

TEV Protease

Catalog
TBP0179

Unit
100 μ l

Description

TEV Protease is an improved version of the site-specific protease from Tobacco Etch Virus (TEV). TEV Protease has enhanced activity, stability and sitespecificity when compared to the native enzyme. High specificity cleavage occurs between the Gln and Gly (or Ser) of the seven amino acid recognition sequence Glu-Asn-Leu-Tyr-Phe-Gln-Gly/Ser (ENLYFQ(G/S)) in the fusion protein of interest. TEV Protease is active over a wide range of temperatures (4 – 30°C; optimum 30°C) and pHs (5.5 – 9.0). At the optimal cleavage temperature for TEV Protease, 99% cleavage is often achieved in 1-2 hours.

Component

Product Component	Quantity
TEV Protease (10 U/ μ l)	100 μ l
20X TEV Protease Reaction Buffer	1 ml
100 mM DTT	500 μ l

Store at -20°C.

Product Applications

- Cleavage of tags from recombinant fusion proteins containing a TEV recognition site
- One step affinity removal of his-tagged TEV after cleavage

Protocol

This protocol serves as an example experiment with 1 μ l (10U) of TEV Protease.

1. Add the following components to a micro-centrifuge tube:

Product Component	Volume
Fusion Protein	Variable
TEV Protease (10 U/ μ l)	1 μ l
20X TEV Protease Reaction Buffer	7.5 μ l
100 mM DTT	1.5 μ l
Nuclease-Free H ₂ O	up to 150 μ l

2. Collect all components by a brief centrifugation. Incubate the reaction at 30°C and remove aliquots for analysis at 1, 2 and 4 hours and prepare aliquots for analysis by SDS-PAGE.
3. Determine the optimal length of time for cleavage by analyzing the amount of cleaved and uncleaved protein at each time point. Use this information to optimize the protein cleavage.

General Notes

- If the protein of interest is heat-labile, incubate at a lower temperature (4°C) for a longer time (i.e. overnight) or use more TEV Protease to accomplish sufficient cleavage.
- Store all components at -20°C. Avoid repeated freeze-thaw cycles of all components to retain maximum performance. All components are stable for one year from the date of shipping when stored and handled properly.

For research use only