ARG59045
anti-RENT1 / hUPF1 antibody

Package: 50 µg
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes RENT1 / hUPF1
Tested Reactivity	Hu, Ms, Rat
Predict Reactivity	Chk
Tested Application	FACS, ICC/IF, IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	RENT1 / hUPF1
Species	Human
Immunogen	Synthetic peptide corresponding to aa. 578-614 of Human RENT1 / hUPF1 (NMDSMPELQKLQQLKDETGELSSADEKRYRALKRT AE).
Conjugation	Un-conjugated
Alternate Names	Up-frameshift suppressor 1 homolog; smg-2; RENT1; NORF1; EC 3.6.4.-; Regulator of nonsense transcripts 1; Nonsense mRNA reducing factor 1; pNORF1; hUpf1; ATP-dependent helicase RENT1; HUPF1

Application Instructions

Application table

Application	Dilution
FACS	1:150 - 1:500
ICC/IF	1:200 - 1:1000
IHC-P	0.5 - 1 µg/ml
WB	0.1 - 0.5 µg/ml

Application Note: IHC-P: Antigen Retrieval: By heat mediation.
* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Properties

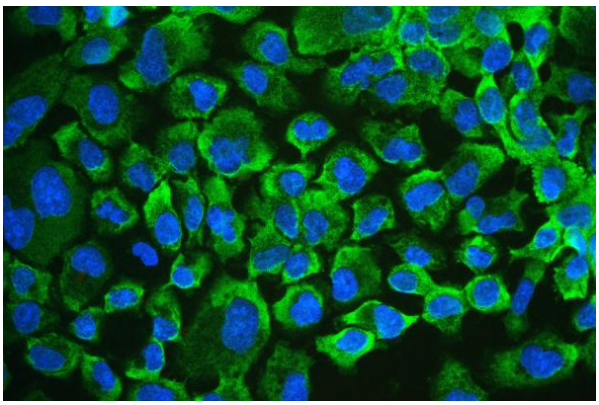
Form	Liquid
Purification	Affinity purification with immunogen.
Buffer	0.2% Na2HPO4, 0.9% NaCl, 0.05% Sodium azide and 5% BSA.
Preservative	0.05% Sodium azide
Stabilizer	5% BSA

Concentration	0.5 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

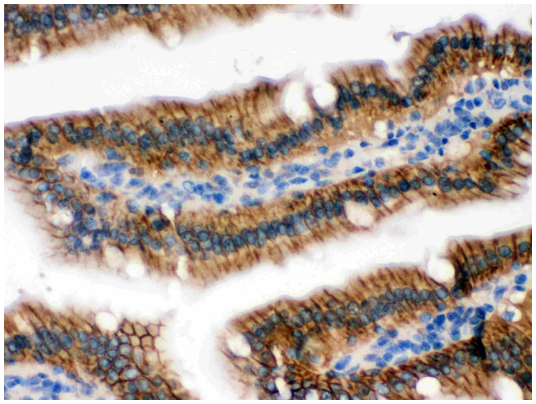
Gene Symbol	UPF1
Gene Full Name	UPF1 regulator of nonsense transcripts homolog (yeast)
Background	This gene encodes a protein that is part of a post-splicing multiprotein complex involved in both mRNA nuclear export and mRNA surveillance. mRNA surveillance detects exported mRNAs with truncated open reading frames and initiates nonsense-mediated mRNA decay (NMD). When translation ends upstream from the last exon-exon junction, this triggers NMD to degrade mRNAs containing premature stop codons. This protein is located only in the cytoplasm. When translation ends, it interacts with the protein that is a functional homolog of yeast Upf2p to trigger mRNA decapping. Use of multiple polyadenylation sites has been noted for this gene. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Jul 2014]
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. [UniProt]
Calculated Mw	124 kDa
PTM	Phosphorylated by SMG1; required for formation of mRNA surveillance complexes. [UniProt]
Cellular Localization	Cytoplasm. Cytoplasm, P-body. Nucleus. Hyperphosphorylated form is targeted to the P-body, while unphosphorylated protein is distributed throughout the cytoplasm. [UniProt]

