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(57) Abstract :
The invention relates to a CRISPR-Cas system for high-efficiency gene targeting applications. The system includes engineered Cas proteins (101), stabilized guide RNAs (102), delivery mechanism (103), and nuclear localization sequence (105) for enhanced precision and reduced off-target effects. It enables therapeutic, agricultural, and industrial gene editing applications with superior reproducibility and efficiency, ensuring scalable and safe genome engineering solutions.

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