

Endocytic control of tumor cell migration

G. Scita

IFOM – FIRC Institute Of Molecular Oncology
& University of Milan, School of Medicine, Dpt. of Health Sciences.
giorgio.scita@ifom.eu

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Abstract

Tumor dissemination to distant sites and seeding of metastasis is the major clinical problem in cancer. We aim to understand the molecular underlying mechanisms through study how the interplay between membrane and actin dynamics regulates the plasticity of tumor cell migration and invasion.

We will focus on collective cell migration that is a widespread biological phenomenon, whereby groups of highly coordinated, adherent cells move in a polarized fashion. This migration mode is a hallmark of tissue morphogenesis during development and repair, and of tumor dissemination. Using different malignant cell model systems, we will provide evidence of unexpected chemotactic features of collective entities and discuss the impact of endocytic processes and key trafficking molecules on collective locomotion.