Allele Cas9 mRNA

Background

The CRISPR/Cas system was originally discovered in bacteria and archaea as a defense mechanism against foreign viruses and plasmids. Newer discoveries found that the type II CRISPR/Cas system from Streptococcus pyogenes can be engineered to function similarly in eukaryotic systems utilizing a single Cas9 protein and a non-coding guide RNA (gRNA). Cas9 endonuclease is guided by gRNA to target a desired genomic location and create a DNA double-strand break (DSB). Similar to DSBs induced by zinc finger nucleases (ZFNs), the cell then activates endogenous DNA repair processes, either non-homologous end joining (NHEJ) or homology-directed repair (HDR), to heal the targeted DSB

Description

Allele's Cas9 mRNA provides users with an in-vitro transcription generated Cas9 mRNA which has been capped, polyA-tailed and prepped for direct transfection into desired target cells. Cas9 mRNA must be used in combination with purified gRNA.

Box 1 | Cas9 Mutants

Mutant	Function
Cas9 WT	Double Stranded Break
D10a	Single Nickase
H840a	Single Nickase
Double Mutant	Catalytically Inactive Cas9

Box 2 | Product Info

Content	Qty
Cat#: ABP-GE-CAS9WT	
Wild type Cas9 mRNA	15 µg
Cat#: ABP-GE-CAS9D10a	
Cas9 nickase mutant mRNA (D10a mutation)	15 µg
Cat#: ABP-GE-CAS9H840	
Cas9 nickase mutant mRNA (H840a mutation)	15 µg
Cat#: ABP-GE-CAS9DBLM	
Inactive Cas9 with D10a and H840a mutations (Double Mutant) mRNA	15 µg
Cat#: ABP-GE-CAS9KIT	
All Cas9 mutants mRNA + mNeonGreen FP mRNA control	15 µg per mutant + 10 µg FP control

Features

♦ mRNA ready to use with suitable gRNA's in transgenic applications.

♦ Creation of gene knockout or gene knock-in animals/cells, fusion tags, or reporters integrated into endogenous genes.