

CIRCULATING TUMOR CELL EX-VIVO CULTURE FROM PATIENT WITH COLORECTAL CANCER DISPLAY HETEROGENEITY AND CANCER STEM CELL HALLMARKS

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The aim of the present project is to functionally characterize an unknown population of cancer cells responsible of tumor dissemination, namely circulating tumor cells in the context of colorectal cancer. Although circulating tumor cells (ctc) have attracted a broad interest as potential markers of tumor progression and treatment response, their characterization remains minimal. Here, we designed straightforward conditions for the isolation and maintenance of colon ctcs in culture based on their self-renewing abilities. We generated the first ctc cell lines from the blood of three patients with advanced metastatic colorectal cancer (crc). These cells display cancer stem cell (csc) hallmarks and are able to generate metastasis when injected in the spleen of nude mice. Taken together our results show that ctc lines could represent a clinically useful tool to recapitulate tumor heterogeneity and to rapidly predict treatment response in patients with crc facilitating access to personalized medicine.

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