ArciTect™ Human HPRT Positive Control Kit

Positive control for CRISPR-Cas9 genome editing

Catalog # 76013 1 Kit

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Product Description

ArciTect™ Human HPRT Positive Control Kit is designed as a positive control for experiments using the ArciTect™ CRISPR-Cas9 genome editing system. The kit comprises ArciTect™ Human HPRT crRNA (2 nmol) and ArciTect™ Human HPRT Primer Mix (2 nmol), both of which have been tested and validated for use with the ArciTect™ line of genome editing products. HPRT, or hypoxanthine phosphoribosyltransferase, is a housekeeping gene and a commonly used control. The kit can be used to optimize transfection protocols and act as a positive control that can be used alongside custom ArciTect™ crRNAs (e.g. Catalog #76010). ArciTect™ Human HPRT crRNA first requires annealing to ArciTect™ tracrRNA (Catalog #76016) then must be combined with an ArciTect™ Cas9 Nuclease (e.g. Catalog #76001) to form a ribonucleoprotein complex. ArciTect™ Human HPRT Primer Mix can be used to amplify genomic DNA isolated from a population of transfected cells, which can subsequently be used in a T7 endonuclease assay to determine cleavage genome editing efficiency.

Product Information

The following components are sold as a kit and are not available for individual sale.

COMPONENT NAME	COMPONENT #	SIZE	STORAGE	SHELF LIFE
ArciTect™ Human HPRT crRNA	76014	2 nmol	Store at -80°C. Alternatively, store at -20°C for up to 6 months.	Stable for 24 months from date of manufacture (MFG) on label.
ArciTect™ Human HPRT Primer Mix	76015	2 nmol	Store at -20°C.	Stable for 24 months from date of manufacture (MFG) on label.

Materials Required But Not Included

- Nuclease-free water (e.g. Sigma Catalog # LSKNF0500)

Directions for Use

The following instructions are for preparation of stock solutions of ArciTect™ Human HPRT crRNA (200 µM) and ArciTect™ Human HPRT Primer Mix (100 µM).

A. ArciTect™ HUMAN HPRT crRNA 200 µM STOCK SOLUTION

1. Briefly centrifuge the vial before opening.
2. Add 10 µL of nuclease-free water. Mix thoroughly.

   NOTE: If not used immediately, aliquot and store at -80°C for up to 1 month. After thawing the aliquots, use immediately. Do not re-freeze.

B. ArciTect™ HUMAN HPRT PRIMER MIX 100 µM STOCK SOLUTION

ArciTect™ Human HPRT Primer Mix stock solution can be used in a T7 endonuclease assay to assess genome editing efficiency.

1. Briefly centrifuge the vial before opening.
2. Add 20 µL of nuclease-free water. Mix thoroughly.

   NOTE: If not used immediately, aliquot and store at -80°C for up to 1 month. After thawing the aliquots, use immediately. Do not re-freeze.

For complete instructions on CRISPR-Cas9 genome editing, including annealing tracrRNA and crRNA to generate guide RNA, formation of ribonucleoprotein (RNP) complex, and transfection into target cells, refer to the Technical Bulletin: Human Pluripotent Stem Cell Genome Editing Using the ArciTect™ CRISPR-Cas9 System (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

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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.

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