Revision 4

Store at -20C

#5293

UBA2 Antibody

Cell Signaling TECHNOLOGY®

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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:
W, IP	H M R Mk	Endogenous	90	Rabbit	#Q9UBT2	10054

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

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.

Specificity/Sensitivity

UBA2 Antibody detects endogenous levels of total UBA2 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu490 of human UBA2 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

The process of SUMO conjugation to target proteins is similar to the molecular chain of events observed with ubiquitin (1). SUMO is conjugated to target proteins through the coordinated action of the cellular SUMO conjugation machinery consisting of E1, E2, and E3 enzymes (2). The canonical SUMO E1 activating enzyme is a heterodimer consisting of SAE1 (AOS1) and UBA2 (SAE2) subunits. Mature SUMO is activated by E1 in an ATP-dependent reaction that generates adenylated SUMO, which functions as a high-energy intermediate in the formation of a thioester linkage between SUMO and Cys173 of UBA2 (3,4). SUMO is subsequently transferred from UBA2 to the SUMO E2 conjugating enzyme, UBC9 (5). Recent evidence suggests that redox regulation of UBA2 serves as a physiologic mechanism to modulate the cellular level of sumoylated target proteins (6).

Background References

1. Geiss-Friedlander, R. and Melchior, F. (2007) *Nat Rev Mol Cell Biol* 8, 947-56.
2. Tatham, M.H. et al. (2003) *Biochemistry* 42, 9959-69.
3. Desterro, J.M. et al. (1999) *J Biol Chem* 274, 10618-24.
4. Gong, L. et al. (1999) *FEBS Lett* 448, 185-9.
5. Desterro, J.M. et al. (1997) *FEBS Lett* 417, 297-300.
6. Bossis, G. and Melchior, F. (2006) *Mol Cell* 21, 349-57.

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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