

UFD2 (C-1): sc-377072

BACKGROUND

UFD2, also designated ubiquitin conjugation factor E4 (UBE4B), binds to the ubiquitin moieties of preformed conjugates and catalyzes ubiquitin chain assembly in conjunction with E1, E2 and E3. During apoptosis, UFD2 is proteolytically cleaved at Asp 123 by caspase-6 and granzyme B, and is cleaved with approximately 10-fold less efficiency at Asp 109 by caspase-3 and caspase-7. In yeast, E4 activity is linked to cell survival under stress conditions, indicating that eukaryotes use E4-dependent proteolysis pathways for multiple cellular functions. In mammals, highest expression of UFD2 is in ovary, testis, heart and skeletal muscle.

REFERENCES

1. Koegl, M., et al. 1999. A novel ubiquitination factor, E4, is involved in multiubiquitin chain assembly. *Cell* 96: 635-644.
2. Conforti, L., et al. 2000. A UFD2/D4Cole1e chimeric protein and overexpression of Rbp7 in the slow Wallerian degeneration (WldS) mouse. *Proc. Natl. Acad. Sci. USA* 97: 11377-11382.
3. Krona, C., et al. 2003. Screening for gene mutations in a 500 kb neuroblastoma tumor suppressor candidate region in chromosome 1p; mutation and stage-specific expression in UBE4B/UFD2. *Oncogene* 22: 2343-2351.
4. Spinette, S., et al. 2004. UFD2, a novel autoantigen in scleroderma, regulates sister chromatid separation. *Cell Cycle* 3: 1638-1644.
5. Saeki, Y., et al. 2004. Definitive evidence for UFD2-catalyzed elongation of the ubiquitin chain through Lys48 linkage. *Biochem. Biophys. Res. Commun.* 320: 840-845.
6. Bazirgan, O.A. and Hampton, R.Y. 2005. Cdc48-UFD2-Rad23: the road less ubiquitinated? *Nat. Cell Biol.* 7: 207-209.

CHROMOSOMAL LOCATION

Genetic locus: UBE4B (human) mapping to 1p36.22; Ube4b (mouse) mapping to 4 E2.

SOURCE

UFD2 (C-1) is a mouse monoclonal antibody raised against amino acids 525-747 mapping within an internal region of UFD2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

UFD2 (C-1) is available conjugated to agarose (sc-377072 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377072 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377072 PE), fluorescein (sc-377072 FITC), Alexa Fluor® 488 (sc-377072 AF488), Alexa Fluor® 546 (sc-377072 AF546), Alexa Fluor® 594 (sc-377072 AF594) or Alexa Fluor® 647 (sc-377072 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377072 AF680) or Alexa Fluor® 790 (sc-377072 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

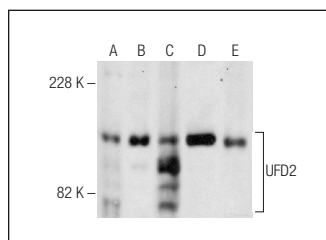
UFD2 (C-1) is recommended for detection of UFD2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for UFD2 siRNA (h): sc-45980, UFD2 siRNA (m): sc-45981, UFD2 shRNA Plasmid (h): sc-45980-SH, UFD2 shRNA Plasmid (m): sc-45981-SH, UFD2 shRNA (h) Lentiviral Particles: sc-45980-V and UFD2 shRNA (m) Lentiviral Particles: sc-45981-V.

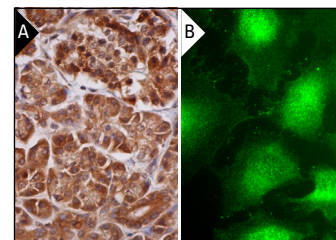
Molecular Weight of UFD2: 146 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, HeLa nuclear extract: sc-2120 or MOLT-4 cell lysate: sc-2233.

DATA



UFD2 (C-1): sc-377072. Western blot analysis of UFD2 expression in WI-38 (A), K-562 (B) and HeLa (C) nuclear extracts and Raji (D) and MOLT-4 (E) whole cell lysates.



UFD2 (C-1): sc-377072. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of exocrine glandular cells, islets of Langerhans and pancreatic duct cells (A). Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (B).

SELECT PRODUCT CITATIONS

1. Zhu, L., et al. 2022. A clinically compatible drug-screening platform based on organotypic cultures identifies vulnerabilities to prevent and treat brain metastasis. *EMBO Mol. Med.* 14: e14552.

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 for detailed protocols and support products.