

RBMY1 (E-19): sc-14578

BACKGROUND

The RBM (RNA-binding motif) gene family encodes proteins with an RNA binding motif. RBMY (RBM, Y chromosome) encodes a germ-cell specific nuclear protein involved in spermatogenesis. The RBM gene family, including RBMY1A, RBMY1B, RBMY1D, RBMY1E, RBMY1F, RBMY1H and RBMY1J, is comprised of at least 30 genes and pseudogenes, found on both arms of the Y chromosome. RBM X, an ancestral X chromosome homolog of the RBMY gene, encodes hnRNP G, which is widely expressed, whereas the RBMY gene evolved a male-specific function in spermatogenesis. Micro-deletions of the AZFb region of the Y chromosome, which contains a number of RBMY genes, usually result in severe consequences for spermatogenesis. RBM expression is localized to the nuclei of germ cells and RBM interacts with Tra2 β . Tra2 β is a ubiquitous activator of pre-mRNA splicing, but is most highly expressed in testis, suggesting a role for RBM in Tra2 β -dependent splicing in spermatocytes. The human RBMX gene maps to chromosome Xq26 and the RBMY gene family is found on all mammalian Y chromosomes.

REFERENCES

- Chai, N.N., Zhou, H., Hernandez, J., Najmabadi, H., Bhasin, S. and Yen, P.H. 1998. Structure and organization of the RBM Y genes on the human Y chromosome: transposition and amplification of an ancestral autosomal hnRNP G gene. *Genomics* 49: 283-289.
- Mazeyrat, S., Saut, N., Mattei, M.G. and Mitchell, M.J. 1999. RBM Y evolved on the Y chromosome from a ubiquitously transcribed X-Y identical gene. *Nat. Genet.* 22: 224-226.
- Elliott, D.J., Bourgeois, C.F., Klink, A., Stevenin, J. and Cooke, H.J. 2000. A mammalian germ cell-specific RNA-binding protein interacts with ubiquitously expressed proteins involved in splice site selection. *Proc. Natl. Acad. Sci. USA* 97: 5717-5722.
- Elliott, D.J. 2000. RBM Y genes and AZFb deletions. *J. Endocrinol. Invest.* 23: 652-668.
- Venables, J.P., Elliott, D.J., Makarova, O.V., Makarov, E.M., Cooke, H.J. and Eperon, I.C. 2000. RBM Y, a probable human spermatogenesis factor, and other hnRNP G proteins interact with Tra2 β and affect splicing. *Hum. Mol. Genet.* 9: 685-694.
- LocusLink Report (LocusID: 27316) <http://www.ncbi.nlm.nih.gov/LocusLink>

CHROMOSOMAL LOCATION

Genetic locus: Rbmy1a1 (mouse) mapping to Y E.

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.

PROTOCOLS

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

SOURCE

RBMY1 (E-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of RBMY1A1 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-14578 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RBMY1 (E-19) is recommended for detection of RBMY1A1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Molecular Weight of RBMY1A-F, J: 56 kDa.

Molecular Weight of RBMY1H: 41 kDa.

Positive Controls: F9 cell lysate: sc-2245.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.