

Recombinant Tobacco Etch Virus Protease S219V, GST Tag

Catalog No.	CSI20581A CSI20581B CSI20581C	Quantity:	300 IU 1,000 IU 10,000 IU
Alternate Names:	P1 protease, TEV protease		
Description:	<p>TEV protease encoded by the tobacco etch virus is a catalytic domain of the Nuclear Inclusion a (NIa) protein. It consists of 241 aa with the molecular weight of 27 kDa. TEV recognizes the amino acid sequence of the general form E-X-X-Y-X-Q (or S)/X', and cleaves between Q (or S)/X'. In this form X and X' stand for any of the amino acid residues, except that X' cannot be P. The optimal cleavage site is ENLYFQ/G. However, a serious drawback of TEV protease is that it readily cleaves itself at a specific site to generate a truncated enzyme with greatly diminished activity. The mutant, S219V, was not only far more stable than the wild-type protease (~100-fold), but also a more efficient catalyst. As having the absolute specificity and widely using conditions like broad pH range and ionic strength, the TEV protease became more versatile than EK, thrombin and other protease used in biochemical applications, especially recombinant protein production. The optimal temperature for cleavage is 30 °C; however, the enzyme can be used at temperatures as low as 4 °C. Following digestion, TEV Protease can be removed from the reaction via the GST tag sequence by GST chromatography.</p>		
UniProt ID:	Q0GDU8		
Source:	<i>E. coli</i>		
Concentration:	~10 IU/μl, lot specific		
Molecular Weight:	27 kDa (241 aa)		
Formulation:	Sterile-filtered 25 mM Tris-HCl, pH 8.0, 0.25 mM EDTA, 0.5 mM DTT, containing 50 % Glycerol		
Purity:	> 90 % by SDS-PAGE analysis		
Biological Activity:	One unit is defined as the amount of enzyme needed to cleave 3 μg of fusion protein in 1 hour to 85 % completion at 30°C in a buffer containing 50 mM Tris-HCl, pH 8.0, 0.5 mM EDTA, and 1 mM DTT.		
Storage & Stability:	<p>Store as supplied at -20°C to -80°C for up to 6 months. Once opened under sterile conditions, store at -20°C to -80°C for up to 3 months.</p> <p>Avoid repeated freeze-thaw cycles.</p>		
Application Notes:	<p>A number of variables can be changed to optimize the cleavage of any specific protein. The amount of rTEV, the temperature of the incubation, and the time needed for cleavage may be examined. If the protein of interest is heat-labile, then 4 °C incubations are recommended. Reactions at 4 °C will require longer incubation times and/or more rTEV.</p>		

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