

第 628 回 難研セミナー

第 204 回 難治疾患共同研究拠点セミナー

下記により難研セミナーを開催しますので、多数御来聴下さい。

記

日 時 : 2023 年 2 月 27 日 (月) 17:00 ~19:00

場 所 : M&D タワ-21 階 大学院講義室 1

演 者 : Dr. Fabien ALPY

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(IGBMC)

演 題 : Formation, role and regulation of
inter-organelle contacts

要 旨 : Membrane-bound organelles are physically connected in structures termed “membrane contact sites”. These structures correspond to close appositions, usually within 30 nm, of the membrane of two distinct organelles, that do not result in the fusion of the two membranes. Inter-organelle contacts are involved in major cellular processes such as lipid and calcium transport, and organelle positioning and dynamics. Contacts between organelles require tether proteins that bridge their two membranes via protein-membrane or protein-protein interactions. The endoplasmic reticulum (ER) is a membrane-bound organelle primarily involved in protein and lipid synthesis. Although contacts were shown to exist between almost every type of organelle, the ER appears to be central for this kind of inter-organelle communication. Indeed, the ER is a network of tubes and sheets which extends throughout the cytoplasm and makes extensive contacts with most organelles such as mitochondria, endosomes/lysosomes, autophagic structures, peroxisomes, lipid droplets, and the plasma membrane.

In this presentation, I will discuss the role of a family of proteins named VAP that is involved in the formation of contacts between the ER and other organelles. VAP-A, VAP-B and MOSPD2 are ER-anchored proteins that act as receptors that interact with proteins at the surface of other organelles to build contacts. I will discuss how these proteins organize inter-organelle contacts, their function in lipid transfer between the ER and other organelles, and how these processes are regulated by phosphorylation.

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