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Produktinformation

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- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
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See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Anti-HSP70 Antibody

Rabbit Anti-Human HSP70 Polyclonal
Catalog No. SPC-103

StressMarq Biosciences INC.
Discovery through partnership | Excellence through quality

Overview

Product Name

HSP70 Antibody

Description

Rabbit Anti-Human HSP70 Polyclonal

Species Reactivity

Dog, Human, Monkey, Mouse, Rat, Atlantic Hagfish (Myxine glutinosa), Beluga (Delphinapterus leucas), Bovine, Carp (Cypriniformes), Coral (Anthozoa), Fish, Guinea Pig (Cavia porcellus), Hamster, Leishmania amazonensis, Pig, Plant, Shark, Sheep, Spiny Dogfish Shark (Squalus acanthias), Tobacco, Tomato

Applications

WB, IHC, ICC/IF, IP, ELISA

Antibody Dilution

WB (1:1000), IHC (1:100), ICC/IF (1:100), IP (1:100); optimal dilutions for assays should be determined by the user.

Host Species

Rabbit

Immunogen Species

Human

Immunogen

Full length protein HSP70

Concentration

1 mg/ml

Conjugates

Alkaline Phosphatase, APC, ATTO 390, ATTO 488, ATTO 565, ATTO 594, ATTO 633, ATTO 655, ATTO 680, ATTO 700, Biotin, FITC, HRP, PE/ATTO 594, PerCP, RPE, Streptavidin, Unconjugated

Properties

Storage Buffer

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

Storage Temperature

-20ºC

Shipping Temperature

Blue Ice or 4ºC

Purification

Peptide Affinity Purified

Clonality

Polyclonal

Specificity

Detects a ~70kDa. May cross-react with HSC70 at lower dilutions.

Cite This Product

Rabbit Anti-Human HSP70 Polyclonal (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPC-103)

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.

Biological Description

Alternative Names

HSP70 1 Antibody, HSP70 2 Antibody, HSP70.1 Antibody, HSP72 Antibody, HSP73 Antibody, HSPA1 Antibody, HSPA1A Antibody, HSPA1B Antibody

Research Areas

Cancer, Heat Shock

Cellular Localization

Cytoplasm

Accession Number

NP_005336.3

Gene ID

3303

Swiss Prot

P08107

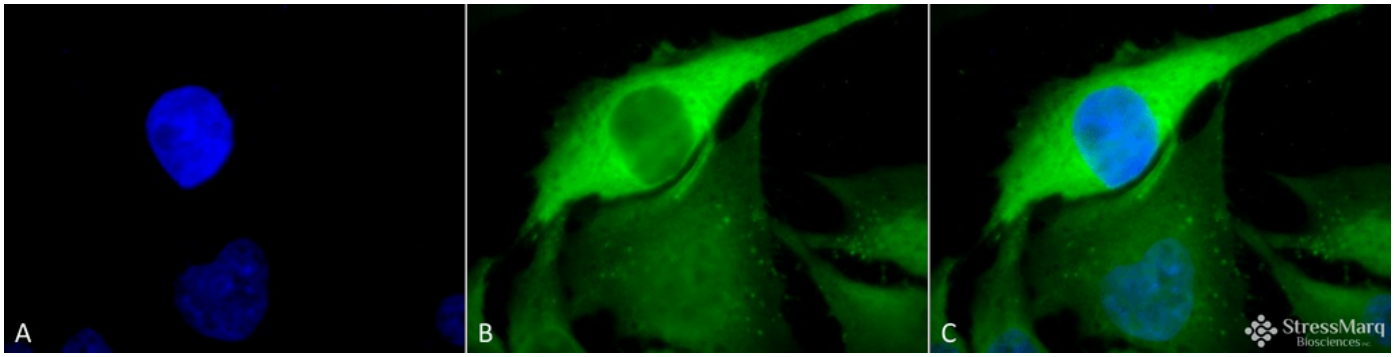
Scientific Background

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.

