TurboTEV Protease

Purified Recombinant Protein

Catalog # :	Size:	Concentration:	Tag:
PE1003c	Bulk	2 mg/ml	both GST and His
Gene Symbol:	**Calculated MW:**		
TEV	52 kDa		

Activity and Specificity：

TurboTEV Protease has a specific activity of at least 10,000 units/mg, using the conventionally defined activity unit (One unit cleaves > =85% of 3ug control substrate in 1 hour at 30oC). In practice, 1 mg (10,000 units) of TurboTEV Protease cleaves >90% of 100 mg of a control target protein at 4oC in 16 hours. No non-specific cleavage has been observed under the same condition when TurboTEV Protease and the control target protein was mixed at 1:10 ratio.

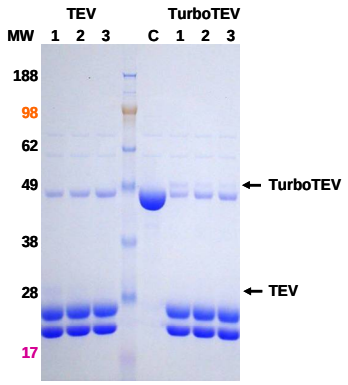

Figure 1
A 49 kDa GST-fusion protein (C) at 1 mg/ml is incubated with TurboTEV or TEV Protease at a ratio of (1) 1:50, (2) 1:100, (3) 1:200 (w/w) in a buffer of 25 mM Tris-HCl, pH 8.0, 150 mM NaCl, 14 mM β-mercaptoethanol at 4oC for 16 hours. The cleaved products are 27 kDa and 22 kDa. TEV is a competitor TEV product.

Cleavage Condition：

It is recommended to test TurboTEV Protease cleavage with a protease-to-target protein ratio of 1:100 (w/w) or 1 unit of TurboTEV to 10 ug of target protein in a buffer suitable for the target protein at 4oC overnight, with the target protein concentration at 1-2 mg/ml. In most cases, >90% of target protein is cleaved with a TurboTEV-to-target protein ratio of 1:50 to 1:200 or 1 unit TurboTEV to 5-20 ug of target protein (as shown in Figure 1). The efficiency of cleavage may vary due to the sequences around the cleavage site, the conformation and the solubility of the target protein. Due to its high specificity, more TurboTEV Protease (at 1:10 ratio) or longer cleavage time (over a weekend) at higher temperature (37oC) can be used to achieve high cleavage efficiency without non-specific cleavage of target proteins.

Removal of Turbo3C Protease after Cleavage：

TurboTEV Protease contains both GST and His tags. After cleavage of the target protein, TurboTEV Protease is easily removed along with the tags from the cleavage reaction by affinity chromatography using Ni-chelating resin for His-tagged target protein or GSH resin for GST-tagged target protein.

Background：

TurboTEV Protease contains an enhanced form of a catalytic fragment of the N1a protein of Tobacco etch virus (TEV), a cysteine protease that recognizes the cleavage site of Glu-Asn-Leu-Tyr-Phe-Gln-Gly and cleaves between Gln and Gly. TurboTEV Protease is a restriction grade protease that has a robust activity at 4oC with high specificity and great stability. It does not require any special buffer for its activity and can be used in a buffer most suitable for the target protein. TurboTEV Protease is a 52 kDa protein with both GST and His tags so it can be easily removed by either Ni-chelating or Glutathione (GSH) resin along with the cleaved tag.

Format:

2 mg (20,000 units)/ml in 25 mM Tris-HCl, pH 8.0, 50 mM NaCl, 1 mM TCEP, 50% glycerol.

Storage:

Store TurboTEV Protease at -20oC. TurboTEV Protease retains >80% activity after storage at room temperature for over 65 hours.

Precautions:

This product is for research use only. Not for use in diagnostic or therapeutic procedures.