



In vivo time-lapse imaging of mitochondria in healthy and diseased peripheral myelin sheath

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Auteur	Gonzalez, Sergio [1], Fernando, Ruani [2], Berthelot, Jade [3], Perrin-Tricaud, Claire [4], Sarzi, Emmanuelle [5], Chrast, Roman [6], Lenaers, Guy [7], Tricaud, Nicolas [8]
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Résumé en anglais	<p>The myelin sheath that covers a large amount of neurons is critical for their homeostasis, and myelinating glia mitochondria have recently been shown to be essential for neuron survival. However morphological and physiological properties of these organelles remain elusive. Here we report a method to analyze mitochondrial dynamics and morphology in myelinating Schwann cells of living mice using viral transduction and time-lapse multiphoton microscopy. We describe the distribution, shape, size and dynamics of mitochondria in live cells. We also report mitochondrial alterations in Opa1(ΔTTAG) mutant mice cells at presymptomatic stages, suggesting that mitochondrial defects in myelin contribute to OPA1 related neuropathy and represent a biomarker for the disease.</p>
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Liens

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