RapidTEV™ Protease (Recombinant TEV Protease)

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What is Protein Purification?

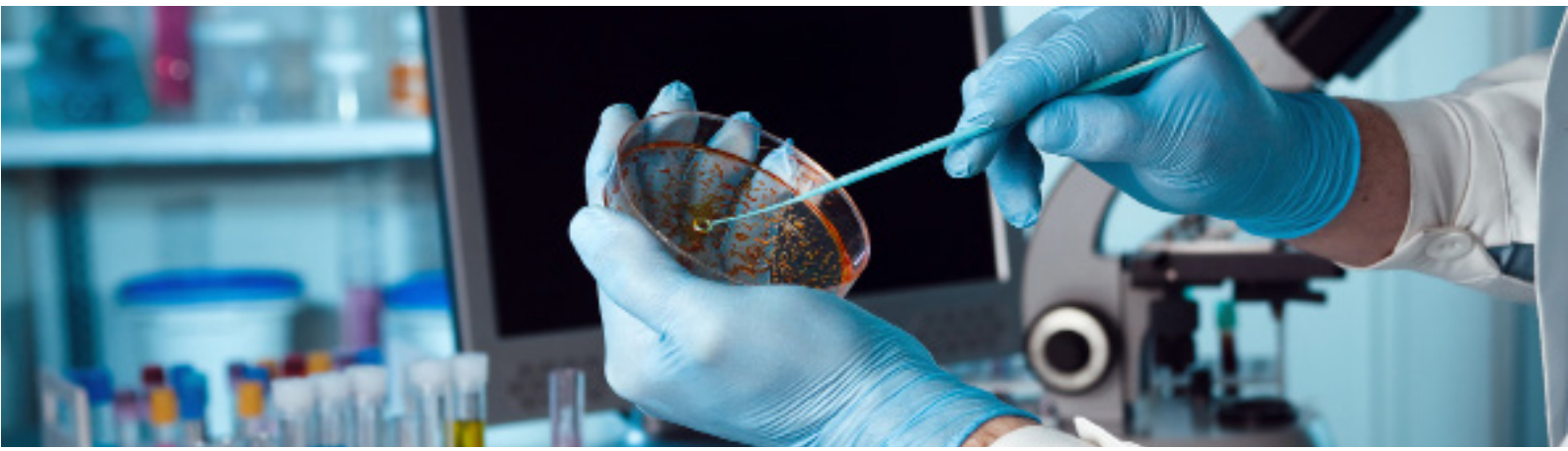
Protein purification is a series of processes intended to isolate one or more proteins from a complex structure. It is vital for the characterisation of the function, structure and interactions of the protein of interest.

One effective technique is the tagging of proteins to engineer an antigen peptide tag onto a protein, and then purify the protein through a column. Once finished, the tag can be cleaved from the protein by a protease.

What are Protein Tags?

Protein tags are peptide sequences genetically grafted onto a recombinant protein which are often removable by chemical agents or by enzymatic means. One such example are affinity tags which are appended to proteins so that they can be purified from their crude biological source using an affinity technique.

TEV Protease can be used to cleave tags from recombinant fusion proteins that contain a TEV recognition site through a one step affinity removal of his-tagged TEV after cleavage.



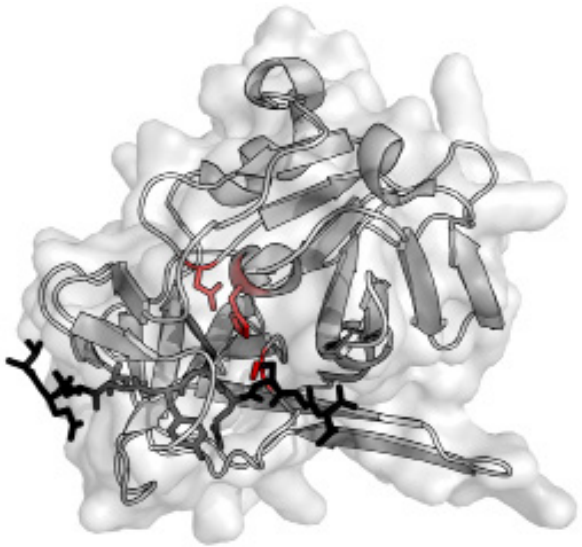
Recombinant RapidTEV® Protease

As a member of the cysteine-like family of proteases, RapidTEV® Protease is a improved version of the Tobacco Etch Virus (TEV) protease enzyme. RapidTEV® Protease has been engineered to possess enhanced activity, improved stability and site specificity. **RapidTEV® Protease's specificity makes it an ideal tool for biotechnological and biochemical removal of fusion proteins and tags.**

