Current Pharmacology Reports (2026) 12:28
https://doi.org/10.1007/s40495-026-00469-8

REVIEW

Naringin and its Biotransformation: Sources, Screening Methods, Products, and Pharmacological Potential

Jitendra D. Salunkhe[1] · Tanmay S. Bachhav[1] · Atharva S. Patil[2] · Bhavana V. Mohite[3] · Sunil H. Koli[4] · Vikas S. Patil[5] et al. *[full author details at the end of the article]*

Received: 12 February 2026 / Accepted: 3 June 2026

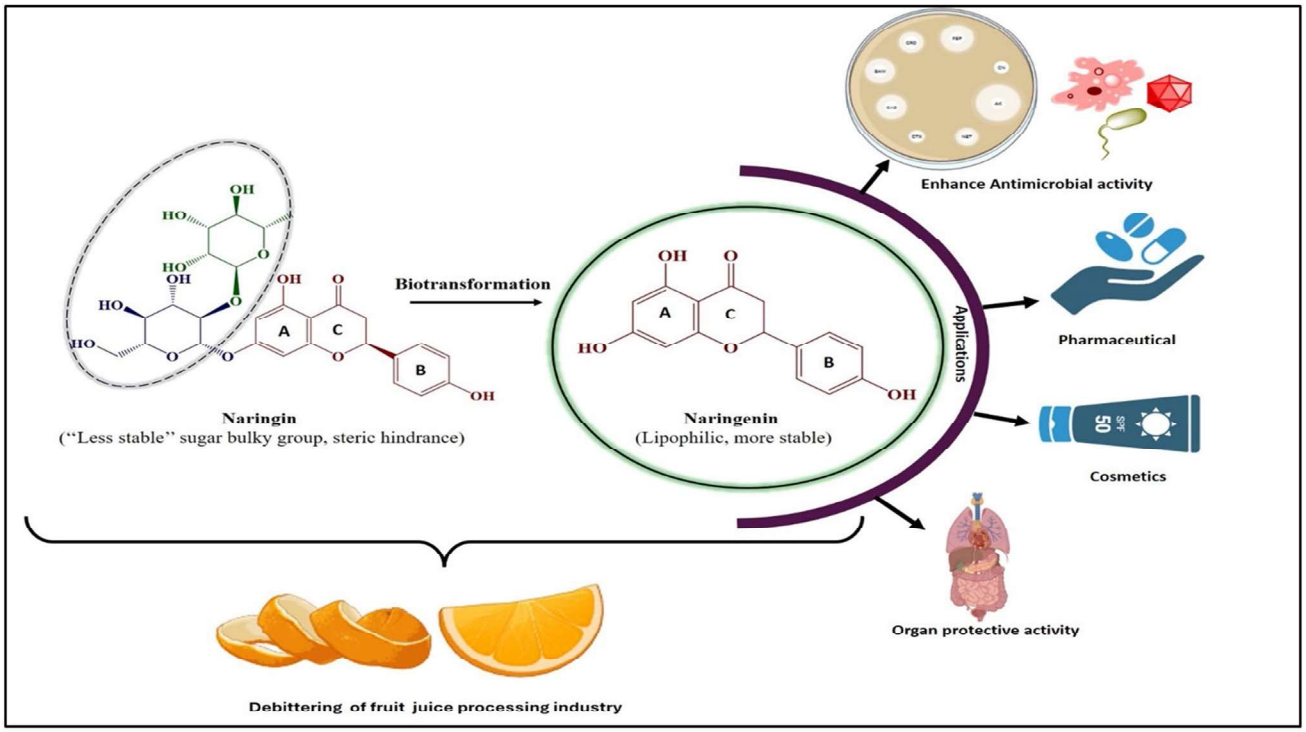
Abstract

Purpose of Review This review provides a multi-disciplinary evaluation of naringin and naringinase, detailing their natural botanical sources, the molecular mechanisms of enzymatic biotransformation and the resulting industrial and pharmacological significance of their products.

Recent Findings While naringin has traditionally used and studied for citrus juice debittering, recent research has shifted toward advanced, high specificity screening methodologies and the synthesis of innovative nanoconjugates for improved drug delivery system. Furthermore, this manuscript highlights the role of naringin biotransformation in a sustainable bioeconomy which focuses on the valorization of citrus waste to mitigate environmental pollution while producing high value medicinal compounds.

Summary This review provides a comprehensive lifecycle account of naringin and naringinase, bridging traditional food processing applications with modern advanced nanotechnological approaches, clinical health and environmental sustainability.

Graphical Abstract



Keywords Naringin · Naringenin · Debittering · Glycoflavonoids · Antimicrobial

Published online: 22 June 2026