

# RBM9 (E-10): sc-271406

## BACKGROUND

RBM9 (RNA binding motif protein 9), also known as RTA, fxb, FOX2, Fox-2, HNRBP2 or HRNP2, is a 390 amino acid protein that contains one RRM (RNA recognition motif) domain. RBM9 is thought to be a key regulator of alternative exon splicing in the nervous system and other cell types. RBM9 regulates the splicing activity of the highly conserved RNA 5'-UGCAUGU-3' element, an intron splicing enhancer that is often located adjacent to tissue-specific alternative exons. RBM9 prevents binding of U2AF65 (U2 snRNP auxiliary factor large subunit) to the 3' splice site of the RNA splicing element which affects alternative splicing of tissue-specific exons. RBM9 also interacts with the ER $\alpha$  (estrogen receptor  $\alpha$ ) transcription factor and regulates ER $\alpha$  transcriptional activity. Eight isoforms of RBM9 exists due to alternative splicing events.

## REFERENCES

- Underwood, J.G., et al. 2005. Homologues of the *Caenorhabditis elegans* Fox-1 protein are neuronal splicing regulators in mammals. *Mol. Cell. Biol.* 25: 10005-10016.
- Minovitsky, S., et al. 2005. The splicing regulatory element, UGCAUG, is phylogenetically and spatially conserved in introns that flank tissue-specific alternative exons. *Nucleic Acids Res.* 33: 714-724.
- Ponthier, J.L., et al. 2006. Fox-2 splicing factor binds to a conserved intron motif to promote inclusion of protein 4.1R alternative exon 16. *J. Biol. Chem.* 281: 12468-12474.
- Zhou, H.L., et al. 2007. Role for Fox-1/Fox-2 in mediating the neuronal pathway of calcitonin/calcitonin gene-related peptide alternative RNA processing. *Mol. Cell. Biol.* 27: 830-841.
- Yang, G., et al. 2008. Regulated Fox-2 isoform expression mediates protein 4.1R splicing during erythroid differentiation. *Blood* 111: 392-401.
- Zhang, C., et al. 2008. Defining the regulatory network of the tissue-specific splicing factors Fox-1 and Fox-2. *Genes Dev.* 22: 2550-2563.
- Zhou, H.L., et al. 2008. Repression of prespliceosome complex formation at two distinct steps by Fox-1/Fox-2 proteins. *Mol. Cell. Biol.* 28: 5507-5516.

## CHROMOSOMAL LOCATION

Genetic locus: RBM9 (human) mapping to 22q12.3; Rbm9 (mouse) mapping to 15 D3.

## SOURCE

RBM9 (E-10) is a mouse monoclonal antibody raised against amino acids 46-120 mapping near the N-terminus of RBM9 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

RBM9 (E-10) is recommended for detection of RBM9 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 RBM9 siRNA (h): sc-76371, RBM9 siRNA (m): sc-152756, RBM9 shRNA Plasmid (h): sc-76371-SH, RBM9 shRNA Plasmid (m): sc-152756-SH, RBM9 shRNA (h) Lentiviral Particles: sc-76371-V and RBM9 shRNA (m) Lentiviral Particles: sc-152756-V.

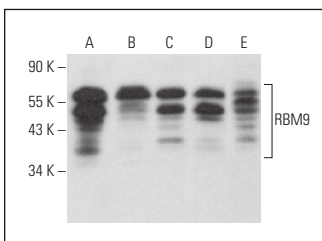
Molecular Weight of RBM9 isoforms 1-10: 38-47 kDa.

Positive Controls: 3T3-L1 cell lysate: sc-2243, Neuro-2A whole cell lysate: sc-364185 or SH-SY5Y cell lysate: sc-3812.

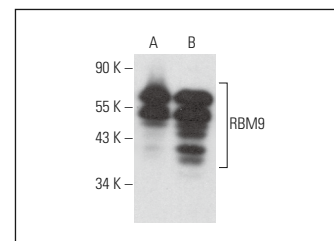
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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



RBM9 (E-10): sc-271406. Western blot analysis of RBM9 expression in Neuro-2A (A), MDA-MB-231 (B), SH-SY5Y (C) and HUVEC-C (D) whole cell lysates and rat brain tissue extract (E).



RBM9 (E-10): sc-271406. Western blot analysis of RBM9 expression in 3T3-L1 (A) and F9 (B) whole cell lysates.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.