

**Anti-SUMO Activating Enzyme E1 (SAE1) (Rabbit) Antibody**  
**SAE1 Antibody**  
**Catalog # ASR5502****Specification**

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**Anti-SUMO Activating Enzyme E1 (SAE1) (Rabbit) Antibody - Product Information**

Host	<b>Rabbit</b>
Conjugate	<b>Unconjugated</b>
Target Species	<b>Human</b>
Reactivity	<b>Human</b>
Clonality	<b>Polyclonal</b>
Application	<b>WB, E, I, LCI</b>
Application Note	<b>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 ~37 kDa in size corresponding to SAE1 protein by western blotting in the appropriate cell lysate or extract.</b>
Physical State	<b>Liquid (sterile filtered)</b>
Buffer	<b>0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2</b>
Immunogen	<b>This purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to an internal region of human SUMO Activating Enzyme E1 protein.</b>
Preservative	<b>0.01% (w/v) Sodium Azide</b>

**Anti-SUMO Activating Enzyme E1 (SAE1) (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 affinity chromatography. This antibody is specific for human SAE1 protein. A BLAST analysis using the sequence of the immunizing peptide 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 -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. 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 (SAE1) (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

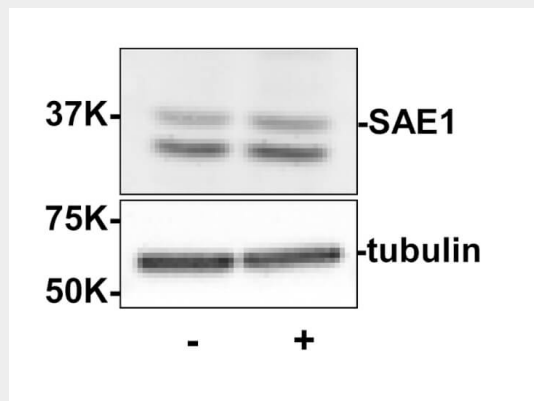
Expression level increases during S phase and drops in G2 phase (at protein level).

### Anti-SUMO Activating Enzyme E1 (SAE1) (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 (SAE1) (Rabbit) Antibody - Images



Western blot using Rockland's Rabbit anti-SAE1 antibody shows detection of SAE1. Left lane (-) contains 20 µg human HeLa whole cell protein. Right lane (+) contains 20 µg human HeLa whole

cell protein from cells pre-treated with phosphatase inhibitor cocktail to prevent dephosphorylation of the target. Proteins were separated on a 10% SDS-PAGE and transferred onto nitrocellulose. After blocking with 5% milk-TBST 1 hr at room temperature, the membrane was probed with the primary antibody, Anti-SAE1, diluted to 2 µg/mL at room temperature for 3 hr followed by washes and reaction with HRP-conjugated secondary and ECL imaging. Personal communication, Xin-Hua Feng, Baylor College of Medicine, Houston, TX.

### **Anti-SUMO Activating Enzyme E1 (SAE1) (Rabbit) Antibody - Background**

SUMO E1 activating enzyme (also called Ubiquitin-like 1 activating enzyme E1A, UBLE1A, AOS1, SAE1, and SUA1) with SAE2 (also known as UBA2) forms 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) 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.