

## Special Issue

# Cellular Biology of Brain Angiogenesis

### Message from the Guest Editors

At the embryo stage, the development of brain vasculature includes three different phases: vasculogenesis, angiogenesis and arterial specialization. Specific molecular events selectively drive each phase. Several growth factors and neurotropic molecules secreted by endothelial, glial and nervous cells act in a paracrine manner, leading to the correct neurovascular development. The perturbation of pathways controlling brain vascular homeostasis results in aberrant vessel morphogenesis and congenital vascular malformation development. This Special Issue aims to collect research articles, reviews and communications focusing on mechanisms related to brain angiogenesis in both physiological and pathological conditions, as well as those related to oxidative damage. Moreover, submission of manuscripts describing the regulation of blood–brain barrier permeability and the cross-talk at the neurovascular unit is also encouraged. In this context, reports of single-cell transcriptomics, ATAC and methylome analysis can be considered for publication. Studies performed on human samples, cell lines and animal models can be considered.

---

### Guest Editors

Dr. Concetta Scimone

Department of Biomedical, Dental, Morphological and Functional Imaging Sciences, University of Messina, 98125 Messina, Italy

Dr. Rosalia D'Angelo

Department of Biomedical, Dental, Morphological and Functional Imaging Sciences, University of Messina, Via Consolare Valeria 1, 98125 Messina, Italy

---

### Deadline for manuscript submissions

closed (2 February 2024)



## Biology

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.5  
CiteScore 7.4  
Indexed in PubMed



[mdpi.com/si/176085](https://mdpi.com/si/176085)

*Biology*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[biology@mdpi.com](mailto:biology@mdpi.com)

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





# Biology

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.5  
CiteScore 7.4  
Indexed in PubMed



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



## About the Journal

### Message from the Editorial Board

A major strength of biological science is the diversity of approaches that biological scientists apply to their research problems. *Biology* reflects this diversity and brings together studies employing the varied experimental and theoretical approaches that are fueling biological discovery. *Biology*, the journal, is a fully peer-reviewed publication with a rapid and economical route to open access publication and is listed on PubMed. All articles are peer-reviewed and the editorial focus is on determining that the work is scientifically sound rather than trying to predict its future impact.

---

### Editors-in-Chief

Prof. Dr. Jukka Finne

Research Programme in Molecular and Integrative Biosciences, Faculty of Biological and Environmental Sciences, University of Helsinki, P.O. Box 56, FI-00014 Helsinki, Finland

Prof. Dr. Andrés Moya

Integrative Systems Biology Institute, University of Valencia and CSIC, 46980 Valencia, Spain

---

### Author Benefits

#### High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, PubAg, CAPlus / SciFinder, and other databases.

#### Journal Rank:

JCR - Q1 (Biology) / CiteScore - Q1 (General Agricultural and Biological Sciences)

#### Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 17.4 days after submission; acceptance to publication is undertaken in 2.5 days (median values for papers published in this journal in the first half of 2025).