ArciTect™ sgRNA

Custom-designed single guide RNA for CRISPR-Cas9 genome editing

Catalog #200-0013 4 nmol

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Product Description

ArciTect™ sgRNA is a custom single guide RNA (sgRNA) for CRISPR-Cas9 genome editing. ArciTect™ sgRNA contains a user-specified 19- to 21-base sequence complementary to the target genomic location. ArciTect™ sgRNA must be designed directly upstream of a protospacer adjacent motif (PAM) site (5'-NGG-3'). It contains 2'-O-methyl and phosphorothioate modifications at the first two 5' and 3' terminal residues for optimal stability and editing efficiency.

Properties

Storage: Store at -80°C. Alternatively, store at -20°C for up to 6 months.
Shelf Life: Stable for 12 months from date of manufacture (MFG) on label.
Format: Lyophilized
Sequence: Refer to the STEMCELL Certificate of Analysis available at www.stemcell.com/coa.

Materials Required But Not Included

PRODUCT NAME	CATALOG #
Nuclease-free water	e.g. 79001
ArciTect™ Cas9 Nuclease	76002 or 76004

Directions for Use

A. PREPARATION OF ArciTect™ sgRNA STOCK SOLUTION

1. Centrifuge the vial of ArciTect™ sgRNA before opening.
2. Add 40 µL of nuclease-free water to give a final concentration of 100 µM. Mix thoroughly.

   NOTE: If not used immediately, aliquot and store at -20°C for up to 6 months. Alternatively, store at -80°C for long-term storage. After thawing the aliquots, use immediately. Do not re-freeze.

B. GENOME EDITING OF CELLS WITH sgRNA

1. Prepare ribonucleoprotein (RNP) Complex Mix by combining ArciTect™ Cas9 Nuclease (4 µg/µL or 25 µM) with sgRNA stock solution (prepared in section A) in an appropriate transfection buffer.

   NOTE: For electroporation reactions, we recommend 1 - 4 µM Cas9 (final concentration in electrolytic buffer); for chemical transfection reactions, we recommend 10 - 100 nM Cas9 (final concentration in plating media). For both electroporation and chemical transfection methods, a 1:2 - 1:8 molar ratio of Cas9:sgRNA is recommended. RNP complex formation must be optimized for cell type and transfection method.
2. Incubate RNP Complex Mix at room temperature (15 - 25°C) for 10 - 20 minutes.
3. Deliver RNP Complex Mix into cells using your preferred transfection method.
4. Culture cells for 48 - 72 hours after transfection to allow genome editing to occur.

For complete instructions on cell type-specific genome editing with the ArciTect™ CRISPR-Cas9 system, refer to the Technical Bulletin for Genome Editing of Human Primary T Cells (Document #27155) or Genome Editing of Human Pluripotent Stem Cells (Document #27084), available at www.stemcell.com or contact us to request a copy.

Related Products

For related products, including other genome editing tools, specialized cell culture and storage media, antibodies, cytokines, and small molecules, visit www.stemcell.com or contact us at techsupport@stemcell.com.