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TEV Protease

Store at -20°C

Cat. No.	Description	Concentration	Quantity
E027	TEV Protease	10 U/µl	1000 U (100 µl)

Product Description

abm's TEV Protease is an improved version of the site-specific protease from Tobacco Etch Virus (TEV). **abm**'s TEV Protease has enhanced activity, stability and site-specificity 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. Owing to the presence of a 6X-His tag at the N-terminus, **abm**'s TEV Protease can be easily removed after the cleavage reaction by affinity chromatography with Ni-IDA Agarose Beads (**abm** Cat. No. G250).

Kit Components

Part. No.	Product Components	1000 U
E027-1	TEV Protease (10 U/µl)	100 µl
E027-2	20X TEV Protease Reaction Buffer	1ml
E027-3	100 mM DTT	500 µl

Product Features and Applications

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

Product Source

Recombinant *E. coli*

Enzyme Storage Buffer

50 mM Tris-HCl (pH 7.5), 5 mM DTT, 1 mM EDTA, 0.1% Triton X-100, and 50% (v/v) Glycerol.

Enzyme Unit Definition

One unit is defined as the amount of TEV Protease that is required to cleave >90% of 3 µg of control substrate in a 30 µl reaction for 1 hour at 30°C in 1X TEV Protease Reaction Buffer supplemented with 1 mM DTT.

Storage Conditions

Store all components at -20°C. Avoid repeated freeze-thaw cycles of all components to retain maximum performance. All components are stable for 1 year from the date of shipping when stored and handled properly.

20X TEV Protease Reaction Buffer Components

1 M Tris-HCl, 10 mM DTT, pH 8.0.

Reaction Conditions

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

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

Component	Volume	Final Concentration
Fusion Protein	Variable	20 µg
TEV Protease (10 U/µl)	1 µl	10 U
20X TEV Protease Reaction Buffer	7.5 µl	1X
100 mM DTT	1.5 µl	1 mM
dH_2O	up to 150 µl	-

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.

NOTE: 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.