

# SPF30 (SQ-16): sc-100338

## BACKGROUND

SPF30 (survival of motor neuron-related-splicing factor 30) also known as SMNDC1 (survival motor neuron domain containing 1) or SMNR (SMN-related protein) is an essential splicing factor required for spliceosome assembly that belongs to the SMN family. It contains one Tudor domain with significant similarity to SMN (survival motor neuron) and is expressed in skeletal muscle, pancreas and heart, localizing to Cajal bodies and nuclear speckles. SPF30 plays an important role in spliceosome assembly and directly interacts with five U snRNPs. The loss of SPF30 causes spliceosome assembly to arrest at prespliceosomes (A complex). This supports a function for SPF30 in mediating the incorporation/recruitment of U4/U5/U6 tri-snRNP to the prespliceosome. In addition, the overexpression of SPF30 can lead to apoptosis.

## REFERENCES

1. Talbot, K., et al. 1998. Characterization of a gene encoding survival motor neuron (SMN)-related protein, a constituent of the spliceosome complex. *Hum. Mol. Genet.* 7: 2149-2156.
2. Neubauer, G., et al. 1998. Mass spectrometry and EST-database searching allows characterization of the multi-protein spliceosome complex. *Nat. Genet.* 20: 46-50.
3. Meister, G., et al. 2001. SMNrp is an essential pre-mRNA splicing factor required for the formation of the mature spliceosome. *EMBO J.* 20: 2304-2314.
4. Rappilber, J., et al. 2001. SPF30 is an essential human splicing factor required for assembly of the U4/U5/U6 tri-small nuclear ribonucleoprotein into the spliceosome. *J. Biol. Chem.* 276: 31142-31150.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603519. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Narayanan, U., et al. 2004. Coupled *in vitro* import of U snRNPs and SMN, the spinal muscular atrophy protein. *Mol. Cell* 16: 223-234.
7. Côté, J. and Richard, S. 2005. Tudor domains bind symmetrical dimethylated arginines. *J. Biol. Chem.* 280: 28476-28483.

## CHROMOSOMAL LOCATION

Genetic locus: SMNDC1 (human) mapping to 10q25.2; Smndc1 (mouse) mapping to 19 D2.

## SOURCE

SPF30 (SQ-16) is a mouse monoclonal antibody raised against recombinant SPF30 of human origin.

## PRODUCT

Each vial contains 50 µg IgG<sub>1</sub> kappa light chain in 0.5 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

SPF30 (SQ-16) is recommended for detection of SPF30 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), immunohistochemistry (including paraffin-embedded sections) (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 SPF30 siRNA (h): sc-63054, SPF30 siRNA (m): sc-63055, SPF30 shRNA Plasmid (h): sc-63054-SH, SPF30 shRNA Plasmid (m): sc-63055-SH, SPF30 shRNA (h) Lentiviral Particles: sc-63054-V and SPF30 shRNA (m) Lentiviral Particles: sc-63055-V.

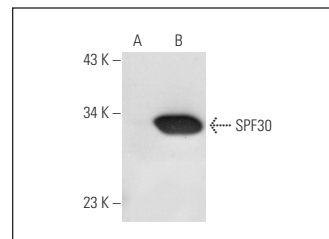
Molecular Weight of SPF30: 30 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, A-673 cell lysate: sc-2414 or SPF30 (h): 293 Lysate: sc-112339.

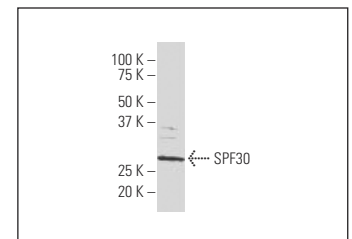
## RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



SPF30 (SQ-16): sc-100338. Western blot analysis of SPF30 expression in non-transfected: sc-110760 (A) and human SPF30 transfected: sc-112339 (B) 293 whole cell lysates.



SPF30 (SQ-16): sc-100338. Western blot analysis of SPF30 expression in Jurkat whole cell lysate.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.