

Special Issue

DNA Methylation: A Biomarker of the Epigenetic Clock in Aging

Message from the Guest Editor

DNA methylation is a key epigenetic signature implicated in regulation of gene expression and occurs predominantly within CpG dinucleotides. Methylation of CpG-rich promoters is carried out by DNA methyltransferases. Although CpG dinucleotides are underrepresented in the mammalian genome, they tend to cluster within CpG-rich regions—CpG islands (CGI), located in the proximity of the transcription start sites of most protein-coding genes. Further, while 70% to 80% of the CpGs in the entire genome are methylated, CGIs remain mostly unmethylated in somatic cells.

The identification of the “epigenetic clocks”, a set of CpG sites whose DNA methylation levels can be used to measure subject age, has unveiled novel molecular targets to monitor the aging process and to define the “epigenetic age”.

The Special Issue welcomes the submission of both original research and review articles introducing new molecular, bioinformatics, and computational biology strategies to identify DNA methylation-based indicators of the epigenetic clock, which will enable the discovery of potential targets for clinical intervention in aging.

Guest Editor

Prof. Annalisa Di Ruscio

1. Beth Israel Deaconess Medical Center, Department of Medicine, Harvard Medical School, Boston, MA 02215, USA
2. Harvard Medical School Initiative for RNA Medicine, Harvard Medical School, Boston, MA 02115, USA
3. Beth Israel Deaconess Medical Center, Cancer Research Institute, Boston, MA 02215, USA

Deadline for manuscript submissions

closed (30 August 2020)



Methods and Protocols

an Open Access Journal
by MDPI

Impact Factor 2.0
CiteScore 3.9
Indexed in PubMed



mdpi.com/si/39820

Methods and Protocols
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
mps@mdpi.com

[mdpi.com/journal/
mps](https://mdpi.com/journal/mps)





Methods and Protocols

an Open Access Journal
by MDPI

Impact Factor 2.0
CiteScore 3.9
Indexed in PubMed



[mdpi.com/journal/
mps](https://mdpi.com/journal/mps)



About the Journal

Message from the Editor-in-Chief

Methods and Protocols (ISSN 2409-9279) is an open access journal devoted to the publication of new procedural approaches and cutting-edge methodological developments. The ultimate objective of this new forum of scientific communication is to provide researchers with an indispensable tool, enabling better use of the latest scientific technologies. With a broad and totally interdisciplinary focus, *Methods and Protocols* was established with the objective of facilitating cross-fertilization and cross-talk in the scientific arena. Methods and protocols in Life Sciences, Chemistry, Biomedical Sciences, Engineering, and in their intersections such as Biotechnology and Nanotechnology will constitute the core of the journal. However, we anticipate that other fundamental disciplines such as Physics or Geology will be rapidly incorporated.

Editor-in-Chief

Prof. Dr. Fernando Albericio

1. School of Chemistry and Physics, University of KwaZulu-Natal,
Durban, South Africa

2. Department of Organic Chemistry, University of Barcelona,
Barcelona, Spain

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, ESCI (Web of Science), PubMed, PMC, CAPus / SciFinder, and other databases.

Journal Rank:

CiteScore - Q2 (Biochemistry, Genetics and Molecular Biology (miscellaneous))