

Special Issue

The Anti-Inflammatory and Antioxidant Potential of Phytochemicals

Message from the Guest Editor

Diet-Derived Bioactive Compounds: Targeting Chronic Inflammation

Chronic inflammation underpins major non-communicable diseases (NCDs), including cardiovascular disorders, diabetes, and cancer.

Emerging evidence highlights plant-derived compounds—polyphenols, carotenoids, terpenoids, and alkaloids—as potent modulators of inflammatory pathways (e.g., NF- κ B, MAPK, Nrf2) through immune regulation, oxidative stress mitigation, and signaling cascade interference. This Special Issue invites original research and reviews on **anti-inflammatory mechanisms and therapeutic potential** of dietary bioactives. Key focuses include:

- Novel compound discovery and structure–activity relationships
- Bioavailability, metabolic transformation, and multi-component synergy
- Mechanistic studies (in vitro/in vivo models, clinical trials, computational approaches)

We aim to advance the translation of food-derived molecules into preventive/therapeutic strategies for chronic inflammatory diseases.

Guest Editor

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