

# SRP68 (C-16): sc-21526

## 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 a unique sequence of 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 translated 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., et al. 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. Politz, J.C., et al. 2000. Signal recognition particle components in the nucleolus. *Proc. Natl. Acad. Sci. USA* 97: 55-60.
6. Pederson, T., et al. 2000. The nucleolus and the four ribonucleoproteins of translation. *J. Cell Biol.* 148: 1091-1095.
7. Wild, K., et al. 2001. Crystal structure of an early protein-RNA assembly complex of the signal recognition particle. *Science* 294: 598-601.
8. Iakhiaeva, E., et al. 2006. Protein SRP68 of human signal recognition particle: identification of the RNA and SRP72 binding domains. *Protein Sci.* 15: 1290-1302.

## CHROMOSOMAL LOCATION

Genetic locus: SRP68 (human) mapping to 17q25.1; Srp68 (mouse) mapping to 11 E2.

## SOURCE

SRP68 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of SRP68 of human origin.

## RESEARCH USE

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

## 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-21526 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SRP68 (C-16) is recommended for detection of SRP68 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

SRP68 (C-16) is also recommended for detection of SRP68 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SRP68 siRNA (h): sc-94109, SRP68 siRNA (m): sc-153826, SRP68 shRNA Plasmid (h): sc-94109-SH, SRP68 shRNA Plasmid (m): sc-153826-SH, SRP68 shRNA (h) Lentiviral Particles: sc-94109-V and SRP68 shRNA (m) Lentiviral Particles: sc-153826-V.

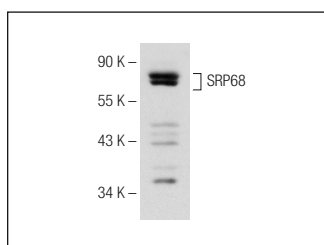
Molecular Weight of SRP68: 68 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

## 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) 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.

## DATA



SRP68 (C-16)-R: sc-21526-R. Western blot analysis of SRP68 expression in HeLa whole cell lysate.

## STORAGE

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