SANTA CRUZ BIOTECHNOLOGY, INC.

SF2/ASF (P-15): sc-10254

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Pre-mRNA splicing enhancer elements are short RNA sequences capable of activating weak splice sites in nearby introns that are required for accurate splice site recognition and the control of alternative splicing. Splicing enhancer elements contain specific binding sites for serine/arginine (SR)-rich splicing factors, which include SC35, 9G8, SRp20 and SF2/ASF. The family of SR factors all contain one or more RNA recognition motifs (RRM) and an arginine/serine (RS)-rich domain. They are not only essential for constitutive splicing but also regulate splicing in a concentration-dependent manner by influencing the selection of alternative splice sites. The majority of SR proteins, including SC35 and SRp40, are confined to the nucleus, while SF2/ASF, SRp20 and 9G8 are continuously shuttled between the nucleus and the cytoplasm and contribute to mRNA transport. The activity of SR proteins in regulated splicing is antagonized by members of the hnRNP A/B family of proteins, which induce drastic shifts in the selection of splicing sites. An additional SR-associated protein, p32, tightly associates with SR factors and preferentially inhibits ASF/SF2 functioning as both a splicing enhancer and splicing repressor protein by preventing the stable interaction of ASF/SF2 and RNA.

CHROMOSOMAL LOCATION

Genetic locus: SFRS1 (human) mapping to 17q22; Sfrs1 (mouse) mapping to 11 C.

SOURCE

SF2/ASF (P-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SF2/ASF of human origin.

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-10254 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SF2/ASF (P-15) is recommended for detection of SF2/ASF 1 of mouse, rat and human 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).

SF2/ASF (P-15) is also recommended for detection of SF2/ASF 1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for SF2/ASF siRNA (h): sc-38319, SF2/ASF siRNA (m): sc-38320, SF2/ASF shRNA Plasmid (h): sc-38319-SH, SF2/ASF shRNA Plasmid (m): sc-38320-SH, SF2/ASF shRNA (h) Lentiviral Particles: sc-38319-V and SF2/ASF shRNA (m) Lentiviral Particles: sc-38320-V.

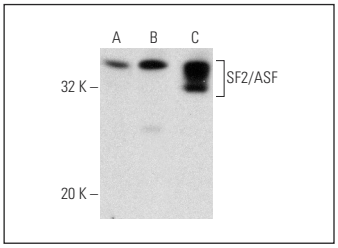
Molecular Weight of SF2/ASF: 32 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, K-562 nuclear extract: sc-2130 or Jurkat whole cell lysate: sc-2204.

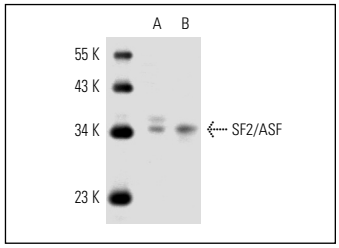
STORAGE

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

DATA



SF2/ASF (P-15): sc-10254. Western blot analysis of SF2/ASF expression in SH-SY5Y (**A**) and Jurkat (**B**) whole cell lysates and SH-SY5Y nuclear extract (**C**).



SF2/ASF (P-15): sc-10254. Western blot analysis of SF2/ASF expression in HeLa (**A**) and K-562 (**B**) nuclear extracts.

SELECT PRODUCT CITATIONS

1. Zerbe, L.K., et al. 2004. Relative amounts of antagonistic splicing factors, hnRNP A1 and ASF/SF2, change during neoplastic lung growth: implications for pre-mRNA processing. Mol. Carcinog. 41: 187-196.
2. Hatakeyama, S., et al. 2009. Identification of mRNA splicing factors as the endothelial receptor for carbohydrate-dependent lung colonization of cancer cells. Proc. Natl. Acad. Sci. USA 106: 3095-3100.
3. Fay, J., et al. 2009. Increased expression of cellular RNA-binding proteins in HPV-induced neoplasia and cervical cancer. J. Med. Virol. 81: 897-907.
4. Piotrowska, H., et al. 2009. Glucocorticoid receptor α and β variant expression is associated with ASF/SF2 splicing factor upregulation in HT-29 colon cancer and MCF-7 breast carcinoma cells. Arch. Med. Res. 40: 156-162.
5. Molina, H., et al. 2009. Temporal profiling of the adipocyte proteome during differentiation using a five-plex SILAC based strategy. J. Proteome Res. 8: 48-58.
6. Nowak, D.G., et al. 2010. Regulation of vascular endothelial growth factor (VEGF) splicing from pro-angiogenic to anti-angiogenic isoforms: a novel therapeutic strategy for angiogenesis. J. Biol. Chem. 285: 5532-5540.
7. Loyer, P., et al. 2011. The RNA binding motif protein 15B (RBM15B/OTT3) is a functional competitor of serine-arginine (SR) proteins and antagonizes the positive effect of the CDK11p110-cyclin L2α complex on splicing. J. Biol. Chem. 286: 147-159.

RESEARCH USE

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