# RCB – Colloquium

## Thursday, February 12th, 2026, 2 p.m.

## H 53


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***"Targeting RNA binding proteins in cancer therapy"***


*High-grade serous ovarian cancer (HGSC) accounts for more than 70% of ovarian cancer-related deaths, yet therapeutic progress remains stagnant. Among the four molecular subtypes reported for HGSC, the C5 subtype is distinguished by high proliferation and immune evasion with an unfavorable MHC-I/PD-L1 ratio. However, the molecular drivers of this immune desert state remain largely undefined. Here, we identify RNA-binding proteins (RBPs) as key regulators of immune evasion in C5-HGSC through integrated single-cell and bulk RNA sequencing. We perform a targeted loss-of-function screen in C5-like cell models and find IGF2BP1 as a central mediator of immune evasion in vitro and in vivo. Mechanistically, IGF2BP1 abrogates interferon-gamma signaling by accelerating IRF1 protein degradation, thereby suppressing MHC-I presentation. We also discover that IGF2BP1 decouples PD-L1 expression from IRF1-dependent transcription and reshapes the immune receptor landscape to limit immune cell infiltration and T cell activation. Therapeutically, the small-molecule BTYNB effectively inhibits IGF2BP1 and synergizes with PD-1 blockade to overcome immune evasion in vivo. Multi-spectral imaging confirms these findings in human HGSC tissues and highlights the role of oncofetal RBPs as molecular drivers of the C5-HGSC subtype. This subtype-wide survey uncovers a previously unrecognized RBP-interferon regulatory axis and establishes RBP inhibition as a therapeutic strategy to enhance immune checkpoint therapy in immunologically cold ovarian tumors.*


Host: Prof. Dr. Gunter Meister, Biochemistry I, gunter.meister@ur.de

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