Revision 1

Store at -20C

#11832

USP8 (D18F6) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H Mk	Endogenous	140	Rabbit IgG	#P40818	9101

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

USP8 (D18F6) Rabbit mAb recognizes endogenous levels of total USP8 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu614 of human USP8 protein.

Background

Ubiquitinating enzymes (UBEs) catalyze protein ubiquitination, a reversible process countered by deubiquitinating enzyme (DUB) action (1,2). Five DUB subfamilies are recognized, including the USP, UCH, OTU, MJD, and JAMM enzymes. The deubiquitinating enzyme ubiquitin-specific protease 8 (USP8/UBPy) is a cysteine protease belonging to the USP/UBP subfamily. Research studies have shown that USP8 is an essential growth-regulated enzyme indespensible for cell proliferation and survival (3,4). Indeed, conditional knock-out of murine USP8 was shown to promote a dramatic loss in expression of receptor tyrosine kinases, including EGFR, ErbB3, and c-Met (4). In agreement with these findings, USP8 inactivation leads to enhanced ubiquitination of ligand-activated EGFR (5,6). Furthermore, phosphorylation of USP8 at Ser680 results in its binding of 14-3-3, catalytic inactivation, and reduced EGFR deubiquitination (7). It appears as though USP8, in conjunction with components of the ESCRT-0 complex, plays an integral role in the early endosomal sorting machinery that functions to protect EGFR from lysosomal degradation (8,9).

Background References

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. Naviglio, S. et al. (1998) *EMBO J* 17, 3241-50.
4. Niendorf, S. et al. (2007) *Mol Cell Biol* 27, 5029-39.
5. Alwan, H.A. and van Leeuwen, J.E. (2007) *J Biol Chem* 282, 1658-69.
6. Mizuno, E. et al. (2005) *Mol Biol Cell* 16, 5163-74.
7. Mizuno, E. et al. (2007) *Exp Cell Res* 313, 3624-34.
8. Row, P.E. et al. (2006) *J Biol Chem* 281, 12618-24.
9. Berlin, I. et al. (2010) *J Biol Chem* 285, 34909-21.

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

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **Mk:** Monkey

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Limited Uses

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