Human Cytosolic β-Glucosidase/GBA3 Antibody

Monoclonal Mouse IgG_1 Clone # 728714

Catalog Number: MAB5969

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Cytosolic β-Glucosidase/GBA3 in direct ELISAs and Western blots.
Source	Monoclonal Mouse IgG_1 Clone # 728714
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*S. frugiperda* insect ovarian cell line *Sf* 21-derived recombinant human Cytosolic β-Glucosidase/GBA3 Thr13-Leu469 Accession # Q9H227
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

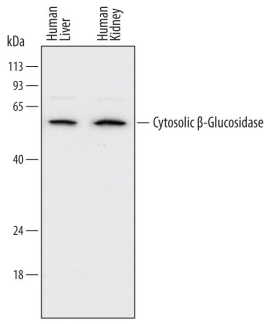
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below

DATA

Western Blot



Detection of Human Cytosolic β-Glucosidase/GBA3 by Western Blot.
Western blot shows lysates of human liver tissue and human kidney tissue. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human Cytosolic β-Glucosidase/GBA3 Monoclonal Antibody (Catalog # MAB5969) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for Cytosolic β-Glucosidase/GBA3 at approximately 53 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

There are three beta-glucosidases (GBA) in human genome. GBA1 endodes a lysosomal membrane protein that cleaves the beta-glucosidic linkage of glucosylceramide (1). GBA2 encodes a microsomal beta-glucosidase that catalyzes the hydrolysis of bile acid 3-O-glucosides (2). GBA3 is a cytosolic beta-glucosidase and is predominantly expressed in liver. GBA3 efficiently hydrolyzes beta-D-glucoside and beta-D-galactoside, but not any known physiological beta-glycoside, suggesting that it may be involved in detoxification of plant glycosides (3). GBA3 also has significant neutral glycosylceramidase activity, suggesting that it may be involved in a nonlysosomal catabolic pathway of glucosylceramide metabolism (4). At the protein level, GBA3 shows significant homology (>40%) with Klotho protein that is known for its association with aging process (3, 4).

References:

1. Tybulewicz, V.L. *et al.* (1992) Nature **357**:407.
2. Matern, H. *et al.* (2001) J. Biol. Chem. **276**:37929.
3. de Graaf, M. *et al.* (2001) Biochem. J. **356**:907.
4. Hayashi, Y. *et al.* (2007) J. Biol. Chem. **282**:30889.