Technical Data Sheet

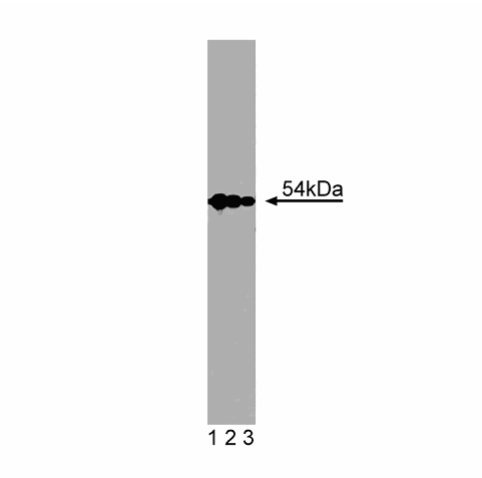
Purified Mouse Anti-SRP54

Product Information

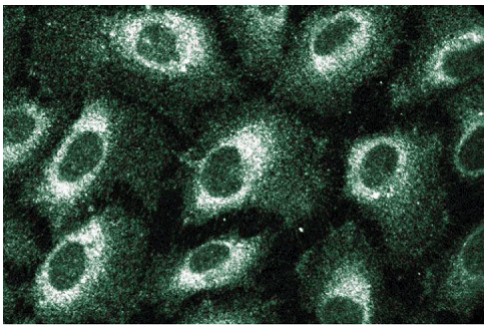
Material Number:	**610941**
Size:	150 µg
Concentration:	250 µg/ml
Clone:	30/SRP54
Immunogen:	Human SRP54 aa. 262-476
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human Tested in Development: Dog, Rat, Mouse, Frog
Target MW:	54 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Ribosomes that exist freely in the cytosol or those attached to the ER are intrinsically the same in their translational properties. ER-bound ribosomes are responsible for the production of secretory proteins and integral ER, Golgi, lysosomal, and plasma membrane spanning proteins. Such proteins contain signal sequences that direct their synthesis to the ER membrane. As the nascent polypeptide emerges from the ribosome, a **s**ignal **r**ecognition **p**article (SRP) binds to the signal sequence and serves to couple the ribosome to the protein-translocating machinery in the ER membrane. Although the SRP is a 325 kDa ribonucleoprotein, its 54 kDa subunit (SRP54) mediates interaction with, and targeting of, the nascent protein to the ER. Via its C-terminal M-domain, SRP54 associates with the nascent protein and inhibits its elongation. This complex binds to the SRP receptor on the ER, the ribosome is delivered to the translocation machinery, SRP is released, and elongation resumes. Targeting and insertion are tightly coupled to a GTPase cycle that involves SRP54 and SRP receptor. Although the mechanisms are unclear, release of SRP from the ER-bound complex requires GTP hydrolysis.



Western blot analysis of SRP54 on Jurkat cell lysate. *Lane 1: 1:1000, lane 2: 1:2000, lane 3: 1:4000 dilution of anti-SRP54.*



Immunofluorescent staining of Human Endothelial *cells with anti-SRP54.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20°C.

BD Biosciences

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Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml .

Suggested Companion Products

Catalog Number	Name	Size	Clone
611451	Jurkat Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Rapiejko PJ, Gilmore R. Empty site forms of the SRP54 and SR alpha GTPases mediate targeting of ribosome-nascent chain complexes to the endoplasmic reticulum. *Cell.* 1997; 89(5):703-713.(Biology)

Traianedes K, Findlay DM, Martin TJ, Gillespie MT. Modulation of the signal recognition particle 54-kDa subunit (SRP54) in rat preosteoblasts by the extracellular matrix. *J Biol Chem.* 1995; 270(36):20891-20894.(Biology)