Special Issue

Study on Bacterial Biofilm-Targeted Smart Drug Delivery System

Message from the Guest Editors

Bacterial biofilms are complex, multicellular communities of bacteria that adhere to surfaces and are highly protected by a self-produced extracellular matrix. The matrix contributes to the high virulence and tolerance of biofilms to antibiotics by restricting drug penetration, diffusion and limiting the retention of antibiotics. The persistent nature of these biofilms, coupled with their inherent resistance to traditional antimicrobial therapies, underscores a pressing clinical challenge—these biofilms often evade eradication, leading to recurrent treatment failures. In response to this urgent issue, there is a growing emphasis on the exploration of smart drug carriers. These innovative platforms are being investigated for their potential to effectively penetrate biofilms, thereby enhancing the efficacy of antimicrobials while simultaneously minimizing the adverse effects associated with current treatments. We aspire to catalyze advancements in combating persistent bacterial infections and are seeking submissions that contribute novel insights and empirical findings related to the targeted delivery of drugs to bacterial biofilms.

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Message from the Editor-in-Chief

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