Images



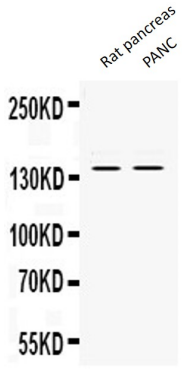
ARG59045 anti-RENT1 / hUPF1 antibody ICC/IF image

Immunofluorescence: A431 cells were blocked with 10% goat serum and then stained with ARG59045 anti-RENT1 / hUPF1 antibody (green) at 2 µg/ml dilution, overnight at 4°C. DAPI (blue) for nuclear staining.



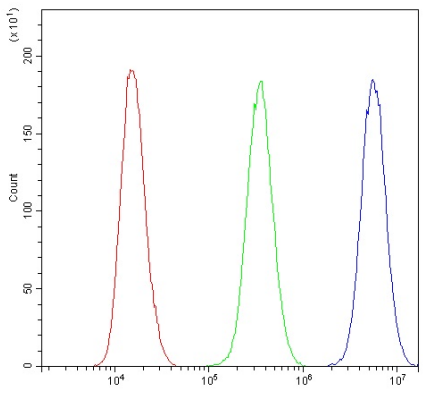
ARG59045 anti-RENT1 / hUPF1 antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Mouse intestine tissue stained with ARG59045 anti-RENT1 / hUPF1 antibody.



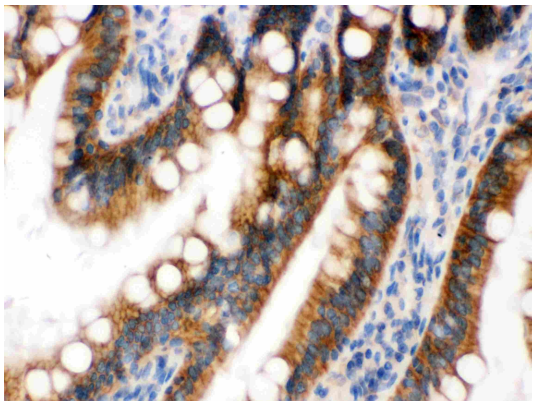
ARG59045 anti-RENT1 / hUPF1 antibody WB image

Western blot: 50 µg of Rat pancreas and 40 µg of PANC lysates stained with ARG59045 anti-RENT1 / hUPF1 antibody at 0.5 µg/ml dilution.



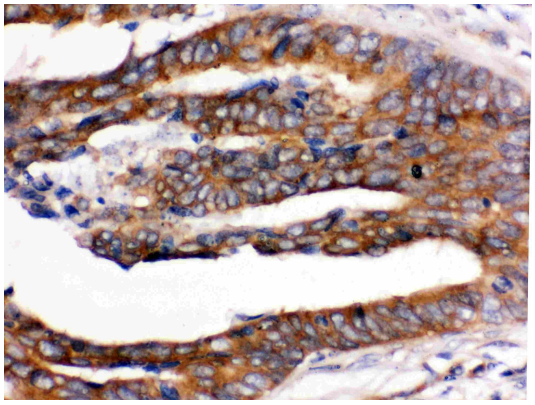
ARG59045 anti-RENT1 / hUPF1 antibody FACS image

Flow Cytometry: PC-3 cells were blocked with 10% normal goat serum and then stained with ARG59045 anti-RENT1 / hUPF1 antibody (blue) at 1 µg/10^6 cells for 30 min at 20°C, followed by incubation with DyLight®488 labelled secondary antibody. Isotype control antibody (green) was rabbit IgG (1 µg/10^6 cells) used under the same conditions. Unlabelled sample (red) was also used as a control.



ARG59045 anti-RENT1 / hUPF1 antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Rat intestine tissue stained with ARG59045 anti-RENT1 / hUPF1 antibody.



ARG59045 anti-RENT1 / hUPF1 antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Human intestinal cancer tissue stained with ARG59045 anti-RENT1 / hUPF1 antibody.