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antibody and ELISA experts

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Anti-UPF3B/RENT3B Antibody Picoband®

Catalog Number: PB9843

About UPF3B

Regulator of nonsense transcripts 3B is a protein that in humans is encoded by the UPF3B gene. This gene encodes a protein that is part of a post-splicing multiprotein complex involved in both mRNA nuclear export and mRNA surveillance. The encoded protein is one of two functional homologs to yeast Upf3p. 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 binds to the mRNA and remains bound after nuclear export, acting as a nucleocytoplasmic shuttling protein. It forms with Y14 a complex that binds specifically 20 nt upstream of exon-exon junctions. This gene is located on the long arm of chromosome X. Two splice variants encoding different isoforms have been found for this gene.

Overview

Product Name	Anti-UPF3B/RENT3B Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-UPF3B/RENT3B Antibody Picoband® catalog # PB9843. Tested in IHC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains antibody formulated with stabilizing components, 0.9 mg NaCl, 0.2 mg Na2HPO4, and 0.05 mg NaN3. *This antibody is supplied in a stabilized formulation. Compatibility with conjugation reactions depends on the chemistry of the conjugation method used. For conjugation methods that are not compatible with the stabilizing components present in this formulation, a carrier-free antibody format is required.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	Q9BZI7

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human UPF3B /RENT3B.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western

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	blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, Mouse, Rat Western blot, 0.1-0.5ug/ml, Human, Rat

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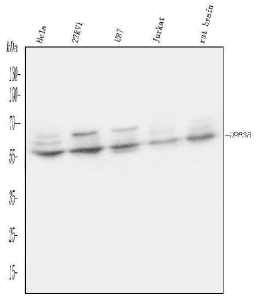
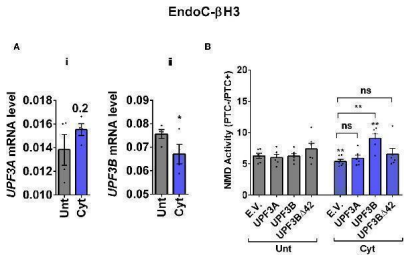
Anti-UPF3B/RENT3B Antibody Picoband® (PB9843) Images



Western blot analysis of UPF3B/RENT3B using anti-UPF3B/RENT3B antibody (PB9843). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human Hela whole cell lysates, Lane 2: human 22RV1 whole cell lysates, Lane 3: human U87 whole cell lysates, Lane 4: human Jurkat whole cell lysates, Lane 5: rat brain tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-UPF3B/RENT3B antigen affinity purified polyclonal antibody (Catalog # PB9843) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for UPF3B/RENT3B at approximately 58 kDa. The expected band size for UPF3B/RENT3B is at 58 kDa.



Cytokine-induced suppression of NMD activity is associated with UPF3B downregulation and attenuated by UPF3 overexpression in beta cells. EndoC-betaH3 cells were cotransfected with empty vector (E.V.), UPF3A, UPF3B, and/or UPF3BΔ42 (dominant negative of UPF3B) plasmids, and then with Renilla -HBB(PTC −) and or Renilla -HBB(PTC +), along with the Firefly plasmid and exposed to cytokine combination (Cyt; 3 ng/mL IL-1beta + 10 ng/mL IFN-gamma + 10 ng/mL TNF-alpha) for 18 (h) (A (i, ii)) mRNA level of Upf3A and Upf3B genes in EndoC-betaH3 cells was quantified by RT-qPCR and normalised to tubulin mRNAs. (B) Luciferase activity was measured in the lysate of the transfected cells and represented as NMD activity calculated by dividing luciferase activity of HBB(PTC −)/HBB(PTC +) as explained in the Methods. The overexpression of UPF3A and UPF3B proteins was examined by Western blot analysis [Supplementary Figure 4B (i)]. The data are means ± SEM of N = 6. The symbol " * " indicates the Bonferroni-corrected paired t -test values of treated versus untreated E.V. (Unt) (A, B) or, otherwise, cytokine (Cyt)-treated E.V. that is designated by a line on top of the bars (B) : * ≤ 0.05; ** ≤ 0.01. ns, nonsignificant.Index in PubMed under a CC BY license. PMID: 38586449

