SCIENTIFIC SEMINAR

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Mitochondrial dynamics and cell homeostasis

Mitochondrial fusion proteins, such as Mitofusin 1 and 2 (MFN1 and MFN2) and Optic atrophy 1 (OPA1), mediate the physical fusion of mitochondria, allowing the mixing of their contents, including lipids. Mitofusin 2 (MFN2) is a mitochondrial fusion protein that plays a crucial role in regulating mitochondrial dynamics, morphology, and function. MFN2 has also the capacity to modulate the interaction of endoplasmic reticulum with mitochondria. In addition, MFN2 has been implicated in various aspects of cellular metabolism. MFN2 has been linked to glucose and lipid metabolism, particularly in skeletal muscle and adipose tissue. Studies have shown that MFN2 deficiency in these tissues can lead to impaired glucose uptake, insulin resistance, and alterations in lipid metabolism, contributing to metabolic dysregulation. Similarly, we have reported that MFN2 play a key role in hepatic metabolism, and its deficiency causes steatosis, a deficient transfer of phosphatidylserine from the endoplasmic reticulum to mitochondria, inflammation and fibrosis. In this talk, I will further analyze the implications of MFN2 in metabolism, that may be relevant in conditions such as cancer cells, insulin resistance, type 2 diabetes or liver diseases. I will discuss the identification of the MFN2 splice variants ERMIN2 and ERMIT2, two ER-specific variants.

CIC bioGUNE
MEMBER OF BASQUE RESEARCH & TECHNOLOGY ALLIANCE

EXCELENCIA SEVERO OCHOA

Friday
March 7
Atrio 800
12.00H

BRTA
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