

# β-glucuronidase (E-11): sc-374629

## BACKGROUND

The enzyme β-glucuronidase catalyzes the conversion of β-D-glucuronoside and water to an alcohol and D-glucuronate. Deficiency of β-glucuronidase is the cause of the human lysosomal storage disorder mucopolysaccharidosis type VII (MPS VII). Specifically, two residues appear important for catalytic activity: Glu 451 and Glu 540. Mutations at these sites affect the overall structure of the protein, which normally consists of a homotetramer with each promoter including a jelly roll barrel, an immunoglobulin constant domain and a TIM barrel. Regulation of β-glucuronidase activity may play a role in tumorigenesis and the invasiveness of a number of cancers, and is also an important factor in the development of functional prodrugs that require the cleavage of an active cytostatic by endogenous enzymes for antitumor activity.

## REFERENCES

1. Himeno Mnishimura, Y., et al. 1976. Purification and characterization of microsomal and lysosomal β-glucuronidase from rat liver by use of immunoaffinity chromatography. *Eur. J. Biochem.* 70: 349-359.
2. Gupta, G.S., et al. 1983. Isolation and characterization of the major form of β-glucuronidase from human seminal plasma. *Biochim. Biophys. Acta* 748: 398-404.
3. Varma, R., et al. 1983. β-glucuronidase in sera of patients with epileptic seizure activity, diabetes and some other disease states. *Neurosci. Lett.* 39: 105-111.

## CHROMOSOMAL LOCATION

Genetic locus: GUSB (human) mapping to 7q11.21.

## SOURCE

β-glucuronidase (E-11) is a mouse monoclonal antibody raised against amino acids 352-651 mapping at the C-terminus of β-glucuronidase 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-glucuronidase (E-11) is available conjugated to agarose (sc-374629 AC), 500 μg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374629 HRP), 200 μg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374629 PE), fluorescein (sc-374629 FITC), Alexa Fluor<sup>®</sup> 488 (sc-374629 AF488), Alexa Fluor<sup>®</sup> 546 (sc-374629 AF546), Alexa Fluor<sup>®</sup> 594 (sc-374629 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-374629 AF647), 200 μg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-374629 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-374629 AF790), 200 μg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

β-glucuronidase (E-11) is recommended for detection of β-glucuronidase of 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-glucuronidase siRNA (h): sc-44458, β-glucuronidase shRNA Plasmid (h): sc-44458-SH and β-glucuronidase shRNA (h) Lentiviral Particles: sc-44458-V.

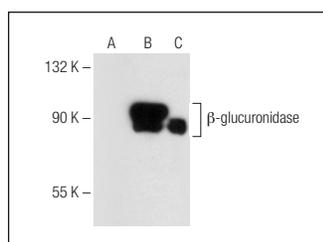
Molecular Weight of β-glucuronidase: 82 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, Hep G2 cell lysate: sc-2227 or Saos-2 cell lysate: sc-2235.

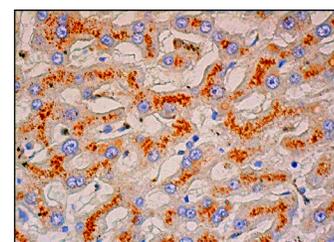
## RECOMMENDED SUPPORT REAGENTS

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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



β-glucuronidase (E-11): sc-374629. Western blot analysis of β-glucuronidase expression in non-transfected (A), human β-glucuronidase transfected (B) and Saos-2 (C) whole cell lysates.



β-glucuronidase (E-11): sc-374629. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

## SELECT PRODUCT CITATIONS

1. Li, X., et al. 2017. Nucleus-translocated ACS2 promotes gene transcription for lysosomal biogenesis and autophagy. *Mol. Cell* 66: 684-697.e9.
2. Kaliannan, K., et al. 2022. Decreased tissue ω-6/ω-3 fatty acid ratio prevents chemotherapy-induced gastrointestinal toxicity associated with alterations of gut microbiome. *Int. J. Mol. Sci.* 23: 5332.

## RESEARCH USE

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