UPF3 overexpression deteriorates cell viability and reduces insulin content but not secretion in EndoC-betaH3 cells. EndoC-betaH3 cells were cotransfected with empty vector (E.V.), UPF3A, and/or UPF3B plasmids and exposed to cytokine combination (Cyt; 3 ng/mL IL-1beta + 10 ng/mL IFN-gamma + 10 ng/mL TNF-alpha) for 3 days. (A) Cell viability

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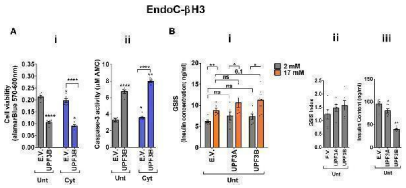
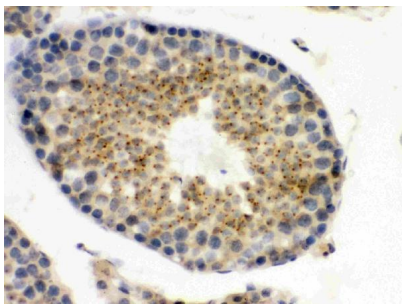
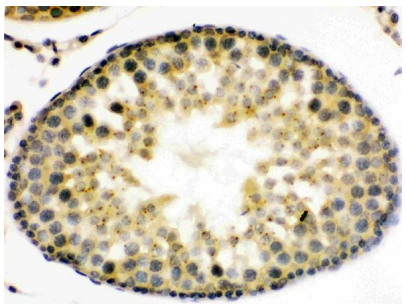


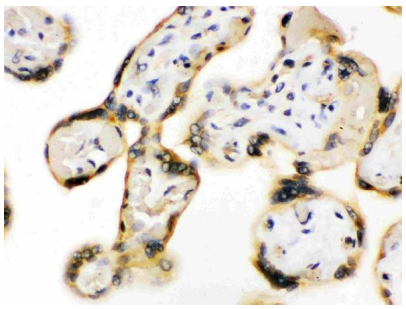
was measured by Alamarblue (i) and caspase-3 activity (ii) assays (N = 6). (B) Glucose-stimulated insulin secretion (GSIS) (i) and insulin contents (iii) were investigated in the transfected EndoC-betaH3 cells. Insulin concentration (ng/mL) was measured by insulin ultrasensitive assay (N = 6). GSIS index (ii) was calculated by dividing the insulin concentration measured in the treatments at 17 mM by 2 mM of glucose. The data are means ± SEM of N = 6. The symbol " * " indicates the Bonferroni-corrected paired t -test values of treated versus untreated E.V. (Unt) or, otherwise, cytokine (Cyt)-treated E.V. that is designated by a line on top of the bars (A) or the Bonferroni-corrected paired t -test values of the corresponding low versus high glucose, that is otherwise designated by lines on top of the bars (B (i)) : * ≤ 0.05; ** ≤ 0.01; **** ≤ 0.0001. ns, nonsignificant.Index in PubMed under a CC BY license. PMID: 38586449



IHC analysis of UPF3B/RENT3B using anti-UPF3B/RENT3B antibody (PB9843). UPF3B/RENT3B was detected in a paraffin-embedded section of mouse testis tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-UPF3B/RENT3B Antibody (PB9843) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.



IHC analysis of UPF3B/RENT3B using anti-UPF3B/RENT3B antibody (PB9843). UPF3B/RENT3B was detected in a paraffin-embedded section of rat testis tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-UPF3B/RENT3B Antibody (PB9843) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.



IHC analysis of UPF3B/RENT3B using anti-UPF3B/RENT3B antibody (PB9843). UPF3B/RENT3B was detected in a paraffin-embedded section of human placenta tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-UPF3B/RENT3B Antibody (PB9843) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

2 Publications Citing This Product

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1. PubMed ID: , Antisense suppression of the nonsense mediated decay factor Upf3b as a potential treatment for diseases caused by nonsense mutations

2. PubMed ID: 29334995, Huang L, Low A, Damle SS, Keenan MM, Kuntz S, Murray SF, Monia BP, Guo S. Genome Biol. 2018 Jan 15;19(1):4. doi: 10.1186/s13059-017-1386-9. Antisense suppression of the nonsense mediated decay factor Upf3b as a potential treatment for diseases cau...

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