KORNBERG™ IdeS Protease

Catalog Number: KS46

Protein Description

The Kornberg™ IdeS Protease is an immunoglobulin G (IgG)-degrading protease that cleaves with high specificity. It is derived from Streptococcus pyogenes. IdeS is an engineered, recombinant protease overexpressed in E. coli that cleaves IgG at a single site below the hinge region, yielding F(ab')2 and Fc fragments.

Source:
Streptococcus pyogenes

Expression Host:
E.coli

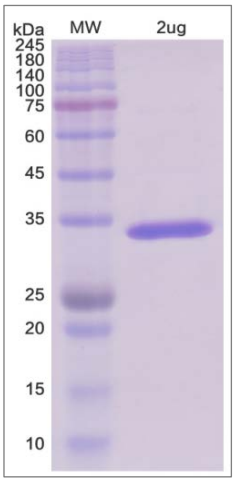
Purity:
>95% as determined by SDS-PAGE quantitative densitometry by Coomassie Blue Staining.

Endotoxin:
< 0.05 EU/1000 units as determined by the LAL method.

N terminal:
His Tag

Molecular Mass:
The KORNBERG™ IdeS has a calculated molecular mass of 37.56 kDa

SDS-PAGE:
Fig.1.



KDa Marker 98%

Fig. 1. Purity analysis by SDS-PAGE Detection

Enzyme Activity:
20 U/ul

Concentration:
20,000 U/mg

Unit Definition:
The amount of enzyme required to cut 1ug recombinant monoclonal IgG at >95% for 30 minutes at 37ºC is defined as an active unit.

Cleavage Specificity of IdeS Protease:

IgG
(150kDa)

IgG1 Hinge Sequence: S-C-D-K-T-H-T-C-P-P-C-P-A-P-E-L-L-G-G-P-S-V

IDeS Cleavage Site

Formulation:
KORNBERG™ IDes is supplied as liquid with pH at 8.0 containing PBS pH 6.6 and 50% glycerol.
KORNBERG™ IDes is also supplied as a lyophilized enzyme.

Reconstitution:
Being enzymes, the concentration may differ from lot to lot produced by us. We always recommend referring the accompanying data sheet to view the exact concentration and the recommended dilution schemata.

Centrifuge the vial at 4ºC before opening to recover the entire contents. Please contact us for any concerns or special requirements at +91-22-49198700 | Email: contact@kornbergseqnostics.com

Storage:
Store it under sterile conditions at -20ºC to -80ºC upon receiving for at least 12 months. It is recommended to aliquot the enzyme into smaller quantities for optimal storage. Avoid repeated freeze-thaw cycles.

Application:
Domain characterization of therapeutic antibodies.
Analytical characterization of large, complex biomolecules.

Protocol:
1. Add an appropriate amount of IgG (upto 5mg) to the digestive reagent or other compatible buffer*.
2. Add Kornberg™ IdeS protease to IgG sample
3. Add 1 unit of Kornberg™ IdeS per 1ug of IgG
3. Incubate the sample at 37ºC for 30-60min. IdeS proteases are most active in buffers at or near neutral pH.
4. *The recommended digestion buffer is 50 mM sodium phosphate and 150 mM NaCl（pH 6.6), but most common biological buffers are also suitable, such as Tris or PBS. Buffers outside this pH range (e.g. acetate buffers) may be used, but the incubation time and/or enzyme quantity required will have to be optimized on a case-to-case basis.

Note-

- IgG concentration should ideally be in the range of 0.5 - 20 mg/ml.
- Kornberg™ IdeS efficiently cleaves human, humanized, chimeric, monkey, rabbit and sheep IgGs. It has moderate activity against mouse IgG2a and IgG3.
- Kornberg™ IdeS also cleaves many Fc-fusion proteins as well as antibody drug conjugates (ADCs).
- The Kornberg™ IdeS has a histidine tag for easy removal.
- Kornberg™ IdeS may be used in the same reaction as PNGase to perform fragmentation and removal of Fc glycans in a single step by using the recommended digestion buffer.

References:

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