SANTA CRUZ BIOTECHNOLOGY, INC.

Ubr2 (8H10): sc-135594

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). Ubr2 (ubiquitin-protein ligase E3-α-2), also known as N-recognin-2, is a 1,755 amino acid 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, Ubr2 functions as an E3 ubiquitin-protein ligase that recognizes and binds proteins that contain destabilizing N-terminal residues, thereby leading to their ubiquitination and subsequent degradation. Mice lacking Ubr2 are infertile due to defects in male meiosis.

REFERENCES

1. Tasaki, T., et al. 2005. A family of mammalian E3 ubiquitin ligases that contain the UBR box motif and recognize N-degrons. Mol. Cell. Biol. 25: 7120-7136.
2. Ouyang, Y., et al. 2006. Loss of Ubr2, an E3 ubiquitin ligase, leads to chromosome fragility and impaired homologous recombinational repair. Mutat. Res. 596: 64-75.
3. An, J.Y., et al. 2006. Impaired neurogenesis and cardiovascular development in mice lacking the E3 ubiquitin ligases UBR1 and UBR2 of the N-end rule pathway. Proc. Natl. Acad. Sci. USA 103: 6212-6217.
4. Lee, M.J., et al. 2008. Synthetic heterovalent inhibitors targeting recognition E3 components of the N-end rule pathway. Proc. Natl. Acad. Sci. USA 105: 100-105.
5. Tasaki, T., et al. 2009. The substrate recognition domains of the N-end rule pathway. J. Biol. Chem. 284: 1884-1895.
6. Kume, K., et al. 2010. Role of N-end rule ubiquitin ligases UBR1 and UBR2 in regulating the leucine-mTOR signaling pathway. Genes Cells 15: 339-349.
7. An, J.Y., et al. 2010. UBR2 mediates transcriptional silencing during spermatogenesis via histone ubiquitination. Proc. Natl. Acad. Sci. USA 107: 1912-1917.

CHROMOSOMAL LOCATION

Genetic locus: UBR2 (human) mapping to 6p21.1.

SOURCE

Ubr2 (8H10) is a mouse monoclonal antibody raised against recombinant Ubr2 protein of human origin.

PRODUCT

Each vial contains 50 µg IgG_{2a} kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Ubr2 (8H10) is recommended for detection of Ubr2 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Ubr2 siRNA (h): sc-95444, Ubr2 shRNA Plasmid (h): sc-95444-SH and Ubr2 shRNA (h) Lentiviral Particles: sc-95444-V.

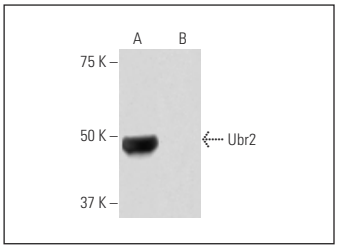
Molecular Weight of Ubr2 isoforms: 201/50/66 kDa.

Positive Controls: human Ubr2 transfected 293T whole cell lysate.

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).

DATA



Ubr2 (8H10): sc-135594. Western blot analysis of Ubr2 expression in human Ubr2 transfected (**A**) and non-transfected (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Eldeeb, M.A. and Fahlman, R.P. 2014. The anti-apoptotic form of tyrosine kinase Lyn that is generated by proteolysis is degraded by the N-end rule pathway. Oncotarget 5: 2714-2722.
2. Eldeeb, M.A. and Fahlman, R.P. 2016. Phosphorylation impacts N-end rule degradation of the proteolytically activated form of BMX kinase. J. Biol. Chem. 291: 22757-22768.
3. Eldeeb, M.A., et al. 2023. N-degron-mediated degradation of the proteolytically activated form of PKC-θ kinase attenuates its pro-apoptotic function. Cell. Signal. 110: 110830.

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.