IgA Protease (Igase Pro-Pro-Y-Pro), recombinant

Product Information Sheet
EP0205

SUMMARY

shipped on dry ice; store at -20 °C

Ideal for fusion protein cleavage

For research use only

Product Description and Application

- highly efficient specific endoprotease
- cleaves amino acid sequence N-X-Z-Pro-Pro/-Y-Pro-C (X = preferred Pro or Ser; Y = Thr, Ser or Ala; Z = preferred Arg or Thr
- also cleaves insoluble aggregates derived from inclusion bodies[4+5]
- used for cleavage of fusion proteins
- natural substrate is IgA1
- since the endoproteinase cleaves the proline-rich hinge region of IgA1 the enzyme is also referred to as Igase or IgA protease 4.

In recombinant protein technology sequence-specific enzymatic cleavage of fusion proteins has become an important application. Endoprotease Pro-Pro-Y-Pro, a protein of 106 kd, efficiently processes polypeptides at authentic or engineered sites. Since the endoprotease cleaves the proline-rich hinge region of IgA1, the enzyme is also referred to as Igase or IgA protease[4]. Endoproteinase Pro-Pro-Y-Pro recognizes the amino acid sequence N-X-Z-Pro-Pro/-Y-Pro-C (X = preferred Pro or Ser; Y = Thr, Ser or Ala; Z = preferred Arg or Thr). The highly specific proteolysis can be obtained not only with soluble and purified protein fusions but also with insoluble aggregates derived from cytoplasmic inclusion bodies.[4+5]

Technical Details

Source:	*Neisseria gonorrhoeae*, cloned and expressed in *E. coli*.
Concentration:	Approx. 1000 µg/ml
Lot#:	2001102
Reaction conditions:	For digestion endoprotease Pro-Pro-Y-Pro is used in the relative amount: endoprotease Pro-Pro-Y-Pro to fusion protein (substrate) 1:5 to 1:200 by weight, depending on the substrate. Endoprotease Pro-Pro-Y-Pro can be diluted into reaction buffer before usage. Digestion should be carried out at 15 °C to 37 °C for about 1 - 20 h. For fusion proteins the reaction conditions have to be determined empirically.
Reaction Buffer:	20 mM potassium phosphate buffer pH 7.5, 150 mM NaCl and 10 mM EDTA or alternatively, 50 mM Tris, 100 mM NaCl, 1 mM EDTA, pH 7.5. No activity in the presence of SDS or urea.

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Activity/Assay: We obtained a full digestion by incubating 10 µg IgA1 (Sigma) and ca. 0.05 µg Pro-Pro-Y-Pro endoprotease for 18 h at 37 °C in reaction buffer (enzyme/substrate = 1:200 w/w).

Storage Buffer: 50 mM potassium phosphate buffer (pH 7.0) and 50% glycerol.

References

1. J. Pohlner *et al.*, Nature 325 (1987), 458 – 462
2. R. Halter *et al.*, EMBO J. 8 (1989), 2737 - 2744
3. W. Bachovchin *et al.*, J. Biol. Chem. 265 (1990), 3738 - 3743
4. J. Pohlner *et al.*, Biotechnology Vol. 10 (1992)
5. R. Jaenicke *et al.*, 'Protein Structure, a practical approach', chapter 'Folding Proteins' pg. 191-223, ed. Creighton, IRL Press Oxford

Order Information, Shipping and Storage

Order#	Product	Quantity
EP0205	IgA Protease (Igase Pro-Pro-Y-Pro), recombinant	50 µg
shipped on dry ice; store at -20 °C		

Avoid warming to room temperature since this will reduce the activity. Therefore, the required amount of enzyme should be removed in a fast manner from the tube.

Related Products

Order#	Product	Quantity
EP0410	Kex2 Protease (Lys/Arg-Arg), recombinant	10 U
EP0450	Kex2 Protease (Lys/Arg-Arg), recombinant	50 U
shipped on dry ice; store at -80 °C		

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