

OTUB2 (C-19): sc-82682

BACKGROUND

The modification of cellular proteins by the covalent attachment of ubiquitin is important for various biological processes which include signal transduction, cell cycle progression and stress response. Ubiquitylation can be reversed and regulated by a family of proteases called deubiquitylating enzymes (DUBs). The otubains family of DUBs belong to the ovarian tumour (OTU) superfamily of proteins. OTUB2 (OTU domain, ubiquitin aldehyde binding 2), also known as OTB2, OTU2 or Otubain-2, is a 234 amino acid protein that contains one OTU (ovarian tumor) domain. OTUB2 is ubiquitously expressed with higher expression levels in the brain. OTUB2 functions as a hydrolase that can remove ubiquitin residues from target proteins, thereby preventing protein degradation and playing an important role in protein turnover. Two isoforms exist due to alternative splicing events.

REFERENCES

- Borodovsky, A., Ovaa, H., Kolli, N., Gan-Erdene, T., Wilkinson, K.D., Ploegh, H.L. and Kessler, B.M. 2002. Chemistry-based functional proteomics reveals novel members of the deubiquitinating enzyme family. *Chem. Biol.* 9: 1149-1159.
- Balakirev, M.Y., Tcherniuk, S.O., Jaquinod, M. and Chroboczek, J. 2003. Otubains: a new family of cysteine proteases in the ubiquitin pathway. *EMBO Rep.* 4: 517-522.
- Nanao, M.H., Tcherniuk, S.O., Chroboczek, J., Dideberg, O., Dessen, A. and Balakirev, M.Y. 2004. Crystal structure of human otubain 2. *EMBO Rep.* 5: 783-788.
- Soares, L., Seroogy, C., Skrenta, H., Anandasabapathy, N., Lovelace, P., Chung, C.D., Engleman, E. and Fathman, C.G. 2004. Two isoforms of Otubain-1 regulate T cell energy via GRAIL. *Nat. Immunol.* 5: 45-54.
- Nanao, M.H., Tcherniuk, S.O., Chroboczek, J., Dideberg, O., Dessen, A. and Balakirev, M.Y. 2004. Crystal structure of human otubain 2. *EMBO Rep.* 5: 783-788.
- Komander, D. and Barford, D. 2008. Structure of the A20 OTU domain and mechanistic insights into deubiquitination. *Biochem. J.* 409: 77-85.
- Messick, T.E., Russell, N.S., Iwata, A.J., Sarachan, K.L., Shiekhattar, R., Shanks, J.R., Reyes-Turcu, F.E., Wilkinson, K.D. and Marmorstein, R. 2008. Structural basis for ubiquitin recognition by the OTU1 ovarian tumor domain protein. *J. Biol. Chem.* 283: 11038-11049.
- Aquea, F., Gutierrez, F., Medina, C. and Arce-Johnson, P. 2008. A novel Otubain-like cysteine protease gene is preferentially expressed during somatic embryogenesis in *Pinus radiata*. *Mol. Biol. Rep.* 35: 567-573.
- Edelmann, M.J., Iphöfer, A., Akutsu, M., Altun, M., di Gleria, K., Kramer, H.B., Fiebigler, E., Dhe-Paganon, S. and Kessler, B.M. 2009. Structural basis and specificity of human otubain 1-mediated deubiquitination. *Biochem. J.* 418: 379-390.

CHROMOSOMAL LOCATION

Genetic locus: OTUB2 (human) mapping to 14q32.12; Otub2 (mouse) mapping to 12 E.

SOURCE

OTUB2 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of OTUB2 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-82682 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

OTUB2 (C-19) is recommended for detection of OTUB2 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 isoform 2.

OTUB2 (C-19) is also recommended for detection of OTUB2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for OTUB2 siRNA (h): sc-76016, OTUB2 siRNA (m): sc-76017, OTUB2 shRNA Plasmid (h): sc-76016-SH, OTUB2 shRNA Plasmid (m): sc-76017-SH, OTUB2 shRNA (h) Lentiviral Particles: sc-76016-V and OTUB2 shRNA (m) Lentiviral Particles: sc-76017-V.

Molecular Weight of OTUB2: 27 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.