SANTA CRUZ BIOTECHNOLOGY, INC.

USE1 (D-1): sc-398316

SANTA CRUZ BIOTECHNOLOGY

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 (D-1) is a mouse monoclonal antibody raised against amino acids 1-78 mapping at the N-terminus of USE1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

USE1 (D-1) is available conjugated to agarose (sc-398316 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398316 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398316 PE), fluorescein (sc-398316 FITC), Alexa Fluor® 488 (sc-398316 AF488), Alexa Fluor® 546 (sc-398316 AF546), Alexa Fluor® 594 (sc-398316 AF594) or Alexa Fluor® 647 (sc-398316 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398316 AF680) or Alexa Fluor® 790 (sc-398316 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

USE1 (D-1) is recommended for detection of USE1 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 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.

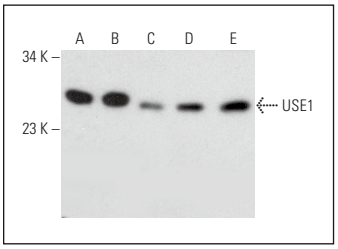
Molecular Weight of USE1: 29 kDa.

Positive Controls: WI-38 whole cell lysate: sc-364260, KNRK whole cell lysate: sc-2214 or H69AR whole cell lysate: sc-364382.

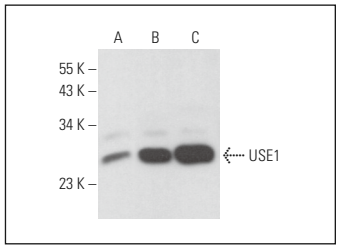
RECOMMENDED SUPPORT REAGENTS

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



USE1 (D-1): sc-398316. Western blot analysis of USE1 expression in SHP-77 (**A**), H69AR (**B**), A549 (**C**), NCI-H460 (**D**) and NCI-H226 (**E**) whole cell lysates.



USE1 (D-1): sc-398316. Western blot analysis of USE1 expression in WI-38 (**A**), H69AR (**B**) and KNRK (**C**) 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.