- RapidTEV® Protease facilitates high specificity cleavage between Gln and Gly (or Ser) of the seven amino acid recognition sequence.
- The enzyme is engineered for resistance against autolysis and improved catalytic activity and performance.
- RapidTEV® Protease is extremely useful for removing affinity tags from fusion proteins under target protein friendly conditions.
- Due to the presence of a 6X-His tag at the N-terminus, RapidTEV® Protease can be easily removed after the cleavage reaction by affinity chromatography.

With an active pH range between 6.0 and 8.5, 99% cleavage is often achieved with RapidTEV® Protease within 1-2 hours at its optimum conditions (pH 7.0 and 30°C).

THE OPTIMAL AMOUNT OF RapidTEV® Protease FOR CLEAVAGE OF A 35 kDA FUSION PROTEIN IS DETERMINED BY SDS-PAGE ANALYSIS



Action

• Recombinant RapidTEV® Protease cuts the following sequence

Glu-Asn-Leu-Tyr-Phe-Gln-Gly/Ser (ENLYFQ(G/S))

• RapidTEV® Protease's specificity makes it an ideal tool within the biotechnology industry and R&D for the biochemical removal of fusion proteins and tags.

• Due to it sequence specificity, TEV Protease is more stringent and specific than Xa and thrombin.

• Some metal ions, for example Zn, have been reported to inhibit the activity of the enzyme at concentrations above 5mM.

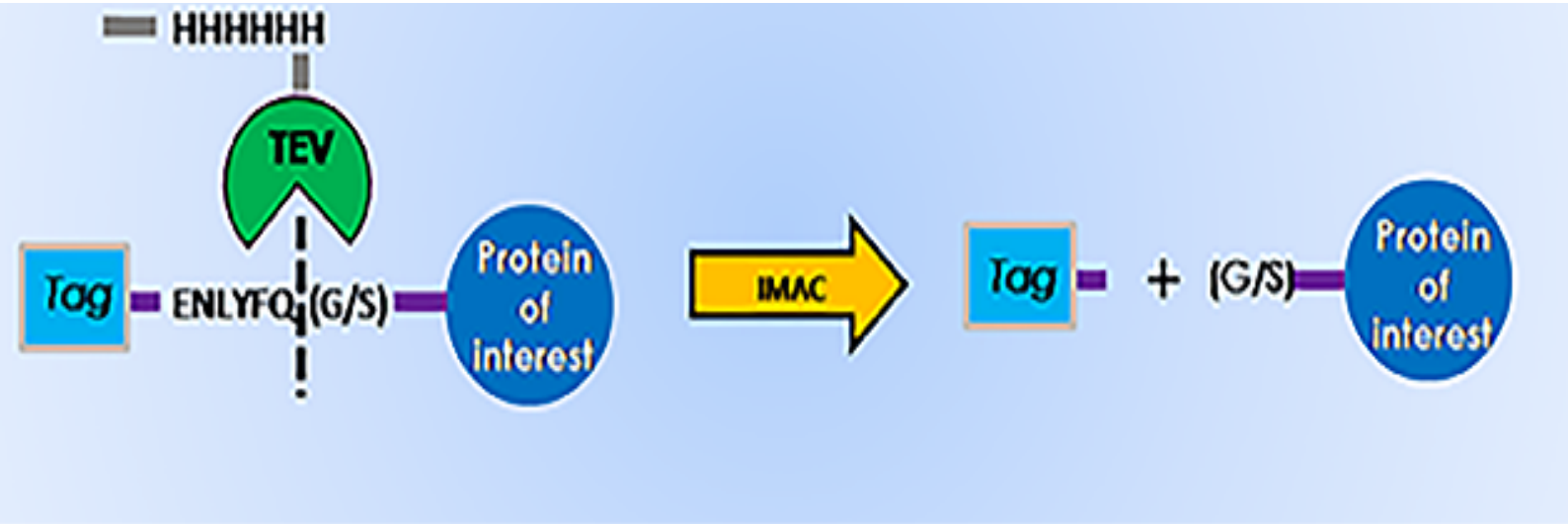
• Most suitable temperature range is 4 - 30°C.

