SANTA CRUZ BIOTECHNOLOGY, INC.

SRP72 (C-16): sc-21529

SANTA CRUZ BIOTECHNOLOGY

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.
4. Gowda, K., et al. 1998. Protein SRP54 of human signal recognition particle: cloning, expression, and comparative analysis of functional sites. Gene 207: 197-207.
5. Pederson, T. and Politz, J.C. 2000. The nucleolus and the four ribonucleoproteins of translation. J. Cell Biol.148: 1091-1095.

CHROMOSOMAL LOCATION

Genetic locus: SRP72 (human) mapping to 4q12; Srp72 (mouse) mapping to 5 C3.3.

SOURCE

SRP72 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of SRP72 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-21529 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

SRP72 (C-16) is recommended for detection of SRP72 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).

SRP72 (C-16) is also recommended for detection of SRP72 in additional species, including equine, canine, bovine and porcine.

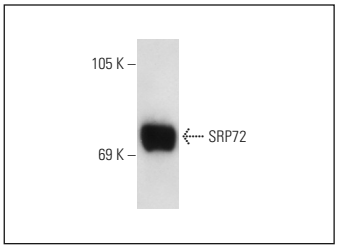
Suitable for use as control antibody for SRP72 siRNA (h): sc-106563, SRP72 siRNA (m): sc-153827, SRP72 shRNA Plasmid (h): sc-106563-SH, SRP72 shRNA Plasmid (m): sc-153827-SH, SRP72 shRNA (h) Lentiviral Particles: sc-106563-V and SRP72 shRNA (m) Lentiviral Particles: sc-153827-V.

Positive Controls: K-562 whole cell lysate: sc-2203.

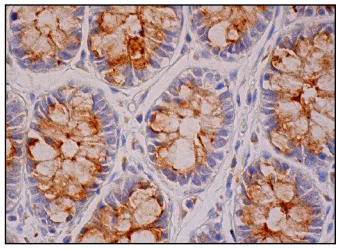
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



SRP72 (C-16): sc-21529. Western blot analysis of SRP72 expression in K-562 whole cell lysate.



SRP72 (C-16): sc-21529. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic and membrane staining of glandular cells.

RESEARCH USE

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

PROTOCOLS

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