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LEADGENE BIOMEDICAL, INC.

Product Information & Manual

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SUMO Protease (ULP1) (Active)

Cat no. LDG0014RG

Product Overview

Description

SUMO Protease (ULP1) is a recombinant cysteine protease from *Saccharomyces cerevisiae* designed for the efficient removal of SUMO or UBL (ubiquitin-like) tags from fusion proteins. By recognizing the tertiary structure of the SUMO tag instead of a short peptide sequence, ULP1 offers superior specificity and minimal off-target cleavage. The protease is His-tagged, enabling streamlined removal from cleavage reactions via nickel-based affinity chromatography.

Expression system

Escherichia coli

Activity

One unit of SUMO Protease (ULP1) cleaves > 85% of 2 µg control substrate at 30°C for 1 h.

Storage buffer

SUMO Protease is supplied in 25 mM Tris, 250 mM NaCl, 0.05% NP-40, 0.25 mM DTT, 50% glycerol, pH 8.0.

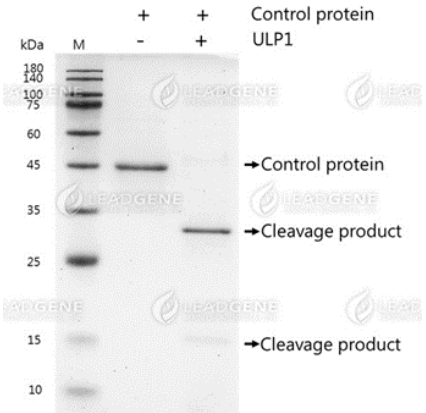
Storage and stability

This product is stable after storage at -20°C or -80°C for 12 months under sterile conditions from date of receipt. Avoid repeated freeze/thaw cycles.

Procedure

To achieve optimal results, we recommend performing preliminary small-scale cleavage trials before proceeding with large-scale production.

1. Dilute the target fusion protein to a final concentration of 1–2 mg/mL using PBS or an appropriate reaction buffer.
2. As a starting point, use a ratio of 1 unit of SUMO Protease (ULP1) per 2 µg of target protein.
3. Cleavage can be performed within a temperature range of 4°C to 30°C. For maximum protein stability, 4°C for 16 hours (or overnight) is recommended as the standard initial condition.
4. Determine the cleavage efficiency of samples by SDS-PAGE analysis.
5. Once the optimal conditions (ratio, time, and temperature) are established, the reaction can be linearly scaled up for bulk purification.



Important notes

1. Cleavage efficiency may differ based on structure and properties of each target protein, we recommend testing several enzyme-to-substrate ratios, temperatures, and incubation times.
2. SUMO Protease (ULP1) reactions can be performed in a buffer containing 2 M urea.

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3. SUMO Protease (ULP1) reactions can be performed in a buffer which is optimal for the target protein. Salts (e.g., NaCl) can be added to 300 mM for cleavage efficiency evaluation.

Disclaimer

For Research Use or Further Manufacturing Only.

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