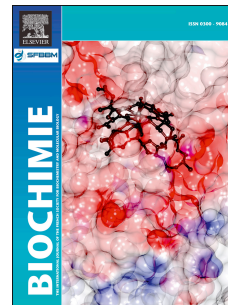


# Accepted Manuscript

Inner mechanism of protection of mitochondrial electron-transfer proteins against oxidative damage. Focus on hydrogen peroxide decomposition

Erik Sedlak, Andrej Musatov



PII: S0300-9084(17)30227-4

DOI: [10.1016/j.biochi.2017.09.003](https://doi.org/10.1016/j.biochi.2017.09.003)

Reference: BIOCHI 5266

To appear in: *Biochimie*

Received Date: 10 May 2017

Revised Date: 0300-9084 0300-9084

Accepted Date: 6 September 2017

Please cite this article as: E. Sedlak, A. Musatov, Inner mechanism of protection of mitochondrial electron-transfer proteins against oxidative damage. Focus on hydrogen peroxide decomposition, *Biochimie* (2017), doi: 10.1016/j.biochi.2017.09.003.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

It is generally recognized that the mitochondria are the major source of reactive oxygen species including hydrogen peroxide ( $H_2O_2$ ). Although the local concentration of  $H_2O_2$  near the electron-transfer chain is potentially quite high, the chain's components are rarely found to be significantly damaged by  $H_2O_2$ . Our experimental data, as well as the data published by others, suggest that mitochondrial electron-transfer proteins, which are in the first line to be harmed by ROS, are well prepared to defend themselves. One of such protection mechanism involves peroxidase/catalase-like activity of all major mitochondrial respiration chain players, which catalyze the decomposition of  $H_2O_2$ . Understanding the molecular mechanisms, by which mitochondrial electron-transfer proteins might defend themselves against an oxidative stress and therefore being a part of the mitochondrial antioxidant system, can help to clarify many controversial experimental data.

Download English Version:

<https://daneshyari.com/en/article/5508888>

Download Persian Version:

<https://daneshyari.com/article/5508888>

[Daneshyari.com](https://daneshyari.com)