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Anti-RENT1 / hUPF1 Rabbit Monoclonal Antibody
Catalog # ABO15404

Specification

Anti-RENT1 / hUPF1 Rabbit Monoclonal Antibody - Product Information

Application	**WB, IHC, IF, ICC, IP, FC**
Primary Accession	Q92900
Host	**Rabbit**
Isotype	**IgG**
Reactivity	**Human, Mouse**
Clonality	**Monoclonal**
Format	**Liquid**

Description
Anti-RENT1 / hUPF1 Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, IP, Flow Cytometry applications. This antibody reacts with Human, Mouse.

Anti-RENT1 / hUPF1 Rabbit Monoclonal Antibody - Additional Information

Gene ID 5976

Other Names
Regulator of nonsense transcripts 1 {ECO:0000312|HGNC:HGNC:9962}, 3.6.4.12, 3.6.4.13, ATP-dependent helicase RENT1, Up-frameshift suppressor 1 homolog, hUpf1, UPF1 (HGNC:9962)

Calculated MW
130 kDa KDa

Application Details
WB 1:1000-1:5000
IHC 1:50-1:200
ICC/IF 1:50-1:200
IP 1:50
FC 1:50

Contents
Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

Immunogen
A synthesized peptide derived from human RENT1 / hUPF1

Purification
Affinity-chromatography

Storage	**Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.**

Anti-RENT1 / hUPF1 Rabbit Monoclonal Antibody - Protein Information

Name UPF1 (HGNC:9962)

Function
RNA-dependent helicase required for nonsense-mediated decay (NMD) of aberrant mRNAs containing premature stop codons and modulates the expression level of normal mRNAs (PubMed:11163187, PubMed:16086026, PubMed:18172165, PubMed:21145460, PubMed:21419344, PubMed:24726324). 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 (PubMed:11544179, PubMed:25220460). Recruited by release factors to stalled ribosomes together with the SMG1C protein kinase complex to form the transient SURF (SMG1-UPF1-eRF1-eRF3) complex (PubMed:19417104). 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 (PubMed:21419344). 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 (PubMed:12554878). UPF1 can also activate NMD without UPF2 or UPF3, and in the absence of the NMD-enhancing downstream EJC indicative for alternative NMD pathways (PubMed:18447585). Plays a role in replication-dependent histone mRNA degradation at the end of phase S; the function is independent of UPF2 (PubMed:16086026, PubMed:18172165). 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 (PubMed:18447585, PubMed:25220460). The ATPase activity of UPF1 is required for disassembly of mRNPs undergoing NMD (PubMed:21145460). Together with UPF2 and dependent on TDRD6, mediates the degradation of mRNA harboring long 3'UTR by inducing the NMD machinery (By similarity). Also capable of unwinding double-stranded DNA and translocating on single-stranded DNA (PubMed:30218034).

Cellular Location
Cytoplasm. Cytoplasm, P-body. Nucleus. Cytoplasm, perinuclear region {ECO:0000250|UniProtKB:Q9EPU0}. Note=Hyperphosphorylated form is targeted to the P-body, while unphosphorylated protein is distributed throughout the cytoplasm. Localized in the chromatoid bodies of round spermatids (By similarity). {ECO:0000250|UniProtKB:Q9EPU0}

Tissue Location
Ubiquitous.

Anti-RENT1 / hUPF1 Rabbit Monoclonal Antibody - Protocols

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

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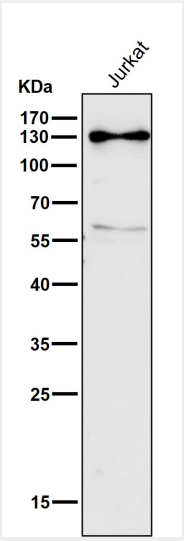
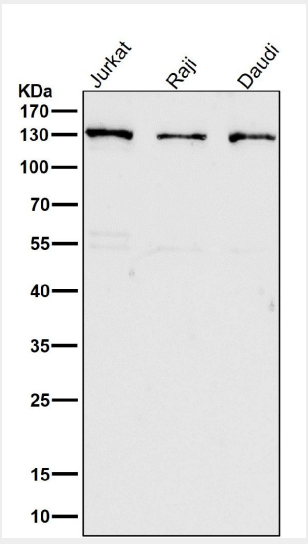
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-RENT1 / hUPF1 Rabbit Monoclonal Antibody - Images



All lanes use the Antibody at 1:2K dilution for 1 hour at room temperature.



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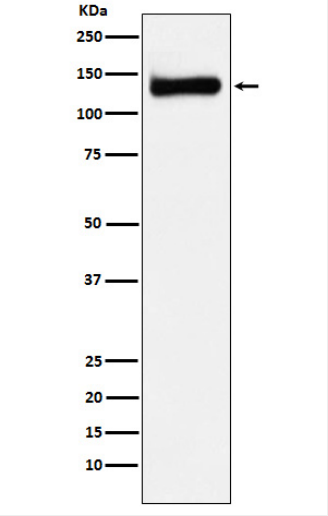

Western blot analysis of RENT1 / hUPF1 expression in SH-SY5Y cell lysate.