

Anti-RRM2B p53R2 Antibody

Catalog Number: A03055

About RRM2B

RRM2B/p53-R2, or p53-inducible ribonucleotide reductase small subunit 2-like protein, is a member of a broad superfamily of ferritin-like di-iron-carboxylate proteins. The RRM2B protein is an enzyme that catalyzes the conversion of ribonucleotides to deoxyribonucleotides that are essential for DNA synthesis, and is found in all eukaryotes. RRM2B plays a pivotal role in cell survival by repairing damaged DNA in a p53/TP53-dependent manner. It supplies deoxyribonucleotides for DNA repair in cells arrested at G1 or G2. It contains an iron-tyrosyl free radical center required for catalysis, and forms an active ribonucleotide reductase (RNR) complex with RRM1 which is expressed both in resting and proliferating cells in response to DNA damage. It is a heterotetramer with a large (RRM1) subunit, and interacts with p53/TP53. The interaction with RRM1 occurs in response to DNA damage and results in its translocation from cytoplasm to nucleus. It is widely expressed at a high level in skeletal muscle and at a weak level in thymus, and expressed in epithelial dysplasias and squamous cell carcinoma. Defects in RRM2B are the cause of encephalomyopathic mitochondrial depletion syndrome with renal tubulopathy (EMDSRT). Mitochondrial DNA depletion syndrome (MDS) is a clinically heterogeneous group of disorders characterized by a reduction in mitochondrial DNA (mtDNA) copy number. The encephalomyopathic form with renal tubulopathy is presented with various combinations of hypotonia, tubulopathy, seizures, respiratory distress, diarrhea, and lactic acidosis.

Overview

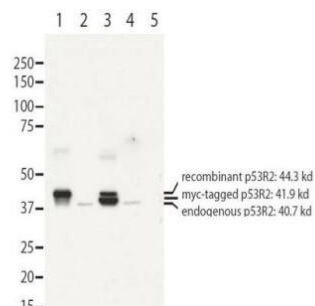
Product Name	Anti-RRM2B p53R2 Antibody
Reactive Species	Human
Description	Boster Bio Anti-RRM2B p53R2 Antibody (Catalog # A03055). Tested in ELISA, WB applications. This antibody reacts with Human.
Application	ELISA, IP, IF, IHC, WB
Clonality	Polyclonal
Formulation	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2, 0.01% (w/v) Sodium Azide
Storage Instructions	Store vial at -20°C prior to opening. Aliquot contents and freeze at -20°C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4°C as an undiluted liquid. Dilute only prior to immediate use. Expiration date is one (1) year from date of opening. (Ship on dry ice.)
Host	Rabbit
Uniprot ID	Q7LG56

Technical Details

Immunogen	Anti-Human RRM2B/p53R2 antibody was prepared by repeated immunizations with a synthetic peptide corresponding to a region near the N-terminus of human RRM2B1 protein. A residue of cysteine was added to facilitate coupling.
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Predicted Reactive Species	Boar, Bovine, Canine, Golden Hamster
Isotype	IgG
Form	Liquid (sterile filtered)
Concentration	0.82 mg/mL by UV absorbance at 280 nm
Purification	Anti-Human RRM2B/p53R2 is directed against RRM2B and reacts with the RRM2B from human tissues. Based on sequence we expect this antibody to react as well with RRM2B from other species. Based on 100% homology to the immunizing sequence, one may expect reactivity to chimpanzee and orangutan; based on 93% homology, reactivity to macaque, and 92% to pig and Drosophila.
Suggested Dilutions	ELISA: 1:3,000 IHC: User optimized IF Microscopy: User optimized IP: User optimized WB: 1 µg/mL RRM2B/p53R2 antibody is tested in Western Blot and ELISA and suitable for IP, IHC, and IF. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 41 kDa in size corresponding to RRM2B1 by western blotting in the appropriate cell lysate or extract.

Anti-RRM2B p53R2 Antibody (A03055) Images



Western blot using Boster's affinity purified anti-RRM2B antibody shows detection of recombinant (lanes 1 and 3) and endogenous protein (lanes 1 to 4) in whole cell extracts from transfected 293T. Lane 1 contains purified recombinant human p53R2. Lane 2 contains 293T cells transfected with control vector. Lane 3 contains 293T transfected with p53R2-myc. Lane 4: 293T transfected with ScRNA. Lane 5: 293T transfected with p53R2 SiRNA. The band at 40.7 kDa, indicated by the bottom arrowhead, corresponds to the expected molecular weight of endogenous RRM2B. The band with the middle arrow corresponds to myc-tagged p53R2 at 41.9 kDa. The highest band at 44.3 kDa corresponds to recombinant p53R2. Primary antibody was diluted to 1 μ g/mL and incubated overnight at 4 $^{\circ}$ C. ECL detection was used.

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Anti-RRM2B p53R2 Antibody

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