

# β-glucosidase 2 (D-10): sc-393782

## BACKGROUND

β-glucosidase 2, also known as non-lysosomal glucosylceramidase (NLGase), glucosylceramidase 2, GBA2 or AD035, is a 927 amino acid non-lysosomal glucosylceramidase that catalyzes glucosylceramide into ceramide and free glucose, and is suggested to play a role in carbohydrate transport and metabolism. A single-pass membrane protein, β-glucosidase 2 exists as three alternatively spliced isoforms that are widely expressed but found at highest levels in placenta, kidney, brain, skeletal muscle, kidney and heart, with low levels found in liver. β-glucosidase 2 activity has been linked to sphingomyelin generation and prevention of glycolipid accumulation. The gene encoding β-glucosidase 2 maps to human chromosome 9, which houses over 900 genes and comprises nearly 4% of the human genome.

## REFERENCES

- Gruters, R.A., et al. 1987. Interference with HIV-induced syncytium formation and viral infectivity by inhibitors of trimming glucosidase. *Nature* 330: 74-77.
- Matern, H., et al. 1997. Purification and characterization of a microsomal bile acid β-glucosidase from human liver. *J. Biol. Chem.* 272: 11261-11267.
- Nagase, T., et al. 2000. Prediction of the coding sequences of unidentified human genes. XVIII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 7: 273-281.
- Matern, H., et al. 2001. Molecular cloning and expression of human bile acid β-glucosidase. *J. Biol. Chem.* 276: 37929-37933.
- Yildiz, Y., et al. 2006. Mutation of β-glucosidase 2 causes glycolipid storage disease and impaired male fertility. *J. Clin. Invest.* 116: 2985-2994.
- Boot, R.G., et al. 2007. Identification of the non-lysosomal glucosylceramidase as β-glucosidase 2. *J. Biol. Chem.* 282: 1305-1312.

## CHROMOSOMAL LOCATION

Genetic locus: GBA2 (human) mapping to 9p13.3; Gba2 (mouse) mapping to 4 B1.

## SOURCE

β-glucosidase 2 (D-10) is a mouse monoclonal antibody raised against amino acids 325-574 mapping within an internal region of β-glucosidase 2 of human origin.

## PRODUCT

Each vial contains 200 μg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

β-glucosidase 2 (D-10) is available conjugated to agarose (sc-393782 AC), 500 μg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393782 HRP), 200 μg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393782 PE), fluorescein (sc-393782 FITC), Alexa Fluor® 488 (sc-393782 AF488), Alexa Fluor® 546 (sc-393782 AF546), Alexa Fluor® 594 (sc-393782 AF594) or Alexa Fluor® 647 (sc-393782 AF647), 200 μg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393782 AF680) or Alexa Fluor® 790 (sc-393782 AF790), 200 μg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

β-glucosidase 2 (D-10) is recommended for detection of β-glucosidase 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μg per 100-500 μg of total protein (1 ml of cell lysate)], immunofluorescence (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 β-glucosidase 2 siRNA (h): sc-92737, β-glucosidase 2 siRNA (m): sc-145444, β-glucosidase 2 shRNA Plasmid (h): sc-92737-SH, β-glucosidase 2 shRNA Plasmid (m): sc-145444-SH, β-glucosidase 2 shRNA (h) Lentiviral Particles: sc-92737-V and β-glucosidase 2 shRNA (m) Lentiviral Particles: sc-145444-V.

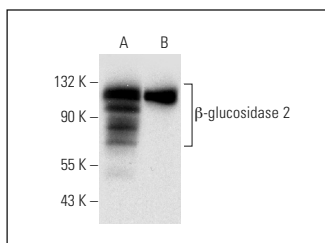
Molecular Weight of β-glucosidase 2: 105 kDa.

Positive Controls: PC-3 nuclear extract: sc-2152 or PC-3 cell lysate: sc-2220.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



β-glucosidase 2 (D-10): sc-393782. Western blot analysis of β-glucosidase 2 expression in PC-3 whole cell lysate (A) and PC-3 nuclear extract (B).

## STORAGE

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

## 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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