



*Special Issue Reprint*

## **Mitochondria: From Physiology to Pathology**

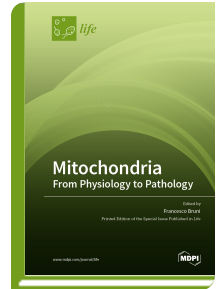
Edited By:

Francesco Bruni

[mdpi.com/books/pdfview/book/4545](http://mdpi.com/books/pdfview/book/4545)

ISBN 978-3-0365-2151-0 (hardback)

ISBN 978-3-0365-2152-7 (PDF)



Mitochondria play an increasingly central role in the context of cellular physiology. These organelles possess their own genome (mtDNA), which is functionally coordinated with the nuclear genome. Mitochondrial gene expression is mediated by molecular processes (replication, transcription, translation, and assembly of respiratory chain complexes) that all take place within the mitochondria. Several aspects of mtDNA expression have already been well characterized, but many more either are under debate or have yet to be discovered.

Understanding the molecular processes occurring in mitochondria also has clinical relevance. Dysfunctions affecting these important metabolic ‘hubs’ are associated with a whole range of severe disorders, known as mitochondrial diseases. In recent years, significant progress has been made to understand the pathogenic mechanisms underlying mitochondrial dysfunction; however, to date, mitochondrial diseases are complex genetic disorders without any effective therapy. Current therapeutic strategies and clinical trials are aimed at mitigating clinical manifestations and slowing the disease progression to improve the quality of life of patients.

The goal of the Special Issue ‘Mitochondria: from Physiology to Pathology’ published in Life (ISSN: 2075-1729) was to collect research and review articles covering the physiological and pathological aspects related to mtDNA maintenance and gene expression, mitochondrial biogenesis, protein import, organelle metabolism, and quality control.



Order Your Print Copy

Print copies (170x244mm, Pbk) can be ordered at:

[www.mdpi.com/books/pdfview/book/4545](http://www.mdpi.com/books/pdfview/book/4545)

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



### **Open Access**

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



### **Author Focus**

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



### **High Quality & Rapid Publication**

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



### **High Visibility**

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis lieferbarer Bücher (VLB).



### **Print on Demand and Multiple Formats**

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.