



Glycobiology-Based Drug Development

Guest Editor:

Prof. Dr. Tatsuro Irimura

Division of Glycobiologics,
Intractable Disease Research
Center, Juntendo University
Graduate School of Medicine,
Tokyo 113-8421, Japan

Deadline for manuscript
submissions:

closed (31 March 2022)

Message from the Guest Editor

The target molecules of almost all currently used drugs are proteins, which are always glycosylated if they are synthesized in human cells and transported to cell surfaces and/or secreted. The patterns of glycosylation depend on the lineage and the stage of differentiation of the producing cells and they modulate proteins' molecular function, stability, interactions and trafficking. When a druggable protein plays a crucial role in a pathogenic process, glycosylation is potentially useful as a drug target. The glycosylation of proteins should also be useful in cell-type-specific targeting based on epitopes formed by glycan–peptide complexes. Many protein drugs, including antibodies and growth factors, are glycosylated, and proper glycosylation is an indispensable element to obtain the optimal effects of these protein drugs. Finally, deficiency or malfunction of enzymes involved in biosynthesis or degradation results in severe diseases, which can be treated based on glycobiology.

This Special Issue covers basic, translational, and preclinical research involving glycans towards the development of new drugs.





an Open Access Journal by MDPI

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

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.

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 & Molecular Biology*) / CiteScore - Q1 (*Inorganic Chemistry*)

Contact Us

*International Journal of Molecular
Sciences* Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/ijms
ijms@mdpi.com
X@IJMS_MDPI