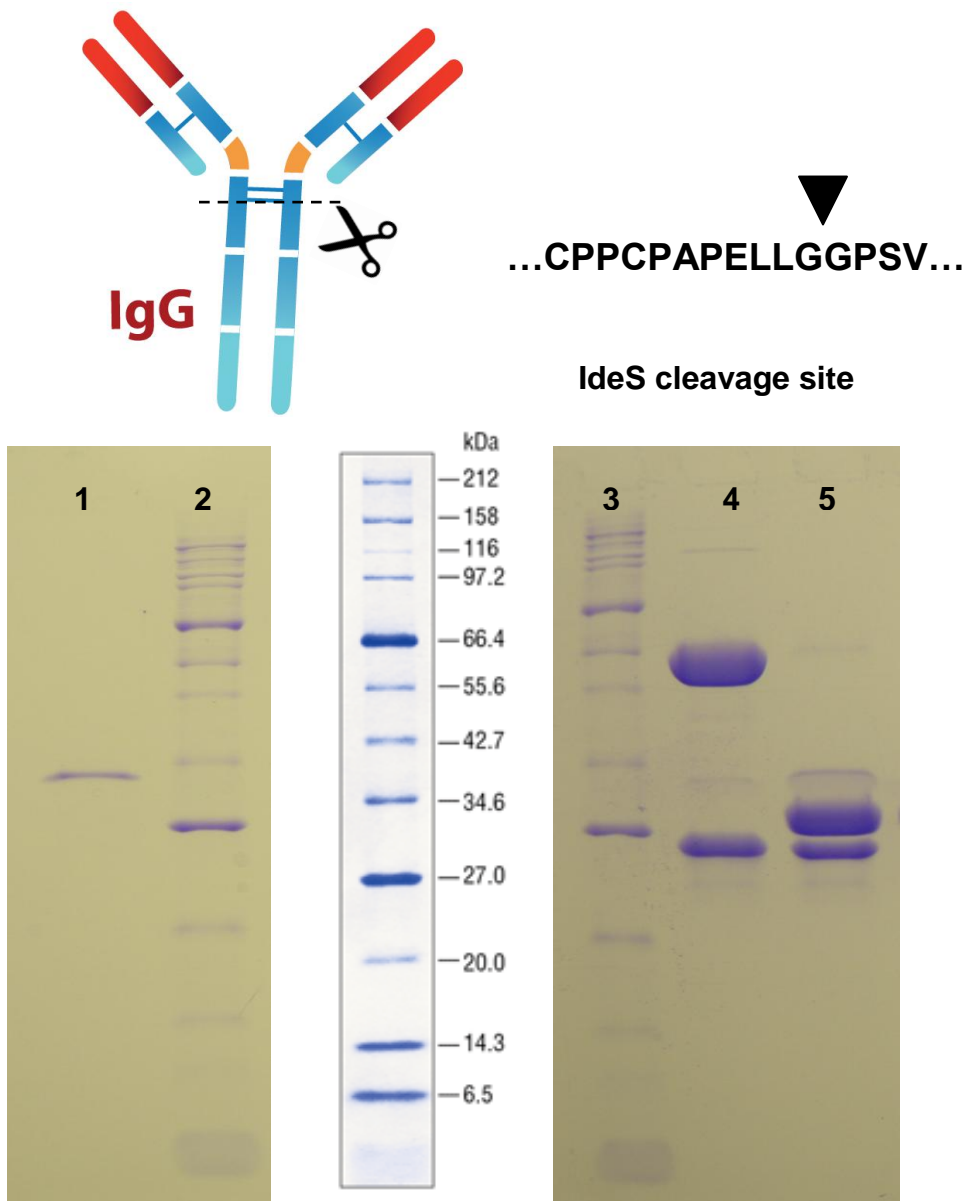


## IgG Endoproteinase (Mac/IdeS)

**Product Description:** IgG Endoproteinase is a recombinant IgG endoproteinase (Mac/IdeS) from *Streptococcus pyogenes*. It specifically cleaves peptide bonds in the hinge region of IgG to form Fc and F(ab')<sub>2</sub> fragments. IdeS cleaves all subclasses of human, rabbit, sheep, and monkey IgG with a high efficiency. In addition, IdeS can cleave IgG2a and IgG3 of mouse IgG. It also cleaves many Fc-Fusion proteins or antibody drug conjugates containing the cutting site.



