

Special Issue

Nanobiotechnology: Breaking Barriers in Phytomedicine

Message from the Guest Editor

In the last 20 years, researchers attracted attention through an extensive number of publications on nanotechnology, proving that this scientific area exploded exponentially and novel tools on advanced materials became available in science and technology. Indeed, nanotechnology has emerged as the newest pivotal technology for a wide range of applications. Indeed, the benefits of nanotechnology to society will become real when its transition to produce new products by using nanomanufacturing techniques and processes without causing high costs and toxicity risks to both humans and/or the environment.

This scenario highlights the transformative role of nanobiotechnology in enhancing the effectiveness, stability, and delivery of plant-based medicines. By applying nanoscale technologies, key challenges such as poor solubility, low bioavailability, and the limited targeting ability of phytocompounds are overcome. The integration of nanobiotechnology opens new frontiers for developing more efficient, controlled, and personalized phytomedicines, ultimately advancing natural therapies and expanding their clinical applications.

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