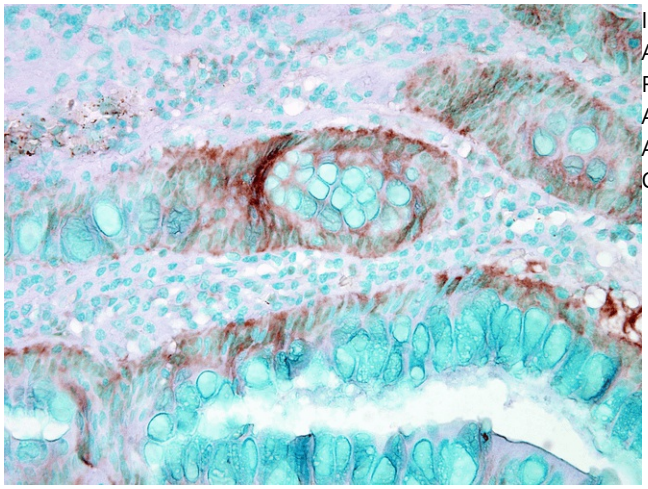
References

1. Welch W.J. and Suhan J.P. (1986) J.Cell Biol. 103: 2035-2050.
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. Nut1 Acad. Sci. USA 89: 7290-7294.
6. Fink A.L. (1999) Physiol. Rev. 79: 425-449.
7. Hung T.H., et al. (2001) Am J Pathol. 159: 1031-1043.
8. Locke M. (2000) Cell Stress & Chaperones 5: 45-51.
9. Ianaro A., et al. (2001) FEBS Lett. 508: 61-66.
10.Trentin G.A. et al. (2001) J Biol Chem. 276: 13087-13095.

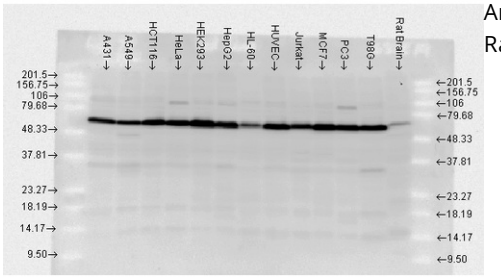
Product Images



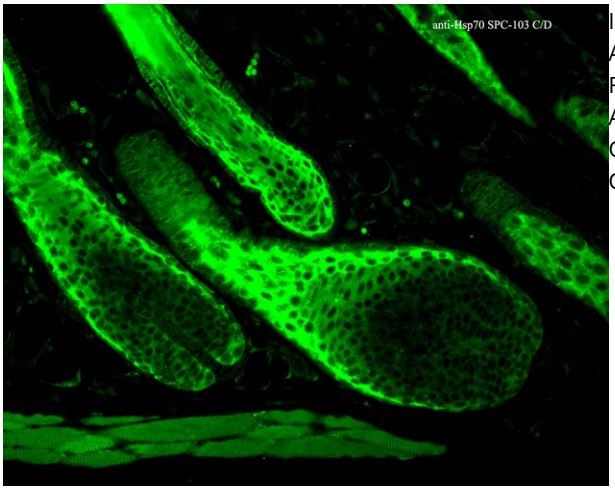
Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-Hsp70 Polyclonal Antibody (SPC-103). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-Hsp70 Polyclonal Antibody (SPC-103) at 1:100 for 12 hours at 4°C. Secondary 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.



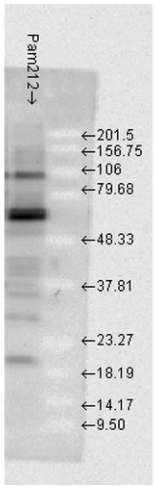
Immunohistochemistry analysis using Rabbit Anti-HSP70 Polyclonal Antibody (SPC-103). Tissue: colon carcinoma. Species: Human. Fixation: Formalin. Primary Antibody: Rabbit Anti-HSP70 Polyclonal Antibody (SPC-103) at 1:50000 for 12 hours at 4°C. Secondary Antibody: Biotin Goat Anti-Rabbit at 1:2000 for 1 hour at RT. Counterstain: Methyl Green at 200uL for 2 min at RT.



