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HSP70 (P. falciparum) Antibody
Catalog # ASM10449

Specification

HSP70 (P. falciparum) Antibody - Product Information

Application	**WB, ICC**
Primary Accession	P11144
Other Accession	M19753
Host	**Rabbit**
Reactivity	**P. falciparum**
Clonality	**Polyclonal**

Description
Rabbit Anti-P. falciparum HSP70 (P. falciparum) Polyclonal

Target/Specificity
Detects ~ 70kDa. Specific to P. falciparum and does not cross-react to any protein from Human erythrocytes.

Other Names
HSP70_PLAFA Antibody, Cytoplasmic antigen 74.3 kDa protein Antibody

Immunogen
His-tagged and purified PfHSP70, C-terminus (AA 365-681)

Purification
Protein A Purified

Storage	**-20ºC**

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

Shipping Temperature	**Blue Ice or 4ºC**

Certificate of Analysis
0.15 µg/ml of SPC-186 was sufficient for detection of PfHSP70 in 20 µg of P. falciparum lysate by colorimetric immunoblot analysis using Goat anti-rabbit IgG:HRP as the secondary antibody.

Cellular Localization
Cytoplasm

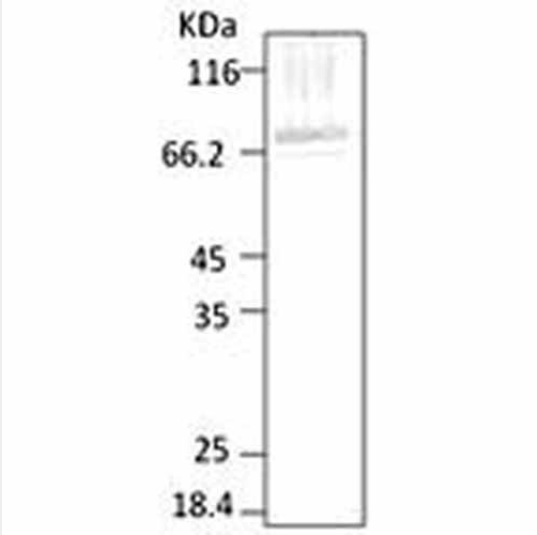
HSP70 (P. falciparum) Antibody - Protocols

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 (P. falciparum) Antibody - Images



Western blot analysis of Parasite Lysates showing detection of HSP70 protein using Rabbit Anti-HSP70 Polyclonal Antibody (ASM10449). Primary Antibody: Rabbit Anti-HSP70 Polyclonal Antibody (ASM10449) at 1:2000.

HSP70 (P. falciparum) 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 5O% 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. PfHSP70-I (PF08_0054) is the major cytosolic HSP70 in Plasmodium falciparum. It is abundantly expressed in the blood stages of the parasite and is thought to constitute 1-2% of total parasite protein. It is induced upon heat shock. It is present in the parasite in different complexes with PfHSP90 and some PfHSP40 (6, 7). Looking for more information on HSP70? Visit our new HSP70 Scientific Resource Guide at http://www.HSP70.com.

HSP70 (P. falciparum) 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. Natl Acad. Sci. USA. 89: 7290-7294.
5. Fink A.L. (1999) Physiol. Rev. 79: 425-449.
6. Pesce E.R., et al. (2008) Int J Biochem Cell Biol. 40(12): 2914-26.
7. Pavithra S.R, Banumathy G., Joy O., Singh V., Tatu U. (2004) J Biol Chem. 279(45): 46692-9.