

Product components

Components	Component number	Size-1	Size-2
		100 pmol	1000 pmol
LbCas12a Nuclease*	RM20551	10 µL	100 µL
10X Buffer CutB	RM20105	1.25 mL	1.25 mL

*Component RM20551 concentration: 10 µM.

Product Description

Lb Cas12a Nuclease from *Lachnospiraceae bacterium* is a site-specific DNA endonuclease guided by a single 40-44 nucleotide guide RNA (crRNA). Targeting requires a crRNA complementary to the target site as well as a 5' TTTV protospacer adjacent motif (PAM) on the DNA strand opposite the target sequence. Cleavage by LbCas12a Nuclease occurs ~17 bases 3' of the PAM and leaves overhanging ends. This product also has a trans-cleavage activity, which produces high non-specific ssDNA cleavage activity when the target dsDNA, crRNA, and Cas12a protein form a ternary complex.

Product Source

LbCas12a Nuclease from *Lachnospiraceae bacterium*

Storage

-20°C

Heat Inactivation

70°C for 10 minutes

Operation Description

Cis-splicing

Components	20 µL	Total Concentration
10X Buffer CutB	2 µL	1X
10 µM LbCas12a Nuclease	0.5 µL	250 nM
10 µM crRNA	0.5 µL	250 nM
1 µM Target DNA	0.5 µL	25 nM
Nuclease-free Water	to 20 µL	N/A

Incubate at 37°C for 10 minutes, 70°C for 10 minutes.

Note: It is recommended to use 100~500ng of Target DNA . In terms of components amount of using, a molar ratio of Cas enzyme:

crRNA:Target DNA 10:10:1 is recommended to ensure a completed Cleavage of target DNA.

Trans-splitting

Components	20 µL	Total Concentration
10X Buffer CutB	2 µL	1X
10 µM LbCas12a Nuclease	0.05~0.5 µL	25~250 nM
10 µM crRNA	0.05~0.5 µL	25~250 nM
1 µM Target DNA	0.5~5 µL	25~250 nM
10 µM ssDNA Probe	0.05~0.5 µL	25~250 nM
Nuclease-free Water	to 20 µL	N/A

Set real-time PCR instrument to collect the fluorescent signal every 30~60s at 37°C.