

#13585 Store at -20°C

## UBLE1A/SAE1 Antibody

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP	H Mk	Endogenous	40	Rabbit	#Q9UBE0	10055

## Product Usage Information

## Application

Western Blotting

## Dilution

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

UBLE1A/SAE1 Antibody recognizes endogenous levels of total UBLE1A/SAE1 protein. This antibody does not cross-react with NAE1 or UBE1 proteins.

## Species predicted to react based on 100% sequence homology:

Bovine, Dog, Pig

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Lys195 of human UBLE1A/SAE1 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, which consists of the E1, E2, and E3 enzymes (2). The canonical SUMO E1 activating enzyme is a heterodimer consisting of Ubiquitin-like 1-activating enzyme E1A (UBLE1A, SAE1) and UBLE1B (SAE2, UBA2) 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 SAE2 (3,4). SUMO is subsequently transferred from SAE2 to the SUMO E2 conjugating enzyme UBE2I (5). Research studies indicate that UBLE1A (SAE1) is a nuclear protein and c-Myc transcriptional target whose expression is required for Myc-driven tumorigenesis (6-8).

## 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. Moutty, M.C. et al. (2011) *Mol Biol Cell* 22, 652-60.
7. Amente, S. et al. (2012) *Am J Cancer Res* 2, 330-4.
8. Kessler, J.D. et al. (2012) *Science* 335, 348-53.

## 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

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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