SANTA CRUZ BIOTECHNOLOGY, INC.

USE1 (N-12): sc-132484

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The Power to Question

BACKGROUND

In eukaryotic cells, the Golgi apparatus receives newly synthesized proteins from the endoplasmic reticulum (ER) and, after covalent modification, delivers them to their destination in the cell. For membrane-directed proteins this process is believed to be carried out via vesicular transport. Correct vesicular transport is determined by specific pairing of vesicle-associated SNAREs (v-SNAREs) with those on the target membrane (t-SNAREs). Unconventional SNARE in the ER 1, also known as USE1 or protein p31, is a 259 amino acid t-SNARE that forms a larger complex with ZW10, RINT-1 and Syntaxin 18. Upon Mg^{2+}-AP treatment in the presence of NSF and α-SNAP, ZW10, RINT-1 and USE1 dissociate from Syntaxin 18. USE1 is a single-pass type IV membrane protein that is localized to the endoplasmic reticulum membrane. Three named isoforms exist for USE1 as a result of alternative splicing events.

REFERENCES

1. Nichols, B.J. and Pelham, H.R. 1998. SNAREs and membrane fusion in the Golgi apparatus. Biochim. Biophys. Acta 1404: 9-31.
2. Matsuda, A., et al. 2003. Large-scale identification and characterization of human genes that activate NFκB and MAPK signaling pathways. Oncogene 22: 3307-3318.
3. Burri, L., et al. 2003. A SNARE required for retrograde transport to the endoplasmic reticulum. Proc. Natl. Acad. Sci. USA 100: 9873-9877.
4. Belgareh-Touzé, N., et al. 2003. Yeast functional analysis: identification of two essential genes involved in ER to Golgi trafficking. Traffic 4: 607-617.
5. Hirose, H., et al. 2004. Implication of ZW10 in membrane trafficking between the endoplasmic reticulum and Golgi. EMBO J. 23: 1267-1278.
6. Nakajima, K., et al. 2004. Involvement of BNIP1 in apoptosis and endoplasmic reticulum membrane fusion. EMBO J. 23: 3216-3226.

CHROMOSOMAL LOCATION

Genetic locus: USE1 (human) mapping to 19p13.11; Use1 (mouse) mapping to 8 B3.3.

SOURCE

USE1 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal cytoplasmic domain of USE1 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-132484 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

USE1 (N-12) is recommended for detection of USE1 isoforms 1, 2 and 3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 USE1 siRNA (h): sc-97257, USE1 siRNA (m): sc-154939, USE1 shRNA Plasmid (h): sc-97257-SH, USE1 shRNA Plasmid (m): sc-154939-SH, USE1 shRNA (h) Lentiviral Particles: sc-97257-V and USE1 shRNA (m) Lentiviral Particles: sc-154939-V.

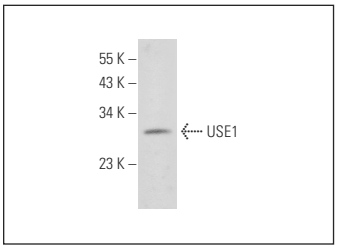
Molecular Weight of USE1: 29 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



USE1 (N-12): sc-132484. Western blot analysis of USE1 expression in SH-SY5Y whole cell lysate.

RESEARCH USE

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