

## SCIENCES FOR HUMAN HEALTH

**Title:** Targeting collagen receptor DDR1 to reverse immune evasion and therapeutic resistance in colorectal cancer

**Host laboratory:** Team « Cancer Cell signaling » - CRBM

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**Keywords:** Colorectal cancer, tyrosine kinases, cell signaling, targeted therapies, tumor microenvironment,

**Description:** Several recent reports point to the tyrosine kinase receptor DDR1 as an essential receptor mediating collagens tumor promoting effects associated with tumor progression and metastases in colorectal cancer (CRC). The specific objectives of this project are: (1) to better characterize the function of DDR1 in CRC immune exclusion, (2) to identify the associated molecular mechanisms and (3) to address if the targeting of DDR1 kinase activity with tyrosine kinase inhibitors can overcome therapeutic resistance and improve response to immune check-point therapy.

**Methods:** 2D & 3D cell culture, co-cultures, western-blot, cytokines profiling, immune cell killing assays, Q-PCR, RNA-seq, sub-cutaneous tumour growth in immunocompetent and immunodeficient mice, multiplex flow cytometry, immunofluorescence, immunohistochemistry.