

Special Issue

The Function and Molecular Mechanism for Immune Responses in Human Diseases

Message from the Guest Editor

Recent advances in genomics and molecular biology have significantly enhanced our understanding of the immune system's regulation in both health and disease. The immune response involves intricate networks of genes and signaling pathways that govern the recognition and resolution of pathogenic threats, while also contributing to immune dysregulation in various disorders. This Special Issue focuses on the molecular mechanisms and genomic regulation of immune responses, with an emphasis on how these processes contribute to immunity against pathogens, autoimmunity, tumour and transplantation immunology, hypersensitivity, allergy, and immunodeficiencies. We invite original research and reviews from basic, translational, and clinical perspectives, including studies utilizing in vitro systems, animal models, and patient-derived data. Contributions may explore gene expression dynamics, regulatory networks, epigenetics, and the interplay between genetic variants and environmental factors, helping to elucidate the complexity of immune-related conditions beyond monogenic paradigms.

Guest Editor

Dr. Zsafia Banlaki

Department of Molecular Biology, Institute of Biochemistry and Molecular Biology, Semmelweis University, Tüzoltó utca 37-47, 1094 Budapest, Hungary

Deadline for manuscript submissions

15 October 2026

G C A T
T A C G
G C A T

Genes

an Open Access Journal
by MDPI

Impact Factor 2.8
CiteScore 5.5
Indexed in PubMed



mdpi.com/si/237852

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

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



G C A T
T A C G
G C A T

Genes

an Open Access Journal
by MDPI

Impact Factor 2.8
CiteScore 5.5
Indexed in PubMed



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



About the Journal

Message from the Editor-in-Chief

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
Experimental Cancer Therapeutics, The University of Alabama at
Birmingham, 1825 University Blvd., SHEL 814, Birmingham, AL 35294-
2182, USA

Author Benefits

Open Access:

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

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, MEDLINE, PMC, Embase, PubAg, and other databases.

Journal Rank:

JCR - Q2 (Genetics and Heredity) / CiteScore - Q2 (Genetics (clinical))