



USP9X (Probable Ubiquitin Carboxyl-Terminal Hydrolase FAF-X, Ubiquitin Thioesterase FAF-X, Ubiquitin-specific-processing Protease FAF-X, Deubiquitinating Enzyme FAF-X, Ubiquitin-specific Protease 9, X Chromosome, Fat fAcets Protein-related, X-linked, Fat Facets in Mammals, hFAM, DFFRX, FAM, USP9)

Catalog number

U4099-67A

Supplier

United States Biological

Protein ubiquitination and deubiquitination is a reversible process catalyzed by ubiquitinating enzymes (UBEs) and deubiquitinating enzymes (DUBs) (1,2). DUBs are categorized into five subfamilies-USP, UCH, OTU, MJD, and JAMM. USP9X/hFAM is an X-linked member of the ubiquitin-specific protease (USP) subfamily of DUBs and possesses a well-conserved catalytic domain with cysteine peptidase activity, which allows for cleavage of ubiquitin and polyubiquitin conjugates. USP9X is the mammalian homolog of the *Drosophila* fat-facets (*faf*) gene, which is essential for normal eye development and viability of the early fly embryo (3,4). While USP9X expression is also critical for normal mammalian development (5-7), many of its substrates are only beginning to be elucidated. There is mounting evidence that USP9X functions in the formation of cell-cell contacts during the polarization of epithelial cells, in part through deubiquitination-dependent stabilization of molecules involved in maintaining the integrity of both adherens and tight junctions. Indeed, USP9X has been found to associate with AF-6, the b-catenin-E-cadherin complex, and EFA6 (8-11). Studies have also demonstrated that USP9X is an integral component of the TGF- β /BMP signaling cascade and regulates TGF- β responsiveness by opposing TRIM33-mediated monoubiquitination of SMAD4 (12). Recently, USP9X was shown to be overexpressed in a variety of human cancers, which was linked to enhanced cell survival and chemoresistance through its ability to deubiquitinate and stabilize the Mcl-1 oncoprotein. This evidence supports USP9X as a therapeutic target in the context of human malignancies such as follicular lymphomas and diffuse large B-cell lymphomas (13).

Applications

Suitable for use in Western Blot. Other applications not tested.

Recommended Dilution

Western Blot: 1:1000, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.
Optimal dilutions to be determined by the researcher.

Storage and Stability

May be stored at 4°C for short-term only. Aliquot to avoid repeated freezing and thawing. Store at -20°C. Aliquots are stable for at least 12 months. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap.

Immunogen



Synthetic peptide corresponding to residues surrounding Phe2130 of human USP9X.

Formulation

Supplied as a liquid in 10mM HEPES, pH 7.5, 150mM sodium chloride, 0.1mg/ml BSA, 50% glycerol.

Purity

Purified by Protein A and peptide affinity chromatography.

Specificity

Recognizes endogenous levels of total human USP9X. Species Crossreactivity: mouse, rat, monkey and canine.

Product Type

Pab

Source

human

Isotype

IgG

Grade

Affinity Purified

Applications

WB

Crossreactivity

Ca Hu Mk Mo Rt

Storage

-20°C

MW

270

Reference

1.Nijman, S.M. et al. (2005) Cell 123, 773-86. 2.Nalepa, G. et al. (2006) Nat Rev Drug Discov 5, 596-613. 3.Huang, Y. et al. (1995) Science 270, 1828-31. 4.Huang, Y. and Fischer-Vize, J.A. (1996) Development 122, 3207-16. 5.antaleon, M. et al. (2001) Mech Dev 109, 151-60. 6.Noma, T. et al. (2002) Mech Dev 119 Suppl 1, S91-5. 7.Xu, J. et al. (2005) J Neurosci Res 80, 47-55. 8.Taya, S. et al. (1998) J Cell Biol 142, 1053-62. 9.Taya, S. et al. (1999) Genes Cells 4, 757-67. 10.Murray, R.Z. et al. (2004) Mol Biol Cell 15, 1591-9. 11.Théard, D. et al. (2010) EMBO J 29, 1499-509. 12.Dupont, S. et al. (2009) Cell 136, 123-35. 13.Schwickart, M. et al. (2010) Nature 463, 103-7.