Recombinant Tobacco Etch Virus Protease S219V, GST tagged (rTEV S219V, GST)

ChemWhat Technical Data Sheet (TDS)

Catalog Number:	461-02G
Source:	*Escherichia coli.*
Quantity:	300IU/1000IU/10000IU
Unit Definition:	One unit is defined 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, pH8.0, 0.5 mM EDTA, and 1 mM DTT.
Physical Appearance:	Clear colorless liquid.
Formulation:	A 0.2 µm filtered solution in 25 mM Tris-HCl, pH 8.0, 0.25 mM EDTA, 0.5 mM DTT, with 50% Glycerol.
Recommended Conditions for Cleavage of a Fusion Protein:	A number of variables can be changed to optimize the cleavage of any specific protein. The amount of rTEV, GST, 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, GST.
Stability & Storage:	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. ● 6 months from date of receipt, -20 to -70 °C as supplied. ● 3 months, -20 to -70 °C under sterile conditions after opening.
Usage:	ChemWhat Limited in UK offers this branded product for research, development or further evaluation purposes. **NOT FOR HUMAN USE.**

Recombinant Tobacco Etch Virus Protease

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 mutants, 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 wildly 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.