SANTA CRUZ BIOTECHNOLOGY, INC.

Glucosidase IIβ (A-7): sc-514870

BACKGROUND

Trimming of glucoses from N-linked core glycans on newly synthesized glycoproteins occurs sequentially through the action of Glucosidases I and II in the endoplasmic reticulum (ER). Glucosidase II is an ER-localized enzyme that contains α and β subunits (Glucosidase IIα and Glucosidase IIβ) which form a defined heterodimeric complex. Glucosidase IIα is the catalyitc core of the enzyme and can function independently of the β subunit. The sequence of Glucosidase IIβ encodes protein rich in glutamic and aspartic acid with a putative ER retention signal (HDEL) at the C-terminus. The phosphorylated form of Glucosidase IIβ is localized in the plasma membrane and is highly expressed in FGF-stimulated fibroblasts and epidermal carcinoma cells. Glucosidase IIβ was first purified from a human carcinoma cell line as a potential substrate for protein kinase C. Through the HDEL signal at the C-terminus, Glucosidase IIβ retains the complete complex in the ER.

REFERENCES

1. Shailubhai, K., Pratta M.A. and Vijay, I.K. 1987. Purification and characterization of Glucosidase I involved in N-linked glycoprotein processing in bovine mammary gland. Biochem. J. 247: 555-562.
2. Saxena, S., Shailubhai, K., Dong-Yu, B. and Vijay, I.K. 1987. Purification and characterization of Glucosidase II involved in N-linked glycoprotein processing in bovine mammary gland. Biochem. J. 247: 563-570.
3. Trombetta, E.S., Simons, J.F. and Helenius, A. 1996. Endoplasmic reticulum Glucosidase II is composed of a catalytic subunit, conserved from yeast to mammals, and a tightly bound noncatalytic HDEL-containing subunit. J. Biol. Chem. 271: 27509-27516.
4. Treml, K., Meimaroglou, D., Hentges, A. and Bause, E. 2000. The α- and β-subunits are required for expression of catalytic activity in the hetero-dimeric Glucosidase II complex from human liver. Glycobiology 10: 493-502.
5. Trombetta, E.S., Fleming, K.G. and Helenius, A. 2001. Quaternary and domain structure of glycoprotein processing Glucosidase II. Biochemistry 40: 10717-10722.

CHROMOSOMAL LOCATION

Genetic locus: PRKCSH (human) mapping to 19p13.2; Prkcsh (mouse) mapping to 9 A3.

SOURCE

Glucosidase IIβ (A-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 383-420 within an internal region of Glucosidase IIβ of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-514870 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Glucosidase IIβ (A-7) is recommended for detection of Glucosidase IIβ 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 Glucosidase IIβ siRNA (h): sc-29598, Glucosidase IIβ siRNA (m): sc-29599, Glucosidase IIβ shRNA Plasmid (h): sc-29598-SH, Glucosidase IIβ shRNA Plasmid (m): sc-29599-SH, Glucosidase IIβ shRNA (h) Lentiviral Particles: sc-29598-V and Glucosidase IIβ shRNA (m) Lentiviral Particles: sc-29599-V.

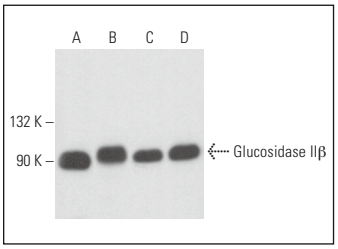
Molecular Weight of Glucosidase IIβ: 80-90 kDa.

Positive Controls: A-10 cell lysate: sc-3806, K-562 whole cell lysate: sc-2203 or NIH/3T3 whole cell lysate: sc-2210.

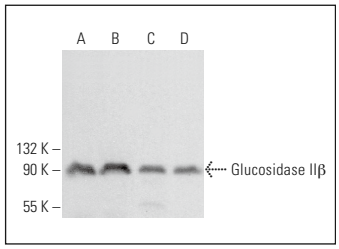
RECOMMENDED SUPPORT REAGENTS

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



Glucosidase IIβ (A-7): sc-514870. Western blot analysis of Glucosidase IIβ expression in K-562 (**A**), NIH/3T3 (**B**), RAW 264.7 (**C**) and A-10 (**D**) whole cell lysates.



Glucosidase IIβ (A-7): sc-514870. Western blot analysis of Glucosidase IIβ expression in K-562 (**A**), HEL 92.1.7 (**B**), M1 (**C**) and Daudi (**D**) whole cell lysates.

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 for detailed protocols and support products.