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## USP9X Antibody



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H M R Mk Dg	Endogenous	270	Rabbit	#Q93008	8239

<b>Product Usage Information</b>	<b>Application</b> Western Blotting	<b>Dilution</b> 1:1000
<b>Storage</b>	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.	
<b>Specificity / Sensitivity</b>	USP9X Antibody recognizes endogenous levels of total USP9X protein. This antibody may also cross-react with USP9Y.	
<b>Source / Purification</b>	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Phe2137 of human USP9X protein. Antibodies are purified by protein A and peptide affinity chromatography.	
<b>Background</b>	<p>Protein ubiquitination and deubiquitination are reversible processes catalyzed by ubiquitinating enzymes (UBEs) and deubiquitinating enzymes (DUBs) respectively (1,2). DUBs are categorized into five subfamilies-USP, UCH, OTU, MJD, and JAMM. Ubiquitin-specific protease 9, X-linked (USP9X) 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 <i>Drosophila fat-facets (faf)</i> 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 epithelial cell-cell contacts 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 β-catenin-E-cadherin complex, and EFA6 (8-11). Research studies have also demonstrated that USP9X is an integral component of the TGF-β/BMP signaling cascade by opposing TRIM33-mediated monoubiquitination of SMAD4 (12). USP9X is overexpressed in a variety of human cancers and contributes to enhanced cell survival, in part, through its ability to deubiquitinate and stabilize the Mcl-1 oncoprotein (13). There is some evidence, however, that suggests the role of USP9X in tumorigenesis is context dependent. Research studies have implicated USP9X in a tumor suppressor role during the early stages of pancreatic ductal adenocarcinoma (PDAC) and in an oncogenic role during advanced stages of PDAC (14,15).</p>	
<b>Background References</b>	<ol style="list-style-type: none"> <li>Nijman, S.M. et al. (2005) <i>Cell</i> 123, 773-86.</li> <li>Nalepa, G. et al. (2006) <i>Nat Rev Drug Discov</i> 5, 596-613.</li> <li>Huang, Y. et al. (1995) <i>Science</i> 270, 1828-31.</li> <li>Huang, Y. and Fischer-Vize, J.A. (1996) <i>Development</i> 122, 3207-16.</li> <li>Pantaleon, M. et al. (2001) <i>Mech Dev</i> 109, 151-60.</li> <li>Noma, T. et al. (2002) <i>Mech Dev</i> 119 Suppl 1, S91-5.</li> <li>Xu, J. et al. (2005) <i>J Neurosci Res</i> 80, 47-55.</li> <li>Taya, S. et al. (1998) <i>J Cell Biol</i> 142, 1053-62.</li> <li>Taya, S. et al. (1999) <i>Genes Cells</i> 4, 757-67.</li> <li>Murray, R.Z. et al. (2004) <i>Mol Biol Cell</i> 15, 1591-9.</li> <li>Théard, D. et al. (2010) <i>EMBO J</i> 29, 1499-509.</li> <li>Dupont, S. et al. (2009) <i>Cell</i> 136, 123-35.</li> <li>Schwickart, M. et al. (2010) <i>Nature</i> 463, 103-7.</li> <li>Pérez-Mancera, P.A. et al. (2012) <i>Nature</i> 486, 266-70.</li> <li>Cox, J.L. et al. (2014) <i>Cancer Biol Ther</i> 15, 1042-52.</li> </ol>	

### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**WB:** Western Blotting

**Cross-Reactivity Key**

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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