Revision 1

Store at -20C

#11878

UBE2S (D5H9H) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R Mk	Endogenous	26	Rabbit IgG	#Q16763	27338

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

UBE2S (D5H9H) Rabbit mAb recognizes endogenous levels of total UBE2S protein.

Species predicted to react based on 100% sequence homology

Bovine, Dog

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human UBE2S protein.

Background

Protein ubiquitination requires the concerted action of the E1, E2, and E3 ubiquitin-conjugating enzymes. Ubiquitin is first activated through ATP-dependent formation of a thiol ester with ubiquitin-activating enzyme E1. The activated ubiquitin is then transferred to a thiol group of ubiquitin-carrier enzyme E2. The final step is the transfer of ubiquitin from E2 to an ε-amino group of the target protein lysine residue, which is mediated by ubiquitin-ligase enzyme E3 (1).
The human anaphase promoting complex (APC/C) is a large macromolecular E3 ligase complex that is largely responsible for timely progression through mitosis via the sequential targeting of cell cycle regulators for proteasomal degradation. Recent work has revealed that APC/C substrates are marked for proteasomal degradation during cell cycle progression through the covalent assembly of Lys11-linked ubiquitin chains, which occurs through a priming phase and an elongation phase (2-5). The APC/C utilizes, in part, the UBE2C/UBCH10 E2 enzyme to prime substrates for degradation through the covalent attachment of short Lys11-linked chains (3,6). The Lys11-specific elongating E2 enzyme, UBE2S/E2-EPF, extends these short chains into long Lys11-linked ubiquitin chains on APC/C bound substrates (2,3,7). In addition to the well-established biochemical role for UBE2S in cell cycle regulation, researchers have found evidence that this enzyme is overexpressed in many types of human cancer (8), and has been implicated in hypoxia signaling (9,10). Indeed, UBE2S has been reported by researchers to associate with VHL and to target it for proteasomal degradation, thereby stabilizing HIF-1α (9).

Background References

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2. Williamson, A. et al. (2009) *Proc Natl Acad Sci U S A* 106, 18213-8.
3. Jin, L. et al. (2008) *Cell* 133, 653-65.
4. Wu, T. et al. (2010) *Proc Natl Acad Sci U S A* 107, 1355-60.
5. Song, L. and Rape, M. (2010) *Mol Cell* 38, 369-82.
6. Summers, M.K. et al. (2008) *Mol Cell* 31, 544-56.
7. Wickliffe, K.E. et al. (2011) *Cell* 144, 769-81.
8. Tedesco, D. et al. (2007) *Neoplasia* 9, 601-13.
9. Jung, C.R. et al. (2006) *Nat Med* 12, 809-16.
10. Roos, F.C. et al. (2011) *Am J Pathol* 178, 853-60.

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 **M:** Mouse **R:** Rat **Mk:** Monkey

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