

#8033 Store at -20C

USP1 (D37B4) Rabbit mAb


Cell Signaling
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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M Mk	Endogenous	110	Rabbit IgG	#O94782	7398

Product Usage Information

Application

Western Blotting

Immunoprecipitation

Dilution

1:1000

1:50

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

USP1 (D37B4) Rabbit mAb recognizes endogenous levels of total USP1 protein.

Species predicted to react based on 100% sequence homology:

Rat

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu768 of human USP1 protein.

Background

Ubiquitinating enzymes (UBEs) catalyze protein ubiquitination, a reversible process countered by deubiquitinating enzymes (DUB) action (1,2). There are five DUB subfamilies including the USP, UCH, OTU, MJD, and JAMM enzymes. USP1 belongs to the USP subfamily and is regulated in a cell cycle dependent manner by both transcriptional and ubiquitin-proteasomal mechanisms (3). USP1 is a nuclear protein and localizes to chromatin where it is specifically associated with FANCD2. USP1 deubiquitinates monoubiquitinated FANCD2, which plays an important role in DNA damage repair and Chk1 protein stability (3,4). Another important target of USP1 is PCNA. USP1 deubiquitinates monoubiquitinated PCNA, thereby negatively regulating PCNA-mediated translesion synthesis (TLS) during DNA repair (5). USP1 interaction with UAF1, a WD40 repeat-containing protein, leads to formation of an activated USP1/UAF1 complex, which is required for the deubiquitinase activity of USP1 (6,7).

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. Nijman, S.M. et al. (2005) *Mol Cell* 17, 331-9.
4. Guervilly, J.H. et al. (2011) *Hum Mol Genet* , .
5. Huang, T.T. et al. (2006) *Nat Cell Biol* 8, 339-47.
6. Cohn, M.A. et al. (2007) *Mol Cell* 28, 786-97.
7. Cohn, M.A. et al. (2009) *J Biol Chem* 284, 5343-51.

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 **IP:** Immunoprecipitation

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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