10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

# HSP70 Antibody
**Catalog # ASM10356**

## Specification

### HSP70 Antibody - Product Information

| | |
|---|---|
| Application | **IHC, WB** |
| Primary Accession | P08107 |
| Other Accession | NP_005336.3 |
| Host | **Rabbit** |
| Reactivity | **Plants, Beluga, Shark, Carp, Human, Mouse, Rat, Hamster, Monkey, Pig, Bovine, Dog, Fish, Sheep, Guinea Pig** |
| Clonality | **Polyclonal** |

**Description**
Rabbit Anti-Human HSP70 Polyclonal

**Target/Specificity**
Detects a ~70kDa. May cross-react with HSC70 at lower dilutions.

**Other Names**
HSP70 1 Antibody, HSP70 2 Antibody, HSP70.1 Antibody, HSP72 Antibody, HSP73 Antibody, HSPA1 Antibody, HSPA1A Antibody, HSPA1B Antibody

**Immunogen**
Full length protein HSP70

**Purification**
Peptide Affinity Purified

| | |
|---|---|
| Storage | **-20ºC** |

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

| | |
|---|---|
| Shipping Temperature | **Blue Ice or 4ºC** |

**Certificate of Analysis**
A 1:1000 dilution of SPC-103 was sufficient for detection of HSP70 in 20 µg of HeLa cell lysate by ECL immunoblot analysis.

**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

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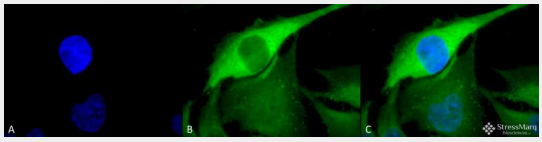
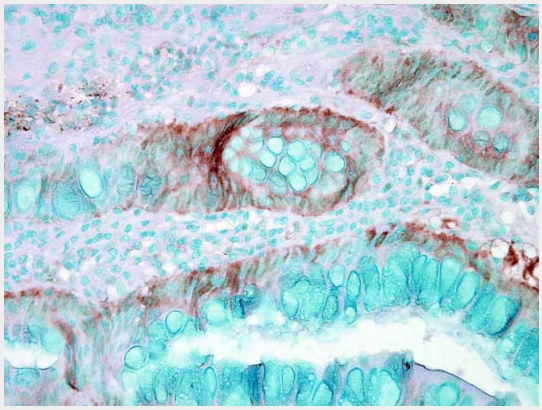
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

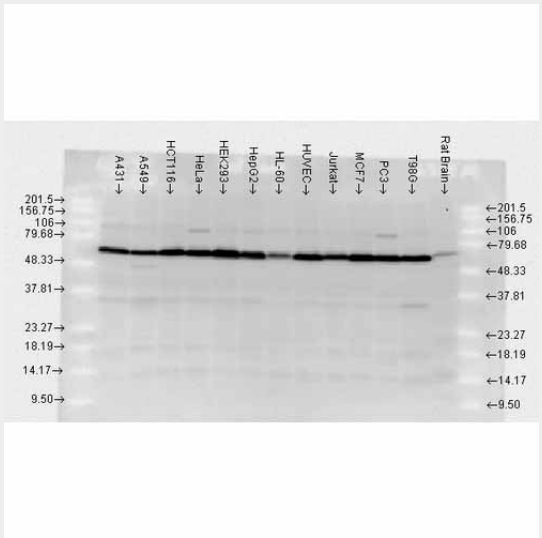
**HSP70 Antibody - Images**



Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-Hsp70 Polyclonal Antibody (ASM10356). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-Hsp70 Polyclonal Antibody (ASM10356) at 1:100 for 12 hours at 4°C. Secondary Antibody: FITC Goat Anti-Rabbit (green) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Cytoplasm. Magnification: 100x. (A) DAPI (blue) nuclear stain. (B) Anti-Hsp70 Antibody. (C) Composite. Heat Shocked at 42°C for 1h.



Immunohistochemistry analysis using Rabbit Anti-HSP70 Polyclonal Antibody (ASM10356). Tissue: colon carcinoma. Species: Human. Fixation: Formalin. Primary Antibody: Rabbit Anti-HSP70 Polyclonal Antibody (ASM10356) at 1:50000 for 12 hours at 4°C. Secondary Antibody: Biotin Goat Anti-Rabbit at 1:2000 for 1 hour at RT. Counterstain: Methyl Green at 200uL for 2 min at RT.




