SANTA CRUZ BIOTECHNOLOGY, INC.

USP9X/Y (G-10): sc-373818

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/
3. Hall, N.M., et al. 2003. USP9Y (ubiquitin-specific protease 9 gene on the Y) is associated with a functional promoter and encodes an intact open reading frame homologous to USP9X that is under selective constraint. Mamm. Genome 14: 437-447.
4. Friocourt, G., et al. 2005. Doublecortin interacts with the ubiquitin protease DFFRX, which associates with microtubules in neuronal processes. Mol. Cell. Neurosci. 28: 153-164.

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 (G-10) 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_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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 (G-10) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

USP9X/Y (G-10) is also recommended for detection of USP9X and USP9Y in additional species, including equine, bovine and porcine.

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.

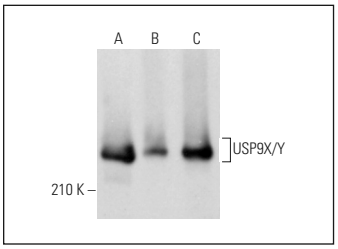
Molecular Weight of USP9Y: 291 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, F9 cell lysate: sc-2245 or NIH/3T3 whole cell lysate: sc-2210.

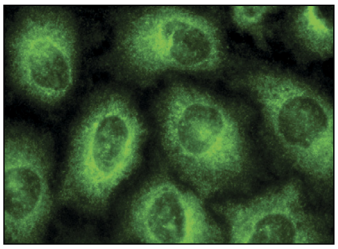
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



USP9X/Y (G-10): sc-373818. Western blot analysis of USP9X/Y expression in HeLa (**A**), NIH/3T3 (**B**) and F9 (**C**) whole cell lysates.



USP9X/Y (G-10): sc-373818. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

RESEARCH USE

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

CONJUGATES

See **USP9X/Y (E-12): sc-365353** for USP9X/Y antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.