SANTA CRUZ BIOTECHNOLOGY, INC.

β-glucuronidase (K-20): sc-26282

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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., Tsuji, H. and Kato, K. 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. and Singh, G.P. 1983. Isolation and characterization of the major form of β-glucuronidase from human seminal plasma. Biochim. Biophys. Acta 748: 398-404.
3. Varma, R., Michos, G.A., Mesmer, R.E., Varma, R.S. and Shirey, R.E. 1983. β-glucuronidase in sera of patients with epileptic seizure activity, diabetes and some other disease states. Neurosci. Lett. 39: 105-111.
4. Guise, K.S., Korneluk, R.G., Waye, J., Lamhonwah, A.M., Quan, F., Palmer, R., Ganschow, R.E., Sly, W.S. and Gravel, R.A. 1985. Isolation and expression in *Escherichia coli* of a cDNA clone encoding human β-glucuronidase. Gene 34: 105-110.
5. Watson, G., Felder, M., Rabinow, L., Moore, K., Labarca, C., Tietze, C., Vander Molen, G., Bracey, L., Brabant, M., Cai, J.D., et al. 1985. Properties of rat and mouse β-glucuronidase mRNA and cDNA, including evidence for sequence polymorphism and genetic regulation of mRNA levels. Gene 36: 15-25.

CHROMOSOMAL LOCATION

Genetic locus: GUSB (human) mapping to 7q11.21; Gusb (mouse) mapping to 5 G1.3.

SOURCE

β-glucuronidase (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of β-glucuronidase of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26282 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

β-glucuronidase (K-20) is recommended for detection of β-glucuronidase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

β-glucuronidase (K-20) is also recommended for detection of β-glucuronidase in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for β-glucuronidase siRNA (h): sc-44458, β-glucuronidase siRNA (m): sc-44459, β-glucuronidase shRNA Plasmid (h): sc-44458-SH, β-glucuronidase shRNA Plasmid (m): sc-44459-SH, β-glucuronidase shRNA (h) Lentiviral Particles: sc-44458-V and β-glucuronidase shRNA (m) Lentiviral Particles: sc-44459-V.

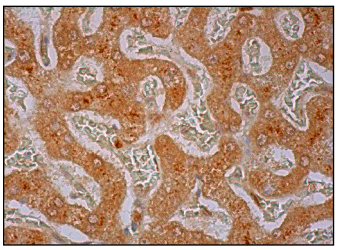
Molecular Weight of β-glucuronidase: 82 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



β-glucuronidase (K-20): sc-26282. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

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.