

SRP19 (G-1): sc-393775



The Power to Question

BACKGROUND

Signal recognition particle (SRP) is a ribonucleoprotein composed of an Alu domain and an S domain that contains six proteins. The S domain contains unique sequence SRP RNA and four SRP proteins: SRP19, SRP54, SRP68 and SRP72. The Alu domain contains two SRP proteins, SRP9 and SRP14. SRP interacts with ribosomes to bring translating membrane and secreted proteins to the endoplasmic reticulum (ER) for proper processing. SRP9 and SRP14 form a heterodimer before binding to SRP RNA, and SRP19 functions in the assembly of SRP and binds to free SRP RNA. This event is a prerequisite for the subsequent binding of SRP54 to helix 8 of SRP RNA in eukaryotes and involves an SRP19-induced conformational change in the RNA. SRP54 interacts with both the nascent signal peptide and SRP RNA. SRP68 binding to SRP RNA enhances SRP72 binding. SRP19, SRP68 and SRP72 are localized in the nucleolus and cytoplasm, whereas SRP54 is only localized in the cytoplasm. SRP68 also accumulates in the ER. Thus, the nucleolus is the site of assembly and/or interaction between the family of ribonucleoproteins involved in protein synthesis.

REFERENCES

1. Walter, P. and Blobel, G. 1983. Subcellular distribution of signal recognition particle and 7SL-RNA determined with polypeptide-specific antibodies and complementary DNA probe. *J. Cell Biol.* 97: 1693-1699.
2. Lingelbach, K., et al. 1988. Isolation and characterization of a cDNA clone encoding the 19 kDa protein of signal recognition particle (SRP): expression and binding to 7SL RNA. *Nucleic Acids Res.* 16: 9431-9442.
3. Zwieb, C. 1997. The uRNA database. *Nucleic Acids Res.* 25: 102-103.

CHROMOSOMAL LOCATION

Genetic locus: SRP19 (human) mapping to 5q22.2; Srp19 (mouse) mapping to 18 B1.

SOURCE

SRP19 (G-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 18-49 within an internal region of SRP19 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SRP19 (G-1) is available conjugated to agarose (sc-393775 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393775 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393775 PE), fluorescein (sc-393775 FITC), Alexa Fluor® 488 (sc-393775 AF488), Alexa Fluor® 546 (sc-393775 AF546), Alexa Fluor® 594 (sc-393775 AF594) or Alexa Fluor® 647 (sc-393775 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393775 AF680) or Alexa Fluor® 790 (sc-393775 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393775 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

SRP19 (G-1) is recommended for detection of SRP19 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).

SRP19 (G-1) is also recommended for detection of SRP19 in additional species, including equine and porcine.

Suitable for use as control antibody for SRP19 siRNA (h): sc-44117, SRP19 siRNA (m): sc-153821, SRP19 shRNA Plasmid (h): sc-44117-SH, SRP19 shRNA Plasmid (m): sc-153821-SH, SRP19 shRNA (h) Lentiviral Particles: sc-44117-V and SRP19 shRNA (m) Lentiviral Particles: sc-153821-V.

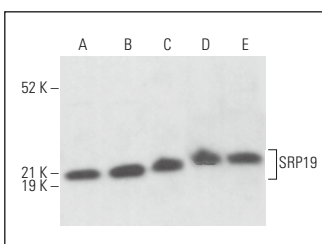
Molecular Weight of SRP19: 19 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, F9 cell lysate: sc-2245 or Jurkat whole cell lysate: sc-2204.

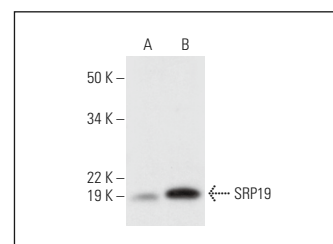
RECOMMENDED SUPPORT REAGENTS

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



SRP19 (G-1): sc-393775. Western blot analysis of SRP19 expression in Jurkat (A), SUP-T1 (B), U-251-MG (C), F9 (D) and Neuro-2A (E) whole cell lysates.



SRP19 (G-1): sc-393775. Western blot analysis of SRP19 expression in HeLa (A) and Jurkat (B) 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.

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