European Research Council : new ERC grant for Pr. Cédric Blanpain

For the third time, Pr. Cédric Blanpain – Laboratory of Stem Cells and Cancer, Université libre de Bruxelles - has obtained a grant from the European Research Council (ERC). This new project called “TrackingTumorStates” aims to define at the single cell resolution, the mechanisms regulating tumor transition states, responsible for tumor growth, differentiation, invasion, metastasis and resistance to therapy.

Cédric Blanpain - Welbio Investigator, Director of the Laboratory of Stem Cells and Cancer Université libre de Bruxelles (ULB) - had obtained an ERC starting grant in 2007 (“CancerStem” 2007-2013), during which his lab identified the cells of origin of the most frequent epithelial cancers, demonstrated the existence of cancer stem cells within their natural microenvironment and identified intrinsic and extrinsic mechanisms regulating their functions.

He has also obtained an ERC consolidator grant in 2014 (“EXPAND” 2014-2019), during which his group defined the cellular and molecular mechanisms regulating tissue expansion and cell fate decision during postnatal growth and repair of epithelial tissues.

With his new ERC Advanced Grant (TrackingTumorStates, 2020-2025), he and his team will define at the single cell level the different tumor states. Within a given tumor, some cancer cells actively proliferate, while others differentiate, others migrate and give rise to metastasis, or finally some cells enter in a dormant state and resist to chemotherapy.

In the project TrackingTumorStates, using multidisciplinary approaches that combine single-cell lineage tracing, single-cell genomics, epigenomics and transcriptomics together with pharmacological treatment and genetic perturbations, Prof. Blanpain and his team will define in a comprehensive and integrated manner the identities and functions of distinct tumor states at single-cell resolution. By identifying the mechanisms that regulate tumor cell state transitions and functions, Blanpain and colleagues hope to define new tumor vulnerabilities and provide new therapeutic opportunities.

“I am so grateful to the ERC to fund my new research project studying tumor transition states and their role during tumor progression, metastasis and response to therapy. Without the ERC, my lab would never be able to make many of the discoveries we made over the last 10 years. It is so exciting and encouraging for all our European countries to have the ERC, which had made so much good things and change the dynamic of the European research” comments Cédric Blanpain, the first Belgian scientist that already obtained three ERC grants since the launch of the first ERC call in 2007.
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