LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: TVMV C4 Protease
Catalog Number: RP-0165
Manufacturer: LD Biopharma, Inc.

Introduction

TVMV protease derived from Tobacco Vein Mottling Virus, recognizes a linear epitope of the general form T_V_R_F_Q / S with cleavage occurring between Q and S. The protease is used to cleave affinity tag from fusion protein. The optimal temperature for cleavage is 30 °C. TVMV protease could be easily removed from the cleavage reaction by affinity chromatography using the polyhistidine tag at N-terminal of the TVMV C4 enzyme.

Gene Symbol:	TVMV C4 Protease
Accession Number:	NP_734334
Species:	Tobacco Vein Mottling Virus (TVMV)
Size:	50 µg / Vial
Composition:	1.0 mg/ml in PBS with 20% Glycerol.
Storage:	Keep at -80°C for long term storage. Product is stable at 4 °C for 2-3 weeks.

Key Reference

Lutz, R. and Bujard, H. *Independent and tight regulation of transcriptional units in Escherichia coli via the LacR/O,* the TetR/O and AraC/I1-I2 regulatory elements. Nucl. Acids Res. 25: 1203-10 (1997)

Yoon, H. Y., Hwang, D. C., Choi, K. Y., and Song, B. D. *Proteolytic processing of oligopeptides containing the target sequences by the recombinant tobacco vein mottling virus NIa protease.* Mol. Cells 10: 213-219 (2000)

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Typical Reaction Condition

The "standard" reaction buffer for TVMV C4 protease is 50 mM Tris-HCl (pH 8.0), 0.5 mM EDTA and 1mM DTT. The duration of the cleavage reaction is typically overnight, although lots of cleavage will happen in the first few hours and prolonged incubation times may not lead to proportional increases in cleavage. TVMV C4 protease is maximally active at 34 °C, but we recommend performing the digest at room temperature (20 °C) or 4 °C overnight.

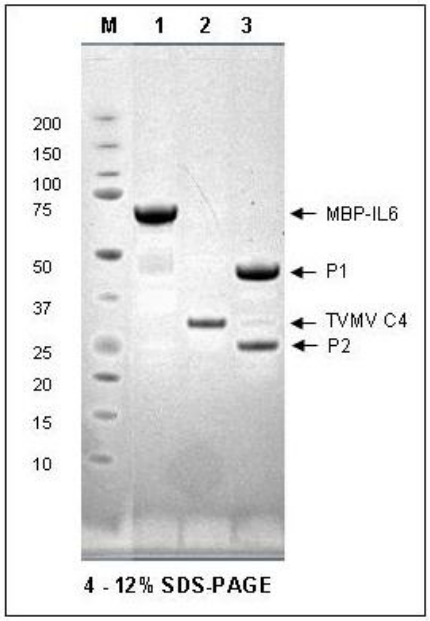
Typically, a good rule of thumb for initial test of digestion is 1 ug C4 enzyme per 50 – 100 ug target protein ratio. Perform a small-scale reaction first, if possible, to gauge the efficiency of processing.

Quality Control

1. Purity: > 95% by SDS-PAGE.
2. Activity: Completely digestion 50ug of MBP-IL6 fusion protein using 1 ug C4 enzyme (in 1 : 50 ratio) for 12 hours at 4C.

Protein Sequence

MASMTGGQQMGRGHHHHHHGNLYFQGGEFSKALLKGVRDFNPISACVWLLENSSDGHSERLFGI
GFGPYIIANQHLFRRNNGELTIKTMHGEFKVKNSTQLQMKPVEGRDIIVIKMAKDFPPFPQKLK
FRQPTIKDRVCMVSTNFQQKSVSSLVSESSHIVHKEDTSFWQHWITTKDGQCGSPLVSIIDGNI
LGIHSLTHTTNGSNYFVEFPEKFVATYLDAADGWCKNWKFNADKISWGSFTLVEDAPEDDFMAK
KTVAAIMD



M: Protein Marker

Lane 1. MBP-IL6 protein before TVMV C4 enzyme digestion.

Lane 2: TVMV C4 Protease

Lane 3: MBP-IL6 protein digested using 1:50 dilution (1ug TVMV C4/ 50ug target protein at 4°C for overnight reaction) in buffer 50 mM Tris-HCl,