

# Polyclonal Anti-RRM2B Antibody

Catalog Number: PA2053

## Description

<b>Gene Name</b>	ribonucleotide reductase M2 B (TP53 inducible)
<b>Recommended Protein Name</b>	Ribonucleoside-diphosphate reductase subunit M2 B
<b>Lot No.</b>	0201312c015329
<b>Size</b>	100µg/vial
<b>Form</b>	lyophilized
<b>Ig type</b>	Rabbit IgG
<b>Specificity</b>	No cross reactivity with other proteins.
<b>Purification</b>	Immunogen affinity purified.
<b>Species</b>	<b>Reacts with:</b> human, rat <b>Predicted to work with:</b> mouse
<b>Immunogen</b>	A synthetic peptide corresponding to a sequence at the C-terminus of human RRM2B(318-332aa EGKTNFFEKRVSEYQ), identical to the related rat and mouse sequences.
<b>Contents</b>	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na <sub>2</sub> HPO <sub>4</sub> , 0.05mg Thimerosal, 0.05mg NaN <sub>3</sub> .

## Application

	Concentration	Tested Species	Predicted Species	Antigen Retrieval
Western blot	0.1-0.5µg/ml	Hu, Rat	Ms	-

**Tested Species:** In-house tested species with positive results.

**Predicted Species:** Species predicted to be fit for the product based on sequence similarities.

*Other applications have not been tested.*

*Optimal dilutions should be determined by end users.*

## Preparation and storage

**Reconstitution:** 0.2ml of distilled water will yield a concentration of 500µg/ml.

**Storage:** At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time.

Avoid repeated freezing and thawing.

## Relevant detection systems

Boster provides a series of assays reacted with primary antibodies. Antibody can be supported by chemiluminescence kit EK1002 in WB.

## Background

RRM2B (Ribonucleotide Reductase, M2 B), also known as P53R2, is an enzyme that in humans is encoded by the RRM2B gene. Tanaka et al. (2000) mapped the p53R2 gene to chromosome 8q23.1 by fluorescence in situ hybridization. Tanaka et al. (2000) found that expression of p53R2, but not R2, was induced by ultraviolet and gamma-irradiation and adriamycin treatment in a wildtype p53-dependent manner. Induction of p53R2 in p53-deficient cells caused G2/M arrest and protected cells from death in response to adriamycin. Inhibition of endogenous p53R2 expression in cells that had an intact p53-dependent DNA damage checkpoint reduced ribonucleotide reductase activity, DNA repair, and cell survival after exposure to various genotoxins.

## Reference

1. Kimura, T., Takeda, S., Sagiya, Y., Gotoh, M., Nakamura, Y., Arakawa, H. Impaired function of p53R2 in Rrm2b-null mice causes severe renal failure through attenuation of dNTP pools. *Nature Genet.* 34: 440-445, 2003.
2. Kollberg, G., Darin, N., Benan, K., Moslemi, A.-R., Lindal, S., Tulinius, M., Oldfors, A., Holme, E. A novel homozygous RRM2B missense mutation in association with severe mtDNA depletion. *Neuromusc. Disord.* 19: 147-150, 2009.
3. Takata, A., Kato, M., Nakamura, M., Yoshikawa, T., Kanba, S., Sano, A., Kato, T. Exome sequencing identifies a novel missense variant in RRM2B associated with autosomal recessive progressive external ophthalmoplegia. *Genome Biol.* 12: R92, 2011.