

15 DEC
2022Thursday
LECTURE*MEET & EAT*
Light lunch provided

11.00am - 12.00noon 12.00 - 1pm



Mechanisms regulating tumor transition states

ABSTRACT

Different theories have been proposed to explain tumour heterogeneity including the cell of origin of cancer. Here, using new genetically engineered mouse models allowing lineage tracing together with oncogenic activation in different cell lineages, I will present evidence that the cancer cell of origin controls tumour heterogeneity, stemness, EMT, and metastasis. In different models of primary skin squamous cell carcinoma (SCCs), we found that the incidence of metastasis was much higher in SCCs presenting EMT compared to SCCs without EMT, supporting the notion that a certain degree of EMT was required to initiate the metastatic cascade in primary skin SCC. Most circulating tumor cells present EMT, whereas most lung metastasis did not present EMT, showing that mesenchymal to epithelial transition is important for metastatic colonization. We identify the existence of multiple tumor subpopulations associated with different EMT stages. Although all EMT subpopulations presented similar tumor-propagating cell capacity, they displayed differences in cellular plasticity, invasiveness and metastatic potential. We identify the transcriptional and epigenetic landscapes and the underlying gene regulatory networks, transcription factors and signaling pathways that control these different EMT transition states. I will finish by showing new data demonstrating that the types of oncogenes and tumor suppressor genes also control EMT transition states and metastasis. These results have important implications for our understanding of the mechanisms controlling tumor heterogeneity and metastasis as well as for the development of new strategies to block tumor progression and metastasis.

This work is supported by the ERC, WELBIO, Belgian Foundation against cancer, FNRS, and TELEVIE.



SPEAKER

Prof Cédric Blanpain

Université libre de Bruxelles, Belgium

HOST:

Department of Cancer Research (LIH)

RESPONSIBLE SCIENTIST:

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*Please note that registration is mandatory by sending an email to siu-thinh.ho@lih.lu

Locations:

Lecture

CHL - Centre
Room: **Amphitheatre**
4, rue Ernest Barblé
L-1210 Luxembourg

Meet & eat

LIH - DoCR (BAM)
Room: **Mc Clintock**
6A, rue Nicolas-Ernest Barblé,
L-1210 Luxembourg