

# UBE4A (B-6): sc-365904

## 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). UBE4A (ubiquitin conjugation factor E4 A), also known as E4, UFD2 or UBOX2, is a 1,066 amino acid protein that functions in the multiubiquitin pathway of protein degradation. Expressed in cortical neurons and in tubular kidney cells, UBE4A is the human homolog of the *Saccharomyces cerevisiae* UFD2 protein and functions with the UBE (ubiquitin enzymes) proteins to catalyze ubiquitin chain assembly. UBE4A may be involved in cell growth and differentiation and can act as an autoantigen in scleroderma, a disease characterized by excessive deposits of collagen in the skin or other organs. Two isoforms of UBE4A exist due to alternative splicing events.

## REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603753. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Contino, G., et al. 2004. Expression analysis of the gene encoding for the U-box-type ubiquitin ligase UBE4A in human tissues. *Gene* 328: 69-74.
3. Spinette, S., et al. 2004. Ufd2, a novel autoantigen in scleroderma, regulates sister chromatid separation. *Cell Cycle* 3: 1638-1644.

## CHROMOSOMAL LOCATION

Genetic locus: UBE4A (human) mapping to 11q23.3; Ube4a (mouse) mapping to 9 A5.2.

## SOURCE

UBE4A (B-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 595-627 within an internal region of UBE4A of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

UBE4A (B-6) is available conjugated to agarose (sc-365904 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365904 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365904 PE), fluorescein (sc-365904 FITC), Alexa Fluor® 488 (sc-365904 AF488), Alexa Fluor® 546 (sc-365904 AF546), Alexa Fluor® 594 (sc-365904 AF594) or Alexa Fluor® 647 (sc-365904 AF647), 200 µg/ml, for WB (R/G/B), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365904 AF680) or Alexa Fluor® 790 (sc-365904 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365904 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## APPLICATIONS

UBE4A (B-6) is recommended for detection of UBE4A 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).

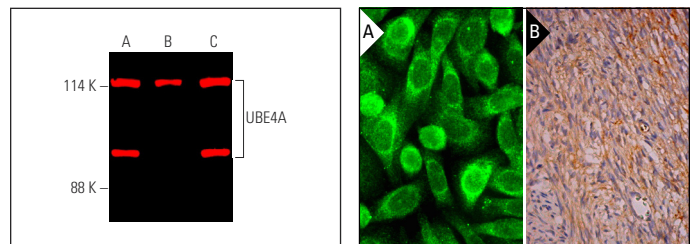
UBE4A (B-6) is also recommended for detection of UBE4A in additional species, including canine and porcine.

Suitable for use as control antibody for UBE4A siRNA (h): sc-63181, UBE4A siRNA (m): sc-63182, UBE4A shRNA Plasmid (h): sc-63181-SH, UBE4A shRNA Plasmid (m): sc-63182-SH, UBE4A shRNA (h) Lentiviral Particles: sc-63181-V and UBE4A shRNA (m) Lentiviral Particles: sc-63182-V.

Molecular Weight of UBE4A: 125 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, NCI-H460 whole cell lysate: sc-364235 or ZR-75-1 cell lysate: sc-2241.

## DATA



UBE4A (B-6): sc-365904. Near-Infrared western blot analysis of UBE4A expression in ZR-75-1 (A), NCI-H460 (B) and CCRF-CEM (C) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

UBE4A (B-6): sc-365904. Immunofluorescence staining of formalin-fixed SW480 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing cytoplasmic staining of ovarian stroma cells (B).

## SELECT PRODUCT CITATIONS

1. Yuan, Y., et al. 2020. Targeting UBE4A revives viperin protein in epithelium to enhance host antiviral defense. *Mol. Cell* 77: 734-747.e7.
2. Yuan, Y., et al. 2022. High salt activates p97 to reduce host antiviral immunity by restricting Viperin induction. *EMBO Rep.* 23: e53466.

## 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](http://www.scbt.com) for detailed protocols and support products.