



Applied Biological Materials Inc

Tel: 1-866-757-2414  
Email: info@abmGood.com  
Website: www.abmGood.com

## 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 <sub>2</sub> O	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.