

# Glucosidase I (C-11): sc-374006

## BACKGROUND

Glycosylation of asparagine residues in Asn-X-Ser/Thr motifs in proteins commonly occur in the lumen of the endoplasmic reticulum (ER). Glucosidase I catalyzes the first step in the N-linked oligosaccharide processing pathway. It specifically removes the distal  $\alpha$ 1,2-linked glucose residue from the Glc3-Man9-GlcNAc2 oligosaccharide precursor. Glucosidase I contains a short cytosolic tail, a single pass transmembrane domain and a large C-terminal catalytic domain located on the luminal side of the ER. Mutations in the gene encoding Glucosidase I result in the congenital disorder glycosylation (CDG-IIb), which is characterized by generalized hypotonia, dysmorphic features, hepatomegaly, hypoventilation, feeding problems, seizures and death. Two point mutations in the Glucosidase I gene have been identified and result in amino acid substitutions, namely Arg486Thr and Phe652Leu, that affect polypeptide folding and active site formation.

## REFERENCES

1. Kalz-Füller, B., et al. 1995. Cloning and expression of Glucosidase I from human hippocampus. *Eur. J. Biochem.* 231: 344-351.
2. Khan, F.A., et al. 1999. Genomic organization and promoter activity of Glucosidase I gene. *Glycobiology* 9: 797-806.
3. De Praeter, C.M., et al. 2000. A novel disorder caused by defective biosynthesis of N-linked oligosaccharides due to Glucosidase I deficiency. *Am. J. Hum. Genet.* 66: 1744-1756.
4. Völker, C., et al. 2002. Processing of N-linked carbohydrate chains in a patient with Glucosidase I deficiency (CDG type IIb). *Glycobiology* 12: 473-483.

## CHROMOSOMAL LOCATION

Genetic locus: MOGS (human) mapping to 2p13.1; Mogs (mouse) mapping to 6 C3.

## SOURCE

Glucosidase I (C-11) is a mouse monoclonal antibody raised against a peptide mapping near the N-terminus of Glucosidase I of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Glucosidase I (C-11) is available conjugated to agarose (sc-374006 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374006 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374006 PE), fluorescein (sc-374006 FITC), Alexa Fluor® 488 (sc-374006 AF488), Alexa Fluor® 546 (sc-374006 AF546), Alexa Fluor® 594 (sc-374006 AF594) or Alexa Fluor® 647 (sc-374006 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374006 AF680) or Alexa Fluor® 790 (sc-374006 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

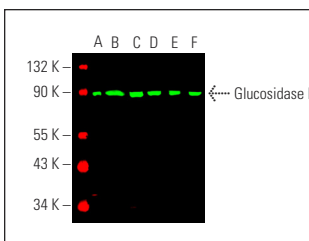
Glucosidase I (C-11) is recommended for detection of Glucosidase I of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Glucosidase I siRNA (h): sc-94835, Glucosidase I siRNA (m): sc-145445, Glucosidase I shRNA Plasmid (h): sc-94835-SH, Glucosidase I shRNA Plasmid (m): sc-145445-SH, Glucosidase I shRNA (h) Lentiviral Particles: sc-94835-V and Glucosidase I shRNA (m) Lentiviral Particles: sc-145445-V.

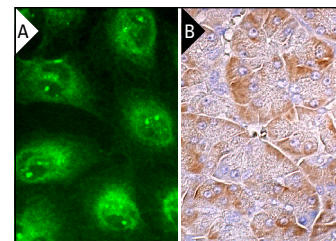
Molecular Weight of Glucosidase I: 92 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, HeLa whole cell lysate: sc-2200 or COLO 320DM cell lysate: sc-2226.

## DATA



Glucosidase I (C-11) Alexa Fluor® 680: sc-374006 AF680. Direct near-infrared western blot analysis of Glucosidase I expression in HeLa (A), RAW 264.7 (B), COLO 320DM (C), NIH/3T3 (D), c4 (E) and MCF7 (F) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker™ MW Tag-Alexa Fluor® 790: sc-516731.



Glucosidase I (C-11): sc-374006. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

1. Liu, H., et al. 2023. Strategic self-limiting production of infectious HIV particles by CRISPR in permissive cells. *Mol. Ther. Nucleic Acids* 32: 1010-1025.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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