CCR – Lecture Series

Monday, June 23, 2025 at 11:00 AM

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Fueling the battle: Metabolic insights into cancer progression and anti-tumor immunity

While cancer cells are highly diverse in their origins, they universally undergo profound metabolic changes. Historically, research has focused primarily on glucose metabolism, particularly the "Warburg effect," but it is now clear that metabolic adaptations are far more extensive and closely intertwined with whole-body metabolism. These metabolic changes extend beyond the cancer cells themselves and have a significant impact on the immune cells within the tumor microenvironment (TME). Cancer cells and immune cells exposed to the nutrient-deprived and stress-induced conditions of the TME activate distinct stress response pathways that can impair their anti-tumor efficacy.

A key player in this adaptive process is the unfolded protein response (UPR), a signaling pathway that monitors cellular stress at the level of the endoplasmic reticulum (ER). Our recent research shows that modulating tumor metabolism through tailored diets and identifying novel UPR regulators can profoundly affect the efficacy of anticancer immune responses.

In this presentation, I will discuss how dietary interventions and our unbiased discovery of UPR regulators offer promising strategies for enhancing immune-mediated tumor eradication.

Venue: Lecture Hall **B2**, Borschkegasse 4a
Time: Monday, June 23, 2025 at 11:00 AM
Host: Maria Sibilia

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