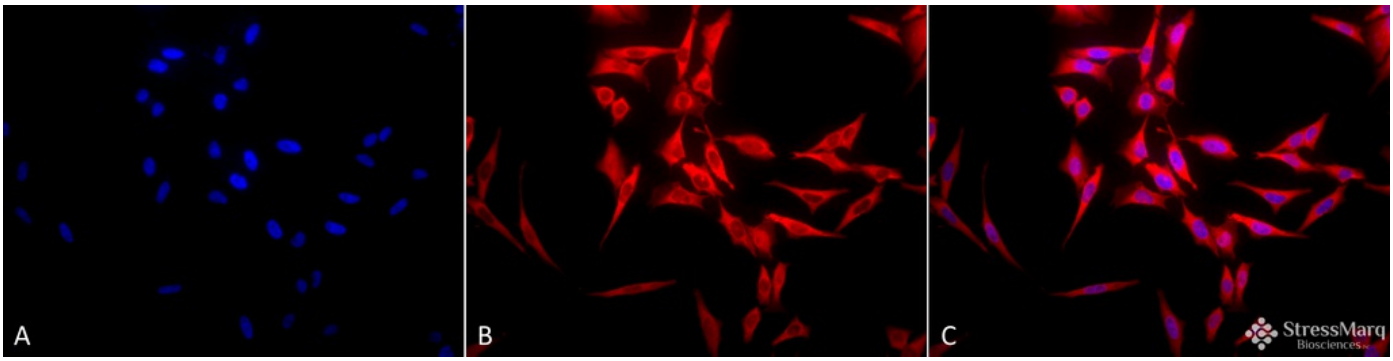
Western blot analysis of Human, Rat brain cell lysates showing detection of HSP70 protein using Rabbit Anti-HSP70 Polyclonal Antibody (SPC-103). Load: 2 µg. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Rabbit Anti-HSP70 Polyclonal Antibody (SPC-103) at 1:10000 for 2 hours at RT. Secondary Antibody: Donkey Anti-Rabbit IgG: HRP for 1 hour at RT.



Immunohistochemistry analysis using Rabbit Anti-HSP70 Polyclonal Antibody (SPC-103). Tissue: backskin. Species: Mouse. Fixation: Bouin's Fixative Solution. Primary Antibody: Rabbit Anti-HSP70 Polyclonal Antibody (SPC-103) 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.

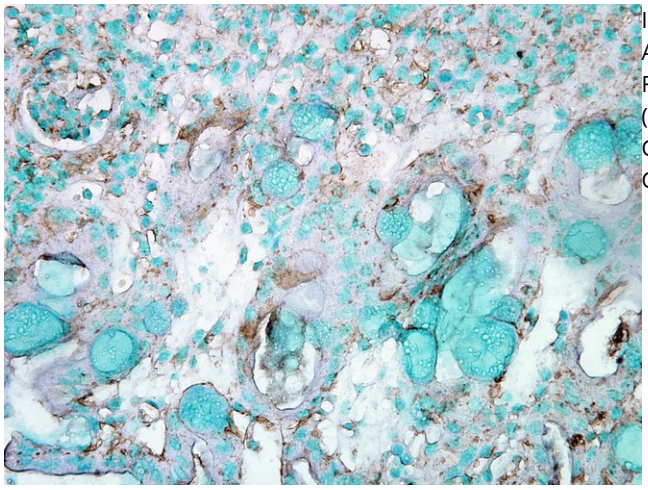


Western blot analysis of Mouse Pam212 cells showing detection of HSP70 protein using Rabbit Anti-HSP70 Polyclonal Antibody (SPC-103). Load: 15 µg protein. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Rabbit Anti-HSP70 Polyclonal Antibody (SPC-103) at 1:1000 for 2 hours at RT. Secondary Antibody: Donkey Anti-Rabbit IgG: HRP for 1 hour at RT.



Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-Hsp70 Polyclonal Antibody (SPC-103). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-Hsp70

Polyclonal Antibody (SPC-103) 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.



Immunohistochemistry analysis using Rabbit Anti-HSP70 Polyclonal Antibody (SPC-103). Tissue: Inflamed colon. Species: Mouse. Fixation: Formalin. Primary Antibody: Rabbit Anti-HSP70 Polyclonal Antibody (SPC-103) 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.

Product Citations (3)

Western Blot

The FNIP co-chaperones decelerate the Hsp90 chaperone cycle and enhance drug binding.

Woodford, M.R. (2016) Nat Commun. [Epub ahead of print]

PubMed ID: 27353360 **Reactivity:** Human **Applications:** Western Blot

HSP70 of Leishmania amazonensis alters resistance to different stresses and mitochondrial bioenergetics.

Codonho, B.S. et al. (2016) Mem Inst Oswaldo Cruz. Rio de Janeiro: 1-9.

PubMed ID: **Reactivity:** L. amazonensis **Applications:** Western Blot

Inducing Muscle Heat Shock Protein 70 Improves Insulin Sensitivity and Muscular Performance in Aged Mice.

Silverstein, M.G. et al. (2014) J Gerontol A Biol Sci Med Sci. 70(7):800-8.

PubMed ID: 25123646 **Reactivity:** Mouse **Applications:** Western Blot

Reviews

Based on validation through cited publications.

★★★★★

StressMarq Biosciences
June 15, 2016: