SANTA CRUZ BIOTECHNOLOGY, INC.

RBM45 (A-2): sc-515495

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The Power to Question

BACKGROUND

The RBM (RNA-binding motif) gene family encodes proteins with an RNA binding motif. RBM45, also known as developmentally-regulated RNA-binding protein 1 (DRB1), is a 476 amino acid protein that may play an important role in neural development. Structurally, RBM45 has four RNA recognition motifs (RRMs), however, due to a sequence divergence, it has been suggested that only three of the RRMs functionally bind RNA. These structural motifs are similar to those found in other neural RNA-binding proteins, such as Msi1, HuB and HuC, but RBM45 differs from these functionally similar proteins because it has a poly(C) RNA-binding preference. RBM45 is predominantly localized to the cytoplasm, but has also been shown to shuttle to the nucleus. Supporting its suggested role in neuronal development, RBM45 expression is highest in neuronal pregenitor cells, but is reduced in differentiated neural cells. There are three isoforms of RBM45 as a result of alternative splicing.

REFERENCES

1. Goller, M., et al. 1994. Murine protein which binds preferentially to oligo-C-rich single-stranded nucleic acids. Nucleic Acids Res. 22: 1885-1889.
2. Akamatsu, W., et al. 1999. Mammalian ELAV-like neuronal RNA-binding proteins HuB and HuC promote neuronal development in both the central and the peripheral nervous systems. Proc. Natl. Acad. Sci. USA 96: 9885-9890.
3. Tamada, H., et al. 2002. cDNA cloning and characterization of Drb1, a new member of RRM-type neural RNA-binding protein. Biochem. Biophys. Res. Commun. 297: 96-104.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608888. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: RBM45 (human) mapping to 2q31.2; Rbm45 (mouse) mapping to 2 C3.

SOURCE

RBM45 (A-2) is a mouse monoclonal antibody raised against amino acids 42-180 mapping near the N-terminus of RBM45 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RBM45 (A-2) is available conjugated to agarose (sc-515495 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515495 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515495 PE), fluorescein (sc-515495 FITC), Alexa Fluor® 488 (sc-515495 AF488), Alexa Fluor® 546 (sc-515495 AF546), Alexa Fluor® 594 (sc-515495 AF594) or Alexa Fluor® 647 (sc-515495 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515495 AF680) or Alexa Fluor® 790 (sc-515495 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

RBM45 (A-2) is recommended for detection of RBM45 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for RBM45 siRNA (h): sc-94690, RBM45 siRNA (m): sc-152752, RBM45 shRNA Plasmid (h): sc-94690-SH, RBM45 shRNA Plasmid (m): sc-152752-SH, RBM45 shRNA (h) Lentiviral Particles: sc-94690-V and RBM45 shRNA (m) Lentiviral Particles: sc-152752-V.

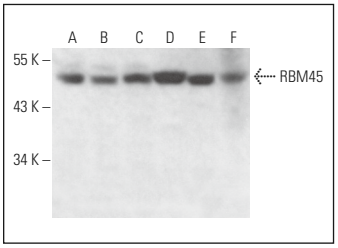
Molecular Weight of RBM45: 53 kDa.

Positive Controls: NCI-H460 whole cell lysate: sc-364235, MCF7 whole cell lysate: sc-2206 or U-87 MG cell lysate: sc-2411.

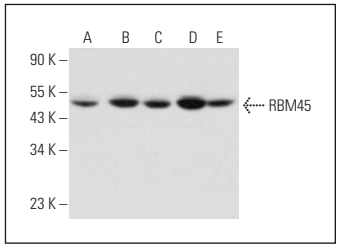
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



RBM45 (A-2): sc-515495. Western blot analysis of RBM45 expression in MCF7 (**A**), Jurkat (**B**), K-562 (**C**), RAW 264.7 (**D**) and NIH/3T3 (**E**) whole cell lysates and rat breast tissue extract (**F**).



RBM45 (A-2): sc-515495. Western blot analysis of RBM45 expression in Jurkat (**A**), MCF7 (**B**), U-87 MG (**C**), NCI-H460 (**D**) and Hep G2 (**E**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. van der Zee, J., et al. 2021. Family-based exome sequencing identifies RBM45 as a possible candidate gene for frontotemporal dementia and amyotrophic lateral sclerosis. Neurobiol. Dis. 156: 105421.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.