



Department of Biomedical Sciences

DBS SEMINAR

Tuesday, April 27th, 2021 - 12h15

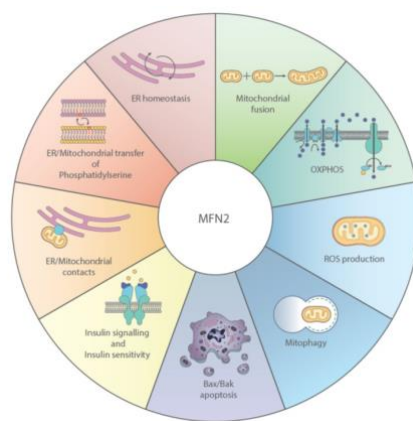
Zoom Meeting

“Mitochondrial dynamics and its role in metabolic disorders”

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Host: Prof. Francesca Amati



Mitochondrial fusion and fission are key processes that regulate mitochondrial morphology. Mitochondrial fusion is catalyzed by MFN1, MFN2 (Mitofusins) and OPA1 proteins in human cells. MFN2 protein plays a complex set of functions. It regulates mitochondrial morphology, and, in addition, also controls the morphology and function of the endoplasmic reticulum. Expression of MFN2 is exquisitely regulated in tissues. Thus, it is induced in skeletal muscle in response to chronic exercise and after exposure to cold. In contrast, MFN2 is repressed in different tissues of mice fed a high fat diet. On the other hand, MFN2 is repressed in muscle from type 2 diabetic patients, and in liver biopsies from NASH subjects. In turn, changes in MFN2 expression have a marked impact on mitochondrial metabolism. I will review our results obtained through the use of mutant mice documenting a role of this protein in energy metabolism, and I will discuss on some of the mechanisms of MFN2 function.

References

Tur et al., Cell Rep 2020

Hernández-Alvarez et al. Cell 2019.

Rodríguez-Nuevo et al., EMBO J. 2018.

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