SANTA CRUZ BIOTECHNOLOGY, INC.

USP13 (B-9): sc-514416

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The ubiquitin (Ub) pathway involves three sequential enzymatic steps that facilitate the conjugation of Ub and Ub-like molecules to specific protein substrates. Through the use of a wide range of enzymes that can add or remove ubiquitin, the Ub pathway controls many intracellular processes such as signal transduction, transcriptional activation and cell cycle progression. USP13 (ubiquitin specific peptidase 13), also known as ISOT3 (Isopeptidase T-3), is an 863 amino acid protein that belongs to the peptidase C19 family and contains one UBP-type zinc finger and two UBA domains. Highly expressed in testicular and ovarian tissue, USP13 functions to catalyze the water-dependent conversion of a ubiquitin C-terminal thioester to a thiol and a free ubiquitin.

CHROMOSOMAL LOCATION

Genetic locus: USP13 (human) mapping to 3q26.33; Usp13 (mouse) mapping to 3 A3.

SOURCE

USP13 (B-9) is a mouse monoclonal antibody raised against amino acids 71-195 mapping near the N-terminus of USP13 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.

USP13 (B-9) is available conjugated to agarose (sc-514416 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514416 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514416 PE), fluorescein (sc-514416 FITC), Alexa Fluor® 488 (sc-514416 AF488), Alexa Fluor® 546 (sc-514416 AF546), Alexa Fluor® 594 (sc-514416 AF594) or Alexa Fluor® 647 (sc-514416 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514416 AF680) or Alexa Fluor® 790 (sc-514416 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

USP13 (B-9) is recommended for detection of USP13 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for USP13 siRNA (h): sc-76815, USP13 siRNA (m): sc-76816, USP13 shRNA Plasmid (h): sc-76815-SH, USP13 shRNA Plasmid (m): sc-76816-SH, USP13 shRNA (h) Lentiviral Particles: sc-76815-V and USP13 shRNA (m) Lentiviral Particles: sc-76816-V.

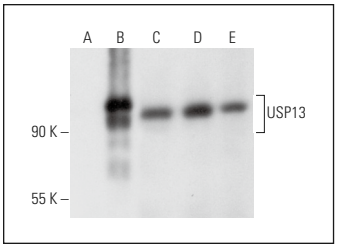
Molecular Weight of USP13: 97 kDa.

Positive Controls: USP13 (h5): 293T Lysate: sc-174342, SW480 cell lysate: sc-2219 or SH-SY5Y cell lysate: sc-3812.

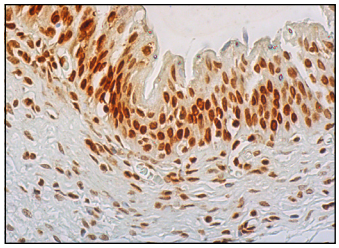
RESEARCH USE

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

DATA



USP13 (B-9): sc-514416. Western blot analysis of USP13 expression in non-transfected 293T: sc-117752 (**A**), human USP13 transfected 293T: sc-174342 (**B**), SW480 (**C**), SH-SY5Y (**D**) and Hep G2 (**E**) whole cell lysates.



USP13 (B-9): sc-514416. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing nuclear and cytoplasmic staining of urothelial cells. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detection reagents used: m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216.

SELECT PRODUCT CITATIONS

1. Zhang, S., et al. 2018. Deubiquitinase USP13 dictates MCL1 stability and sensitivity to BH3 mimetic inhibitors. Nat. Commun. 9: 215.
2. Jin, X., et al. 2018. DUB3 promotes BET inhibitor resistance and cancer progression by deubiquitinating BRD4. Mol. Cell 71: 592-605.e4.
3. Tian, M., et al. 2021. ACLY ubiquitination by CUL3-KLHL25 induces the reprogramming of fatty acid metabolism to facilitate iTreg differentiation. Elife 10: e62394.
4. Xie, H., et al. 2022. USP13 promotes deubiquitination of ZHX2 and tumorigenesis in kidney cancer. Proc. Natl. Acad. Sci. USA 119: e2119854119.
5. Yan, H., et al. 2023. Chloroquine Intervenes nephrotoxicity of nilotinib through deubiquitinase USP13-mediated stabilization of Bcl-X_L. Adv. Sci. 10: e2302002.
6. Kwon, J., et al. 2023. USP13 drives lung squamous cell carcinoma by switching lung club cell lineage plasticity. Mol. Cancer 22: 204.
7. Han, S., et al. 2024. USP13 regulates ferroptosis in chicken follicle granulosa cells by deubiquitinating ATG7. Poult. Sci. 103: 104209.
8. Zhang, X., et al. 2024. Stress granule-localized USP8 potentiates cGAS-mediated type I interferonopathies through deubiquitination of DDX3X. Cell Rep. 43: 114248.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.