

Màj 16/04/2020

UE 2.2. Current concepts in Oncology
12 ECTS
Parcours « Basic and clinical oncology, towards precision medicine »
ST6: Tumor Microenvironment, Ionic signaling and metastatic processes

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This two-days seminar aims to understand in different cancers, how the cellular and matrix microenvironment as well as ionic signaling and their relays are intimately associated to tumor growth and metastatic processes.

Duration: 2 days

Background: Along tumor progression, the regulation of the cell phenotype (proliferation, migration, differentiation, apoptosis, ...) is associated to calcium homeostasis or secretory dysregulations in a context of remodeled cellular and matrix niches. New signals arise, implying calcium channels, as well as signals from inner cellular stresses, or between cellular or matrix partners, leading a new regulation of the metastatic progression.

Purpose:

- _ Set in different cancers, how the controls of tumour growth and metastatic processes are intimately associated to the remodeling of cellular and matrix microenvironments.
- _ Study the features of ageing and extracellular matrix modifications.
- _ Develop the notions of pre-metastatic niche and molecular signature in the context of bone metastasis.
- _ Study how calcium signaling impacts oncogenesis and how calcium channels contribute to a modified « calciosome » in cancers.
- _ Understand how reticular stress controls cancerous features.
- _ Identify pathways and actors that may contribute to precision medicine.

Key Words : Epihtelium-Mesenchyme Transition / migration/ invasion/ senescent secretome / Extra Cellular Matrix / Breast, skin, prostate cancers / hormono-dependency/ bone metastasis / Calcium signaling / ion channels/ reticular stress / precision medicine.

Content :

Time	Jour 1.	Time	Jour 2.
9h-10h30	_Introduction (A. Pourtier): _Controls of tumour growth and metastatic processes are intimately associated to the remodeling of cellular and matrix microenvironments. _Features of ageing and extracellular matrix modifications, via the screen of the secretome.	9h-11h	_Calcium signaling in the evolution of cell phenotype (proliferation, migration, differentiation, apoptosis...), in cellular responses (secretion...), and in oncogenesis. _How actors of the calcium homeostasis, gathered as « calciosome » are modified in cancers (N. Prevarskaya / V. Lehen'kyi).
10h45-11h30	_Article analysis and discussion by a student (panel discussion)	11h15-12h00	_Article analysis and discussion by a student (panel discussion)
13h00-14h30	_Reticular stress and the control of Cancerous features (O.Pluquet)	13h15-14h45	_Calcium channels and hormono-dependent cancers (N. Prevarskaya).
14h45-16h45	_Bones metastases, microenvironment and metastatic niche (M. Duterque). _Article analysis and discussion by a student (panel discussion)	15h00-16h00 16h00-16h45	Conference Concluding panel discussion in the presence of the invited speaker and the previous intervening speakers

Educational team : Albin Pourtier, Olivier Pluquet and Martine Duterque (UMR9020 – UMR-S 1277), Natalia Prevarskaya and V'yacheslav Lehen'kyi (U 1003, LabEx ICST).