SANTA CRUZ BIOTECHNOLOGY, INC.

USP9X/Y (E-12): sc-365353

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. USP9X (ubiquitin specific peptidase 9, X-linked), also known as FAF or DFFRX, is a 2,547 amino acid member of the peptidase C19 family of ubiquitin proteases. Expressed ubiquitously in both fetal and adult tissue, USP9X is involved in the processing of ubiquitin precursors and ubiquitinated proteins, thereby preventing degradation and regulating protein turnover. USP9Y (ubiquitin specific peptidase 9, Y-linked), another member of the peptidase C19 family, is a 2,555 amino acid protein that is widely expressed and, like USPX, plays an important role in the processing of ubiquitin precursors and of ubiquitinated proteins. Defects in the gene encoding USP9X are implicated in Turner syndrome, a condition in which oocytes fail to proliferate and develop, while defects in the gene encoding USPPY are associated with non-obstructive azoospermia and infertility.

REFERENCES

1. Brown, G.M., et al. 1998. Characterisation of the coding sequence and fine mapping of the human DFFRY gene and comparative expression analysis and mapping to the Sxrb interval of the mouse Y chromosome of the Dffry gene. Hum. Mol. Genet. 7: 97-107.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300072. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: USP9X (human) mapping to Xp11.4, USP9Y (human) mapping to Yq11.21; Usp9x (mouse) mapping to X A1.1.

SOURCE

USP9X/Y (E-12) is a mouse monoclonal antibody raised against amino acids 2248-2547 mapping at the C-terminus of USP9X of human origin.

PRODUCT

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

USP9X/Y (E-12) is available conjugated to agarose (sc-365353 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365353 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365353 PE), fluorescein (sc-365353 FITC), Alexa Fluor® 488 (sc-365353 AF488), Alexa Fluor® 546 (sc-365353 AF546), Alexa Fluor® 594 (sc-365353 AF594) or Alexa Fluor® 647 (sc-365353 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365353 AF680) or Alexa Fluor® 790 (sc-365353 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

USP9X/Y (E-12) is recommended for detection of USP9X of mouse, rat and human orgin and USP9Y of 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).

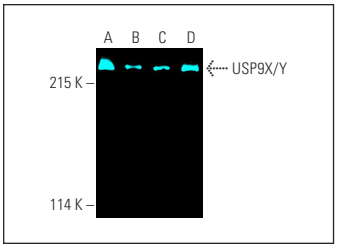
Suitable for use as control antibody for USP9X siRNA (m): sc-63198, USP9X shRNA Plasmid (m): sc-63198-SH and USP9X shRNA (m) Lentiviral Particles: sc-63198-V.

Molecular Weight of USP9X: 290 kDa.

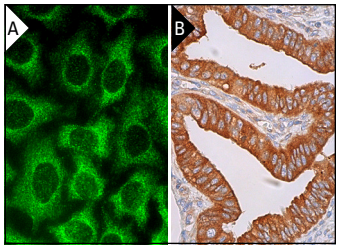
Molecular Weight of USP9Y: 291 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, BYDP whole cell lysate: sc-364368 or Jurkat whole cell lysate: sc-2204.

DATA



USP9X/Y (E-12) Alexa Fluor® 647: sc-365353 AF647. Direct fluorescent western blot analysis of USP9X/Y expression in BYDP (**A**), HeLa (**B**), Jurkat (**C**) and K-562 (**D**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



USP9X/Y (E-12): sc-365353. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Séry, Q., et al. 2017. HB-EGF is associated with DNA damage and Mcl-1 turnover in human glioma cell lines treated by Temozolomide. Biochem. Biophys. Res. Commun. 493: 1377-1383.
2. Tyagi, A., et al. 2022. CRISPR/Cas9-based genome-wide screening for deubiquitinase subfamily identifies USP1 regulating MAST1-driven cisplatin-resistance in cancer cells. Theranostics 12: 5949-5970.
3. Nowak, Ł., et al. 2023. Ubiquitin-specific proteases as potential therapeutic targets in bladder cancer-*in vitro* evaluation of degrasyn and PR-619 activity using human and canine models. Biomedicines 11: 759.
4. Ding, L., et al. 2024. β-cell tipe1 orchestrates insulin secretion and cell proliferation by promoting $G_{\alpha s}$/cAMP signaling via USP5. Adv. Sci. 11: e2304940.

RESEARCH USE

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