

**Anti-SUMO Activating Enzyme E1 (RABBIT) Antibody**  
**SAE1 Antibody**  
**Catalog # ASR4409****Specification**

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**Anti-SUMO Activating Enzyme E1 (RABBIT) Antibody - Product Information**

Host	Rabbit
Conjugate	Unconjugated
Target Species	Human
Reactivity	Human
Clonality	Polyclonal
Application	WB, E, I, LCI
Application Note	This purified antibody has been tested for use in ELISA and western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band at ~60 kDa in size corresponding to SAE1 by western blotting in the appropriate cell lysate or extract.
Physical State	Lyophilized
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Immunogen	Anti-SUMO Activating Enzyme E1 antibody was prepared from whole rabbit serum produced by repeated immunizations with a recombinant protein produced by baculoviral expression in insect cells (Sf9, Spodoptera frugiperda) corresponding to full length Human SUMO Activating Enzyme E1.
Reconstitution Volume	100 µL
Reconstitution Buffer	Restore with deionized water (or equivalent)
Preservative	0.01% (w/v) Sodium Azide

**Anti-SUMO Activating Enzyme E1 (RABBIT) Antibody - Additional Information****Gene ID** 10055**Other Names**  
10055**Purity**

This purified antibody is directed against human SUMO Activating Enzyme E1 protein. The product was purified from monospecific antiserum by Protein A chromatography. A BLAST analysis was used to suggest that this antibody would react with SUMO Activating Enzyme E1 protein from human (100%) bovine, dog, chimpanzee (96%), mouse (93%), and rat (92%) based on a high degree of sequence homology. Cross reactivity against this protein from other sources has not been determined.

**Storage Condition**

Store vial at 4° C prior to restoration. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

**Precautions Note**

This product is for research use only and is not intended for therapeutic or diagnostic applications.

**Anti-SUMO Activating Enzyme E1 (RABBIT) Antibody - Protein Information**

**Name** SAE1

**Synonyms** AOS1, SUA1, UBLE1A

**Function**

The heterodimer acts as an E1 ligase for SUMO1, SUMO2, SUMO3, and probably SUMO4. It mediates ATP-dependent activation of SUMO proteins followed by formation of a thioester bond between a SUMO protein and a conserved active site cysteine residue on UBA2/SAE2.

**Cellular Location**

Nucleus.

