Revision 1

Store at -20C

#13386

UBE1L2/UBA6 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	117	Rabbit	#A0AVT1	55236

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 and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

UBE1L2/UBA6 Antibody recognizes endogenous levels of total UBE1L2/UBA6 protein. This antibody does not cross-react with UBE1/UBA1 or UBE1L/UBA7 proteins.

Species predicted to react based on 100% sequence homology

Pig

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Lys810 of human UBE1L2 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Ubiquitin can be covalently linked to many cellular proteins by the ubiquitination process, which targets proteins for degradation by the 26S proteasome. Three components are involved in the target protein-ubiquitin conjugation process. Ubiquitin is first activated by forming a thioester complex with the ubiquitin-activating enzyme (E1). The activated ubiquitin is subsequently transferred to the ubiquitin-carrier protein E2, and then from E2 to ubiquitin ligase E3 for final delivery to the ε-amino group of the target protein lysine residue (1-3).

Ubiquitin-activating enzyme E1-like protein 2/Ubiquitin-like modifier-activating enzyme 6 (UBE1L2/UBA6) is ubiquitously expressed in human tissues and functions as an E1 enzyme related to UBE1/UBA1 (40% identity at the protein level). UBE1L2/UBA6 activates both ubiquitin and the ubiquitin-like protein FAT10 through a similar ATP dependent mechanism (4-6). Like other E1 protein family members, UBE1L2/UBA6 contains a conserved ATP-binding adenylation domain and an active site cysteine residue that are critical for enzymatic function (4,5). Research studies have demonstrated that UBE1L2/UBA6 expression is essential during the early stages of embryogenesis in mice (4). Furthermore, loss of neuronal UBE1L2/UBA6 expression promotes significant defects in neuronal structure and function, which contributes to a reduction in body weight and decreased postnatal viability (7).

Background References

1. Ciechanover, A. (1998) *EMBO J* 17, 7151-60.
2. Hochstrasser, M. (2000) *Nat Cell Biol* 2, E153-7.
3. Hochstrasser, M. (2000) *Science* 289, 563-4.
4. Chiu, Y.H. et al. (2007) *Mol Cell* 27, 1014-23.
5. Pelzer, C. et al. (2007) *J Biol Chem* 282, 23010-4.
6. Jin, J. et al. (2007) *Nature* 447, 1135-8.
7. Lee, P.C. et al. (2013) *Mol Cell* 50, 172-84.

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 nonfat dry milk, 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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