

PROGRAMMABLE CONTROL OF CRISPR-CAS9 SYSTEMS BY ENGINEERING SGRNA AS TOEHOLD SWITCHABLE RIBOREGULATORS

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Robust control over gene expression is necessary for diverse applications in molecular biology, synthetic biology, and biotechnology. One of the most promising strategies to exert these types of control is the recently developed CRISPR interference (CRISPRi) and activation (CRISPRa) approach, which provides simple and highly effective RNA-based methods for targeted silencing and upregulation of transcription in bacterial and eukaryotic cells. While these current methods are capable of sequence-specific targeting,

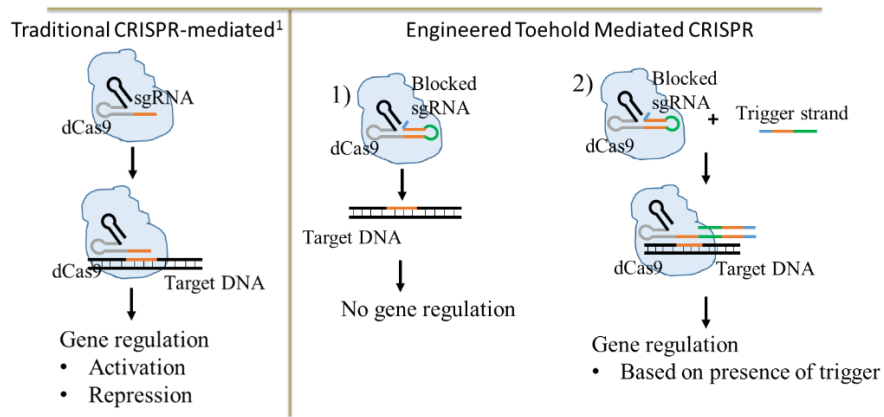


Figure 1 – General scheme for proposed conditional toehold-gated dCas9 regulators