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CONTOURS OF CRISPR-CAS SYSTEM TO ALLEVIATE THE ANTIMICROBIAL RESISTANCE

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The improper use of antimicrobials in healthcare system and animal husbandry led to the emergence and spread of multidrug resistant (MDR) bacteria. Several approaches have been proposed to overcome the problem of antimicrobial resistance (AMR). One of the advanced approaches in controlling AMR is a clustered regularly interspaced short palindromic repeats (CRISPR)/CRISPR-associate protein (Cas) system. This system controls pathogen-specific AMR, without affecting the commensal bacteria. With the important features of CRISPR/Cas9, such as high specificity, flexibility, and efficiency, this system has the ability to eliminate MDR bacteria under in vitro and in vivo conditions. However, this system is still in its early stage and many challenges have to be resolved before its application in clinical practice.