SCIENTIFIC SEMINAR

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Targeting polyamine transport in liver cancer

Polyamines are positively charged molecules that interact with DNA, RNA, proteins and lipids. They are present in millimolar concentrations in cells and are involved in multiple biological processes and especially required for cell proliferation. Due to their importance for proliferation, polyamine metabolism is often deregulated in cancer and therefore represents an opportunity for cancer treatment.

For our studies on hepatocellular carcinoma (HCC), we generated liver-specific PTEN and TSC1 double-KO (L-dKO) mice that develop liver tumors within 16-20 weeks. Multi-omics analyses of tumor vs. control liver tissues revealed high polyamine levels in tumors despite downregulated ARG1 and AGMAT, two enzymes crucial for the early steps of polyamine biosynthesis. Instead, the tumor cells rely on external polyamines, as demonstrated by increased uptake rates in liver tumors. We have identified the responsible transporter and are establishing a polyamine depletion strategy for the treatment of HCC.

CIC bioGUNE
MEMBER OF BASQUE RESEARCH & TECHNOLOGY ALLIANCE
EXCELENCIA SEVERO OCHOA

Friday
September 19
Atrio 800
12.00H

BRTA
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