

UBD Antibody
Catalog # ASC11926**Specification****UBD Antibody - Product Information**

Application	WB, IF, E
Primary Accession	O15205
Other Accession	NP_006389 , 222352096
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	Predicted: 18 kDa

Application Notes	Observed: 17 kDa KDa UBD antibody can be used for detection of UBD by Western blot at 1 - 2 µg/ml. For immunofluorescence start at 20 µg/mL.
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UBD Antibody - Additional Information

Gene ID	10537
Target/Specificity	
UBD; UBD antibody is human specific.	

Reconstitution & Storage

UBD antibody can be stored at 4°C for three months and -20°C, stable for up to one year.

Precautions

UBD Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

UBD Antibody - Protein Information

Name UBD

Synonyms FAT10

Function

Ubiquitin-like protein modifier which can be covalently attached to target proteins and subsequently leads to their degradation by the 26S proteasome, in a NUB1-dependent manner (PubMed: [15831455](http://www.uniprot.org/citations/15831455), PubMed: [16707496](http://www.uniprot.org/citations/16707496), PubMed: [19166848](http://www.uniprot.org/citations/19166848)). Conjugation to the target protein is activated by UBA6 via adenylation of its C-terminal glycine (PubMed: [17889673](http://www.uniprot.org/citations/17889673), PubMed: [35970836](http://www.uniprot.org/citations/35970836)). Promotes the expression of the proteasome subunit beta type-9 (PSMB9/LMP2). Regulates TNF-alpha- induced and LPS-mediated activation of the central mediator of innate immunity

NF-kappa-B by promoting TNF-alpha-mediated proteasomal degradation of ubiquitinated-I-kappa-B-alpha (PubMed:19959714). Required for TNF-alpha-induced p65 nuclear translocation in renal tubular epithelial cells (RTECs). May be involved in dendritic cell (DC) maturation, the process by which immature dendritic cells differentiate into fully competent antigen-presenting cells that initiate T-cell responses (PubMed:19028597). Mediates mitotic non- disjunction and chromosome instability, in long-term in vitro culture and cancers, by abbreviating mitotic phase and impairing the kinetochore localization of MAD2L1 during the prometaphase stage of the cell cycle (PubMed:16495226). May be involved in the formation of aggresomes when proteasome is saturated or impaired (PubMed:19033385). Mediates apoptosis in a caspase-dependent manner, especially in renal epithelium and tubular cells during renal diseases such as polycystic kidney disease and Human immunodeficiency virus (HIV)-associated nephropathy (HIVAN) (PubMed:16495380).

Cellular Location

Nucleus. Cytoplasm {ECO:0000250|UniProtKB:P63072} Note=Accumulates in aggresomes under proteasome inhibition conditions

Tissue Location

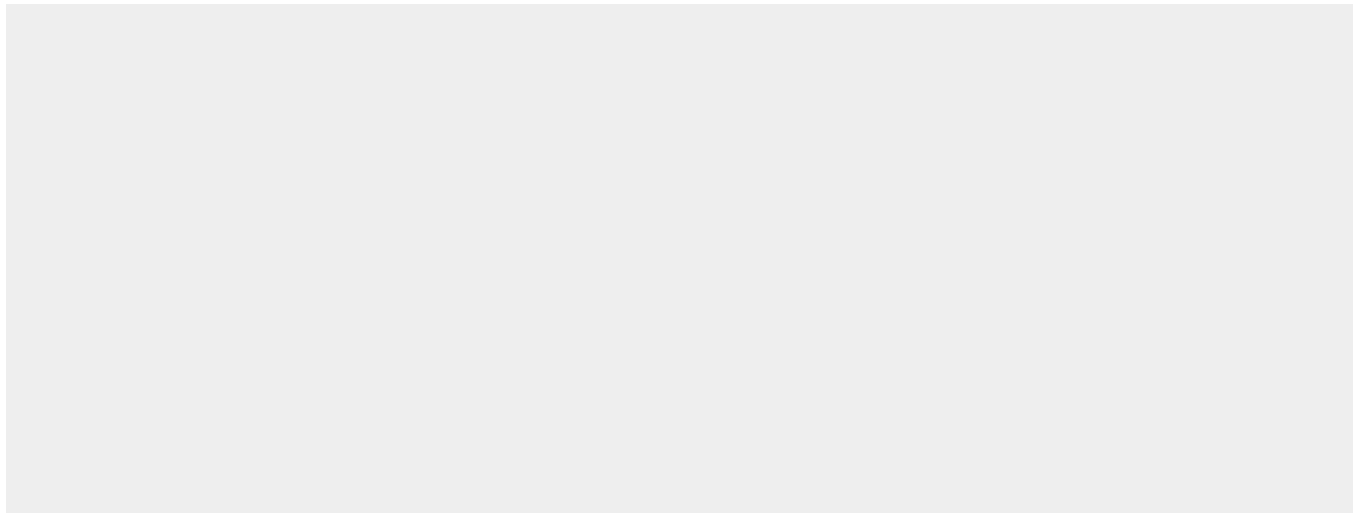
Constitutively expressed in mature dendritic cells and B-cells. Mostly expressed in the reticuloendothelial system (e.g thymus, spleen), the gastrointestinal system, kidney, lung and prostate gland.

