

UBE2G2 (C-14): sc-79189

BACKGROUND

UBE2G2 (ubiquitin-conjugating enzyme E2 G2), also known as UBC7, is a 165 amino acid protein involved in ubiquitin-mediated protein degradation. 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). UBE2G2 is an E2 ubiquitin-conjugating enzyme that acts to catalyze the covalent attachment of ubiquitins to various proteins. Expressed throughout the body, UBE2G2 shares 100% sequence identity with its mouse counterpart and is thought to be involved in endoplasmic reticulum-associated degradation (ERAD). Two isoforms of UBE2G2 exist due to alternative splicing events.

REFERENCES

1. Katsanis, N. and Fisher, E.M. 1998. Identification, expression and chromosomal localization of ubiquitin conjugating enzyme 7 (UBE2G2), a human homologue of the *Saccharomyces cerevisiae* *ubc7* gene. *Genomics* 51: 128-131.
2. Webster, J.M., Tiwari, S., Weissman, A.M. and Wojcikiewicz, R.J. 2003. Inositol 1, 4, 5-trisphosphate receptor ubiquitination is mediated by mammalian Ubc7, a component of the endoplasmic reticulum-associated degradation pathway, and is inhibited by chelation of intracellular Zn²⁺. *J. Biol. Chem.* 278: 38238-38246.
3. Kim, B.W., Zavacki, A.M., Curcio-Morelli, C., Dentice, M., Harney, J.W., Larsen, P.R. and Bianco, A.C. 2003. Endoplasmic reticulum-associated degradation of the human type 2 iodothyronine deiodinase (D2) is mediated via an association between mammalian UBC7 and the carboxyl region of D2. *Mol. Endocrinol.* 17: 2603-2612.
4. Reyes, L.F., Sommer, C.A., Beltramini, L.M. and Henrique-Silva, F. 2006. Expression, purification and structural analysis of (HIS) UBE2G2 (human ubiquitin-conjugating enzyme). *Protein Expr. Purif.* 45: 324-328.
5. Chen, B., Mariano, J., Tsai, Y.C., Chan, A.H., Cohen, M. and Weissman, A.M. 2006. The activity of a human endoplasmic reticulum-associated degradation E3, GP78, requires its Cue domain, RING finger, and an E2-binding site. *Proc. Natl. Acad. Sci. USA* 103: 341-346.
6. Arai, R., Yoshikawa, S., Murayama, K., Imai, Y., Takahashi, R., Shirouzu, M. and Yokoyama, S. 2006. Structure of human ubiquitin-conjugating enzyme E2 G2 (UBE2G2/UBC7). *Acta Crystallogr. Sect. F Struct. Biol. Cryst. Commun.* 62: 330-334.
7. Li, W., Tu, D., Brunger, A.T. and Ye, Y. 2007. A ubiquitin ligase transfers preformed polyubiquitin chains from a conjugating enzyme to a substrate. *Nature* 446: 333-337.

CHROMOSOMAL LOCATION

Genetic locus: UBE2G2 (human) mapping to 21q22.3; Ube2g2 (mouse) mapping to 10 C1.

RESEARCH USE

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

SOURCE

UBE2G2 (C-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of UBE2G2 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-79189 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

UBE2G2 (C-14) is recommended for detection of UBE2G2 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).

UBE2G2 (C-14) is also recommended for detection of UBE2G2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for UBE2G2 siRNA (h): sc-76788, UBE2G2 siRNA (m): sc-76789, UBE2G2 shRNA Plasmid (h): sc-76788-SH, UBE2G2 shRNA Plasmid (m): sc-76789-SH, UBE2G2 shRNA (h) Lentiviral Particles: sc-76788-V and UBE2G2 shRNA (m) Lentiviral Particles: sc-76789-V.

Molecular Weight of UBE2G2: 18 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.