

**Anti-Ubiquitin Activating Enzyme E1 (RABBIT) Antibody**  
**Ubiquitin Activating Enzyme E1 Antibody**  
**Catalog # ASR4406****Specification****Anti-Ubiquitin Activating Enzyme E1 (RABBIT) Antibody - Product Information**

Host	Rabbit
Conjugate	Unconjugated
Target Species	Human
Reactivity	Human
Clonality	Polyclonal
Application	WB, IHC, E, I, LCI
Application Note	This purified antibody has been tested for use in ELISA, immunohistochemistry and western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band at ~118 kDa in size corresponding to UBE1 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-Ubiquitin Activating Enzyme E1 antibody was prepared from whole rabbit serum produced by repeated immunizations with a recombinant protein corresponding to full length Human Ubiquitin Activating Enzyme E1.
Reconstitution Volume	500 µL
Reconstitution Buffer	Restore with deionized water (or equivalent)
Preservative	0.01% (w/v) Sodium Azide

**Anti-Ubiquitin Activating Enzyme E1 (RABBIT) Antibody - Additional Information****Gene ID** 7317**Other Names**  
7317**Purity**

This antibody is directed against human Ubiquitin Activating Enzyme E1 protein. The product was protein A purified from monospecific antiserum followed by further purification to remove the GST tag. A BLAST analysis was used to suggest that this antibody would react with Ubiquitin Activating Enzyme E1 protein from human (100%) rabbit (96%), mouse (95%), rat (95%) and dog (93%) 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-Ubiquitin Activating Enzyme E1 (RABBIT) Antibody - Protein Information**

**Name** UBA1

**Synonyms** A1S9T, UBE1

**Function**

Catalyzes the first step in ubiquitin conjugation to mark cellular proteins for degradation through the ubiquitin-proteasome system (PubMed:<a href="http://www.uniprot.org/citations/1447181" target="\_blank">1447181</a>, PubMed:<a href="http://www.uniprot.org/citations/1606621" target="\_blank">1606621</a>, PubMed:<a href="http://www.uniprot.org/citations/33108101" target="\_blank">33108101</a>). Activates ubiquitin by first adenylating its C-terminal glycine residue with ATP, and thereafter linking this residue to the side chain of a cysteine residue in E1, yielding a ubiquitin-E1 thioester and free AMP (PubMed:<a href="http://www.uniprot.org/citations/1447181" target="\_blank">1447181</a>). Essential for the formation of radiation-induced foci, timely DNA repair and for response to replication stress. Promotes the recruitment of TP53BP1 and BRCA1 at DNA damage sites (PubMed:<a href="http://www.uniprot.org/citations/22456334" target="\_blank">22456334</a>).

**Cellular Location**

Cytoplasm. Mitochondrion. Nucleus [Isoform 2]: Cytoplasm

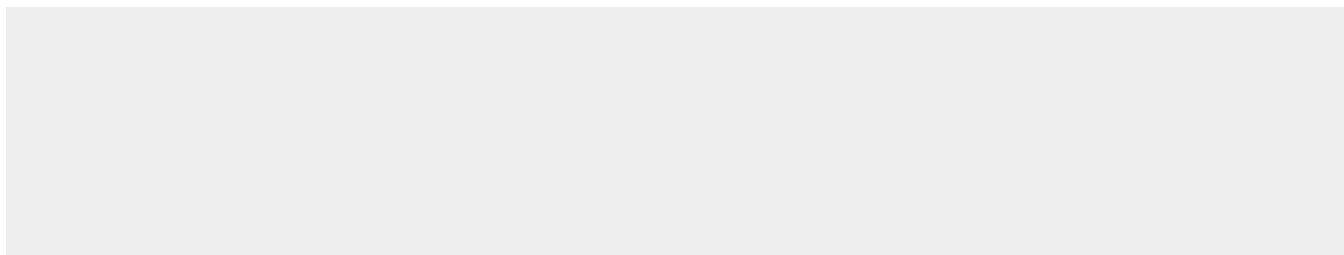
**Tissue Location**

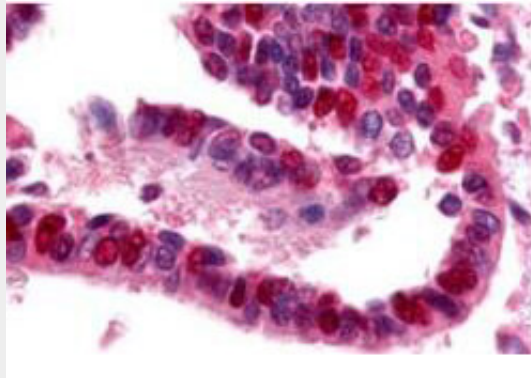
Detected in erythrocytes (at protein level). Ubiquitous.

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



Rockland's Affinity Purified anti-Ubiquitin Activating Enzyme antibody was used at a 10 µg/ml to detect UBE1 in a variety of tissues including adrenal, breast, colon (epithelium), kidney, liver, lung (respiratory epithelium), ovary (oocyte and endothelium), pancreas (islet and exocrine), placenta, prostate (epithelium), skin (epithelium), spleen (lymphocytes), stomach (chief), testis, thymus, tonsil, and uterus (glandular, stroma). In many cells a punctate nuclear staining was observed. Other cells showed both cytoplasmic and nuclear staining. This image shows UBE1 staining of human lung tissue. Tissue was formalin-fixed and paraffin embedded. Personal Communication, Tina Roush, LifeSpan Biosciences, Seattle, WA.

#### **Anti-Ubiquitin Activating Enzyme E1 (RABBIT) Antibody - Background**

Ubiquitin Activating Enzyme (E1), also known as A1S9 and UBE1, is responsible for the first step in ubiquitin-protein isopeptide bond formation. E1 catalyzes the activation of the C-terminal carboxyl group of ubiquitin by forming a high-energy thioester bond in an ATP-dependent manner. UBE1 is monomeric and contains two active sites within the E1 molecule, allowing it to bind two ubiquitin moieties at a time, with a new ubiquitin forming an adenylate intermediate as the previous one is transferred to the thiol site. Alternative splicing results in 2 transcript variants encoding the same protein, but with different 5' UTR. Isoform 1 has a different 5' noncoding exon compared to isoform 2. Both variants encode the same protein.