Special Issue

Functionalization of Nanoparticles with Linkers, Drugs and Biomolecules for the Detection and Treatment of Cancer

Message from the Guest Editor

This Special Issue underscores the transformative potential of nanoparticles (NPs) in cancer management through strategic functionalization with linkers, drugs, and biomolecules. Current cancer therapies face challenges such as off-target toxicity and limited efficacy, driving the need for precision-engineered nanomedicine.

The issue highlights diverse NP platforms modified with linkers like polyethylene glycol (PEG) or antibodies to improve stability and circulation. Conjugation of therapeutic payloads (chemotherapeutics, siRNA, immunotherapies) and targeting biomolecules (aptamers, peptides, antibodies) enable the specific recognition of cancer cells and controlled drug release. Studies emphasize synergies between functional elements, such as integrating imaging agents (for MRI or fluorescence) with drugs to enable real-time monitoring of treatment response.

Key contributions to this Special Issue address critical barriers in nanomedicine, including tumor penetration, immune evasion, and multidrug resistance. The research underscores the promise of functionalized NPs for personalized cancer care, bridging diagnostic and therapeutic modalities.

Guest Editor

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Message from the Editor-in-Chief

The biomaterials field is one of the largest and fastest growing research areas both in the scientific community and in the industrial one. Biomaterials are the result of collaborations between different disciplines: chemistry, medicine, pharmacology, engineering and biology. The objective of this collaboration is to lead to the implementation of new devices to restore form and human body functions. The mission of the *Journal of Functional Biomaterials* (*JFB*) is to focus attention on physico-chemical characteristics and their importance in the interactions between biomaterials and living tissues. *JFB* seeks to publish studies on the preparation, performance and use of biomaterials in biomedical devices, as well as regarding their behavior in physiological environments. We are pleased to welcome you as our authors.

Editor-in-Chief

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