

UBXD7 (D-16): sc-103309

BACKGROUND

The UBX (Ubiquitin regulatory X) domain is an 80 amino acid motif that is usually present on the carboxy-terminus of certain eukaryotic proteins. UBX domain-containing proteins, such as FAF1, p33ING1 and D8S2298E, are typically involved in ubiquitin-related processes. UBXD7 (UBX domain-containing protein 7) is a 489 amino acid protein that contains one UBX domain. By interacting with VCP, an ATP-dependent chaperone that regulates endoplasmic reticulum-associated degradation, UBXD7 links it to a ubiquitin ligase, CUL-2, and HIF-1 α . This results in depletion of p97, leading to accumulation of HIF-1 α and increased expression of a HIF-1 α target gene. This suggests that UBXD7 plays an indirect role in the regulation of HIF-1 α . UBXD7 is phosphorylated by either ATM or ATR upon DNA damage.

REFERENCES

- Carim-Todd, L., Escarceller, M., Estivill, X. and Sumoy, L. 2001. Identification and characterization of UBXD1, a novel UBX domain-containing gene on human chromosome 19p13, and its mouse ortholog. *Biochim. Biophys. Acta* 1517: 298-301.
- Buchberger, A., Howard, M.J., Proctor, M. and Bycroft, M. 2001. The UBX domain: a widespread ubiquitin-like module. *J. Mol. Biol.* 307: 17-24.
- Kim, J.E., Tannenbaum, S.R. and White, F.M. 2005. Global phosphoproteome of HT-29 human colon adenocarcinoma cells. *J. Proteome Res.* 4: 1339-1346.
- Ye, Y. 2006. Diverse functions with a common regulator: ubiquitin takes command of an AAA ATPase. *J. Struct. Biol.* 156: 29-40.
- Tang, L.Y., Deng, N., Wang, L.S., Dai, J., Wang, Z.L., Jiang, X.S., Li, S.J., Li, L., Sheng, Q.H., Wu, D.Q., Li, L. and Zeng, R. 2007. Quantitative phosphoproteome profiling of Wnt3a-mediated signaling network: indicating the involvement of ribonucleoside-diphosphate reductase M2 subunit phosphorylation at residue serine 20 in canonical Wnt signal transduction. *Mol. Cell Proteomics* 6: 1952-1967.
- Matsuoka, S., Ballif, B.A., Smogorzewska, A., McDonald, E.R., Hurov, K.E., Luo, J., Bakalarski, C.E., Zhao, Z., Solimini, N., Lerenthal, Y., Shiloh, Y., Gygi, S.P. and Elledge, S.J. 2007. ATM and ATR substrate analysis reveals extensive protein networks responsive to DNA damage. *Science* 316: 1160-1166.
- Alexandru, G., Graumann, J., Smith, G.T., Kolawa, N.J., Fang, R. and Deshaies, R.J. 2008. UBXD7 binds multiple ubiquitin ligases and implicates p97 in HIF1 α turnover. *Cell* 134: 804-816.
- Schuberth, C. and Buchberger, A. 2008. UBX domain proteins: major regulators of the AAA ATPase Cdc48/p97. *Cell. Mol. Life Sci.* 65: 2360-2371.

CHROMOSOMAL LOCATION

Genetic locus: UBXN7 (human) mapping to 3q29; Ubxn7 (mouse) mapping to 16 B3.

STORAGE

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

SOURCE

UBXD7 (D-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of UBXD7 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-103309 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

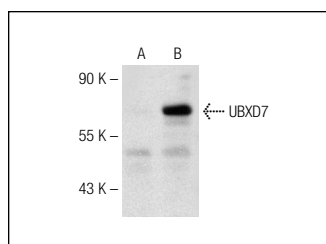
UBXD7 (D-16) is recommended for detection of UBXD7 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other UBXD family members.

Suitable for use as control antibody for UBXD7 siRNA (h): sc-78377, UBXD7 siRNA (m): sc-154883, UBXD7 shRNA Plasmid (h): sc-78377-SH, UBXD7 shRNA Plasmid (m): sc-154883-SH, UBXD7 shRNA (h) Lentiviral Particles: sc-78377-V and UBXD7 shRNA (m) Lentiviral Particles: sc-154883-V.

Molecular Weight of UBXD7: 55 kDa.

Positive Controls: CoCl₂ treated HeLa whole cell lysates.

DATA



Western blot analysis of UBXD7 expression in untreated (A) and CoCl₂ treated (B) HeLa whole cell lysates. Antibody tested is UBXD7 (D-16): sc-103309 (A,B).

RESEARCH USE

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