

Ubr3 (S-16): sc-244561

BACKGROUND

Ubiquitination is an important mechanism through which three classes of enzymes act in concert to target short-lived or abnormal proteins for destruction. The three classes of enzymes involved in ubiquitination are the ubiquitin-activating enzymes (E1s), the ubiquitin-conjugating enzymes (E2s) and the ubiquitin-protein ligases (E3s). Ubr3 (ubiquitin-protein ligase E3- α -3), also known as N-recogin-3 and zinc finger protein 650, is a 1888 amino acid multi-pass membrane protein that contains one UBR-type zinc finger and one RING-type zinc finger. Participating in protein modification events within the N-end rule pathway, Ubr1 and Ubr2 function as E3 ubiquitin-protein ligase that recognize and bind proteins that contain destabilizing N-terminal residues, thereby leading to their ubiquitination and subsequent degradation. Unlike its family members, Ubr3 does not recognize N-end rule substrates, but is rather thought to recognize small compounds that modulate the targeting of its substrates. Adult mice that lack Ubr3 exhibit female-specific anosmia, suggesting that Ubr3 plays a regulatory role in sensory pathways like olfaction. There are four isoforms of Ubr3 that are produced as a result of alternative splicing events.

REFERENCES

1. Varshavsky, A. 1997. The N-end rule pathway of protein degradation. *Genes Cells* 2: 13-28.
2. Kwon, Y.T., Reiss, Y., Fried, V.A., Hershko, A., Yoon, J.K., Gonda, D.K., Sangan, P., Copeland, N.G., Jenkins, N.A. and Varshavsky, A. 1998. The mouse and human genes encoding the recognition component of the N-end rule pathway. *Proc. Natl. Acad. Sci. USA* 95: 7898-7903.
3. Ardley, H.C. and Robinson, P.A. 2005. E3 ubiquitin ligases. *Essays Biochem.* 41: 15-30.
4. Tasaki, T., Mulder, L.C., Iwamatsu, A., Lee, M.J., Davydov, I.V., Varshavsky, A., Muesing, M. and Kwon, Y.T. 2005. A family of mammalian E3 ubiquitin ligases that contain the UBR box motif and recognize N-degrons. *Mol. Cell. Biol.* 25: 7120-7136.
5. Tasaki, T., Sohr, R., Xia, Z., Hellweg, R., Hörtnagl, H., Varshavsky, A. and Kwon, Y.T. 2007. Biochemical and genetic studies of UBR3, a ubiquitin ligase with a function in olfactory and other sensory systems. *J. Biol. Chem.* 282: 18510-18520.
6. Tasaki, T. and Kwon, Y.T. 2007. The mammalian N-end rule pathway: new insights into its components and physiological roles. *Trends Biochem. Sci.* 32: 520-528.
7. Tasaki, T., Zakrzewska, A., Dudgeon, D.D., Jiang, Y., Lazo, J.S. and Kwon, Y.T. 2009. The substrate recognition domains of the N-end rule pathway. *J. Biol. Chem.* 284: 1884-1895.

CHROMOSOMAL LOCATION

Genetic locus: UBR3 (human) mapping to 2q31.1; Ubr3 (mouse) mapping to 2 C2.

SOURCE

Ubr3 (S-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Ubr3 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-244561 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Ubr3 (S-16) is recommended for detection of Ubr3 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); non cross-reactive with other Ubr family members.

Ubr3 (S-16) is also recommended for detection of Ubr3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Ubr3 siRNA (h): sc-94795, Ubr3 siRNA (m): sc-155573, Ubr3 shRNA Plasmid (h): sc-94795-SH, Ubr3 shRNA Plasmid (m): sc-155573-SH, Ubr3 shRNA (h) Lentiviral Particles: sc-94795-V and Ubr3 shRNA (m) Lentiviral Particles: sc-155573-V.

Molecular Weight of Ubr3 isoforms 1-4: 212/81/46/216 kDa.

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.

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.



Try **Ubr3 (5A10): sc-517094**, our highly recommended monoclonal alternative to Ubr3 (S-16).