

Rabbit UPF1 Polyclonal Antibody | anti-UPF1 antibody

UPF1 Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA326209	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

UPF1; Polyclonal Antibody; UPF1 Antibody; ATP dependent helicase RENT1; ATP-dependent helicase RENT1; Delta helicase; FLJ43809; FLJ46894; HUPF 1; hUpf1; KIAA0221; Nonsense mRNA reducing factor 1; NORF 1; NORF1; pNORF 1; pNORF1; Regulator of nonsense transcripts 1; RENT 1; RENT1; RENT1_HUMAN; Smg 2; Smg 2 homolog nonsense mediated mRNA decay factor; UP Frameshift 1; Up frameshift mutation 1 homolog (S. cerevisiae); Up frameshift mutation 1 homolog; Up frameshift suppressor 1 homolog; Up-frameshift suppressor 1 homolog; UPF 1; UPF 1 regulator of nonsense transcripts homolog; upf1; UPF1 regulator of nonsense transcripts homolog; UPF1 RNA helicase and ATPase; Yeast Upf1p homolog; anti-UPF1 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	UPF1 antibody detects endogenous levels of total UPF1
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	1129
Applicable Applications for anti-UPF1 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthetic peptide of human UPF1
Subcellular Location	Cytoplasm. Cytoplasm > P-Body. Hyperphosphorylated form is targeted to the P-body, while unphosphorylated protein is distributed throughout the cytoplasm.
Tissue Specificity	Ubiquitous.
Predicted Cross Reactivity	Pig, Zebrafish, Bovine, Horse, Sheep, Dog, Chicken, Xenopus
Similarity	Pig (100%), Zebrafish (100%), Bovine (100%), Horse (100%), Sheep (89%), Dog (100%), Chicken (100%), Xenopus (100%)
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



IF (Immunofluorescence)

AAA326209 staining HeLa cells by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) antibody, diluted at 1/600, was used as secondary antibody.



WB (Western Blot)

Western blot analysis of HeLa whole cell lysates, using UPF1 Antibody. The lane on the left is treated with the antigen-specific peptide.



IHC (Immunohistochemistry)

AAA326209 at 1/100 staining Mouse lung tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

ADDITIONAL INFORMATION

Related Product Information for anti-UPF1 antibody

Description: Upf1 was identified as an active component in nonsense-mediated decay (NMD), an mRNA surveillance mechanism in eukaryotic cells that degrades mRNAs containing premature termination codons (1). Upf1 was found to be an ATP-dependent RNA helicase in the cytoplasm (2) and was later shown to be a component of cytoplasmic P-bodies (3). Upf1 phosphorylation mediates the repression of translation that accompanies NMD, allowing mRNA accessibility to the NMD machinery (4). Two other active components of NMD, Upf2 and Upf3, were also identified and described as having perinuclear and nucleocytoplasmic localization, respectively (5).

Function: RNA-dependent helicase and ATPase required for nonsense-mediated decay (NMD) of mRNAs containing premature stop codons. Is recruited to mRNAs upon translation termination and undergoes a cycle of phosphorylation and dephosphorylation; its phosphorylation appears to be a key step in NMD. Recruited by release factors to stalled ribosomes together with the SMG1C protein kinase complex to form the transient SURF (SMG1-UPF1-eRF1-eRF3) complex. In EJC-dependent NMD, the SURF complex associates with the exon junction complex (EJC) (located 50-55 or more nucleotides downstream from the termination codon) through UPF2 and allows the formation of an UPF1-UPF2-UPF3 surveillance complex which is believed to activate NMD. Phosphorylated UPF1 is recognized by EST1B/SMG5, SMG6 and SMG7 which are thought to provide a link to the mRNA degradation machinery involving exonucleolytic and endonucleolytic pathways, and to serve as adapters to protein phosphatase 2A (PP2A), thereby triggering UPF1 dephosphorylation and allowing the recycling of NMD factors. UPF1 can also activate NMD without UPF2 or UPF3, and in the absence of the NMD-enhancing downstream EJC indicative for alternative NMD pathways. Plays a role in replication-dependent histone mRNA degradation at the end of phase S; the function is independent of UPF2. For the recognition of premature termination codons (PTC) and initiation of NMD a competitive interaction between UPF1 and PABPC1 with the ribosome-bound release factors is proposed. The ATPase activity of UPF1 is required for disassembly of mRNPs undergoing NMD. Essential for embryonic viability.

Subunit Structure: Found in a post-splicing messenger ribonucleoprotein (mRNP) complex (PubMed:21419344). Associates with the exon junction complex (EJC) (PubMed:11546874, PubMed:16452507). Associates with the SGM1C complex; is phosphorylated by the complex kinase component SGM1 (PubMed:19417104). Interacts with UPF2 (PubMed:11163187, PubMed:11073994, PubMed:11113196, PubMed:19556969). Interacts with UPF3A and UPF3B (PubMed:11163187). Interacts with EST1A (PubMed:12554878). Interacts with SLBP (PubMed:16086026). Interacts (when hyperphosphorylated) with PNRC2 (PubMed:19150429). Interacts with AGO1 and AGO2 (PubMed:17932509). Interacts with GSPT2 (PubMed:18447585). Interacts with isoform 1 and isoform 5 of ADAR/ADAR1 (PubMed:18362360). Interacts with SMG7 (PubMed:15721257). Interacts with ZC3H12A; this interaction occurs in a mRNA translationally active-and termination-dependent manner and is essential for ZC3H12A-mediated degradation of target mRNAs (PubMed:26000482). Interacts with CPSF6 (PubMed:19864460).

Post-translational Modifications: Phosphorylated by SMG1; required for formation of mRNA surveillance complexes.

Similarity: The [ST]-Q motif constitutes a recognition sequence for kinases from the PI3/PI4-kinase family. Belongs to the DNA2/NAM7 helicase family.

NCBI AND UNIPROT INFORMATION

NCBI GI #	662033888
NCBI GeneID	5976
NCBI Accession #	NP_001284478.1
NCBI GenBank Nucleotide #	NM_001297549.1
UniProt Accession #	Q92900; O00239; O43343; Q86Z25; Q92842
Molecular Weight	Observed: 123 kDa Predicted: 125 kDa
NCBI Official Full Name	regulator of nonsense transcripts 1 isoform 1
NCBI Official Synonym Full Names	UPF1, RNA helicase and ATPase
NCBI Official Symbol	UPF1
NCBI Official Synonym Symbols	HUPF1; NORF1; RENT1; smg-2; pNORF1
NCBI Protein Information	regulator of nonsense transcripts 1
UniProt Protein Name	Regulator of nonsense transcripts 1
UniProt Gene Name	UPF1
UniProt Synonym Gene Names	KIAA0221; RENT1; NORF1; hUpf1

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
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