SANTA CRUZ BIOTECHNOLOGY, INC.

SRm160 (C-15): sc-10990

BACKGROUND

The SRm160/300 splicing coactivator, which consists of the serine/arginine (SR)-related nuclear matrix protein of 160 kDa and a 300 kDa 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). 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. The SRm160 and 300 kDa antigens contain domains rich in SR motifs, but are distinctly different than 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

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2. Badolato, J., Gardiner, E., Morrison, N. and Eisman, J. 1995. Identification and characterization of a novel human RNA-binding protein. Gene 166: 323-327.
3. Blencowe, B.J., Issner, R., Nickerson, J.A. and Sharp, P.A. 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., Li, Y., Sharp, P.A. and Blencowe, B.J. 1999. The SRm160/300 splicing coactivator is required for exon-enhancer function. Proc. Natl. Acad. Sci. USA 96: 6125-6130.
6. Blencowe, B.J., Bauren, G., Eldridge, A.G., Issner, R., Nickerson, J.A., Rosonina, E., and Sharp, P.A. 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 (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of SRm160 of human origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-10990 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SRm160 (C-15) is recommended for detection of SRm160 of mouse, rat and human 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).

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 or KNRK whole cell lysate: sc-2214.

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.

SELECT PRODUCT CITATIONS

1. Denis, M.M., Tolley, N.D., Bunting, M., Schwertz, H., Jiang, H., Lindemann, S., Yost, C.C., Rubner, F.J., Albertine, K.H., Swoboda, K.J., Fratto, C.M., Tolley, E., Kraiss, L.W., McIntyre, T.M., Zimmerman, G.A. and Weyrich, A.S. 2005. Escaping the nuclear confines: signal-dependent pre-mRNA splicing in anucleate platelets. Cell 122: 379-391.

RESEARCH USE

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