Special Issue

Molecular Characterization and Applications of Nanomaterials in Nanomedicine and Cancer Therapy

Message from the Guest Editor

In the nanomedicine field, a special place is occupied by the diagnosis and therapy of cancer using methods based on nanomaterials as alternative techniques compared to currently used chemo- and radiotherapy, which are ineffective in many cases and are highly toxic for the body. Thus, nowadays, scientists are focusing on the use of biocompatible and biofunctionalized nanomaterials that target tumor cells in order to increase the effectiveness in their destruction and reduce or even eliminate cytotoxicity. A new technique called nanotheranostics is widely studied in the field of nanomedicine as a potential technique for both diagnosis and therapy. This technique is based on using nanomaterials and biofunctionalized magnetic nanoparticles together with novel medical imaging techniques, comprising ultrasensitive and real-time methods. These alternative techniques, which use biocompatible and biofunctionalized magnetic nanomaterials, could have a bright future in cancer therapy. Therefore, this Special Issue deals with presenting the results of current research in this field in the form of articles or reviews.

Guest Editor

Dr. Costica Caizer

Department of Physics, Faculty of Physics, West University of Timisoara, 300223 Timisoara, Romania

Deadline for manuscript submissions

20 April 2026



International Journal of Molecular Sciences

an Open Access Journal by MDPI

Impact Factor 4.9 CiteScore 9.0 Indexed in PubMed



mdpi.com/si/212868

International Journal of Molecular Sciences Editorial Office MDPI, Grosspeteranlage 5 4052 Basel, Switzerland Tel: +41 61 683 77 34 ijms@mdpi.com

mdpi.com/journal/ ijms





International Journal of Molecular Sciences

an Open Access Journal by MDPI

Impact Factor 4.9 CiteScore 9.0 Indexed in PubMed





Message from the Editor-in-Chief

The International Journal of Molecular Sciences (*IJMS*, ISSN 1422-0067) is an open access journal, which was established in 2000. The journal aims to provide a forum for scholarly research on a range of topics, including biochemistry, molecular and cell biology, molecular biophysics, molecular medicine, and all aspects of molecular research in chemistry. *IJMS* publishes both original research and review articles, and regularly publishes special issues to highlight advances at the cutting edge of research. We invite you to read recent articles published in *IJMS* and consider publishing your next paper with us.

Editor-in-Chief

Prof. Dr. Maurizio Battino

Department of Odontostomatologic and Specialized Clinical Sciences, Sez-Biochimica, Faculty of Medicine, Università Politecnica delle Marche, Via Ranieri 65, 60100 Ancona, Italy

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, PMC, MEDLINE, Embase, CAPlus / SciFinder, and other databases.

Journal Rank:

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

