

Seminar series TRR 305 – Striking a moving target: From mechanisms of metastatic organ colonisation to novel systemic therapies



Wednesday, 30 March 2022
14.30 h
Online Zoom

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Metabolic rewiring driving metastasis formation

Metabolic rewiring is a hallmark of cancer cells. However, how nutrients drive the ability of cancer cells to rewire their metabolism is poorly defined. We are investigating the in vivo nutrient metabolism during metastasis formation to mechanistically understand how nutrients from the microenvironment enable cancers to progress from a local to a systemic disease. Using ¹³C tracer infusions in mouse models we find that nutrient availability shapes the metabolism and phenotype of cells and subsequently promotes the progression of cancer. Consequently, interfering with nutrient metabolism emerges as a promising therapeutic strategy against cancer. Taken together, our research highlights that nutrient metabolism is an important driver of cancer progression.

Elia I, Rossi M, Stegen S, Broekaert D, Doglioni G, van Gorstel M, Boon R, Escalona-Noguero C, Torrekens S, Verfaillie C, Verbeken E, Carmeliet G & Fendt S-M: Breast cancer cells rely on environmental pyruvate to shape the metastatic niche. *Nature*; 568:117-121, 2019 (IF 42.778, CT 121)

Elia I, Broekaert D, Christen S, Boon R, Radaelli E, Orth MF, Verfaillie C, Grünewald TGP & Fendt S-M: Proline metabolism supports metastasis formation and could be inhibited to selectively target metastasizing cancer cells. *Nature Communications*; 8:15267, 2017 (IF 12.353, CT 224)

Zoom-Meeting-Link

<https://uni-regensburg.zoom.us/j/68524772498?pwd=Yk9ibmltekk3VmJPTmpLOXdBZjdzUT09>

Meeting-ID: 685 2477 2498
Code: 619702