

Anti-Ubiquitin Activating Enzyme E1 UBA1 Antibody

Catalog Number: A02810

Introduction

CD3epsilon is a 20kD chain, which together with CD3lambda, CD3delta, and CD3zeta, and a T cell receptor (alpha/beta or gamma/δ) form the CD3/T-cell receptor complex. It is a specific marker for T lymphocytes, NK T cells, and some thymocytes. Crosslinking of TCR initiates an intracellular signaling cascade resulting in cellular activation and proliferation. The OKT3 antibody has been reported to have potent immunosuppressive properties in vivo and has been proved effective in the treatment of renal, heart, and liver allograft rejection.

This antibody is routinely tested by flow cytometric analysis. Flow cytometry and other applications were tested during antibody development or are reported in the literature.

Application Information

Each lot of this antibody has been quality control tested by flow cytometric analysis of human PBMCs. For flow cytometric staining, the recommended use of this antibody is $\leq 0.5\mu\text{g}$ per 1×10^6 cells in $100\mu\text{l}$ of staining volume followed by a secondary fluorescent conjugated anti-mouse antibody. However, it is strongly suggested that the antibody reactivity be empirically titrated for optimal performance in the application of interest.

About UBA1

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.

Overview

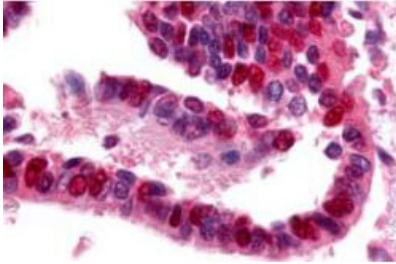
Product Name	Anti-Ubiquitin Activating Enzyme E1 UBA1 Antibody
Reactive Species	Human
Description	Boster Bio Anti-Ubiquitin Activating Enzyme E1 UBA1 Antibody (Catalog # A02810). Tested in IHC, WB applications. This antibody reacts with Human.
Conjugate	Biotin
Application	ELISA, IHC, WB
Clonality	Polyclonal
Formulation	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2, 0.01% (w/v) Sodium Azide
Storage Instructions	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. Expiration date is one (1) year from date of opening. (Ship at ambient temperature.)
Host	Rabbit
Uniprot ID	P22314

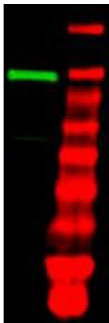
Technical Details

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.
Predicted Reactive Species	Mouse, Rat
Cross Reactivity	beta-Actin antibody is human, mouse, rat, rabbit, chicken, zebrafish and drosophila reactive.
Isotype	IgG
Form	Lyophilized
Concentration	1.2 mg/mL by UV absorbance at 280 nm
Purification	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.
Suggested Dilutions	ELISA: 1:2,000 - 1:10,000 IHC: 2 mg/ml - 20 µg/ml WB: 1:1,000 - 1:5,000 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.

Anti-Ubiquitin Activating Enzyme E1 UBA1 Antibody (A02810) Images



Boster'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.



Western blot using Boster's purified anti-Ubiquitin Activating Enzyme (E1) antibody shows detection of a band at ~118 kDa corresponding to UBE1 (lane 1 800 nm channel). Approximately 35µg of an A431 whole cell lysate was separated on a 4-20% Tris-Glycine gel by SDS-PAGE and transferred onto nitrocellulose. After blocking the membrane was probed with the primary antibody diluted to 1:1,000. Incubation was for 2 h at room temperature followed by washes and reaction with a 1:10,000 dilution of IRDye™ 800 conjugated Gt-a-Rabbit IgG [H&L] MX10 for 45 min at room temperature. Molecular weight markers are shown in lane 2 (700 nm 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.

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