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Cross talk between mitochondria and peroxisomes

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Abstract

Mitochondria and peroxisomes are small ubiquitous organelles. They both play major roles in cell metabolism, especially in terms of fatty acids metabolism, ROS production and ROS scavenging and it is now clear that they metabolically interact with each other. These two organelles share some properties such as a great plasticity and a high potency to adapt their form and number according to cell requirements. Their functions are connected and alteration in the function of mitochondria may induce changes in the peroxisomal physiology. The objective of this paper was to highlight the interconnection and the crosstalks existing between mitochondria and peroxisomes. Special emphasis was put on the best known connections between these organelles : origins, structure and metabolic interconnections.

Key words: Peroxisome; Mitochondrion; ROS; Beta oxidation; Dynamic; Fatty acids

Core tip: The goal of this review was to highlight the links between mitochondria and peroxisomes in terms of dynamic and metabolism. This review of the literature shows that these two organelles even if they derive from distinct ancestors share

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