SANTA CRUZ BIOTECHNOLOGY, INC.

SR140 (E-3): sc-398718

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 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. SR140, also known as U2-associated SR140 protein or 140 kDa Ser/Arg-rich domain protein, is a 1,029 amino acid member of the splicing factor SR family and consists of a CID domain, a RRM (RNA recognition motif) domain and a SURP motif repeat. SR140 is expressed as three alternatively spliced isoforms and is encoded by a gene located on human chromosome 3q23.

REFERENCES

1. Fu, X.D. 1993. Specific commitment of different pre-mRNAs to splicing by single SR proteins. Nature 365: 82-85.
2. Mayeda, A., et al. 1994. Function of conserved domains of hnRNP A1 and other hnRNP A/B proteins. EMBO J. 13: 5483-5495.
3. Jumaa, H., et al. 1997. The splicing factor SRp20 modifies splicing of its own mRNA and ASF/SF2 antagonizes this regulation. EMBO J. 16: 5077-5085.

CHROMOSOMAL LOCATION

Genetic locus: U2SURP (human) mapping to 3q23; U2surp (mouse) mapping to 9 E3.3.

SOURCE

SR140 (E-3) is a mouse monoclonal antibody raised against amino acids 421-720 mapping within an internal region of SR140 of human origin.

PRODUCT

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

SR140 (E-3) is available conjugated to agarose (sc-398718 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398718 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398718 PE), fluorescein (sc-398718 FITC), Alexa Fluor® 488 (sc-398718 AF488), Alexa Fluor® 546 (sc-398718 AF546), Alexa Fluor® 594 (sc-398718 AF594) or Alexa Fluor® 647 (sc-398718 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398718 AF680) or Alexa Fluor® 790 (sc-398718 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

SR140 (E-3) is recommended for detection of SR140 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 SR140 siRNA (h): sc-78314, SR140 siRNA (m): sc-108797, SR140 shRNA Plasmid (h): sc-78314-SH, SR140 shRNA Plasmid (m): sc-108797-SH, SR140 shRNA (h) Lentiviral Particles: sc-78314-V and SR140 shRNA (m) Lentiviral Particles: sc-108797-V.

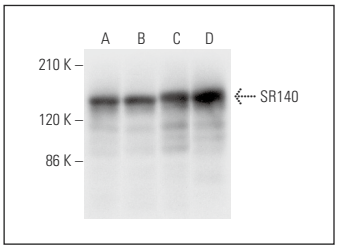
Molecular Weight of SR140: 140 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or RT-4 whole cell lysate: sc-364257.

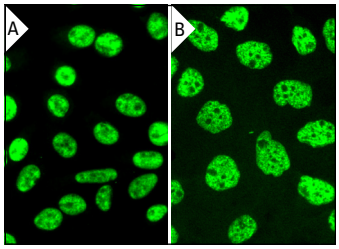
RECOMMENDED SUPPORT REAGENTS

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



SR140 (E-3): sc-398718. Western blot analysis of SR140 expression in RT-4 (**A**), U-251-MG (**B**), HeLa (**C**) and Jurkat (**D**) whole cell lysates.



SR140 (E-3): sc-398718. Immunofluorescence staining of formalin-fixed SW480 (**A**) and A-431 (**B**) cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Jin, L., et al. 2020. STRAP regulates alternative splicing fidelity during lineage commitment of mouse embryonic stem cells. Nat. Commun. 11: 5941.
2. An, J., et al. 2021. Identification of spliceosome components pivotal to breast cancer survival. RNA Biol. 18: 833-842.
3. Desroches, A., et al. 2021. Characterization of caspase-7 interaction with RNA. Biochem. J. 478: 2681-2696.

RESEARCH USE

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