

UFD1 (m): 293T Lysate: sc-124444

BACKGROUND

Ubiquitin-mediated proteolysis requires the transfer of ubiquitin (Ub) to lysine groups on selected cellular proteins, which then potentiates the proteolytic degradation of these protein conjugates by the 26S Proteasome. Ub-fusions are cleaved by Ub-specific processing proteases (UBPs) or alternatively by the Ub-fusion degradation (UFD) pathway. The UBP pathway targets the C-terminal glycine residue on Ub that is involved in the formation of Ub-conjugates, while UFD proteins preferentially cleave Ub-conjugated proteins that contain an amino acid substitution at this glycine residue. The UFD1 protein was originally characterized in the yeast *S. cerevisiae* and subsequently, the human homolog UFD1 or UFD1L was identified. *In vitro*, UFD1 attenuates the degradation of Ub-fusions, which have a proline or valine residue substituted at the Gly76 moiety, by the selective multiubiquitination of the Ub chain of the Ub-conjugate. Mutations within the UFD1 gene are implicated in the development of CATCH22 syndrome, which is characterized by cardiac defects, cleft palate and hypocalcemia, suggesting that this proteolytic pathway may be involved in the progression of these developmental defects.

REFERENCES

1. Jentsch, S. 1992. The ubiquitin-conjugation system. *Annu. Rev. Genet.* 26: 179-207.
2. Johnson, E.S., et al. 1995. A proteolytic pathway that recognizes ubiquitin as a degradation signal. *J. Biol. Chem.* 270: 17442-17456.
3. Hochstrasser, M. 1995. Ubiquitin, proteasomes, and the regulation of intracellular protein degradation. *Curr. Opin. Cell Biol.* 7: 215-223.
4. Haas, A.L., et al. 1997. Pathways of ubiquitin conjugation. *FASEB J.* 11: 1257-1268.
5. Pizzuti, A., et al. 1997. UFD1L, a developmentally expressed ubiquitination gene, is deleted in CATCH 22 syndrome. *Hum. Mol. Genet.* 6: 259-265.
6. Novelli, G., et al. 1998. Structure and expression of the human ubiquitin fusion-degradation gene (UFD1L). *Biochim. Biophys. Acta* 1396: 158-162.

CHROMOSOMAL LOCATION

Genetic locus: Ufd1l (mouse) mapping to 16 A3.

PRODUCT

UFD1 (m): 293T Lysate represents a lysate of mouse UFD1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

UFD1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive UFD1 antibodies. Recommended use: 10-20 µl per lane.

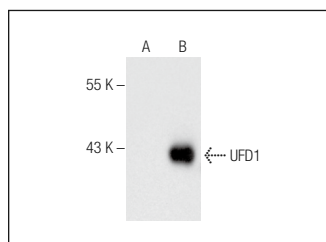
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

UFD1 (B-7): sc-377265 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse UFD1 expression in UFD1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

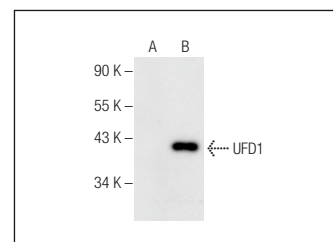
RECOMMENDED SUPPORT REAGENTS

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.

DATA



UFD1 (B-7): sc-377265. Western blot analysis of UFD1 expression in non-transfected: sc-117752 (A) and mouse UFD1 transfected: sc-124444 (B) 293T whole cell lysates.



UFD1 (E-9): sc-377222. Western blot analysis of UFD1 expression in non-transfected: sc-117752 (A) and mouse UFD1 transfected: sc-124444 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.