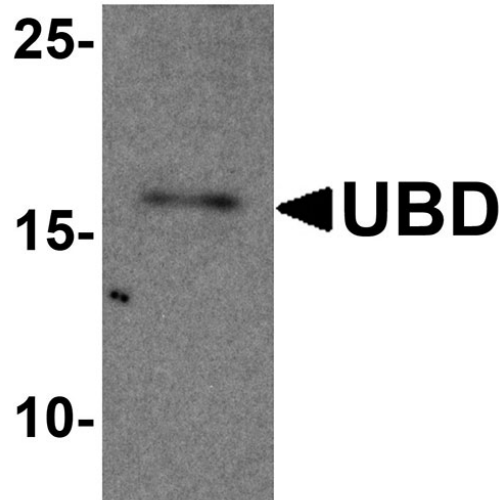
UBD Antibody - Protocols

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

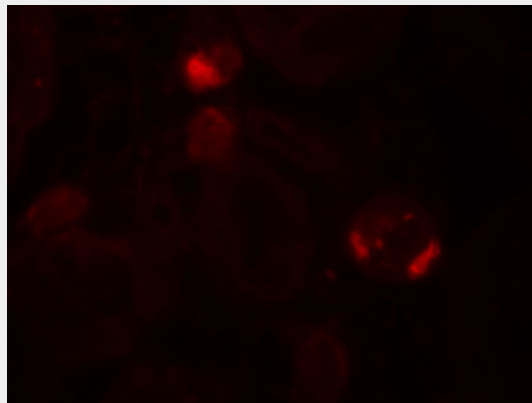
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

UBD Antibody - Images





Western blot analysis of UBD in human testis tissue lysate with UBD antibody at 1 µg/ml.



Immunofluorescence of UBD in human testis tissue with UBD antibody at 20 µg/ml.

UBD Antibody - Background

UBD, also designated ubiquitin D or diubiquitin, plays a role in antigen presentation, cytokine response and apoptosis. It is a 165 amino acid protein encoded in the major histocompatibility complex (MHC) that consists of two domains which share significant homology with ubiquitin (1,2). UBD is inducible by interferon gamma and TNF-alpha and regulates TNF-alpha-induced and LPS-mediated activation of the central mediator of innate immunity NF-kappa-B by promoting TNF-alpha-mediated proteasomal degradation of ubiquitinated-I-kappa-B-alpha (3). It may also regulate cell growth during dendritic cell or B cell activation and development (4,5).

UBD Antibody - References

- Ocklenburg F, Moharreggh-Khiabani D, Geffers R, et al. UBD, a downstream element of FOXP3, allows the identification of LGALS3, a new marker of human regulatory T cells. *Lab. Invest.* 2006; 86:724-37.
- Cook WJ, Jeffrey LC, Carson M, et al. Structure of a diubiquitin conjugate and a model for interaction with ubiquitin conjugating enzyme (E2). *J. Biol. Chem.* 1992; 267:16467-71.
- Rahighi S, Ikeda F, Kawasaki M, et al. Specific recognition of linear ubiquitin chains by NEMO is important for NF-kappaB activation. *Cell* 2009;136:1098-109.
- Cort L, Habib M, Eberwine RA, et al. Diubiquitin (Ubd) is a susceptibility gene for virus-triggered autoimmune diabetes in rats. *Genes Immun.* 2014; 15:168-75.