عنوان مقاله:

Micro and nanoformulations of catechins for therapeutic applications: recent advances and challenges

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نویسندگان:

Mehran Alavi - *Department of Biological Science, Faculty of Science, University of Kurdistan, Sanandaj, Kurdistan, Iran Nanobiotechnology Department, Faculty of Innovative Science and Technology, Razi University, Kermanshah, Iran*

Reza Yarani - *Translational Type ۱ Diabetes Research, Department of Clinical Research, Steno Diabetes Center Copenhagen, Borgmester Ib Juuls Vej ۸۳, DK-۲۷۳۰ Herlev, Denmark*

Mridula Sreedharan - *International and Inter University Centre for Nanoscience and Nanotechnology, Mahatma Gandhi University, Kottayam, Kerala, India*

Sabu Thomas - *International and Inter University Centre for Nanoscience and Nanotechnology, Mahatma Gandhi University, Kottayam, Kerala, India*

خلاصه مقاله:

Bioactive metabolites isolated from myriad living organisms, particularly medicinal plants, can synergize the therapeutic activities of conventional drugs. Catechin is a flavan-۳-ol related to flavonoids, a bioactive compound causing many therapeutic activities. Micro and nanoformulations of ((-)-epigallocatechin gallate), ((-)-epigallocatechin), ((-)-epicatechin gallate), and ((-)-epicatechin), as the leading catechins derivatives of tea (Camellia sinensis) have showed desirable antibacterial, anticancer, antidiabetic, anti-neurodegenerative, activities against Alzheimer, multiple sclerosis, and Parkinson with significant applications in wound healing, tissue engineering, and various prosthetic implants. Different nanosystems produced from zero-, one-, and two-dimensional nanomaterials, such as solid lipid nanoparticles, carbon nanotubes, and nanofilms, have been employed to address the disadvantages of conventional bioactive compounds. In this review, we have attempted to cover these issues, focusing on their benefits and challenges for future studies.

کلمات کلیدی:

bioactive compounds, Catechins, Tissue engineering, Prosthetic implants, Neurodegenerative Diseases, Micro and nanosystems