

Special Issue

Nano for Health: Strategies and Challenges of Nanotechnology for Drug Delivery

Message from the Guest Editors

Nanotechnology has become an excellent platform with many applications in different fields of science, allowing us to control and manipulate matter at the nanoscale by designing and engineering new systems. In the health field, nanotechnology has been shown to be an optimal solution to improve the effectiveness of different drugs. An established strategy for drug delivery consists of encapsulating the drugs in a suitable nanocarrier system. As a result, there is an increased therapeutic index by controlling the rate and site of drug release, solubility and stability. Moreover, nanocarriers can extend a formulation's action and successfully combine active substances with different degrees of hydrophilicity. However, there also are some associated challenges. Many drug delivery systems lack knowledge of their molecular mechanisms of interaction with the cell. In addition, there is a need for a better characterization and understanding of toxicity issues since the actual knowledge about the fate of nanocarriers is still insufficient.

Guest Editors

Dr. Dragana Barros

Instituto de Tecnologia Química e Biológica António Xavier (ITQB),
Universidade Nova de Lisboa, Av. da República, 2780-157 Oeiras,
Portugal

Dr. Catarina Pinto Reis

IBEB/FCUL, iMed.U LISboa, Faculty of Pharmacy, University of Lisboa,
Lisboa, Portugal

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Prof. Dr. Maurizio Battino

Department of Odontostomatologic and Specialized Clinical Sciences,
Sez-Biochimica, Faculty of Medicine, Università Politecnica delle
Marche, Via Ranieri 65, 60100 Ancona, Italy

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