

Product Information

IgGZERO™ from *Streptococcus pyogenes* recombinant, expressed in *E. coli*

Catalog Numbers

36111 (1,000 units for cleaving 1 mg IgG)

94509 (5,000 units for cleaving 5 mg IgG)

Storage Temperature –20 °C

CAS RN 37278-88-9

EC 3.2.1.96

Synonym: EndoS

Product Description

IgGZERO™ is an endoglycosidase with a very high specificity for IgG molecules of all species and subclasses. The enzyme cleaves the chitobiose core of the glycan on IgG from various species, including human, rabbit, mouse, monkey, goat, and sheep.

IgGZERO has a specific endoglycosidase activity on native IgG by hydrolyzing the conserved glycans attached to the Asp²⁹⁷ residue on the IgG heavy chains. The activities of other known endoglycosidases require, or are enhanced by, denaturation of the glycoprotein substrate.

This product is supplied as lyophilized powder containing sodium phosphate, pH 7.4, and sodium chloride.

Purity: ≥95% (SDS-PAGE)

One unit is defined as the amount of enzyme required to remove 95% of 1 µg of human IgG Fc glycans in 30 minutes at 37 °C, pH 7.2, as monitored by SDS-PAGE.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Reconstitute 36111 in 50 µl of ultrapure water and 94509 in 250 µl of ultrapure water to prepare a solution with a concentration of 20 units/µl. To prevent microbial contamination, sodium azide can be added to the solution to a final concentration of 0.02–0.05% (w/v). After reconstitution, an IgGZERO solution retains activity for 1 month at 2–8 °C.

Storage/Stability

The product ships at ambient temperature and storage at –20 °C is recommended. When stored at –20 °C, the protein retains activity for at least 1 year.

Procedure

Add 1 unit of IgGZERO per 1 µg IgG, in cleavage buffer of 10 mM sodium phosphate with 150 mM NaCl, pH 7.4. The suggested antibody concentration range is 0.5–10 mg/ml. Incubate 30 minutes at 37 °C.

IgGZERO removes the glycan moieties of IgG at pH 7.4 and at 37 °C. Optimal temperature is 37 °C.

IgGZERO is histidine-tagged, and can be removed from samples after digestion using HIS-Select® affinity media.

References

1. Allhorn, M., and Collin, M., Sugar-free antibodies- the bacterial solution to autoimmunity? *Ann. N.Y. Acad. Sci.*, **1173**, 664-669 (2009).
2. Goetze, A.M., et al., Rapid LC-MS screening for IgG Fc modifications and allelic variants in blood. *Mol. Immunol.*, **49**, 338-352 (2011).
3. Romano, P.R., et al., Development of recombinant *Aleuria aurantia* lectins with altered binding specificities to fucosylated glycans. *Biochem. Biophys. Res. Commun.*, **414**, 84-89 (2011).
4. Goetze, A.M., et al., Rates and impact of human antibody glycation in vivo. *Glycobiology*, **22**, 221-234 (2012).

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