



**IRB**  
**BARCELONA**

**INSTITUTE  
FOR RESEARCH  
IN BIOMEDICINE**



## Advancing the frontiers of biomedical research

The Institute for Research in Biomedicine (IRB Barcelona) is an independent, non for-profit research center engaged in basic and applied biomedical science. The convergence of biology, chemistry, medicine, physics and computer science at IRB Barcelona provides a unique opportunity for the translation of basic biomedical research into innovation.

## COLOSTAGE

### NEW COMPANION DIAGNOSTIC TEST FOR COLORECTAL CANCER

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## New companion diagnostic test for colorectal cancer

### COMPANION DIAGNOSTIC TEST FOR DRUGS TARGETING TGF-BETA IN COLORECTAL CANCER

#### TECHNOLOGY

Novel therapies against TGF-beta for cancer treatment are emerging in the last years. Yet, in some patients, these treatments have shown lack of response. Our technology provides an accompanying diagnostic test, Colostage, to facilitate the selection of those patients who may benefit from treatment with novel drugs that target the TGF-beta signaling pathway. In addition, this test may be used to identify patients with poor prognosis.

IRB Barcelona researchers have demonstrated that CRC recurrence and metastasis depend strictly on TGF-beta signaling. They have also proven that treatment of mice with TGF-beta inhibitors drastically diminished the capacity of CRC cells to initiate metastasis in animal models and inhibited the expression of TGF-beta biomarkers in established CRC tumors in mice.

In CRC patient samples from a retrospective study we have demonstrated that Colostage biomarkers soundly correlate with the expression levels of TGF-beta. Therefore, patients with tumors exhibiting high levels of our biomarkers may benefit from adjuvant therapy with TGF-beta inhibitors.

#### CURRENT STAGE OF DEVELOPMENT

Our technology has been validated in a retrospective study with more than 1000 FFPE samples of colorectal cancer patients.

#### MORE INFORMATION

**Dependency of Colorectal Cancer on a TGF-Beta-Driven Program in Stromal Cells for Metastasis Initiation.**

Calon A, et al. Cancer Cell. 22: 571–584. 2012.

**Stromal gene expression defines poor-prognosis subtypes in colorectal cancer.**

Calon A, et al. Nat Genet. 2015 Apr;47(4):320-9.

**TGFβ drives immune evasion in genetically reconstituted colon cancer metastasis.**

Tauriello D, et al. Nature 2018 Feb 14. doi: 10.1038/nature25492.

#### COMPETITIVE ADVANTAGE

- Innovative test to provide an integral solution for personalized medicine in colorectal cancer (CRC): to choose the right treatment for the right patient.
- The test identifies patients who will benefit from treatments targeting TGF-beta.
- Our Companion Dx test will help pharma companies developing TGF-beta targeted treatments to identify patients suitable for treatment.
- Our diagnostic device will help doctors to make informed and individualized treatment decisions, based on the patient's risk to develop recurrent CRC and to respond to TGF-beta inhibitors.

#### PATENT STATUS

Technology protected by two families of patent applications: WO2013079309 and WO2014072517. Further patent protection in progress.

#### IRB RESEARCH TEAM

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COLORECTAL CANCER LABORATORY

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#### IN COLLABORATION WITH