Western blot analysis of Human, Rat brain cell lysates showing detection of HSP70 protein using

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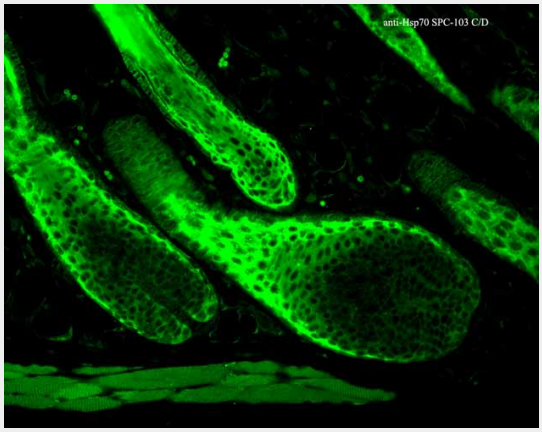
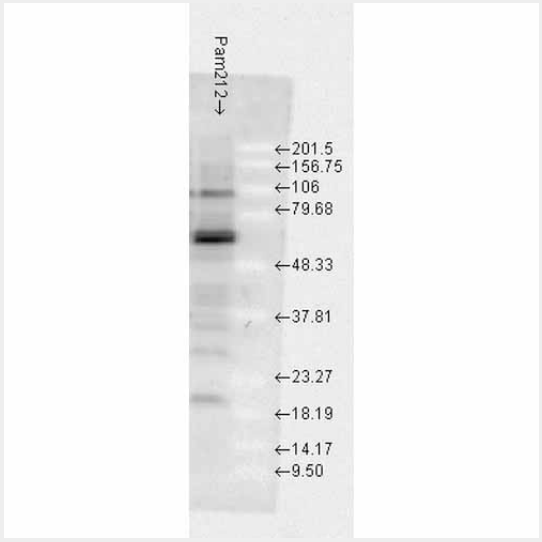
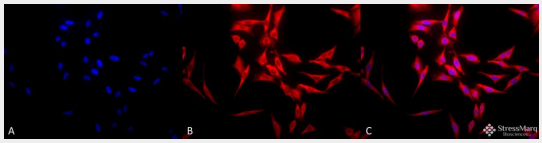
Rabbit Anti-HSP70 Polyclonal Antibody (ASM10356). Load: 2 µg. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Rabbit Anti-HSP70 Polyclonal Antibody (ASM10356) at 1:10000 for 2 hours at RT. Secondary Antibody: Donkey Anti-Rabbit IgG: HRP for 1 hour at RT.




Immunohistochemistry analysis using Rabbit Anti-HSP70 Polyclonal Antibody (ASM10356). Tissue: backskin. Species: Mouse. Fixation: Bouin's Fixative Solution. Primary Antibody: Rabbit Anti-HSP70 Polyclonal Antibody (ASM10356) at 1:100 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Rabbit (green) at 1:50 for 1 hour at RT. Localization: Cytoplasm.




Western blot analysis of Mouse Pam212 cells showing detection of HSP70 protein using Rabbit Anti-HSP70 Polyclonal Antibody (ASM10356). Load: 15 µg protein. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Rabbit Anti-HSP70 Polyclonal Antibody (ASM10356) at 1:1000 for 2 hours at RT. Secondary Antibody: Donkey Anti-Rabbit IgG: HRP for 1 hour at RT.




Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-Hsp70 Polyclonal Antibody (ASM10356). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-Hsp70 Polyclonal Antibody (ASM10356) at 1:100 for 12 hours at 4°C. Secondary Antibody: APC Goat Anti-Rabbit (red) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Cytoplasm. Magnification: 20x. (A) DAPI (blue) nuclear stain. (B) Anti-Hsp70 Antibody. (C) Composite. Heat Shocked at 42°C for 1h.

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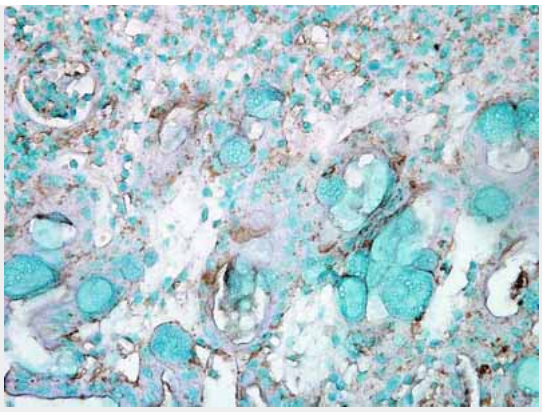

Immunohistochemistry analysis using Rabbit Anti-HSP70 Polyclonal Antibody (ASM10356). Tissue: Inflamed colon. Species: Mouse. Fixation: Formalin. Primary Antibody: Rabbit Anti-HSP70 Polyclonal Antibody (ASM10356) at 1:1000 for 12 hours at 4°C. Secondary Antibody: Biotin Goat Anti-Rabbit at 1:2000 for 1 hour at RT. Counterstain: Methyl Green at 200uL for 2 min at RT.

## 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, 2). 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 (3). 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 (4). The structure of this ATPbinding domain displays multiple features of nucleotide binding proteins (5).
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 (6). 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

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5. Bork P., Sander C. & Valencia A. (1992) Proc. Nut1 Acad. Sci. USA 89: 7290-7294.
6. Fink A.L. (1999) Physiol. Rev. 79: 425-449.
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10.Trentin G.A. et al. (2001) J Biol Chem. 276: 13087-13095.