• However, TEV Protease is reported to be 2 - 3 fold less active at 40°C than at 20°C.

• Storage is recommended at -20°C.

• Resistant to many widely used cysteine and serine protease inhibitors.

• RapidTEV® Protease is active in a wide range of different buffers.

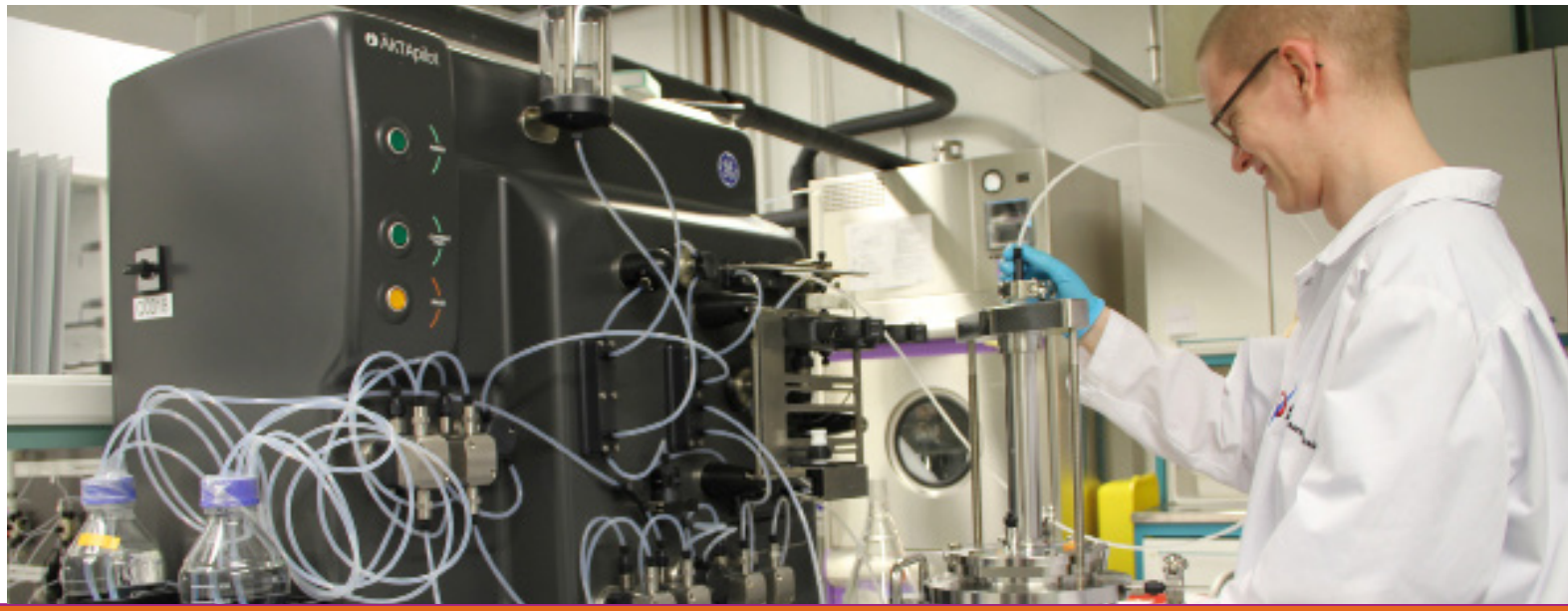


RapidTEV™ Protease

PRODUCT SUMMARY

RapidTEV™ Protease is a site-specific protease that has been engineered for enhanced activity and greater stability. Due to its high specificity it is frequently used for the cleavage of fusion proteins and the removal of tags from recombinant proteins *in vitro* and *in vivo*. RapidTEV™ Protease is available in various unit sizes.

- PRODUCT NAME: RapidTEV™ Protease
- ACTIVE INGREDIENT: Recombinant TEV protease
- SOURCE: *E. coli*
- PURITY: ›95% by SDS page
- UNIQUE PROPERTIES: Engineered for greater stability (pH and °C)



Paras Biopharmaceuticals' biologics candidates / technologies under development

- Biosimilar candidate to Forteo® (Teriparatide)
- Biosimilar candidate to Kineret® (Anakinra)
- Biosimilar candidate to Novolog® (Insulin Aspart)
- Biosimilar candidate to Nplate® (Romiplostim)
- Biosimilar candidate to Elitek® (Rasburicase)

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