SANTA CRUZ BIOTECHNOLOGY, INC.

RBM45 (I-23): sc-102076

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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 4 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, Hel-N1 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/
5. Maris, C., et al. 2005. The RNA recognition motif, a plastic RNA-binding platform to regulate post-transcriptional gene expression. FEBS J. 272: 2118-2131.

CHROMOSOMAL LOCATION

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

SOURCE

RBM45 (I-23) is a purified rabbit polyclonal antibody raised against RBM45 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

STORAGE

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

APPLICATIONS

RBM45 (I-23) is recommended for detection of RBM45 of mouse, rat, human and dog origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] 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.

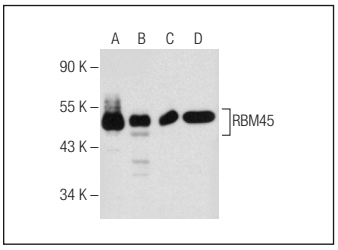
Molecular Weight of RBM45: 53 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Hep G2 cell lysate: sc-2227 or MCF7 whole cell lysate: sc-2206.

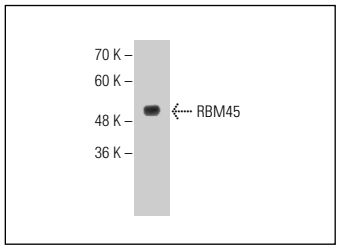
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



RBM45 (I-23): sc-102076. Western blot analysis of RBM45 expression in Jurkat (**A**), MCF7 (**B**) and U-87 MG (**C**) whole cell lysates and mouse testis tissue extract (**D**).



RBM45 (I-23): sc-102076. Western blot analysis of RBM45 expression in Hep G2 whole cell lysate.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.