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Produktinformation

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- Diagnostik & molekulare Diagnostik
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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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SANTA CRUZ BIOTECHNOLOGY, INC.

Control Double Nickase Plasmid: sc-437281

BACKGROUND

The Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) and CRISPR-associated protein (Cas9) system is an adaptive immune response defense mechanism used by archea and bacteria for the degradation of foreign genetic material (6). This mechanism can be repurposed for other functions, including genomic engineering for mammalian systems, such as gene knockout (KO) (1,2,3). CRISPR/Cas9 KO Plasmid products enable the identification and cleavage of specific genes by utilizing guide RNA (gRNA) sequences. While the CRISPR/Cas9 KO Plasmids enable maximum gene knockout efficiency, CRISPR Double Nickase Plasmid products offer improved specificity while maintainaing a high level of knockout efficiency (4).

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. Ran, F.A., et al. 2013. Double nicking by RNA-guided CRISPR Cas9 for enhanced genome editing specificity. Cell 154: 1380-1389.
5. Hsu, P., et al. 2014. Development and applications of CRISPR-Cas9 for genome editing. Cell 157: 1262-1278.

PRODUCT

Control Double Nickase Plasmid is a pair of plasmids each encoding a D10A mutated Cas9 nuclease and a unique, non-targeting 20 nt scramble guide RNA (gRNA) designed as a negative control. One plasmid in the pair contains a puromycin resistance gene; the other plasmid in the pair contains a GFP marker to visually confirm transfection. The Cas9n/gRNA complex does not recognize or bind any specific sequence within the genomic DNA. Each vial contains 20 µg of lyophilized Control Double Nickase Plasmid. Suitable for up to 20 transfections.

RESEARCH USE

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

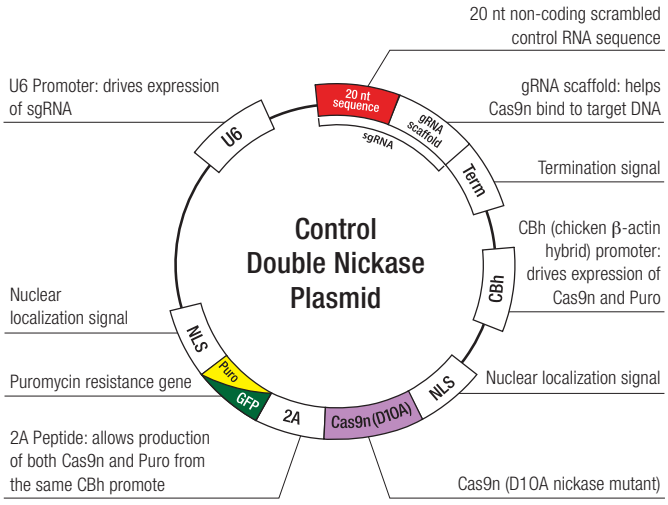
The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell 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 Double Nickase Plasmid is recommended as a negative control for evaluating the specificity of the Double Nickase Plasmid system.



SUPPORT REAGENTS

For optimal reaction efficiency with Control Double Nickase 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.