

Special Issue

Genetic Research of Iron Homeostasis and Related Diseases

Message from the Guest Editor

Iron is an important micronutrient in the hematopoietic process and part of iron containing proteins, in the form of heme groups or Fe/S clusters. Iron is involved in many vital cellular processes and responses, such as oxidation–reduction reactions, mitochondrial respiratory chain, DNA/RNA synthesis. In mammals, iron levels are regulated by the liver-secreted hepcidin. At a cellular level, iron homeostasis is controlled by IRP1 and IRP2, two proteins that control the expression of the genes involved in iron uptake, storage, and utilization. Iron metabolism dysregulation leads to diseases including different forms of anaemias, i.e., myelodysplastic syndrome, atransferrinemia; iron-overload conditions, such as neurodegenerative diseases, or ataxias; and diseases involving dysfunctional Fe/S cluster proteins, such as mitochondrial dysfunction syndromes. Great efforts have been made to reveal the genetic causes of most of these diseases, as well as their underlying molecular regulatory mechanisms. In the future, we will certainly uncover additional novel genes involved in iron-related diseases and advancing in our knowledge concerning iron regulation in health and disease.

Guest Editor

Prof. Dr. Mayka Sánchez Fernández

Departamento de Ciencias Básicas de Ciencias de la Salud, Universitat Internacional de Catalunya, Immaculada, 22, 08127 Barcelona, Spain

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Genes
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
genes@mdpi.com

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Genes is central to our understanding of biology, and modern advances such as genomics and genome editing have maintained genetics as a vibrant, diverse and fast-moving field. There is a need for good quality, open access journals in this area, and the *Genes* team aims to provide expert manuscript handling, serious peer review, and rapid publication across the whole discipline of genetics. Starting in 2010, the journal is now well established and recognised. Why not consider *Genes* for your next genetics paper?

Editor-in-Chief

Prof. Dr. Selvarangan Ponnazhagan
Department of Pathology, The University of Alabama at Birmingham,
1825 University Blvd, SHEL 814, Birmingham, AL 35294-2182, USA

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