

HSP70 Antibody

Catalog # ASM10434

Specification

HSP70 Antibody - Product Information

Application ICC/IF, 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 Blue Ice or 4°C
Temperature

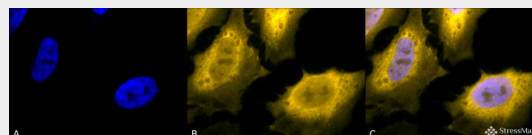
Certificate of Analysis

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.

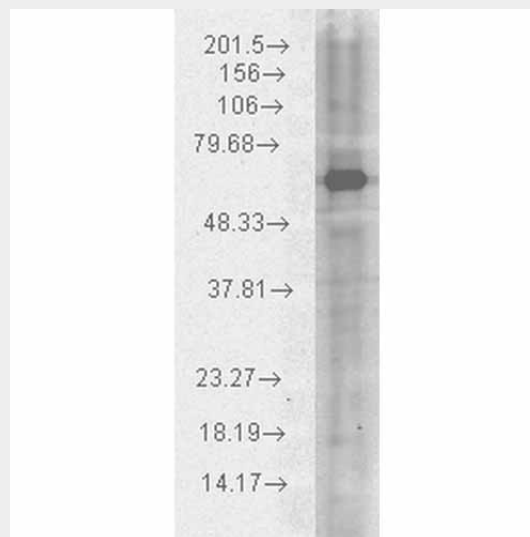
Cellular Localization

Cytoplasm

HSP70 Antibody - Protocols



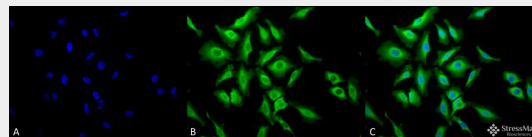
Immunocytochemistry/Immunofluorescence
 analysis using Chicken Anti-Hsp70 Polyclonal
 Antibody (ASM10434). Tissue: Heat Shocked
 HeLa Cells. Species: Human. Fixation: 2%
 Formaldehyde for 20 min at RT. Primary
 Antibody: Chicken Anti-Hsp70 Polyclonal
 Antibody (ASM10434) at 1:120 for 12 hours
 at 4°C. 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.

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](#)



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.