RESEARCH TOPIC MEM9
Role of epithelial plasticity in cancer initiation
Curriculum MEM

Laboratory name
Plasticity, Fibrosis and Cancer Lab Hunimed campus Bldg E, Pieve Emanuele

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Abstract
The Epithelial-to-Mesenchymal Transition (EMT) is an embryonic cellular trans-differentiation program relaunched in fibrosis and cancer. While its role in cancer progression, i.e. metastasis, is well established, little is known about its role during the early phases of neoplastic transformation. Recent evidences indicated that, rather than being a fibroblast-generating event, EMT represents an injury-induced response of the damaged epithelium impairing its functionality and regenerative capacity, and orchestrating inflammation. We seek to understand whether EMT activation could prime the injured epithelium to neoplastic transformation in those type of cancer arising from chronic and repeated inflammation such as colitis-associated colon cancer (CAC) in patients suffering from Inflammatory Bowel Disease (IBD).
The overall objective is to determine the functional consequences of the activation of the EMT program in terms of epithelial injury response, oncogenic priming and modulation of cancer-associated inflammation.

Main technical approaches
Cellular and molecular biology, use of in vivo preclinical models, histology, flow cytometry, confocal microscopy, image analysis

Scientific references
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Type of contract

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