SANTA CRUZ BIOTECHNOLOGY, INC.

MBNL1 (D-4): sc-515374

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

Pre-mRNA splicing is a critical step in the posttranscriptional regulation of gene expression. Several protein complexes are involved in proper mRNA splicing and transport. The muscleblind proteins, MBNL1, MBNL2 and MBNL3, promote inclusion or exclusion of specific exons on different pre-mRNAs by antagonizing the activity of CUG-BP and ETR-3-like factors bound to distinct intronic sites. MBNL1 is a deduced 370 amino acid protein which is predominantly expressed in skeletal muscle, prostate, lung, heart, small intestine, ovary and placenta tissues. MBNL1 and MBNL2, which associate with expanded CUG repeats *in vitro,* both localize to the nuclear foci in both DM1 and DM2 (myotonic dystrophy types 1 and 2), suggesting that the nuclear accumulation of mutant RNA is pathogenic in DM1, therefore implicating MBNL1 and 2 in the pathogenesis of both disorders.

REFERENCES

1. Ishikawa, K., et al. 1998. Prediction of the coding sequences of unidentified human genes. VIII. 78 new cDNA clones from brain which code for large proteins *in vitro.* DNA Res. 4: 307-313.
2. Miller, J.W., et al. 2000. Recruitment of human muscleblind proteins to $(CUG)_n$ expansions associated with myotonic dystrophy. EMBO J. 19: 4439-4448.

CHROMOSOMAL LOCATION

Genetic locus: MBNL1 (human) mapping to 3q25.1; Mbnl1 (mouse) mapping to 3 D.

SOURCE

MBNL1 (D-4) is a mouse monoclonal antibody raised against amino acids 11-100 mapping near the N-terminus of MBNL1 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.

APPLICATIONS

MBNL1 (D-4) is recommended for detection of MBNL1 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 MBNL1 siRNA (h): sc-60988, MBNL1 siRNA (m): sc-60989, MBNL1 shRNA Plasmid (h): sc-60988-SH, MBNL1 shRNA Plasmid (m): sc-60989-SH, MBNL1 shRNA (h) Lentiviral Particles: sc-60988-V and MBNL1 shRNA (m) Lentiviral Particles: sc-60989-V.

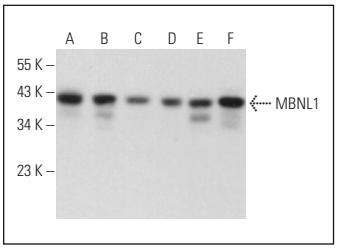
Molecular Weight of MBNL1: 42 kDa.

Positive Controls: SJRH30 cell lysate: sc-2287, SK-N-SH cell lysate: sc-2410 or MBNL1 (h): 293T Lysate: sc-115973.

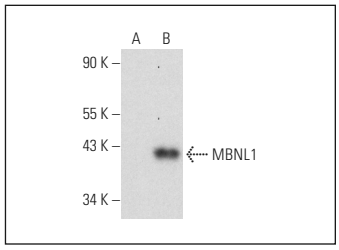
RECOMMENDED SUPPORT REAGENTS

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



MBNL1 (D-4): sc-515374. Western blot analysis of MBNL1 expression in SK-N-SH (**A**), SJRH30 (**B**), A-673 (**C**), Sol8 (**D**), C2C12 (**E**) and L6 (**F**) whole cell lysates.



MBNL1 (D-4): sc-515374. Western blot analysis of MBNL1 expression in non-transfected: sc-117752 (**A**) and human MBNL1 transfected: sc-115973 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Hinman, M.N., et al. 2021. Zebrafish mbnl mutants model physical and molecular phenotypes of myotonic dystrophy. Dis. Model. Mech. 14: dmm045773.

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 for detailed protocols and support products.

CONJUGATES

See **MBNL1 (3A4): sc-47740** for MBNL1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.