SANTA CRUZ BIOTECHNOLOGY, INC.

β-glucosidase (B-6): sc-166407

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

β-glucosidase is a predominantly liver enzyme which efficiently hydrolyzes β-D-glucoside and β-D-galactoside. Defects in β-glucosidase cause Gaucher disease, an inherited condition distinguished by the accumulation of glucosylceramide within the cells of the reticuloendothelial system. β-glucosidase is used in enzyme replacement treatment aimed at treating Gaucher disease. The absorption of dietary flavonoid glycosides in humans involves a critical deglycosylation step that is mediated by epithelial β-glucosidases.

CHROMOSOMAL LOCATION

Genetic locus: GBA (human) mapping to 1q22; Gba (mouse) mapping to 3 F1.

SOURCE

β-glucosidase (B-6) is a mouse monoclonal antibody raised against amino acids 237-536 mapping at the C-terminus of β-glucosidase of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

β-glucosidase (B-6) is available conjugated to agarose (sc-166407 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166407 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166407 PE), fluorescein (sc-166407 FITC), Alexa Fluor® 488 (sc-166407 AF488), Alexa Fluor® 546 (sc-166407 AF546), Alexa Fluor® 594 (sc-166407 AF594) or Alexa Fluor® 647 (sc-166407 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166407 AF680) or Alexa Fluor® 790 (sc-166407 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

β-glucosidase (B-6) is recommended for detection of β-glucosidase 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), 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 β-glucosidase siRNA (h): sc-44904, β-glucosidase siRNA (m): sc-44905, β-glucosidase shRNA Plasmid (h): sc-44904-SH, β-glucosidase shRNA Plasmid (m): sc-44905-SH, β-glucosidase shRNA (h) Lentiviral Particles: sc-44904-V and β-glucosidase shRNA (m) Lentiviral Particles: sc-44905-V.

Molecular Weight of β-glucosidase: 57 kDa.

Positive Controls: β-glucosidase (h): 293T Lysate: sc-110483, mouse liver extract: sc-2256 or MCF7 whole cell lysate: sc-2206.

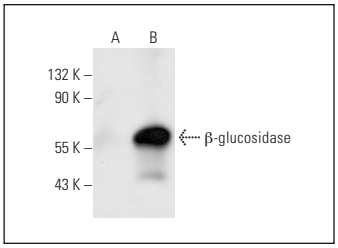
STORAGE

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

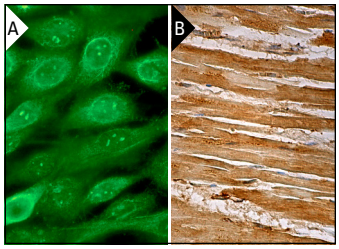
RESEARCH USE

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

DATA



β-glucosidase (B-6): sc-166407. Western blot analysis of β-glucosidase expression in non-transfected: sc-117752 (**A**) and human β-glucosidase transfected: sc-110483 (**B**) 293T whole cell lysates.



β-glucosidase (B-6): sc-166407. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes (**B**).

SELECT PRODUCT CITATIONS

1. García-Sanz, P., et al. 2017. N370S-GBA1 mutation causes lysosomal cholesterol accumulation in Parkinson's disease. Mov. Disord. 32: 1409-1422.
2. Arrant, A.E., et al. 2019. Impaired β-glucocerebrosidase activity and processing in frontotemporal dementia due to progranulin mutations. Acta Neuropathol. Commun. 7: 218.
3. Sharoar, M.G., et al. 2021. Accumulation of saposin in dystrophic neurites is linked to impaired lysosomal functions in Alzheimer's disease brains. Mol. Neurodegener. 16: 45.
4. Ruz, C., et al. 2022. Seventy-two-hour LRRK2 kinase activity inhibition increases lysosomal GBA expression in H4, a human neuroglioma cell line. Int. J. Mol. Sci. 23: 6935.
5. Shimizu, T., et al. 2023. Direct activation of microglia by β-glucosylceramide causes phagocytosis of neurons that exacerbates Gaucher disease. Immunity 56: 307-319.e8.
6. Wang, G., et al. 2023. GBA inhibition suppresses ovarian cancer growth, survival and receptor tyrosine kinase AXL-mediated signaling pathways. Korean J. Physiol. Pharmacol. 27: 21-29.
7. Onal, G., et al. 2024. Variant-specific effects of GBA1 mutations on dopaminergic neuron proteostasis. J. Neurochem. 168: 2543-2560.
8. Kim, M.J., et al. 2024. Inhibition of cysteine protease cathepsin L increases the level and activity of lysosomal glucocerebrosidase. JCI Insight 9: e169594.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.