

HSP70 Antibody
Catalog # ASM10434

Specification

HSP70 Antibody - Product Information

Application	WB
Primary Accession	P08107
Other Accession	NP_005336.3
Host	Chicken
Isotype	IgY
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal

Description

Chicken Anti-Human HSP70 Polyclonal

Target/Specificity

Detects ~70kDa.

Other Names

HSP70 1 Antibody, HSP70 2 Antibody, HSP70.1 Antibody, HSP72 Antibody, HSPA1 Antibody, HSPA1A Antibody, HSPA1B Antibody

Immunogen

Full length Human HSP70

Purification

PEG Purified

Storage **-20°C**

Storage Buffer

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

Shipping Temperature **Blue Ice or 4°C**

Certificate of Analysis

1 µg/ml of SMC-178 was sufficient for detection of HSP70 in 20 µg of heat shocked HeLa cell lysate by colorimetric immunoblot analysis using Goat anti-chicken IgG:HRP as the secondary antibody.

Cellular Localization

Cytoplasm

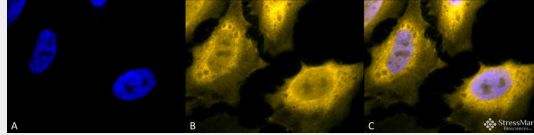
HSP70 Antibody - Protocols

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

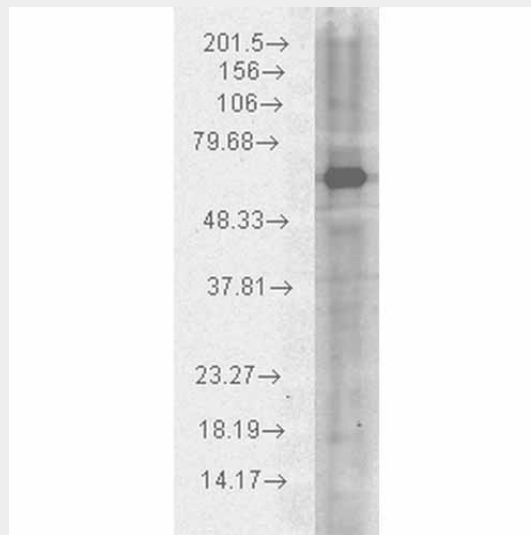
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)

- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

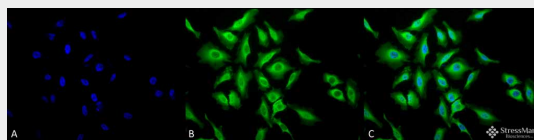
HSP70 Antibody - Images



Immunocytochemistry/Immunofluorescence analysis using Chicken Anti-Hsp70 Polyclonal Antibody (ASM10434). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Chicken Anti-Hsp70 Polyclonal Antibody (ASM10434) at 1:120 for 12 hours at 4°C. Secondary Antibody: R-PE Goat Anti-Chicken (yellow) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Cytoplasm. Perinuclear region of cytoplasm. Magnification: 100x. (A) DAPI (blue) nuclear stain. (B) Anti-Hsp70 Antibody. (C) Composite. Heat Shocked at 42°C for 1h.



Western blot analysis of Human HeLa cell lysates showing detection of HSP70 protein using Chicken Anti-HSP70 Polyclonal Antibody (ASM10434). Load: 15 µg protein. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Chicken Anti-HSP70 Polyclonal Antibody (ASM10434) at 1:1000 for 2 hours at RT. Secondary Antibody: Donkey Anti-Rabbit IgG: HRP for 1 hour at RT.



Immunocytochemistry/Immunofluorescence analysis using Chicken Anti-Hsp70 Polyclonal Antibody (ASM10434). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Chicken Anti-Hsp70 Polyclonal Antibody (ASM10434) at 1:120 for 12 hours at 4°C. Secondary Antibody: FITC Goat Anti-Chicken (green) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Cytoplasm. Perinuclear region of cytoplasm. Magnification: 20x. (A) DAPI (blue) nuclear stain. (B) Anti-Hsp70 Antibody. (C) Composite. Heat Shocked at 42°C for 1h.

HSP70 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. Looking for more information on HSP70? Visit our new HSP70 Scientific Resource Guide at <http://www.HSP70.com>.

HSP70 Antibody - References

1. Balashova N. et al. (2005) *J Biol Chem* 280: 2186-96.
2. Boorstein W. R., Ziegelhoffer T. & Craig E. A. (1993) *J. Mol. Evol.*38 (1): 1-17.
3. Rothman J. (1989) *Cell* 59: 591 -601.
4. DeLuca-Flaherty et al. (1990) *Cell* 62: 875-887.
5. Bork P., Sander C. & Valencia A. (1992) *Proc. Natl Acad. Sci. USA* 89: 7290-7294.
6. Fink A.L. (1999) *Physiol. Rev.* 79: 425-449.