

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Cytosolic $\beta$ -Glucosidase/GBA3 in direct ELISAs.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 728702
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human Cytosolic $\beta$ -Glucosidase/GBA3 Thr13-Leu469 Accession # Q9H227
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 $\mu$ m filtered solution in PBS.

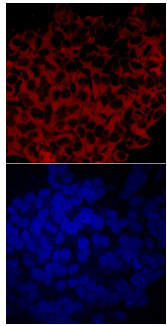
## APPLICATIONS

**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
<b>Immunocytochemistry</b>	8-25 $\mu$ g/mL	See Below

## DATA

### Immunocytochemistry



**Cytosolic  $\beta$ -Glucosidase/GBA3 in HeLa Human Cell Line.**  
Cytosolic  $\beta$ -Glucosidase/GBA3 was detected in immersion fixed HeLa human cervical epithelial carcinoma cell line using Mouse Anti-Human Cytosolic  $\beta$ -Glucosidase/GBA3 Monoclonal Antibody (Catalog # MAB59691) at 10  $\mu$ g/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red, upper panel; Catalog # NL007) and counterstained with DAPI (blue, lower panel). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.5 mg/mL.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

There are three beta-glucosidases (GBA) in human genome. GBA1 encodes 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.