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Special Issue Reprint

Applications of Antioxidant Nanoparticles, 2nd Edition

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The administration of antioxidants is a useful therapeutic approach to reduce or neutralize oxidative stress. This aspect has been addressed in several fields, with different types of formulations transforming the field of antioxidant therapeutics by using specialized nano-delivery systems. Merging antioxidant therapy and nanomedicine marks a major advancement in the treatment of oxidative disorders. In the first edition of the Special Issue entitled, “Applications of Antioxidant Nanoparticles,” we summarized the recent advances in the design, production, characterization, use, and effect of antioxidant nanoparticles.

In this second Special Issue, we have expanded researchers' awareness of the different types of applications of nanoparticles to counteract or regulate the effect of oxidative stress in different diseases, either topically or systemically. Precisely, seven research articles (divided into two groups, depending on the organic or inorganic nature of the studied nanoparticle) and three reviews are collected. The combination of green production methods and natural molecules has also been explored, demonstrating a multifunctional hybrid approach that mitigates oxidative stress, inflammation, and microbial potential. Finally, the studies collected in this Special Issue emphasize the potential of nanotechnological systems in modulating the activity of the carried molecules, such as antioxidant activities; activity after administration; enhancing the therapeutic activity, stability, and targeted uptake; and delivery across different biomedical applications characterized by redox environments.



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