SANTA CRUZ BIOTECHNOLOGY, INC.

SRP14 (B-3): sc-377012

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Short interspersed elements (SINEs) are ubiquitous repetitive DNAs that occur in the mammalian genome. The progenitor of the most common human SINE, the Alu repeat, may be 7SL RNA, which is a component of the signal recognition particle, SRP. SRP is a ribonucleoprotein complex that mediates the targeting of proteins to the endoplasmic reticulum. The "Alu domain" of SRP comprises the heterodimer of the SRP9 and SRP14 proteins, which are bound to the 5' and 3' terminal sequences of SRP RNA. SRP9/14 binding may be crucial to the transcription, maturation, nucleolus localization and transport of SRP RNA.

REFERENCES

1. Chang, D.Y., Nelson, B., Bilyeu, T., Hsu, K., Darlington, G.J. and Maraia, R.J. 1994. A human Alu RNA-binding protein whose expression is associated with accumulation of small cytoplasmic Alu RNA. Mol. Cell. Biol. 14: 3949-3959.
2. Hsu, K., Chang, D.Y. and Maraia, R.J. 1995. Human signal recognition particle (SRP) Alu-associated protein also binds Alu interspersed repeat sequence RNAs: characterization of human SRP9. J. Biol. Chem. 270: 10179-10186.
3. Larsen, N., Samuelsson, T. and Swieb, C. 1998. The signal recognition particle database (SRPDB). Nucleic Acids Res. 26: 177-178.
4. Weichenrieder, O., Wild, K., Strub, K. and Cusack, S. 2000. Structure and assembly of the Alu domain of the mammalian signal recognition particle. Nature 408: 167-173.
5. LocusLink Report (LocusID: 6726). http://www.ncbi.nlm.nih.gov/LocusLink.

CHROMOSOMAL LOCATION

Genetic locus: SRP14 (human) mapping to 15q15.1; Srp14 (mouse) mapping to 2 E5.

SOURCE

SRP14 (B-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 35-73 within an internal region of SRP14 of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 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-377012 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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.

APPLICATIONS

SRP14 (B-3) is recommended for detection of SRP14 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 SRP14 siRNA (h): sc-41361, SRP14 siRNA (m): sc-41362, SRP14 shRNA Plasmid (h): sc-41361-SH, SRP14 shRNA Plasmid (m): sc-41362-SH, SRP14 shRNA (h) Lentiviral Particles: sc-41361-V and SRP14 shRNA (m) Lentiviral Particles: sc-41362-V.

Molecular Weight (predicted) of SRP14: 14 kDa.

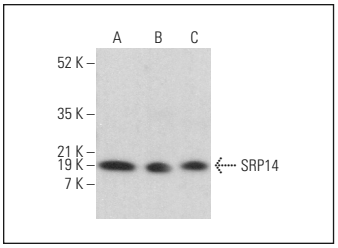
Molecular Weight (observed) of SRP14: 16 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or HEL 92.1.7 cell lysate: sc-2270.

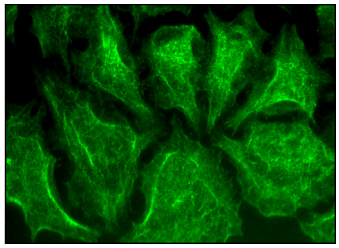
RECOMMENDED SUPPORT REAGENTS

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



SRP14 (B-3): sc-377012. Western blot analysis of SRP14 expression in K-562 (**A**), HEL 92.1.7 (**B**) and HeLa (**C**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



SRP14 (B-3): sc-377012. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Khoury, G., Lee, M.Y., Ramarathinam, S.H., McMahon, J., Purcell, A.W., Sonza, S., Lewin, S.R. and Purcell, D.F.J. 2021. The RNA-binding proteins SRP14 and HMGB3 control HIV-1 Tat mRNA processing and translation during HIV-1 latency. Front. Genet. 12: 680725.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.