SCIENTIFIC SEMINAR

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CiMUS

Reprogramming metabolism in hepatic stellate cells and implications in liver fibrosis

Metabolic reprogramming of glucose and fatty acids in hepatic stellate cells (HSCs) is a central mechanism driving liver fibrosis progression. During HSC activation, quiescent cells undergo a phenotypic shift to myofibroblasts, marked by a switch from oxidative phosphorylation to aerobic glycolysis, even under oxygen-rich conditions. This glycolytic shift supports energy demands. Concurrently, lipid metabolism is profoundly altered, with mobilization of retinoid-rich lipid droplets, increased β-oxidation, and glutaminolysis.

Mitochondrial adaptations, including biogenesis and increased oxidation, occur alongside reactive oxygen species (ROS) overproduction, which promotes HSC activation and extracellular matrix (ECM) deposition. Targeting these pathways emerges as a promising therapeutic strategy to disrupt liver fibrosis.

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

Thursday
June 19
Atrio 800
12.00H

BRTA
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