

L.b. Cas12a Nuclease

Catalog Numbers A40001796, A40001795

Pub. No. MAN1000659 Rev. A



WARNING! Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves. Safety Data Sheets (SDSs) are available from [thermofisher.com/support](https://www.thermofisher.com/support).

Product description

Invitrogen™ L.b. Cas12a Nuclease is a recombinant *Lachnospiraceae* bacterium Cas12a nuclease purified from *E. coli*, for genome editing with CRISPR technology.

Contents and storage

Component	Cat. No. A40001796 (200 pmol)	Cat. No. A40001795 (2000 pmol)	Storage
L.b. Cas12a Nuclease	20 µL (10 µM)	200 µL (10 µM)	-20°C
Cas12a Reaction Buffer, 10X	1.25 mL	2 × 1.25 mL	

Required materials not supplied

- Template DNA
- Target specific guide RNA

General guidelines

- Keep all reagents, reaction mixes, and samples on ice.
- Observe the following rules to prevent nuclease contamination.
 - Wear laboratory gloves during the procedures.
 - Use nucleic acid-free pipette tips and tubes.
- Prevent cross-contamination by pipetting reagents and samples carefully to avoid splashing.
- If necessary, dilute L.b. Cas12a Nuclease with Cas12a Reaction Buffer (10X) to 1 µM concentration. The final buffer concentration in the reaction mix after dilution should be 1X.

Note: Storage of the diluted enzyme is not recommended.

- Do not make aliquots of L.b. Cas12a Nuclease. Keep the enzyme in the original tube.
- The working temperature of the nuclease is 20–55°C, but the optimal reaction temperature is 37°C.
- The typical digestion reaction time is 15–30 minutes.
- If necessary, incubate at 65°C for 10 minutes to inactivate the enzyme.

Example protocol for plasmid digestion reaction

For multiple reactions, prepare a single reaction mix, then dispense the appropriate volume to each reaction tube to minimize pipetting error.

Prepare digestion reaction mix

1. Prepare the following reaction in a microcentrifuge tube on ice or in a benchtop tube cooler.

Component	Volume
Nuclease-free water	Up to 20 µL
Cas12a Reaction Buffer, 10X	2 µL
Guide RNA (1 µM)	1 µL
L.b. Cas12a Nuclease (1 µM)	1 µL
Plasmid DNA	x µL

2. Incubate at 37°C for 15 minutes.

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For descriptions of symbols on product labels or product documents, go to thermofisher.com/symbols-definition.

Revision history: Pub. No. MAN1000659 A

Revision	Date	Description
A	29 August 2024	New manual for L.b. Cas12a Nuclease.

The information in this guide is subject to change without notice.

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