

Anti-Alpha Hsp70B (plant) Catalog# SPC-315D

Size: 100µL

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This product is for *in vitro* research use only and is not intended for use in humans or animals

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Product	Rabbit anti-Hsp70B, stomal alfa-Hsp70 antibody; polyclonal
Clone	N/A
Immunogen	Mature Hsp70B protein expressed with N- and C-terminal hexahistidine tags in E.coli, purified with Ni-NTA
Host and Subclass	Rabbit
Cited Applications	WB, IP
Specificity	Detects ~70kDa
Species cross-reactivity	Chlamydomonas reinhardtii. Other species not yet tested.
Format	Lyophilized rabbit serum. (For reconstitution add 100uL of sterile water).
Working dilution	Recommended dilution for WB 1:10,000 with ECL
Storage and stability	-20°C; 1 year+; shipped on cold packs or ambient

Scientific Background

Hsp70B (heat shock protein 70B) is a nuclear-encoded, chloroplast-targeted chaperone of the Hsp70 family. It is the major Hsp70 in the stroma of *Chlamydomonas* chloroplasts. It interacts with Hsp90C, CGE1, CDJ2 and VIPP1 (1-3). It has been shown that using *Chlamydomonas reinhardtii* as plant model organism the alga encodes a

HEP homolog (termed HEP2) that is localized to the stroma (4). HEP2 is expressed constitutively as a low abundance protein with an apparent molecular mass of ~21 kDa. In cell extracts HEP2 interacts with HSP70B in an ATP-dependent fashion. Coexpression of HSP70B with HEP2 in *E. coli* yields high levels of CGE1-binding competent HSP70B, which also displayed ATPase activity (4). Inactive HSP70B was more prone to proteolysis than active HSP70B. Although inactive HSP70B interacts with HEP2, it is not activated. Active HSP70B remains active for 48 h in the absence of HEP2, suggesting that HEP2 was not involved in maintaining HSP70B in an active state. However, it was found that some HSP70B expressed as a fusion protein with an N-terminal extension was activated when HEP2 was present during cleavage of the fusion protein, suggesting that *in vivo* HEP2 might be required for renewed folding of HSP70B after transit peptide cleavage (4).

Selected References

1. Schroda M., Vallon O., Wollman F.A. and Beck C.F. (1999) *Plant Cell*. 11: 1165-1178.
2. Schroda M et al. (2001) *Plant Cell*. 13: 2823-2839.
3. Liu C., et al. (2005) *Mol Biol Cell*. 16: 1165-1177.
4. Willund, F. et al. (2008) *J. Biol. Chem.*, Vol. 283, Issue 24, 16363-16373

Material Safety Data Sheet

Anti-HSP70B (Polyclonal Antibody) SPC-315

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The below information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. StressMarq shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalogue for additional terms and conditions of sale.

Hazardous Ingredients

The physical, chemical and toxicological properties of these components have not been fully investigated. It is recommended that all laboratory personnel follow standard laboratory safety procedures when handling this product. Safety procedures should include wearing OSHA approved safety glasses, gloves and protective clothing. Direct physical contact with this product should be avoided.

<u>Known Hazardous Components</u>	<u>CAS Number</u>	<u>Percent</u>
None		

Physical Data

This product consists of rabbit serum shipped on gel packs. The physical properties of this product have not been investigated thoroughly.

Fire and Explosion Hazard and Reactivity Data

NOT APPLICABLE

Toxicological Properties

May be harmful by inhalation, ingestion, or skin absorption. The toxicological properties of this product have not been investigated thoroughly. Exercise due caution.

Preventative Measures

Wear chemical safety goggles and compatible chemical-resistant gloves. Avoid inhalation, contact with eyes, skin or clothing.

Spill and Leak Procedures

Observe all federal, state and local environmental regulations.

- Wear protective equipment.
- Absorb on sand or vermiculite and place in closed containers for disposal.
- Dispose or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

First Aid Measures

- If swallowed, wash out mouth with water, provided person is conscious. Call a physician.
- In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. If a rash or other irritation develops, call a physician.
- If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.
- In case of eye contact, flush with copious amounts of water for at least 15 minutes while separating the eyelids with fingers. Call a physician.

Authorized: StressMarq Biosciences Inc.

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