

# splicing factor 1 (H-9): sc-398881

## BACKGROUND

Mammalian splicing factor 1 (designated SF1, zinc finger protein 162, ZFM1, CW17R and mammalian branch point binding protein [mBBP]) specifically recognizes the seven-nucleotide branch point sequence located at 3' splice sites and participates in the assembly of early spliceosomal complexes. Splicing factor 1 functions as a transcriptional repressor and may control both proliferation and expression of pro-inflammatory gene products in smooth muscle cells. In addition, cytokine-induced downregulation of splicing factor 1 expression may contribute to the pathogenesis of hyperproliferative inflammatory diseases. The structure of splicing factor 1 contains a nuclear transport domain, a metal binding motif, and glutamine- and proline-rich regions. Human splicing factor 1 also exists as several different isoforms, H1-isoform and Bo-isoform, produced by alternative splicing events. The human splicing factor 1 gene is located on chromosome 11 close to the gene encoding Menin, the gene responsible for multiple endocrine neoplasia-type 1 (MEN1).

## REFERENCES

1. Toda, T., et al. 1994. Isolation and characterization of a novel gene encoding nuclear protein at a locus (D11S636) tightly linked to multiple endocrine neoplasia type 1 (MEN1). *Hum. Mol. Genet.* 3: 465-470.
2. Kramer, A., et al. 1998. Diverse modes of alternative splicing of human splicing factor SF1 deduced from the exon-intron structure of the gene. *Gene* 211: 29-37.
3. Peled-Zehavi, H., et al. 2001. Recognition of RNA branch point sequences by the KH domain of splicing factor 1 (mammalian branch point binding protein) in a splicing factor complex. *Mol. Cell. Biol.* 21: 5232-5241.
4. Liu, Z., et al. 2001. Structural basis for recognition of the intron branch site RNA by splicing factor 1. *Science* 294: 1098-1102.
5. Cattaruzza, M., et al. 2002. Cytokine-induced down-regulation of zfm1/splicing factor-1 promotes smooth muscle cell proliferation. *J. Biol. Chem.* 277: 6582-6589.

## CHROMOSOMAL LOCATION

Genetic locus: SF1 (human) mapping to 11q13.1; Sf1 (mouse) mapping to 19 A.

## SOURCE

splicing factor 1 (H-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-23 at the N-terminus of splicing factor 1 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-398881 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## RESEARCH USE

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

## APPLICATIONS

splicing factor 1 (H-9) is recommended for detection of splicing factor 1 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 splicing factor 1 siRNA (h): sc-44115, splicing factor 1 siRNA (m): sc-60009, splicing factor 1 shRNA Plasmid (h): sc-44115-SH, splicing factor 1 shRNA Plasmid (m): sc-60009-SH, splicing factor 1 shRNA (h) Lentiviral Particles: sc-44115-V and splicing factor 1 shRNA (m) Lentiviral Particles: sc-60009-V.

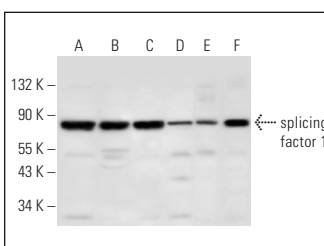
Molecular Weight of splicing factor 1: 70 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

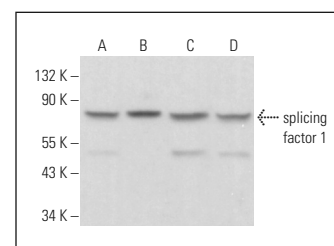
## RECOMMENDED SUPPORT REAGENTS

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



splicing factor 1 (H-9): sc-398881. Western blot analysis of splicing factor 1 expression in HeLa (A), U-251-MG (B), Hep G2 (C) and Jurkat (D) whole cell lysates and HeLa nuclear lysates and KNRK (E) and Sol8 (F) nuclear extracts.



splicing factor 1 (H-9): sc-398881. Western blot analysis of splicing factor 1 expression in HOS (A), H4 (B) and Neuro-2A (C) whole cell lysates and HeLa nuclear extract (D).

## SELECT PRODUCT CITATIONS

1. Hu, Z., et al. 2020. Deoxynivalenol globally affects the selection of 3' splice sites in human cells by suppressing the splicing factors, U2AF1 and SF1. *RNA Biol.* 17: 584-595.

## STORAGE

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