

Datasheet for ABIN964915
anti-RRM2B antibody (N-Term)[Go to Product page](#)

1 Image

5 Publications

Overview

Quantity:	100 µg
Target:	RRM2B
Binding Specificity:	N-Term
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This RRM2B antibody is un-conjugated
Application:	Western Blotting (WB), ELISA, Immunohistochemistry (IHC), Immunoprecipitation (IP)

Product 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. Immunogen Type: Peptide
Isotype:	IgG
Specificity:	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.
Characteristics:	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.

Purification:	affinity purified
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Sterility:	Sterile filtered
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Target Details

Target:	RRM2B
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Alternative Name:	RRM2B p53R2 (RRM2B Products)
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Background:	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
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Target Details

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.

Synonyms: Ribonucleoside-diphosphate reductase subunit M2 B; Ribonucleotide Reductase, R2/beta subunit; small subunit of p53 (MIM 191170)-inducible ribonucleotide reductase; RIR2B; RNRR2, TP53-inducible ribonucleotide reductase M2 B.

Gene ID: 50484, 42544136

UniProt: [Q7LG56](#)

Pathways: [p53 Signaling](#), [Negative Regulation of intrinsic apoptotic Signaling](#)

Application Details

Application Notes: RRM2B/p53R2 antibody is suitable for IP, IHC, IF, ELISA and western blotting. 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.

Comment: Gene Name: RRM2B

Restrictions: For Research Use only

Handling

Format: Liquid

Concentration: 0.82 mg/mL

Buffer: 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2

Preservative: Sodium azide

Precaution of Use: This product contains sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Storage: 4 °C/-20 °C

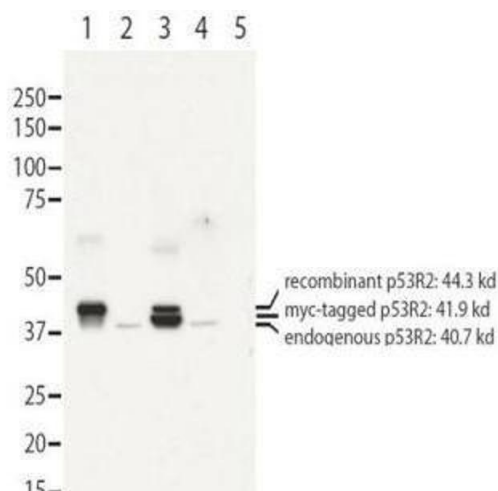
Storage Comment: Store vial at 4 °C prior to restoration. For extended storage aliquot contents and freeze at -20 °C

or below. 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.

Expiry Date: 12 months

Publications

- Product cited in: Taylor, Devon, Millar, Porteous: "Evolutionary constraints on the Disrupted in Schizophrenia locus." in: **Genomics**, Vol. 81, Issue 1, pp. 67-77, (2003) ([PubMed](#)).
- Morris, Kandpal, Ma, Austin: "DISC1 (Disrupted-In-Schizophrenia 1) is a centrosome-associated protein that interacts with MAP1A, MIPT3, ATF4/5 and NUDEL: regulation and loss of interaction with mutation." in: **Human molecular genetics**, Vol. 12, Issue 13, pp. 1591-608, (2003) ([PubMed](#)).
- Ozeki, Tomoda, Kleiderlein, Kamiya, Bord, Fujii, Okawa, Yamada, Hatten, Snyder, Ross, Sawa: "Disrupted-in-Schizophrenia-1 (DISC-1): mutant truncation prevents binding to NudE-like (NUDEL) and inhibits neurite outgrowth." in: **Proceedings of the National Academy of Sciences of the United States of America**, Vol. 100, Issue 1, pp. 289-94, (2003) ([PubMed](#)).
- Millar, Wilson-Annan, Anderson, Christie, Taylor, Semple, Devon, St Clair, Muir, Blackwood, Porteous: "Disruption of two novel genes by a translocation co-segregating with schizophrenia." in: **Human molecular genetics**, Vol. 9, Issue 9, pp. 1415-23, (2000) ([PubMed](#)).
- Seki, Ohira, Nagase, Ishikawa, Miyajima, Nakajima, Nomura, Ohara: "Characterization of cDNA clones in size-fractionated cDNA libraries from human brain." in: **DNA research : an international journal for rapid publication of reports on genes and genomes**, Vol. 4, Issue 5, pp. 345-9, (1998) ([PubMed](#)).



Western Blotting

Image 1. Western blot using 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 tranfected 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 41.9kDa. The highest band at 44.3 kDa corresponds to recombinant p53R2. Primary antibody was diluted to 1µg/mL and incubated overnight at 4°C. ECL detection was used.