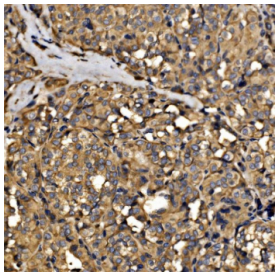
SRP72 Antibody / Signal recognition particle 72 kDa protein (FY13399)

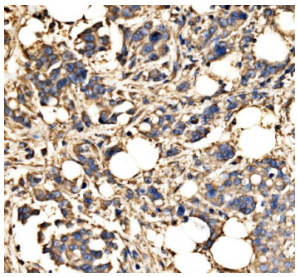
Catalog No.	Formulation	Size
FY13399	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

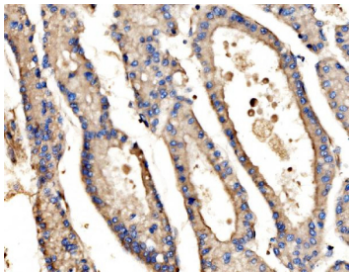
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	O76094
Localization	Cytoplasm, ER
Applications	Western Blot: 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence: 5 ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunoprecipitation: 2ug per 500ug of lysate Flow cytometry: 1-3ug/million cells
Limitations	This SRP72 antibody is available for research use only.



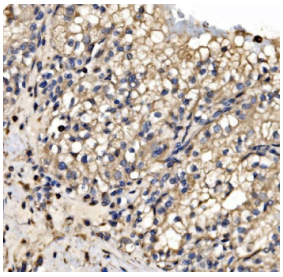
Immunohistochemical staining of FFPE human thyroid cancer tissue with SRP72 antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



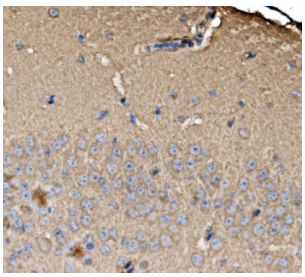
Immunohistochemical staining of FFPE human breast cancer tissue with SRP72 antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



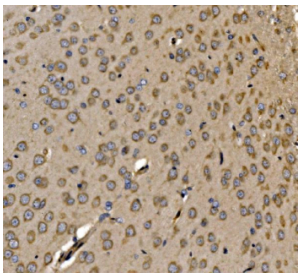
Immunohistochemical staining of FFPE human liver cancer tissue with SRP72 antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



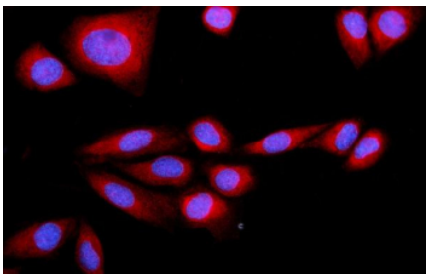
Immunohistochemical staining of FFPE human renal cancer tissue with SRP72 antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



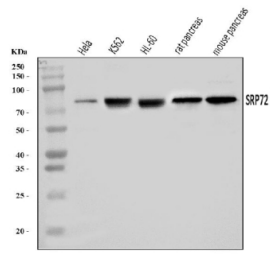
Immunohistochemical staining of FFPE mouse brain tissue with SRP72 antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



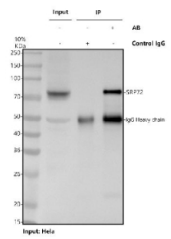
Immunohistochemical staining of FFPE rat brain tissue with SRP72 antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



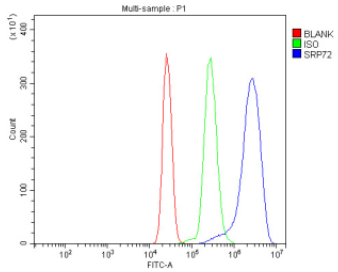
Immunofluorescent staining of FFPE human U-2 OS cells with SRP72 antibody (red) and DAPI nuclear stain (blue). HIER: steam section in pH6 citrate buffer for 20 min.



