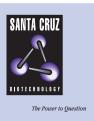
# SANTA CRUZ BIOTECHNOLOGY, INC.

# Glucosidase IIa (N-14): sc-20277



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  $\alpha$  and  $\beta$  subunits (Glucosidase II $\alpha$  and Glucosidase II $\beta$ ). The  $\alpha$  and  $\beta$  subunits form a defined heterodimeric complex with a molecular weight about 161 kDa. Glucosidase II $\alpha$  is the catalyitc core of the enzyme and can function independently of the  $\beta$  subunit. The sequence of Glucosidase II $\beta$  encodes protein rich in glutamic and aspartic acid with a putative ER retention signal (HDEL) at the C terminus. The phosphorylated form of Glucosidase II $\beta$  is localized in the plasma membrane and is highly expressed in FGF stimulated fibroblasts and epidermal carcinoma cells. Glucosidase II $\beta$  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 II $\beta$  retains the complete complex in the ER.

# REFERENCES

BACKGROUND

- 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.
- 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.
- 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  $\alpha$  and  $\beta$  subunits of  $\alpha$ -Glucosidase II. J. Biol. Chem. 272: 13117-13125.
- 5. Treml, K., et al. 2000. The  $\alpha$  and  $\beta$  subunits are required for expression of catalytic activity in the heterodimeric Glucosidase II complex from human liver. Glycobiology 10: 493-502.
- 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 II $\alpha$  (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Glucosidase II $\alpha$  of human origin.

# **STORAGE**

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

#### PRODUCT

Each vial contains 200  $\mu g$  lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-20277 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

# **APPLICATIONS**

Glucosidase II $\alpha$  (N-14) is recommended for detection of the  $\alpha$  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 II $\alpha$  siRNA (h): sc-41517 and Glucosidase II $\alpha$  siRNA (m): sc-41518.

### **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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluo-rescence: use donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

# **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.