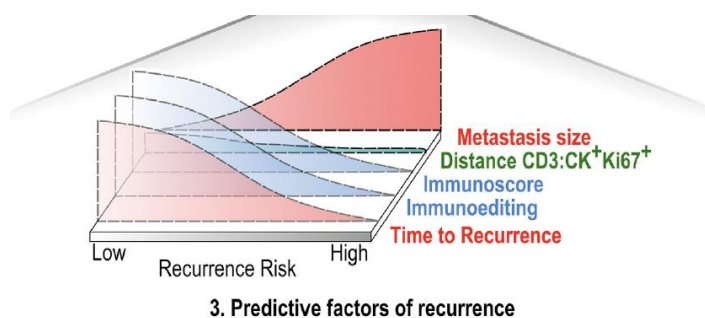


Evolution of Metastases in Space and Time is under Immune Selection

- Jérôme Galon and colleagues demonstrated that the tumor immune microenvironment status recapitulated by Immunoscore® drives early-stage cancer evolution parameter in early stage colon cancer patient
- This new [paper published in Cell by Jérôme Galon et al. on October 11th 2018](#) now extends this finding to advanced-stage cancers and demonstrates that Immunoscore® and immunoediting are also the best predictors of metastases recurrence
- HalioDx extended the use of its Immunoscore® to advanced cancer patients in clinical research

Marseille, France, October 17, 2018 – HalioDx, an immuno-oncology company pioneering the immunological diagnosis of cancers, announces that an international scientific team led by Jérôme Galon extends the prognostic value of the immune tumor microenvironment status to advanced-stage cancers. This major discovery was published in the prestigious journal *Cell* on October 11th, 2018.

Previous work from Jérôme Galon's team had already demonstrated the central role of the immune status of the tumor microenvironment in driving early-stage cancer progression. This finding had led to the development of Immunoscore®, an assay that predicts the risk of relapse in early stage colon-cancer patients with superior prognostic power than the usual tumor risk parameters. The scientists now find that the patient's anti-tumor immune response, also predicts metastases recurrence. Studying cancer evolution in two metastatic colorectal cancer patients over an exceptionally long survival period (11+ years follow-up), they found two parameters to be the best predictors of recurrence: the amount of immune cell infiltration (Immunoscore®) and immunogenicity (immunoediting) of metastases as illustrated in the figure below.



Multivariate model of metastasis recurrence revealed key immune-related parameters: immunoediting and Immunoscore®. High immunoediting and high Immunoscore® are the best predictors of a favorable clinical outcome (Angelova et al. *Cell* 2018).

Together, this work reveals the central role of the immune response and immune cell infiltrates in the evolution of a metastatic disease and establish the grounds for extending the use of Immunoscore® to advanced cancers.

“Beyond shifting our understanding of cancer evolution away from a tumor-centric view and establishing the importance of the immune response in driving cancer progression, our findings have major clinical implications, for late-stage cancer patients”, explains **Jérôme Galon, Research Director at the Inserm, head of the Laboratory**

for Integrative Immunology and Cancer Research in the Cordeliers Research Centre, co-founder and chairman of the Scientific Advisory Board of HalioDx and co-author of this publication. *“Given the possibility to identify the metastasis with the highest recurrence probability, the treatment could be adjusted to specifically target its escape mechanisms.”*

“Jérôme Galon’ work helps to understand metastatic evolution in relation with the immune microenvironnement, and can help development of immunotherapeutics”, adds **Thierry André, head of the Medical Oncology Department at St Antoine Hospital, Paris.**

“These findings support our multi-modal approach to understanding the immune contexture of tumors through Immunogram”, comments **Vincent Fert, CEO and co-founder of HalioDx.** *“They further prompt us to expand the use of Immunoscore® to advanced-stage cancers, which represent a major challenge. Immunoscore® for metastatic cancers is already available to academics and developers of the biopharmaceutical industry for clinical research purposes and should be developed as an IVD assay.”*

About HalioDx

The Immune Response to Cancer Diagnostics

HalioDx is an immuno-oncology diagnostic company providing oncologists with first-in-class Immune-based diagnostic products and services to guide cancer care and contribute to precision medicine in the era of immuno-oncology and combination therapies. Immunoscore® proprietary technology, pioneered by Jérôme Galon at the Cordeliers Research Center, Paris, France, integrates immunohistochemistry combined with sophisticated algorithm and advanced imaging analysis enabling extraction of spatially-organized tissue molecular information. Immunoscore® is a platform for many cancers, as immune response to tumor is a key hallmark of disease progression. HalioDx collaborates with renowned international clinical groups to support clinical utility and ensure rigorous performance validation of its assays in selected cancer indications.

HalioDx has an experienced team of more than 130 employees, a CLIA-certified laboratory and compliant facilities to develop, manufacture, register and market in vitro diagnostic (IVD) products. HalioDx executes biomarker studies and companion diagnostic assay development in conformity with regulations and in partnership with biopharmaceutical companies. The company co-founded the European immunology cluster Marseille Immunopôle (MI).

For more information, please visit our websites www.halioldx.com and www.immunoscore-colon.com and follow the company on Twitter [@HalioDx](https://twitter.com/HalioDx).

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