Special Issue

Molecular Diagnosis and Treatment of Colorectal Cancer

Message from the Guest Editors

This Special Issue aims to focus on the complex genetic and epigenetic alterations that drive malignant transformations in colorectal cancer (CRC). Understanding these molecular pathways is crucial for diagnosis, treatment, and prognosis. CIN is the most common genetic mechanism in CRC, accounting for approximately 85% of cases. It results from mutations that lead to large-scale chromosomal abnormalities, including gains, losses, and aneuploidy. The key genes involved are APC, KRAS, TP53, BRAF V600E, and SMAD4. MSI occurs due to defects in DNA mismatch repair (MMR) genes, including MLH1, MSH2, MSH6, and PMS2. In this Special Issue, the current understanding of the role of these genes in CRC will be discussed. Approximately 5–10% of CRC cases arise from inherited genetic mutations, mostly presenting as Lynch Syndrome (Hereditary Non-Polyposis Colorectal Cancer) and Familial Adenomatous Polyposis. Understanding these molecular pathways is crucial for diagnosis, treatment, and prognosis. The emergence of targeted therapies for CRC will also be presented in this Special Issue.

Guest Editors

Dr. Steven T. Brower
Department of Surgical Oncology and HPB Surgery, Englewood Hospital and Medical Center, Englewood, NJ 07631, USA

Dr. Robert Pergolizzi
Englewood Hospital and Medical Center, Englewood, NJ 07631, USA

Deadline for manuscript submissions

31 August 2025

International Journal of Molecular Sciences

an Open Access Journal by MDPI

Impact Factor 4.9
CiteScore 9.0
Indexed in PubMed

mdpi.com/si/233920

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

MDPI

International Journal of Molecular Sciences

an Open Access Journal by MDPI

Impact Factor 4.9
CiteScore 9.0
Indexed in PubMed

mdpi.com/journal/ijms

MDPI

About the Journal

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)