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HSP70/HSC70 (Plant) Antibody
HSP70/HSC70 (Plant) Antibody, Clone 5G1-95
Catalog # ASM10031

Specification

HSP70/HSC70 (Plant) Antibody - Product Information

Application	**WB, E**
Host	**Mouse**
Isotype	**IgG1**
Clonality	**Monoclonal**

Description
Mouse Anti-Plant HSP70/HSC70 Monoclonal IgG1

Target/Specificity
Detects ~70kDa. Recognizes constitutive and inducible plants HSP70 (HSC70/HSP72). Does not cross-react with Human, Rat, bacteria (DNAK) or Human Bip.

Other Names
HSC54 Antibody, HSC70 Antibody, HSC71 Antibody, HSP70 1 Antibody, HSP701/HSP70 2 Antibody, HSP70.1 Antibody, HSP71 Antibody, HSP72 Antibody, HSP73 Antibody, HSPA1 Antibody, HSPA10 Antibody, HSPA1A Antibody, HSPA1B Antibody, LAP1 Antibody, NIP71 Antibody

Immunogen
Purified HSP70 from Phaseolus aureus (mung bean)

Purification
Protein G Purified

Storage	**-20ºC**

Storage Buffer
PBS pH7.4, 50% glycerol, 0.09% sodium azide

Shipping Temperature	**Blue Ice or 4ºC**

Certificate of Analysis
1 µg/ml of SMC-120 was sufficient for detection of HSP70/HSC70 in 20 µg of Phaseolus aureus (mung bean) lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.

Cellular Localization
Cytoplasm

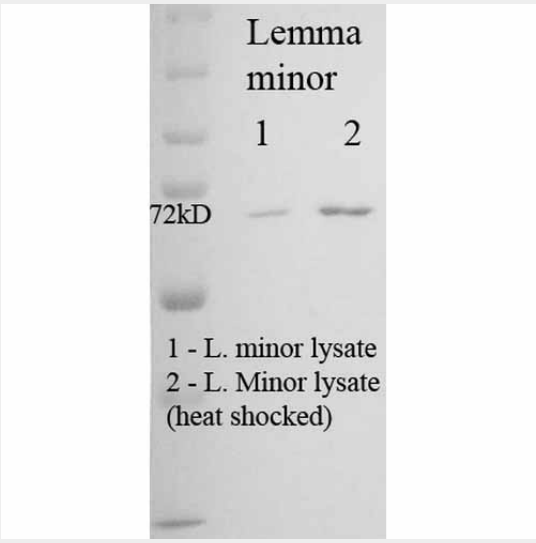
HSP70/HSC70 (Plant) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry

- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

HSP70/HSC70 (Plant) Antibody - Images



Western Blot analysis of Duckweed (Lemma minor) Heat Shocked cell lysates showing detection of Hsp70 protein using Mouse Anti-Hsp70 Monoclonal Antibody, Clone 5G1-95 (ASM10031). Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody (ASM10031) at 1:1000.

HSP70/HSC70 (Plant) Antibody - Background

HSP70 genes encode abundant heat-inducible 70-kDa HSPs (HSP70s). In most eukaryotes HSP70 genes exist as part of a multigene family. They are found in most cellular compartments of eukaryotes including nuclei, mitochondria, chloroplasts, the endoplasmic reticulum and the cytosol, as well as in bacteria. The genes show a high degree of conservation, having at least 50% identity (1). The N-terminal two thirds of HSP70s are more conserved than the C-terminal third. HSP70 binds ATP with high affinity and possesses a weak ATPase activity which can be stimulated by binding to unfolded proteins and synthetic peptides (2). When HSC70 (constitutively expressed) present in mammalian cells was truncated, ATP binding activity was found to reside in an N-terminal fragment of 44 kDa which lacked peptide binding capacity. Polypeptide binding ability therefore resided within the C-terminal half (3). The structure of this ATP binding domain displays multiple features of nucleotide binding proteins (4). All HSP70s, regardless of location, bind proteins, particularly unfolded ones. The molecular chaperones of the HSP70 family recognize and bind to nascent polypeptide chains as well as partially folded intermediates of proteins preventing their aggregation and misfolding. The binding of ATP triggers a critical conformational change leading to the release of the bound substrate protein (5). The universal ability of HSP70s to undergo cycles of binding to and release from hydrophobic stretches of partially unfolded proteins determines their role in a great variety of vital intracellular functions such as protein synthesis, protein folding and oligomerization and protein transport. For more information visit our HSP70 Scientific Resource Guide at http://www.HSP70.com.

HSP70/HSC70 (Plant) Antibody - References

1. Boorstein W. R., Ziegelhoffer T. & Craig E. A. (1993) J. Mol. Evol.38 (1): 1-17.
2. Rothman J. (1989) Cell 59: 591-601.
3. DeLuca-Flaherty et al. (1990), Cell 62: 875-887.

4. Bork P., Sander C. & Valencia A. (1992) Proc. Nut1 Acad. Sci. USA 89: 7290-7294.
5. Fink A.L. (1999) Physiol. Rev. 79: 425-449.