SCIENTIFIC SEMINAR

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Unveiling novel target-driven strategies for pancreatic cancer: galectins and beyond

Pancreatic ductal adenocarcinoma (PDAC), the most frequent type of pancreatic cancer, is one of the most lethal tumors, being the third leading cause of cancer-related deaths in developed countries. The extremely low survival rates are mostly due to late diagnosis and resistance to standard therapies. Identification of new molecular targets and biomarkers is therefore an urgent need to improve this pessimistic scenario. Here, we analyze the potential use of galectin-1 (Gal1), a glycan-binding protein that is highly overexpressed in PDAC stroma, as therapeutic target and biomarker for PDAC. Using genetically engineered mouse models (Gal1 knockout mice and mouse models of PDAC) and a human cell-based system we found that inhibition of Gal1 leads to impaired tumor formation and metastasis, through modulation of multiple events including proliferation, angiogenesis and immune response, highlighting the high therapeutic value of Gal1 inhibition for PDAC treatment. Furthermore, we have shown that Gal-1 levels in plasma are increased in PDA patients in comparison to healthy controls and that high level of this protein correlates with lower patient survival, indicating that detection of Gal1 circulating levels can be used as a novel biomarker for detection and prognostics of PDA patients. Finally, we explore the role of the tyrosine kinase AXL, which is also overexpressed in PDAC, as a novel biomarker for early diagnosis and the putative link between this protein and galectins.

CIC bioGUNE
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EXCELENCIA SEVERO OCHOA

Friday
March 15
Atrio 800
12.00H

BRTA
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