

SPF30 (E-5): sc-398258



The Power to Question

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

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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. Rappalber, 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.
8. Ren, H.Y., et al. 2006. Radiation hybrid mapping of the pig SMNDC1, ARPP-19 and PRO2730 genes to SSC14, SSC1 and SSC13 respectively. *Cytogenet. Genome Res.* 112: 341E.

CHROMOSOMAL LOCATION

Genetic locus: SMNDC1 (human) mapping to 10q25.2; SmnDC1 (mouse) mapping to 19 D2.

SOURCE

SPF30 (E-5) is a mouse monoclonal antibody raised against amino acids 1-152 mapping at the N-terminus of SPF30 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SPF30 (E-5) is recommended for detection of SPF30 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).

SPF30 (E-5) is also recommended for detection of SPF30 in additional species, including canine.

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.

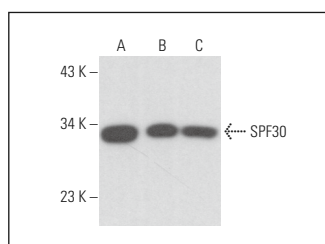
Positive Controls: SJRH30 cell lysate: sc-2287, A-431 whole cell lysate: sc-2201 or A-673 cell lysate: sc-2414.

RECOMMENDED SUPPORT REAGENTS

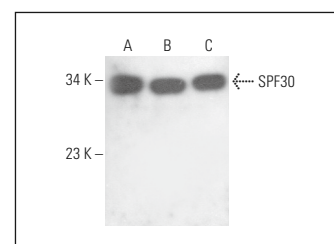
To ensure optimal results, the following support reagents are recommended:

- 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.

DATA



SPF30 (E-5): sc-398258. Western blot analysis of SPF30 expression in SJRH30 (A), A-431 (B) and A-673 (C) whole cell lysates.



SPF30 (E-5): sc-398258. Western blot analysis of SPF30 expression in RAW 264.7 (A), 3T3-L1 (B) and PC-12 (C) whole cell lysates.

STORAGE

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

RESEARCH USE

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