

Special Issue

Bioactive Phytochemicals for Blood Glucose Regulation

Message from the Guest Editors

The rising global incidence of diabetes and related metabolic disorders underscores the urgent need for innovative therapeutic strategies to regulate blood glucose levels. Plants are a rich source of structurally diverse bioactive phytochemicals that have historically provided leads for modern drug development. Compounds such as alkaloids, flavonoids, terpenoids, and saponins have demonstrated significant hypoglycemic activity through diverse mechanisms, including modulation of insulin secretion, enhancement of insulin sensitivity, inhibition of carbohydrate-digesting enzymes, and regulation of glucose transporters and signaling pathways. This Special Issue invites original research and comprehensive reviews addressing the isolation, structural characterization, and mechanistic studies of novel phytochemicals, as well as their preclinical evaluation and optimization for therapeutic use. Topics of interest include bioassay-guided fractionation, structure–activity relationship (SAR) studies, molecular docking and modeling approaches, and advances in translating traditional medicinal knowledge into modern drug discovery pipelines.

Guest Editors

Dr. Sonia Escandón-Rivera

Dr. Daniel Rosas-Ramírez

Dr. Roberto Arreguín Espinosa de los Monteros

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

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Message from the Editor-in-Chief

Plants is an open access journal which provides an advanced forum for research findings in areas related to plant function, its physiology, biology, taxonomy, stresses, and its interactions with other organisms. It publishes original research articles, reviews, reports, and conference proceedings (peer reviewed full articles) and communications. In original research papers, it is important that full experimental details are provided. We also encourage timely reviews and commentaries on topics of interest to the plant research community.

Editor-in-Chief

Prof. Dr. Dilantha Fernando
Department of Plant Science, University of Manitoba, Winnipeg, MB
R3T 2N2, Canada

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