

Anti-Rent1 antibody



Description	Rabbit polyclonal to Rent1.
Model	STJ95414
Host	Rabbit
Reactivity	Human, Mouse
Applications	ELISA, IHC, WB
Immunogen	Synthesized peptide derived from human Rent1
Immunogen Region	270-350 aa, Internal
Gene ID	5976
Gene Symbol	UPF1
Dilution range	WB 1:500-1:2000IHC 1:100-1:300ELISA 1:20000
Specificity	Rent1 Polyclonal Antibody detects endogenous levels of Rent1 protein.
Tissue Specificity	Ubiquitous.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	Regulator of nonsense transcripts 1 ATP-dependent helicase RENT1 Nonsense mRNA reducing factor 1 NORF1 Up-frameshift suppressor 1 homolog hUpf1
Molecular Weight	110 kDa
Clonality	Polyclonal

Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:9962OMIM:601430
Alternative Names	Regulator of nonsense transcripts 1 ATP-dependent helicase RENT1 Nonsense mRNA reducing factor 1 NORF1 Up-frameshift suppressor 1 homolog hUpf1
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.
Sequence and Domain Family	The [ST]-Q motif constitutes a recognition sequence for kinases from the PI3/PI4-kinase family.
Cellular Localization	Cytoplasm. Cytoplasm, P-body. Nucleus. Hyperphosphorylated form is targeted to the P-body, while unphosphorylated protein is distributed throughout the cytoplasm.
Post-translational Modifications	Phosphorylated by SMG1; required for formation of mRNA surveillance complexes.