

# Skeletal muscle mitochondrial clearance

## Citation for published version (APA):

Leermakers, P. A. (2019). *Skeletal muscle mitochondrial clearance: translation to COPD*. ProefschriftMaken Maastricht. <https://doi.org/10.26481/dis.20190405pl>

## Document status and date:

Published: 01/01/2019

## DOI:

[10.26481/dis.20190405pl](https://doi.org/10.26481/dis.20190405pl)

## Document Version:

Publisher's PDF, also known as Version of record

## Please check the document version of this publication:

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# Stellingen

Behorende bij het proefschrift

## Skeletal muscle mitochondrial clearance: translation to COPD

Pieter A. Leermakers, Maastricht, 5 april 2019

1. Expressieprofielen van mitofagie-regulatoren duiden op een verhoogde mitochondriële afbraak in de perifere skeletspieren van COPD patiënten. *(dit proefschrift)*
2. Systemische inflammatie en verminderde spierbelasting dragen beiden bij aan verhoogde mitochondriële afbraaksignaling en verlaagde mitochondriële aanmaaksignaling in de skeletspieren. *(dit proefschrift)*
3. Spiercellen zijn in staat om mitochondria in te pakken en uit te scheiden via vesikels. *(dit proefschrift)*
4. Mitochondriële homeostase wordt niet uitsluitend binnen een enkele cel gereguleerd, maar ook op het niveau van weefsel of zelfs het hele organisme. *(dit proefschrift)*
5. Het is niet aan te raden om het oxidatief vermogen van de spier te verbeteren door middel van het remmen van mitochondriële afbraak.
6. Mitochondrial transfer by cells is not altruistic but rather may serve to enhance cell survival by unloading partially depolarized mitochondria. *(Phinney et al. 2015 Nature Communications)*
7. Er is momenteel geen consensus omtrent de beste meetmethode voor mitophagy-flux, daarom is een combinatie van verschillende methodes aan te raden.
8. The sudden increase in the resting membrane conductance observed late in exercise in fast-twitch fibers may function as a safety mechanism that effectively shoots down muscle activity if the energy level and, thus, the ability to maintain cellular integrity are threatened during contractile activity. *(Nielsen et al. 2017 Physiology)*
9. Ik heb er één ding van geleerd, ik leer het nooit! *(BZB)*
10. There is no pill, no drug, that can do for you what one hour of exercise can. *(Greg LeMond)*
11. The great tragedy of Science - the slaying of a beautiful hypothesis by an ugly fact. *(Thomas Henry Huxley)*