Western blot testing of 1) human HeLa, 2) human K562, 3) human HL60, 4) rat pancreas and 5) mouse pancreas tissue lysate with SRP72 antibody. Predicted molecular weight ~75 kDa, commonly observed at 72-75 kDa.



Immunoprecipitation of SRP72 protein from 500ug of human HeLa whole cell lysate with 2ug of SRP72 antibody.



Flow cytometry analysis of fixed and permeabilized human U937 cells with SRP72 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= SRP72 antibody.

Description

SRP72 antibody recognizes Signal recognition particle 72 kDa protein, a core component of the signal recognition particle (SRP) complex responsible for co-translational targeting of secretory and membrane proteins. Encoded by the SRP72 gene on chromosome 4q12, this protein forms part of the SRP heterodimer with SRP68 and contributes to binding ribosome-nascent chain complexes. SRP72 plays a central role in directing nascent polypeptides to the endoplasmic reticulum (ER) membrane, ensuring proper insertion, folding, and trafficking of secreted and transmembrane proteins. It is expressed in most tissues, with high levels found in cells with active secretory or membrane protein synthesis. SRP72 localizes primarily to the cytoplasm where it co-localizes with ribosomes, SRP RNA, and translational components.

Signal recognition particle 72 kDa protein participates in a conserved pathway involving recognition of N-terminal signal peptides emerging from the ribosome. SRP72 stabilizes the SRP complex and contributes to structural rearrangements required for pausing translation and initiating ER targeting. Binding of SRP to the signal peptide-ribosome complex enables recruitment of the SRP receptor at the ER membrane, followed by transfer of the nascent chain to the Sec61 translocon. Through these steps, SRP72 supports accurate protein sorting, prevents mislocalization of secretory proteins, and maintains overall proteostasis within the secretory pathway.

Dysfunction in SRP pathway components, including SRP72, can lead to defects in protein trafficking and ER stress. Mutations in SRP72 have been associated with a rare form of familial aplasia and myelodysplasia, where impaired SRP function disrupts hematopoietic stem cell viability and differentiation. Experimental studies suggest that SRP72 mutations alter ribosome-binding or structural integrity of the SRP complex, contributing to defective protein targeting. Altered SRP72 expression has also been linked to cancer biology, with evidence implicating the SRP machinery in supporting rapid protein synthesis and secretory demands of tumor cells. Additionally, SRP72 participates in stress-related translational responses, where modulation of SRP activity influences ER homeostasis and adaptive signaling pathways.

At the subcellular level, SRP72 localizes to the cytoplasm and associates with ribosome-rich regions, ER membranes, and protein synthesis hubs. It co-localizes with SRP68, SRP54, and 7SL RNA, forming a functional SRP complex

essential for co-translational targeting. Structural studies show that SRP72 contributes to the architecture required for ribosome interaction and SRP receptor engagement. Isoform variation resulting from alternative splicing may influence nucleo-cytoplasmic transport, RNA binding affinity, or interactions with other SRP components. Developmentally, SRP72 expression increases as secretory pathways mature and supports expanding protein synthesis demands in differentiating tissues.

This SRP72 antibody is suitable for detecting Signal recognition particle 72 kDa protein in research focused on protein trafficking, ER targeting, translation regulation, hematopoietic disorders, and secretory pathway biology. It supports studies examining SRP complex function, co-translational sorting, and proteostasis under stress or disease conditions. NSJ Bioreagents provides this antibody as part of its protein synthesis and cell biology collection.

Application Notes

Optimal dilution of the SRP72 antibody should be determined by the researcher.

Immunogen

E.coli-derived human SRP72 recombinant protein (amino acids I40-Y460) was used as the immunogen for the SRP72 antibody.

Storage

After reconstitution, the SRP72 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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