SANTA CRUZ BIOTECHNOLOGY, INC.

SRm160 (E-8): sc-398789

BACKGROUND

The SRm160/300 splicing coactivator, which consists of the serine/arginine (SR)-related nuclear matrix protein and a nuclear matrix antigen, functions in splicing by promoting critical interactions between splicing factors bound to pre-mRNA. This splicing pathway involves five core small nuclear ribonucleoprotein particles (snRNPs) and the SR family proteins, which coordinately bind to pre-mRNA slicing enhancer elements, are required for accurate splice site recognition, and regulate alterative splicing patterns. The recognized splicing enhancer elements, known also as exonic enhancer splicing sequences, are short RNA sequences that are capable of activating weak splice sites in adjacent introns and contain specific binding sites for the serine/arginine (SR)-rich splicing factors. SRm160 and 300 antigens contain domains rich in SR motifs, but are distinctly different from the SR factors, as they lack an RNA recognition motif and cannot directly induce RNA splicing. These proteins rather function as coactivators that stabilize the splicing complex and mediate the U1 snRNP-splicing pathway.

REFERENCES

1. Fu, X.D. 1993. Specific commitment of different pre-mRNAs to splicing by single SR proteins. Nature 365: 82-85.
2. Badolato, J., et al. 1995. Identification and characterization of a novel human RNA-binding protein. Gene 166: 323-327.
3. Blencowe, B.J., et al. 1998. A coactivator of pre-mRNA splicing. Genes Dev. 12: 996-1009.
4. Schaal, T.D. and Maniatis, T. 1999. Selection and characterization of pre-mRNA splicing enhancers: identification of novel SR protein-specific enhancer sequences. Mol. Cell. Biol. 19: 1705-1719.
5. Eldridge, A.G., et al. 1999. The SRm160/300 splicing coactivator is required for exon-enhancer function. Proc. Natl. Acad. Sci. USA 96: 6125-6130.
6. Blencowe, B.J., et al. 2000. The SRm160/300 splicing coactivator subunits. RNA 6: 111-120.
7. Blencowe, B.J. 2000. Exonic splicing enhancers: mechanism of action, diversity and role in human genetic diseases. Trends Biochem. Sci. 25: 106-110.

CHROMOSOMAL LOCATION

Genetic locus: SRRM1 (human) mapping to 1p36.11; Srrm1 (mouse) mapping to 4 D3.

SOURCE

SRm160 (E-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 654-676 near the C-terminus of SRm160 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-398789 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

SRm160 (E-8) is recommended for detection of SRm160 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 SRm160 siRNA (h): sc-38335, SRm160 siRNA (m): sc-38336, SRm160 shRNA Plasmid (h): sc-38335-SH, SRm160 shRNA Plasmid (m): sc-38336-SH, SRm160 shRNA (h) Lentiviral Particles: sc-38335-V and SRm160 shRNA (m) Lentiviral Particles: sc-38336-V.

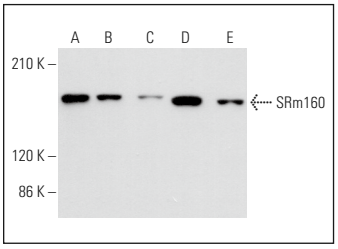
Molecular Weight of SRm160: 160 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MDA-MB-231 cell lysate: sc-2232 or C6 whole cell lysate: sc-364373.

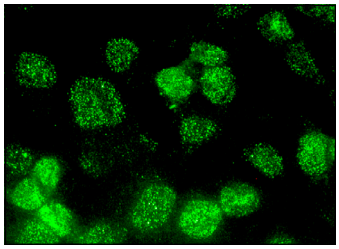
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



SRm160 (E-8): sc-398789. Western blot analysis of SRm160 expression in HeLa (**A**), MDA-MB-231 (**B**), JAR (**C**), NIH/3T3 (**D**) and C6 (**E**) whole cell lysates.



SRm160 (E-8): sc-398789. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear speckle localization.

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.