

Control CRISPR/Cas9 Plasmid: sc-418922

BACKGROUND

The Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) and CRISPR-associated protein (Cas9) system is an adaptive immune response defense mechanism used by archaea and bacteria for the degradation of foreign genetic material (5,7). This mechanism can be repurposed for other functions, including genomic engineering for mammalian systems, such as gene knockout (KO) (1,2,3,6).

REFERENCES

1. Cong, L. et al. 2013. Multiplex genome engineering using CRISPR/Cas systems. *Science*. 339: 819-823.
2. Mali, P., et al. 2013. RNA-guided human genome engineering via Cas9. *Science* 339: 823-826.
3. Ran, F.A., et al. 2013. Genome engineering using the CRISPR-Cas9 system. *Nat. Protoc.* 8: 2281-2308.
4. Vercoe, R.B. et al. 2013. Cytotoxic chromosomal targeting by CRISPR/Cas systems can reshape bacterial genomes and expel or remodel pathogenicity islands. *PLoS Genet.* E-published.
5. Van der Oost, J., et al. 2014. Unraveling the structural and mechanistic basis of CRISPR-Cas systems. *Nat. Rev. Microbiol.* 7: 479-492.
6. Shalem, O., et al. 2014. Genome-scale CRISPR-Cas9 knockout screening in human cells. *Science* 343: 84-87.
7. Hsu, P., et al. 2014. Development and applications of CRISPR-Cas9 for genome editing. *Cell* 157: 1262-1278.

PRODUCT

Control CRISPR/Cas9 Plasmid is a non-targeting 20 nt scramble guide RNA (gRNA) designed as a negative control. The Cas9/gRNA complex does not recognize any DNA sequence and will not bind or cleave genomic DNA. Each vial contains 20 µg of lyophilized Control CRISPR/Cas9 Plasmid. Suitable for up to 20 transfections.

RESEARCH USE

The Control CRISPR/Cas9 Plasmid is considered a "Licensed Product" and is to be used in accordance with the Limited License stated on www.scbt.com/limitedlicense.

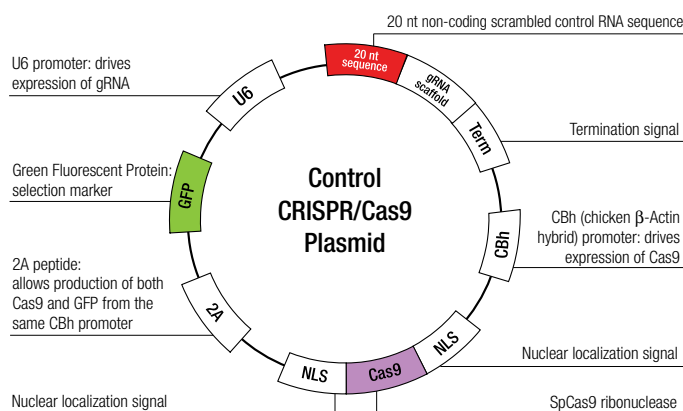
The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

Control CRISPR/Cas9 Plasmid is recommended as a negative control for evaluating the specificity of the CRISPR/Cas9 KO Plasmid system.



SUPPORT REAGENTS

For optimal reaction efficiency with Control CRISPR/Cas9 Plasmid, Santa Cruz Biotechnology's UltraCruz™ Transfection Reagent: sc-395739 (0.2 ml) and Plasmid Transfection Medium: sc-108062 (20 ml) are recommended.

STORAGE AND RESUSPENSION

Store lyophilized plasmid DNA at 4° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at 4° C for short term storage or -20° C for long-term storage. Avoid repeated freeze thaw cycles.

Resuspend lyophilized plasmid DNA in 200 µl of the provided ultrapure, sterile, DNase-free water. Resuspension of the plasmid DNA makes a 0.1 µg/µl solution in a 10 mM TRIS EDTA, 1 mM EDTA buffered solution.