SANTA CRUZ BIOTECHNOLOGY, INC.

Glucosidase IIα (C-16): sc-20279

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). The α and β subunits form a defined heterodimeric complex with a molecular weight about 161 kDa. 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., et al. 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., et al. 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., et al. 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. Arendt, C.W., et al. 1997. Identification of the CD45-associated 116 kDa and 80 kDa proteins as the α and β subunits of α-Glucosidase II. J. Biol. Chem. 272: 13117-13125.
5. Treml, K., et al. 2000. The α and β subunits are required for expression of catalytic activity in the heterodimeric Glucosidase II complex from human liver. Glycobiology 10: 493-502.
6. Trombetta, E.S., et al. 2001. Quaternary and domain structure of glycoprotein processing Glucosidase II. Biochemistry 40: 10717-10122.

CHROMOSOMAL LOCATION

Genetic locus: GANAB (human) mapping to 11q12.3; Ganab (mouse) mapping to 19 A.

SOURCE

Glucosidase IIα (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Glucosidase IIα of human origin.

STORAGE

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

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-20279 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Glucosidase IIα (C-16) is recommended for detection of the α subunit of Glucosidase II 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Glucosidase IIα siRNA (h): sc-41517, Glucosidase IIα siRNA (m): sc-41518, Glucosidase IIα shRNA Plasmid (h): sc-41517-SH, Glucosidase IIα shRNA Plasmid (m): sc-41518-SH, Glucosidase IIα shRNA (h) Lentiviral Particles: sc-41517-V and Glucosidase IIα shRNA (m) Lentiviral Particles: sc-41518-V.

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.

SELECT PRODUCT CITATIONS

1. Kim, K.B., et al. 2010. Two-dimensional electrophoretic analysis of radiofrequency radiation-exposed MCF7 breast cancer cells. J. Radiat. Res. 51: 205-213.

RESEARCH USE

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

PROTOCOLS

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