

Wednesday, October 4, 2017

LSC 3 | 12:00 - 1:00PM



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“Enhancement of mammary tumour metastasis by immune suppressive”

Immune suppressive cells play a crucial physiological role in mediating peripheral tolerance, preventing auto-immunity, and limiting chronic inflammation by suppressing the expansion and activity of effector T cells. Myeloid-derived suppressor cells (MDSCs), macrophages, and regulatory T cells (Tregs) can be recruited to solid tumours by a number of different chemokines where they can contribute to primary tumour growth by suppressing anti-tumour immune responses within the solid tumour microenvironment. My laboratory studies the process of solid tumour metastasis, and we have previously shown that proteins produced by poorly oxygenated (hypoxic) cells in primary metastatic mammary tumours can induce the accumulation of immature bone marrow-derived cells, MDSCs, and immune suppressive macrophages in the lungs. These cells create localized “niches” in the lungs that support the subsequent development of metastatic tumour foci, and targeting the accumulation and function of these immune suppressive cells can reduce metastatic tumour growth in tissues. We are interested in understanding how immune suppressive cells accumulate in the lungs and promote metastatic growth with the goal of developing novel therapeutic strategies to treat metastatic cancer. This talk will focus on potential strategies to disrupt the accumulation of immune suppressive cells in the lungs with the aim of decreasing metastatic tumour growth.

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