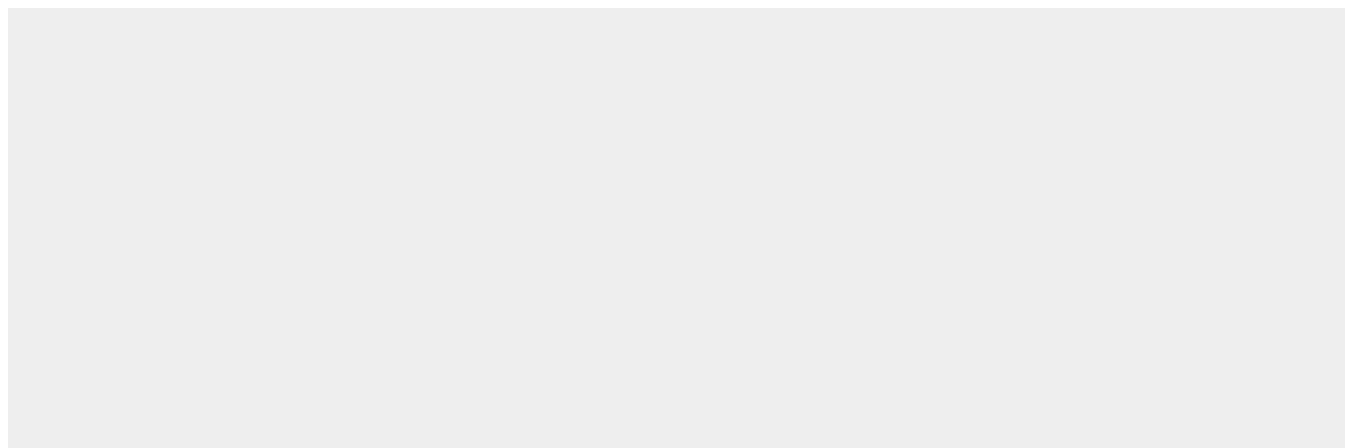
**Tissue Location**

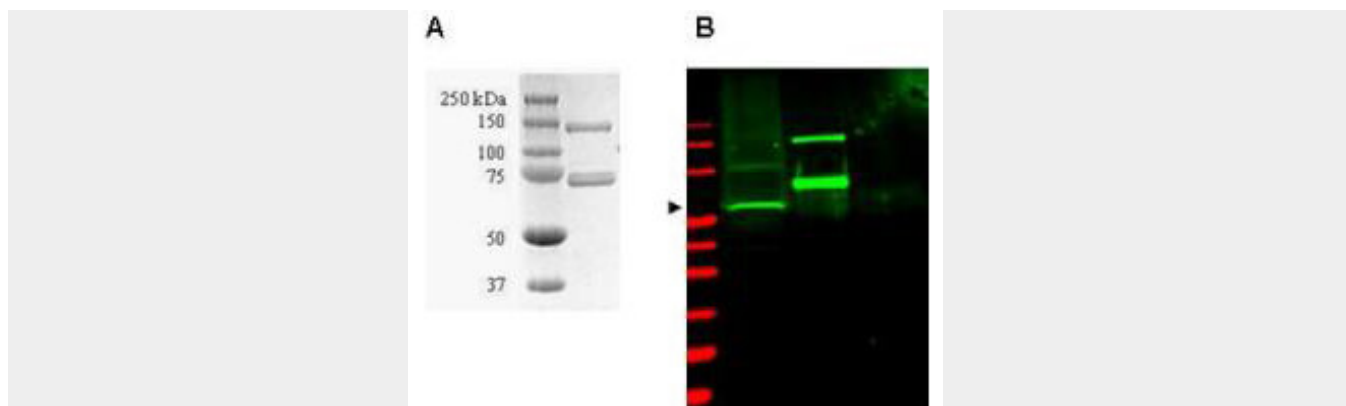
Expression level increases during S phase and drops in G2 phase (at protein level).

**Anti-SUMO Activating Enzyme E1 (RABBIT) Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

**Anti-SUMO Activating Enzyme E1 (RABBIT) Antibody - Images**



(Panel A) Coomassie-stained SDS-PAGE and (Panel B) western blotting of anti-SUMO Activating Enzyme (SAE1) antibody. (Panel A) Lane 1: MW Markers. Lane 2: GST-SAE1 recombinant protein [50ng]. (Panel B) Lane 1: MW Markers [red, 700 nm channel]. Lane 2: HeLa WC lysate [35 µg]. Lane 3: purified recombinant GST-SAE1 [50ng]. Lane 4: purified GST [300ng]. Primary Antibody: anti-SUMO Activating Enzyme (SAE1) at 1:2000 overnight at 4°C. Secondary Antibody: 1:10,000 dilution of IRDye™ 800 conjugated Gt-a-Rabbit IgG [H&L] MX Hu (611-132-122) for 45 min at room temperature. Results: The recombinant protein (with tag) ~60 kDa band present [green, 800nm channel]. IRDye™ 800 fluorescence image was captured using the Odyssey® Infrared Imaging System developed by LI-COR. IRDye is a trademark of LI-COR, Inc. Other detection systems will yield similar results. SDS-PAGE image courtesy of Proteome Resources, Englewood, CO, <http://www.proteomeresources.com>.

#### Anti-SUMO Activating Enzyme E1 (RABBIT) Antibody - Background

SUMO E1 activating enzyme (also called Ubiquitin-like 1 activating enzyme E1A, UBLE1A, AOS1, SAE1, and SUA1) is a heterodimeric (SAE1/SAE2) enzyme that activates the ubiquitin-like SUMO proteins (SUMO stands for Small Ubiquitin-like MODifier.) The SAE1 (SUMO Activating Enzyme 1, also called AOS1) subunit resembles the N-terminal half of yeast UBA1; the SAE2 (also called Uba2) subunit corresponds to the C-terminal part of yeast UBA1 and contains the active site cysteine. In the SUMO activation step, SAE1/SAE2 uses ATP to adenylate the C-terminal glycine of SUMO-1 (the first of the three different mammalian SUMO proteins) then forms a high-energy thioester bond between the C-terminal glycine and the active site cysteine in SAE2 (Uba2). In the conjugation step, the SUMO moiety is transferred from SAE1/SAE2 to the active site cysteine (Cys 93) of the SUMO conjugating enzyme (SUMO E2, Ubc9) forming a SUMO-E2 thioester complex.