

# USP9X/Y (K-17): sc-55425

## 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 USP9X, 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

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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.
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5. Xu, J., et al. 2005. Spatially and temporally specific expression in mouse hippocampus of Usp9x, a ubiquitin-specific protease involved in synaptic development. *J. Neurosci. Res.* 80: 47-55.
6. Xu, J. 2005. Age-related changes in Usp9x protein expression and DNA methylation in mouse brain. *Brain Res. Mol. Brain Res.* 140: 17-24.
7. Al-Hakim, A.K., et al. 2005. 14-3-3 cooperates with LKB1 to regulate the activity and localization of QSK and SIK. *J. Cell Sci.* 118: 5661-5673.
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## CHROMOSOMAL LOCATION

Genetic locus: USP9X (human) mapping to Xp11.4, USP9Y (human) mapping to Yq11.21; Usp9x (mouse) mapping to X A1.1, Usp9y (mouse) mapping to Y A1.

## SOURCE

USP9X/Y (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of USP9X of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-55425 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

USP9X/Y (K-17) is recommended for detection of USP9X and USP9Y of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (K-17) is also recommended for detection of USP9X and USP9Y in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of USP9X: 290 kDa.

Molecular Weight of USP9Y: 291 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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) or our catalog for detailed protocols and support products.



Try **USP9X/Y (E-12): sc-365353** or **USP9X/Y (G-10): sc-373818**, our highly recommended monoclonal alternatives to USP9X/Y (K-17). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **USP9X/Y (E-12): sc-365353**.