SANTA CRUZ BIOTECHNOLOGY, INC.

SRp75 (K-14): sc-51205

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

SRp75, also designated splicing factor, arginine/serine-rich 4 (SFRS4), is a splicing factor that can undergo phosphorylation. The difference in molecular weights may be related to posttranslation effects and serine phosphorylation. SRp75 is similar to other SR proteins, containing an N-terminal RNA recognition motif (RRM), a glycine-rich region, an internal region homologous to the RRM and a long 315 amino acid C-terminal serine/arginine-rich domain. SRp75, Pnn, SRm300 and SRrp130 components of spliceosome machinery can co-localize and co-immunoprecipitate with one another and exhibit speckled nuclear distribution that aligns with components of pre-mRNA splicing machinery. Alternative mRNA splicing plays an important role in development and differentiation; many transcripts are spliced differently in distinct cell types and tissues. Both constitutive and alternative splicing occurs on spliceosomes, which are complex particles composed of small nuclear ribonucleoproteins (snRNPs) and non-snRNP proteins. The SR family of non-snRNP splicing factors contain an RNA recognition motif and a serine- and arginine-rich (SR) domain. SR proteins are required at early stages of spliceosome assembly, have distinct but overlapping specificities for different pre-mRNAs and can alter splice site choice.

REFERENCES

1. Zahler, A.M., et al. 1993. Human SR proteins and isolation of a cDNA encoding SRp75. Mol. Cell. Biol. 13: 4023-4028.
2. ten Dam, G.B., et al. 1999. Alternative splicing of CD45 pre-mRNA is uniquely obedient to conditions in lymphoid cells. Biochim. Biophys. Acta 1446: 317-333.
3. Ko, B., et al. 2002. Identification of new poly(A) polymerase-inhibitory proteins capable of regulating pre-mRNA polyadenylation. J. Mol. Biol. 318: 1189-1206.
4. Zimowska, G., et al. 2003. Pinin/DRS/memA interacts with SRp75, SRm300 and SRrp130 in corneal epithelial cells. Invest. Ophthalmol. Vis. Sci. 44: 4715-4723.
5. Li, X., et al. 2005. New talents for an old acquaintance: the SR protein splicing factor ASF/SF2 functions in the maintenance of genome stability. Cell Cycle 4: 1706-1708.
6. Sanford, J.R., et al. 2005. Reversible phosphorylation differentially affects nuclear and cytoplasmic functions of splicing factor 2/alternative splicing factor. Proc. Natl. Acad. Sci. USA 102: 15042-15047.

CHROMOSOMAL LOCATION

Genetic locus: SFRS4 (human) mapping to 1p35.3; Sfrs4 (mouse) mapping to 4 D2.3.

SOURCE

SRp75 (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SRp75 of mouse 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-51205 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SRp75 (K-14) is recommended for detection of SRp75 of mouse and rat origin by Western Blotting (starting dilution 1:200, 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 SRp75 siRNA (m): sc-44368, SRp75 shRNA Plasmid (m): sc-44368-SH and SRp75 shRNA (m) Lentiviral Particles: sc-44368-V.

Molecular Weight of dephosphorylated SRp75: 57 kDa.

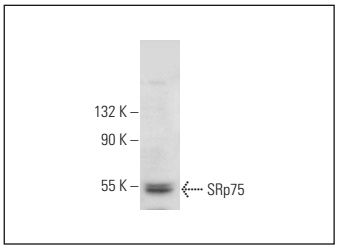
Molecular Weight of phosphorylated SRp75: 75 kDa.

Positive Controls: NIH/3T3 nuclear extract: sc-2138.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



SRp75 (K-14): sc-51205. Western blot analysis of SRp75 expression in NIH/3T3 nuclear extract.

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.