Special Issue

The Aging Blueprint: Decoding Biomarkers of Bone and Muscle Health

Message from the Guest Editor

The burden of musculoskeletal decline, including osteoporosis, sarcopenia, and frailty, is increasing as the world's population ages. Developing predictive biomarkers and treatment strategies requires an understanding of the molecular and metabolic foundations of these disorders. This Special Issue of *Metabolites* highlights studies investigating biochemical markers that control aging-related alterations in bone and muscle physiology. Contributions analyzing molecular mechanisms linking musculoskeletal aging to metabolic stress, inflammation, and cellular senescence are encouraged. Topics of interest include the senescence-associated secretory phenotype (SASP), oxidative stress, mitochondrial dysfunction, and nutrient-sensing mechanisms such as mTOR and AMPK. Studies employing transcriptomics, proteomics, and targeted or untargeted metabolomics to identify new biomarkers or therapeutic targets are particularly welcome. This Special Issue aims to advance our understanding of aging as a multi-organ, systemic phenomenon, promoting translational insights for individualized interventions, early diagnosis, and improved aging-related quality of life.

Guest Editor

Dr. Sagar Vyavahare
Department of Medicine, Augusta University, Augusta, GA 30909, USA

Deadline for manuscript submissions

31 October 2026

Metabolites

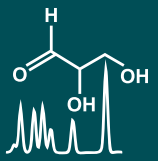
an Open Access Journal by MDPI

Impact Factor 3.7
CiteScore 8.1
Indexed in PubMed

mdpi.com/si/255280

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

mdpi.com/journal/metabolites



Metabolites

an Open Access Journal by MDPI

Impact Factor 3.7
CiteScore 8.1
Indexed in PubMed

mdpi.com/journal/metabolites

MDPI

About the Journal

Message from the Editor-in-Chief

The metabolome is the result of the combined effects of genetic and environmental influences on metabolic processes. Metabolomic studies can provide a global view of metabolism and thereby improve our understanding of the underlying biology. Advances in metabolomic technologies have shown utility for elucidating mechanisms which underlie fundamental biological processes including disease pathology. *Metabolites* is proud to be part of the development of metabolomics and we look forward to working with many of you to publish high quality metabolomic studies.

Editor-in-Chief

Dr. Amedeo Lonardo
Internal Medicine, Ospedale Civile di Baggiovara, Azienda Ospedaliero-Universitaria, 41126 Modena, Italy

Author Benefits

High Visibility:

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

Journal Rank:

JCR - Q2 (Biochemistry and Molecular Biology) / CiteScore - Q1 (Endocrinology, Diabetes and Metabolism)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.7 days after submission; acceptance to publication is undertaken in 3.6 days (median values for papers published in this journal in the second half of 2025).