

Name of journal: *World Journal of Biological Chemistry*

ESPS Manuscript NO: 16532

Manuscript Type: Review

### Cross talk between mitochondria and peroxisomes

Jean Demarquoy, Françoise Le Borgne

#### 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

### Match Overview

1	CrossCheck 310 words Borgne, Françoise Le, and Jean Demarquoy. "Interactio n between peroxisomes and mitochondria in fatty acid ...	4%
2	CrossCheck 40 words Schröder, M. "Peroxisomes and oxidative stress", <i>BBA - Molecular Cell Research</i> , 200612	1%
3	Internet 35 words crawled on 22-Feb-2015 <a href="http://www.ncbi.nlm.nih.gov">www.ncbi.nlm.nih.gov</a>	<1%
4	CrossCheck 30 words F. Camões. "Organelle dynamics and dysfunction: A di ser link between peroxisomes and mitochondria". <i>Journ</i>	<1%
5	Internet 25 words crawled on 20-Oct-2014 <a href="http://www.biologydirect.com">www.biologydirect.com</a>	<1%
6	CrossCheck 24 words Olgun, A. "Oxidative phosphorylation enzyme complexes in caloric restriction", <i>Experimental Gerontology</i> , 200205	<1%
7	Internet 17 words crawled on 20-Aug-2014 <a href="http://herkules.oulu.fi">herkules.oulu.fi</a>	<1%
8	Internet 16 words crawled on 18-May-2014 <a href="http://www.ircbt.net">www.ircbt.net</a>	<1%
9	CrossCheck 14 words M. Morita. "Baicalein 5,6,7-trimethyl ether activates per somal but not mitochondrial fatty acid $\beta$ -oxidation", <i>Journ</i>	<1%
10	Internet 11 words crawled on 14-Sep-2012 <a href="http://www.narilis.be">www.narilis.be</a>	<1%



**网页** 图片 视频 新闻 更多 ▾ 搜索工具

找到约 242,000 条结果 (用时 1.09 秒)

## Google 学术: Cross talk between mitochondria and peroxisomes

... of pea plants to cadmium toxicity: cross talk between ... - Rodríguez-Serrano - 被引用次数: 266

Crosstalk between nuclear and mitochondrial genomes - Poyton - 被引用次数: 451

Metabolic cross talk between cytosolic and plastidial ... - Bick - 被引用次数: 220

## Peroxisomal metabolism is regulated by an oxygen ...

[www.ncbi.nlm.nih.gov/pubmed/17476698](http://www.ncbi.nlm.nih.gov/pubmed/17476698) ▾ 翻译此页

作者: S Fujimura - 2007 - 被引用次数: 8 - 相关文章

Yeast. 2007 Jun;24(6):491-8. Peroxisomal metabolism is regulated by an oxygen-recognition system through organelle crosstalk between the mitochondria and ...

## Peroxisomes are juxtaposed to strategic sites on mitochondria.

[www.ncbi.nlm.nih.gov/pubmed/24722918](http://www.ncbi.nlm.nih.gov/pubmed/24722918) ▾ 翻译此页

作者: Y Cohen - 2014 - 被引用次数: 7 - 相关文章

2014年4月10日 - Peroxisomes are ubiquitous and dynamic organelles that house many ... of cross-talk between peroxisomes and mitochondria remains unclear.

## Organelle dynamics and dysfunction: A closer link between ...

[www.ncbi.nlm.nih.gov/pubmed/19067229](http://www.ncbi.nlm.nih.gov/pubmed/19067229) ▾ 翻译此页

作者: F Camões - 2009 - 被引用次数: 59 - 相关文章

2008年12月12日 - This connection includes metabolic cooperations and cross-talk, a novel putative mitochondria-to-peroxisome vesicular trafficking pathway, ...

## Peroxisomal metabolism is regulated by an oxygen ...

[www.researchgate.net/.../6352897\\_Peroxisomal\\_metabolism\\_is...](http://www.researchgate.net/.../6352897_Peroxisomal_metabolism_is...) - 翻译此页

These facts indicate that there is organelle crosstalk between mitochondria and peroxisomes through nucleus gene regulation in order to control the ...

## Mitochondria and peroxisomes: Are the 'Big Brother' and the ...

[onlinelibrary.wiley.com/doi/10.1002/bies.20659/pdf](http://onlinelibrary.wiley.com/doi/10.1002/bies.20659/pdf) ▾ 翻译此页



[网页](#) [图片](#) [新闻](#) [视频](#) [更多](#) [搜索工具](#)

找到约 252,000 条结果 (用时 0.95 秒)

## Google 学术: Cross talk between mitochondria and peroxisomes

... of pea plants to cadmium toxicity: cross talk between ... - Rodríguez-Serrano - 被引用次数: 266

Crosstalk between nuclear and mitochondrial genomes - Poyton - 被引用次数: 452

Metabolic cross talk between cytosolic and plastidial ... - Bick - 被引用次数: 222

### Peroxisomal metabolism is regulated by an oxygen ...

[www.ncbi.nlm.nih.gov/pubmed/17476698](http://www.ncbi.nlm.nih.gov/pubmed/17476698) ▾ 翻译此页

作者: S Fujimura - 2007 - 被引用次数: 8 - 相关文章

Yeast, 2007 Jun;24(6):491-8. Peroxisomal metabolism is regulated by an oxygen-recognition system through organelle crosstalk between the mitochondria and ...

### Peroxisomes are juxtaposed to strategic sites on mitochondria.

[www.ncbi.nlm.nih.gov/pubmed/24722918](http://www.ncbi.nlm.nih.gov/pubmed/24722918) ▾ 翻译此页

作者: Y Cohen - 2014 - 被引用次数: 7 - 相关文章

2014年4月10日 - Peroxisomes are ubiquitous and dynamic organelles that house many ... of cross-talk between peroxisomes and mitochondria remains unclear.

### Organelle dynamics and dysfunction: A closer link between ...

[www.ncbi.nlm.nih.gov/pubmed/19067229](http://www.ncbi.nlm.nih.gov/pubmed/19067229) ▾ 翻译此页

作者: F Camões - 2009 - 被引用次数: 61 - 相关文章

2008年12月12日 - This connection includes metabolic cooperations and cross-talk, a novel putative mitochondria-to-peroxisome vesicular trafficking pathway, ...

### Peroxisomal metabolism is regulated by an oxygen ...

[www.researchgate.net/ /6352897](http://www.researchgate.net/) Peroxisomal metabolism is ... 翻译此页