

**武汉一沃生物科技有限公司**

Cas9 mRNA

Cat.No.

浓度 Concentration: 1mg/mL

存储Storage Buffer： RNase-Free water

存储条件 Storage condition ： 推荐存储于-80℃，短期可存储于-20℃

碱基修饰 Base Composition： N1-Me-Pseudo UTP

帽子 Cap： Cap1

长度 Length： 4509 nt

Product overviews

Cas9 mRNA features a Cap1 structure, poly(A) tail, and is modified with N1-methylpseudouridine (N1-Me-Pseudo UTP). It can be used to express Cas9 protein derived from Streptococcus pyogenes in eukaryotic cells. The N- and C-termini of Cas9 contain nuclear localization signal (NLS) sequences, allowing it to enter the cell nucleus (1). When Cas9 protein binds to sgRNA, it can target and cleave genomic DNA, inducing double-strand breaks, thereby enabling gene editing through mechanisms such as non-homologous end joining (NHEJ) or homology-directed repair (HDR). The C-terminus of Cas9 is tagged with an HA tag for analysis and detection purposes.

Usage Instructions

Cellular-level editing (2):

1. Transfect cells with CAS9 mRNA + sgRNA (reference mass ratio: 10:1).

2. Incubate cells in a CO2 incubator for 48-72 hours before harvesting.

3. Lyse cells, extract DNA, and perform PCR amplification.

Analyze editing efficiency using high-throughput sequencing of amplicons or T7 endonuclease analysis.

Notes

1. Avoid repeated freeze-thaw cycles of mRNA. If repeated freezing and thawing are necessary, aliquot the mRNA upon first use.

2. Use RNase-free reagents and consumables throughout the experiment, and maintain RNase-free conditions during operation.

References:

1. Cong, L., Ran, F. A., Cox, D., et al. Multiplex Genome Engineering Using CRISPR/Cas Systems. Science, 2013, 339: 819-823.

2. Steyer, B., Carlson-Stevermer, J., Angenent-Mari, N., et al. High content analysis platform for optimization of lipid mediated CRISPR-Cas9 delivery strategies in human cells. Acta Biomaterialia, 2016, 34: 143-158.

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