Technical Data Sheet

Purified Mouse Anti-SRP54

**Product Information**

- **Material Number:** 610940
- **Size:** 50 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 signal recognition particle (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.

**Preparation and Storage**

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

Application

<table>
<thead>
<tr>
<th>Application</th>
<th>Tested During Development</th>
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<tbody>
<tr>
<td>Western blot</td>
<td>Routinely Tested</td>
</tr>
<tr>
<td>Immunofluorescence</td>
<td></td>
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</tbody>
</table>

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

Suggested Companion Products

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
</tr>
</thead>
<tbody>
<tr>
<td>611451</td>
<td>Jurkat Cell Lysate</td>
<td>500 µg</td>
<td>(none)</td>
</tr>
<tr>
<td>554002</td>
<td>HRP Goat Anti-Mouse Ig</td>
<td>1.0 ml</td>
<td>(none)</td>
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<tr>
<td>554001</td>
<td>FITC Goat Anti-Mouse Ig</td>
<td>0.5 mg</td>
<td>Polyclonal</td>
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Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
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)