

Special Issue

CRISPR-Cas in Genomic Manipulation and Antimicrobial Resistance

Message from the Guest Editor

CRISPR-Cas-mediated genome editing has revolutionized the genetics and biomedical research in many model eukaryotic organisms on account of its efficiency, affordability, and accessibility. Although their applications to edit prokaryotes have been relatively unexplored and underrepresented due to the requirement of species-specific optimization for plasmid delivery and Cas proteins expression, a growing number of the CRISPR-Cas-mediated genome editing are established in model bacterial strains and species. Remarkably, since more than half of bacterial genomes harbor native CRISPR-Cas systems, various native type I CRISPR-Cas-mediated genome editing techniques are being established in both model and wildy isolated bacterial strains including clinical isolates and isolates of the human microbiome. Furthermore, the newly emerged compact systems, such as Cas12e, Cas12f, and Cas12j, are increasingly applied to edit bacterial genomes with efficiency and simplicity. This Special Issue is expected to share these developments and promote their applications to tackle the ever-growing problem of antimicrobial resistance.

Guest Editor

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