

# 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 auto-antigen 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 (RGB), 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).

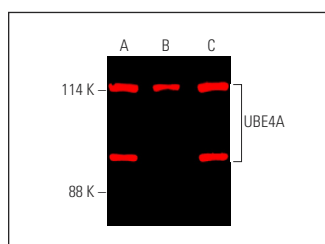
UBE4A (B-6) is also recommended for detection of UBE4A in additional species, including canine and porcine.

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.

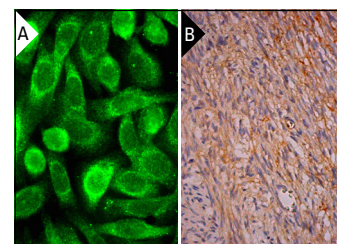
Molecular Weight of UBE4A: 125 kDa.

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.