SANTA CRUZ BIOTECHNOLOGY, INC.

HUGT2 (I-18): sc-84311

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

HUGT2 is also known as UGCGL2 (UDP-glucose ceramide glucosyltransferase-like 2) or UGT2 (UDP-glucose: glycoprotein glucosyltransferase 2) and is a 1,516 amino acid protein that is expressed abundantly in kidney, pancreas, heart and skeletal muscle. HUGT2 is localized to the lumen of the ER (endoplasmic reticulum) and to the ER-Golgi intermediate compartment which regulates transportation between the ER and the Golgi. HUGT2 is a quality control protein that targets unfolded glycoproteins for glucosylation in a calcium-dependent manner, but may use manganese is the absence of calcium. HUGT2 targets glycans by attaching single glucose residues to glycans with amino acid sequences which are not correctly folded, an enzymatic process that is exhibited during carbohydrate processing. Patients with type 2 diabetes express altered HUGT2 proteins in their β cells, suggesting that these patients may also have defects in their ER glycoprotein quality control abilities.

REFERENCES

1. Arnold, S.M., Fessler, L.I., Fessler, J.H. and Kaufman, R.J. 2000. Two homologues encoding human UDP-glucose: glycoprotein glucosyltransferase differ in mRNA expression and enzymatic activity. Biochemistry 39: 2149-2163.
2. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 605898. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Arnold, S.M. and Kaufman, R.J. 2003. The noncatalytic portion of human UDP-glucose: glycoprotein glucosyltransferase I confers UDP-glucose binding and transferase function to the catalytic domain. J. Biol. Chem. 278: 43320-43328.
4. Marchetti, P., Bugliani, M., Lupi, R., Marselli, L., Masini, M., Boggi, U., Filipponi, F., Weir, G.C., Eizirik, D.L. and Cnop, M. 2007. The endoplasmic reticulum in pancreatic β cells of type 2 diabetes patients. Diabetologia 50: 2486-2494.
5. Mackenzie, P.I., Rogers, A., Treloar, J., Jorgensen, B.R., Miners, J.O. and Meech, R. 2008. Identification of UDP glycosyltransferase 3A1 as a UDP N-acetylglucosaminyltransferase. J. Biol. Chem. 283: 36205-36210.

CHROMOSOMAL LOCATION

Genetic locus: UGCGL2 (human) mapping to 13q32.1; Ugcgl2 (mouse) mapping to 14 E4.

SOURCE

HUGT2 (I-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of HUGT2 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84311 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HUGT2 (I-18) is recommended for detection of HUGT2 of mouse 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 HUGT2 siRNA (h): sc-75315, HUGT2 siRNA (m): sc-146114, HUGT2 shRNA Plasmid (h): sc-75315-SH, HUGT2 shRNA Plasmid (m): sc-146114-SH, HUGT2 shRNA (h) Lentiviral Particles: sc-75315-V and HUGT2 shRNA (m) Lentiviral Particles: sc-146114-V.

Molecular Weight of HUGT2: 175 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.