Special Issue

Molecular Mechanism and Regulation of Adipogenesis, Adipose Tissue Inflammation and Metabolism

Message from the Guest Editor

The obesity epidemic has spread across the world and poses a health risk to the entire globe. Obesity leads to the development of several metabolic abnormalities, including cardiovascular disease, type 2 diabetes mellitus (T2DM), and various immune-mediated disorders. Obesity is also associated with increased immune cell infiltration in the adipose tissue (AT). AT infiltrates macrophages, neutrophils, natural killer cells (NK), and T cells that exhibit distinct phenotypes in healthy and obese conditions. AT-resident macrophages synergistically coordinate with adipocytes to orchestrate the body's energy metabolism. The immune functions during AT inflammation and whether there is cross-talk between adipocytes and immune cells during obesity remains unclear. Thus, resetting the key signaling in AT during obesity and adipogenesis will provide an innovative approach to the management and therapeutics of obesity. This Special Issue aims to highlight recent advances made in the immunometabolism field that are useful in preventing the individual risk of developing metabolic disease and providing help for advancing therapeutic strategies to combat obesity and metabolic disease.

Guest Editor

Prof. Dr. Udai P Singh

Department of Pharmaceutical Sciences, College of Pharmacy, The University of Tennessee Health Science Center, 881 Madison Avenue, Memphis, TN 38163, USA

Deadline for manuscript submissions

31 October 2025

Biomolecules

an Open Access Journal by MDPI

Impact Factor 4.8
CiteScore 9.2
Indexed in PubMed

mdpi.com/si/220229

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

mdpi.com/journal/biomolecules

Biomolecules

an Open Access Journal by MDPI

Impact Factor 4.8
CiteScore 9.2
Indexed in PubMed

mdpi.com/journal/biomolecules

About the Journal

Message from the Editorial Board

Biomolecules is a multidisciplinary open-access journal that reports on all aspects of research related to biogenic substances, from small molecules to complex polymers. We invite manuscripts of high scientific quality that pertain to the diverse aspects relevant to organic molecules, irrespective of the biological question or methodology. We aim for a competent, fair peer review and rapid publication. Please look at some of the exciting work that has been published in *Biomolecules* so far. We would be delighted to welcome you as one of our authors.

Editors-in-Chief

Prof. Dr. Peter E. Nielsen
Department of Cellular and Molecular Medicine, Faculty of Health and Medical Sciences, University of Copenhagen, Blegdamsvej 3C, DK-2200 Copenhagen, Denmark

Prof. Dr. Lukasz Kurgan
Department of Computer Science, Virginia Commonwealth University, Richmond, VA 23284, 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, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q1 (Biochemistry and Molecular Biology) / CiteScore - Q1 (Biochemistry)

MDPI