



*pharmaceuticals*



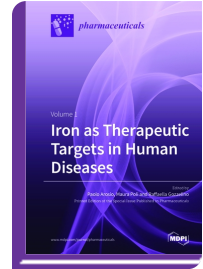
*Special Issue Reprint*

## **Iron as Therapeutic Targets in Human Diseases Volume 1**

[www.mdpi.com/books/reprint/2016](http://www.mdpi.com/books/reprint/2016)

Edited by  
Paolo Arosio  
Maura Poli  
Raffaella Gozzelino

ISBN 978-3-03928-082-7 (Softback)  
ISBN 978-3-03928-083-4 (PDF)



Iron is an essential element for almost all organisms, a cofactor playing a crucial role in a number of vital functions, including oxygen transport, DNA synthesis, and respiration. However, its ability to exchange electrons renders excess iron potentially toxic, since it is capable of catalyzing the formation of highly poisonous free radicals. As a consequence, iron homeostasis is tightly controlled by sophisticated mechanisms that have been partially elucidated. Because of its biological importance, numerous disorders have been recently linked to the deregulation of iron homeostasis, which include not only the typical disorders of iron overload and deficiency but also cancer and neurodegenerative diseases. This leads iron metabolism to become an interesting therapeutic target for novel pharmacological treatments against these diseases. Several therapies are currently under development for hematological disorders, while other are being considered for different pathologies. The therapeutic targeting under study includes the hepcidin/ferroportin axis for the regulation of systemic iron homeostasis, complex cytosolic machineries for the regulation of the intracellular iron status and its association with oxidative damage, and reagents exploiting proteins of iron metabolism such as ferritin and transferrin receptor. A promising potential target is a recently described form of programmed cell death named ferroptosis, in which the role of iron is essential but not completely clarified. This Special Issue has the aim to summarize the state-of-the-art, and the latest findings published in the iron field, as well as to elucidate future directions.



Order Your Print Copy  
You can order print copies at  
[www.mdpi.com/books/reprint/2016](http://www.mdpi.com/books/reprint/2016)

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.