**Figure 1. IgG cleavage by IgG-Cutter™.** Lanes: 1, IdeS with a mass of 34 kDa on SDS-PAGE; lane 2, protein marker; lane 3, protein marker; lane 4, 10 µg of IgG antibody before IdeS treatment; lane 5, 10 µg of IgG antibody after IdeS

treatment (10 units for 30 minutes at 37°C). All samples were reduced with  $\beta$ -Mercaptoethanol before SDS-PAGE.

Catalog #	Size	Concentration	price
PT-EZ-IGCUT-5	5,000 units	50units/uL	\$320
PT-EZ-IGCUT-10	10,000 units	50units/uL	\$400
PT-EZ-IGCUT-25	25,000 units	50units/uL	\$1000

**Product Source:** IdeS was produced in E. Coli cells transformed with Mac/IdeS gene. This product is sterile and does not contain any components of **animal origin**.

**Unit Definition:** One unit is defined as the amount of enzyme required to digest >95% of 1 ug of human IgG in 30 minutes at 37°C.

**Reaction Conditions:** 20 mM Tris buffer pH 8.0; incubate at 37°C for at least 30 minutes. Cleavage reaction can also be carried out at room temperature using longer time.

#### **Compatible buffers**

Phosphate buffer saline(PBS) pH 6.0–8.0

Tris buffer pH 7.0-8.0

MES buffer pH 5.5-6.5

HEPES buffer 7.0-8.0

Ammonium bicarbonate buffer 6.0-7.0

Sodium acetate buffer 6.0

**Storage:** Stable for 6 months at –20°C

**Purity:** Greater than 95% as determined by SDS-PAGE.

**Formulation:** 20 mM Tris buffer pH 8.0, 50% Glycerol, and 5 mM  $\beta$ -Mercaptoethanol.

**Physical Appearance:** Sterile liquid formulation.

**Usage:** FOR LABORATORY RESEARCH USE ONLY.

**Background:** IdeS is recombinant IgG endoproteinase (Mac/IdeS) from *Streptococcus pyogenes*. The complete genome sequencing of M1 group A *Streptococcus* (GAS) was done in 2001 (Ferretti 2001). To our knowledge, Mac/IdeS was first identified in group A *Streptococcus* (GAS) infected mice and human sera as a homologous protein to Human Mac-1 at NIH (Lei 2000). Mac/IdeS was later found to promote inhibition of opsonophagocytosis, enhancement of pathogen survival, and establishment of infection and dissemination (Lei 2001). Several groups later characterized Mac/IdeS's IgG endoproteinase activity, and found it to cleave peptide bonds in the hinge region of IgG (von Pawel-Rammingen 2002, Lei 2002).

## References:

1. Ferretti JJ, McShan WM, Ajdic D. *et al* (2001) *Proc.Natl. Acad. Sci. USA*, **98**, 4658-4663.
2. Lei, B., Mackie, S., Lukomski, S., Musser, M. M. (2000) *infect. Immun.* **68**, 6807-6818.
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4. 2. von Pawel-Rammingen, U., Johansson, B. P. & Bjorck, L. (2002) *EMBO J.* **21**, 1607-1615.
5. Lei, B., DeLeo, F. R., Reid, S. D., Voyich, J. M., Magoun, L., Liu, M., Braughton, K. R., Ricklefs, S., Hoe, N. P., Cole, R. L., *et al.* (2002) *infect. Immun.* **70**, 6880-6890.