#8036 Store at -20°C

USP2 Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not For Use In Diagnostic Procedures.

Entrez-Gene ID #9099
Swiss-Prot Acc. #O75604

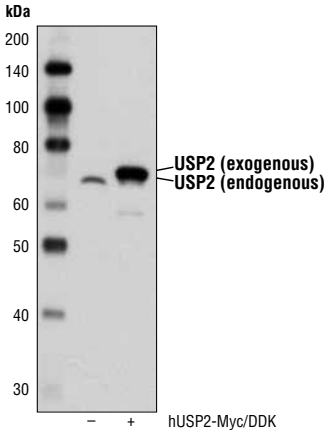
Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, Mk, (Dg, Hr)	68 kDa	Rabbit

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. Ubiquitin-specific-processing protease 2 (USP2) belongs to the USP (UBP/UCH type 2) subfamily and is characterized by its C19 peptidase activity, which is involved in ubiquitin recycling and in the disassembly of various forms of polymeric ubiquitin and ubiquitin-like protein complexes (3). Characteristic of the USP subfamily, USP2 possesses a highly conserved "Cys box" and "His box," which contain a conserved cysteine and histidine residue, respectively, and form part of the active site of this thiol protease. The catalytic core, which lies between the Cys box and His box, is responsible for the deubiquitinating activity of USP2 and is present within each of its splice variants (4,5).

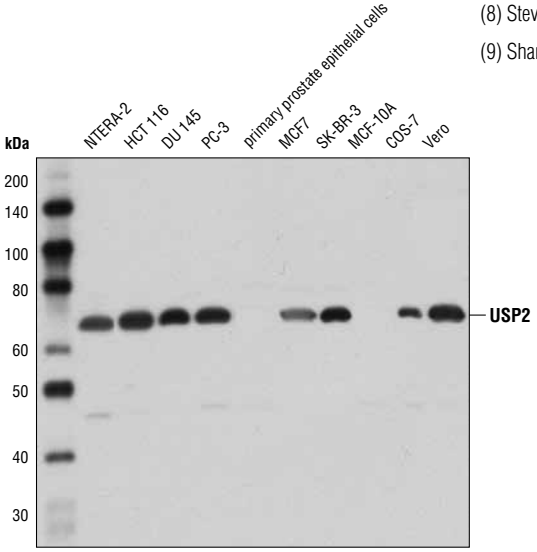
There is mounting evidence that USP2 functions as an oncoprotein through multiple mechanisms. In human prostate cancer, USP2 is highly overexpressed and drives tumor growth by binding to and stabilizing fatty acid synthase through deubiquitination (6,7). It has also been demonstrated that USP2 can bind and deubiquitinate both Mdm2 (8) and cyclin D1 (9), which leads to their stabilization and enhanced cell proliferation.

Specificity/Sensitivity: USP2 Antibody recognizes endogenous levels of total USP2 protein. This antibody cross-reacts with all known USP2 splice variants but does not cross-react with USP21.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu387 of human USP2 protein. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from COS-7 cells, either mock transfected (-) or transfected with a Myc/DDK-tagged cDNA expression construct encoding full-length transcript variant 1 of human USP2 (+), using USP2 Antibody.



Western blot analysis of extracts from various cell lines using USP2 Antibody.

Storage: 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.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

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) Wilkinson, K.D. (1997) *FASEB J* 11, 1245-56.
(4) Gousseva, N. and Baker, R.T. (2003) *Gene Expr* 11, 163-79.
(5) Baek, S.H. et al. (1997) *J Biol Chem* 272, 25560-5.
(6) Graner, E. et al. (2004) *Cancer Cell* 5, 253-61.
(7) Priolo, C. et al. (2006) *Cancer Res* 66, 8625-32.
(8) Stevenson, L.F. et al. (2007) *EMBO J* 26, 976-86.
(9) Shan, J. et al. (2009) *Mol Cell* 36, 469-76.

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

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **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 **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.