



Biomolecules

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Special Issue Reprint

Biomolecules and Materials Based Approaches in Biomedical Field

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The Special Issue provides an overview of the state of the art of biomolecule- and material-based strategies in contemporary biomedical research. It brings together recent advances that demonstrate how biomolecules and innovative materials are being applied to improve biomedical diagnostics, therapeutics, pharmaceuticals, and drug delivery systems. The Special Issue includes five original research articles and three systematic reviews that collectively consolidate current knowledge across different but interconnected research areas. The published contributions address topics ranging from biochemical and genetic markers of bone fragility and vitamin D deficiency to the role of ferroptosis in neurological disorders, nanomaterial-based biosensors for DNA immobilization, and advanced analytical methods for metabolic disease screening. Additional studies explore the effects of gut hormones on beta cell function and metabolic regulation, the expression of sarcoglycans beyond muscle tissue, biomolecule-driven coacervation processes, and modern approaches in soft-tissue reconstruction and vascularized adipose engineering. Overall, this Special issue highlights the growing impact of biomolecule- and material-based approaches as powerful tools that are reshaping biomedical science and accelerating translational applications from basic research to clinical practice.

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