GASMI I., et al. *Interleukin-17 programs liver progenitor cell transformation into cancer stem cells through mir-122 downregulation with increased risk of primary liver cancer initiation.* **International Journal of Biological Science,** 2022 Feb 21;18(5):1944-1960.