ArciTect™ tracrRNA Kit

Trans-activating crRNA for guide RNA generation in CRISPR-Cas9 genome editing

Catalog # 76016 5 nmol Kit
76017 10 nmol Kit
76018 20 nmol Kit

STEMCELL™ TECHNOLOGIES
Scientists Helping Scientists™ | WWW.STEMCELL.COM
TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
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Product Description

ArciTect™ tracrRNA is a trans-activating CRISPR RNA (crRNA), one of two RNA components required to make a guide RNA (gRNA) for CRISPR-Cas9 genome editing. ArciTect™ tracrRNA contains a complementary sequence to the linker sequence in ArciTect™ crRNA, allowing fast and efficient gRNA duplex formation. ArciTect™ tracrRNA is recognized by all ArciTect™ Cas9 nucleases and is essential for ribonucleoprotein (RNP) complex formation. It contains 2'-O-methyl and phosphorothioate modifications at the first two 5' and 3' terminal residues for optimal stability and editing efficiency.

ArciTect™ tracrRNA Kit includes tracrRNA as well as ArciTect™ Annealing Buffer (5X), which is required for forming a gRNA duplex between ArciTect™ tracrRNA and ArciTect™ crRNA. ArciTect™ crRNA is available by custom order for user-specified target sequences, in 2 nmol (Catalog #76010), 10 nmol (Catalog #76011), and 20 nmol (Catalog #76012) sizes. ArciTect™ Cas9 Nuclease is also available separately (Catalog #76002).

Ordering Information

PRODUCT NAME	CATALOG #	SIZE	COMPONENTS
ArciTect™ tracrRNA Kit	76016	5 nmol Kit	• ArciTect™ tracrRNA (5 nmol), Component #76016A • ArciTect™ Annealing Buffer (5X) (100 µL), Component #76019
ArciTect™ tracrRNA Kit	76017	10 nmol Kit	• ArciTect™ tracrRNA (10 nmol), Component #76017A • ArciTect™ Annealing Buffer (5X) (100 µL), Component #76019
ArciTect™ tracrRNA Kit	76018	20 nmol Kit	• ArciTect™ tracrRNA (20 nmol), Component #76018A • ArciTect™ Annealing Buffer (5X) (100 µL), Component #76019

Storage and Stability

The following components are sold as part of the ArciTect™ tracrRNA Kits (see Ordering Information) and are not available for individual sale. For additional ArciTect™ Annealing Buffer (1 mL; Catalog #76020) visit www.stemcell.com.

COMPONENT NAME	COMPONENT #	STORAGE	SHELF LIFE
ArciTect™ tracrRNA	76016A 76017A 76018A	Store at -80°C. Alternatively, store at -20°C for up to 6 months.	Stable for 2 years from date of manufacture (MFG) on label.
ArciTect™ Annealing Buffer (5X)	76019	Store at -20°C. Alternatively, store at 2 - 8°C for up to 6 months.	Stable for 2 years from date of manufacture (MFG) on label.

Materials Required But Not Included

- Nuclease-Free Water (Catalog #79001)

Directions for Use

The following protocol is for preparation of a 200 µM tracrRNA stock solution.

1. Briefly centrifuge the vial before opening.
2. Add nuclease-free water as outlined in Table 1.

Table 1. Preparation of 200 µM* tracrRNA Stock Solution

ArciTect™ tracrRNA	VOLUME OF NUCLEASE-FREE WATER (µL)
5 nmol (Component #76016A)	25
10 nmol (Component #76017A)	50
20 nmol (Component #76018A)	100

*200 µM is equal to 200 pmol/µL

3. Mix thoroughly. If not used immediately, aliquot and store at -80°C for up to 6 months. After thawing the aliquots, use immediately. Do not re-freeze.

For complete instructions on CRISPR-Cas9 genome editing, refer to the Technical Bulletin: 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, supplements, antibodies, cytokines, and small molecules, visit www.stemcell.com or contact us at techsupport@stemcell.com.

References

Gundry MC et al. (2016) Highly efficient genome editing of murine and human hematopoietic progenitor cells by CRISPR/Cas9. Cell Rep 17(5): 1453–61.

Hultquist JF et al. (2016) A Cas9 ribonucleoprotein platform for functional genetic studies of HIV-host interactions in primary human T cells. Cell Rep 17(5): 1438–52.

Kim S et al. (2014) Highly efficient RNA-guided genome editing in human cells via delivery of purified Cas9 ribonucleoproteins. Genome Res 24(6): 1012–9.

Liang X et al. (2015) Rapid and highly efficient mammalian cell engineering via Cas9 protein transfection. J Biotechnol 208: 44–53.

Ran FA et al. (2013) Double nicking by RNA-guided CRISPR Cas9 for enhanced genome editing specificity. Cell 154(6): 1380–9.

Rupp LJ et al. (2017) CRISPR/Cas9-mediated PD-1 disruption enhances anti-tumor efficacy of human chimeric antigen receptor T cells. Sci Rep 7(1): 737.