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Produktinformation

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Anti-HSP27 Antibody [5D12-A12]

Mouse Anti-Human HSP27 Monoclonal IgG2b Kappa
Catalog No. SMC-161

StressMarq Biosciences INC.
Discovery through partnership | Excellence through quality

Overview

Product Name

HSP27 Antibody

Description

Mouse Anti-Human HSP27 Monoclonal IgG2b Kappa

Species Reactivity

Human

Applications

WB, IHC, ICC/IF, IP, ELISA

Antibody Dilution

WB (1:2000), ICC/IF (1:100); optimal dilutions for assays should be determined by the user.

Host Species

Mouse

Immunogen Species

Human

Immunogen

Human HSP27

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

Protein G Purified

Clonality

Monoclonal

Clone Number

5D12-A12

Isotype

IgG2b Kappa

Specificity

Detects ~27kDa. Has no cross-reactivity to Alpha B crystallin. Very limited cross-reactivity to other species.

Cite This Product

Mouse Anti-Human HSP27 Monoclonal, Clone 5D12-A12 (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SMC-161)

Certificate Of Analysis

0.5 µg/ml of SMC-161 was sufficient for detection of HSP27 in 10 µg of HeLa lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.

Biological Description

Alternative Names

28kDa heat shock protein Antibody, CMT2F Antibody, HSP25 Antibody, HSP27 Antibody, HSP28 Antibody, HSPB1 Antibody, SRP27 Antibody

Research Areas

Cancer, Heat Shock

Cellular Localization

Cytoplasm, Cytoskeleton, Nucleus, Spindle

Accession Number

NP_001531.1

Gene ID

3315

Swiss Prot

P04792

Scientific Background

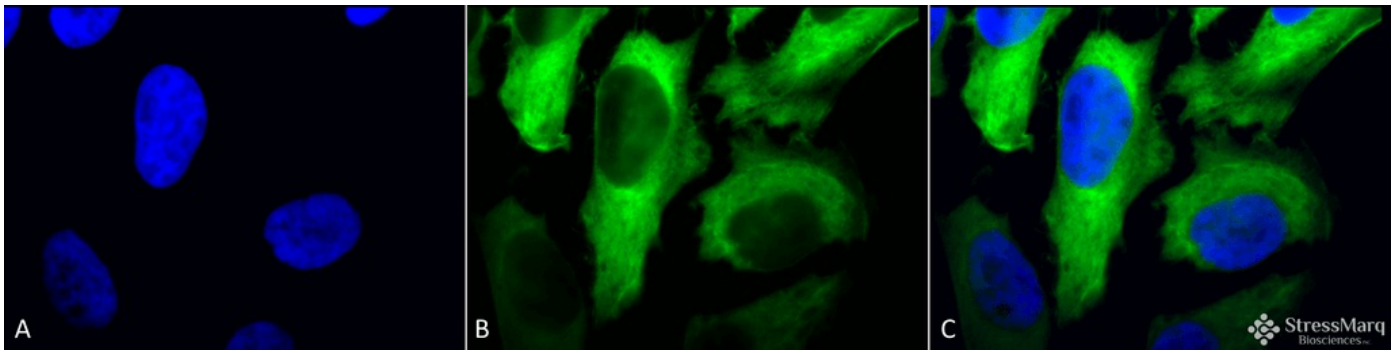
HSP27s belong to an abundant and ubiquitous family of small heat shock proteins (sHSP). It is an important HSP found in both normal human cells and cancer cells. The basic structure of most sHSPs is a homologous and highly conserved amino acid sequence, with an ?-crystallin domain at the C-terminus and the WD/EPF domain at the less conserved N-terminus. This N-terminus is essential for the development of high molecular oligomers (1, 2). HSP27-oligomers consist of stable dimers formed by as many as 8-40 HSP27 protein monomers (3). The oligomerization status is connected with the chaperone activity: aggregates of large oligomers have high chaperone activity, whereas dimers have no chaperone activity (4). HSP27 is localized to the cytoplasm of unstressed cells but can redistribute to the nucleus in response to stress, where it may function to stabilize DNA and/or the nuclear membrane. Other functions include chaperone activity (as mentioned above), thermo tolerance in vivo, inhibition of apoptosis, and signal transduction. Specifically, in vitro, it acts as an ATP-independent chaperone by inhibiting protein aggregation and by stabilizing partially denatured proteins, which ensures refolding of the HSP70 complex. HSP27 is also involved in the

apoptotic signaling pathway because it interferes with the activation of cytochrome c/Apaf-1/dATP complex, thereby inhibiting the activation of procaspase-9. It is also hypothesized that HSP27 may serve some role in cross-bridge formation between actin and myosin (5). And finally, HSP27 is also thought to be involved in the process of cell differentiation. The up-regulation of HSP27 correlates with the rate of phosphorylation and with an increase of large oligomers. It is possible that HSP27 may play a crucial role in termination of growth (6). Looking for more information on HSP27? Visit our new HSP27 Scientific Resource Guide at http://www.HSP27.com.

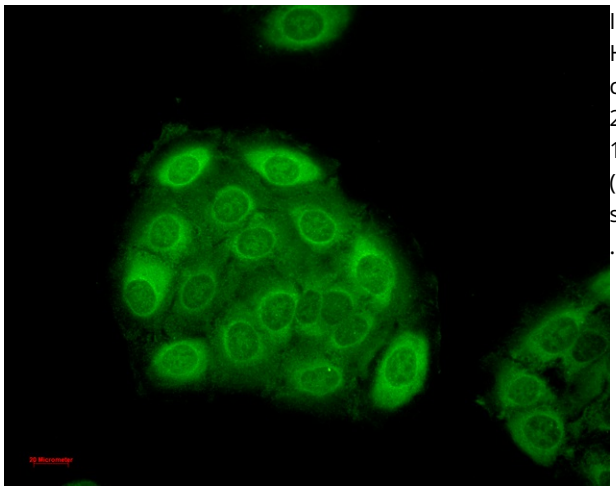
References

1. Kim K.K., Kim R., and Kim, S. (1998) Nature 394(6693): 595-599.
2. Van Montfort R., Slingsby C., and Vierling E. (2001) Addv Protein Chem. 59: 105-56.
3. Ehrnsperger M., Graber S., Gaestel M. and Buchner J. (1997) EMBO J. 16: 221-229.
4. Ciocca D.R., Oesterreich S., Chamness G.C., McGuire W.L., and Fugua S.A. (1993) J Natl Cancer Inst. 85 (19): 1558-70.
5. Sarto C., Binnz P.A., and Mocarelli P. (2000) Electrophoresis. 21(6): 1218-26.
6. Arrigo A.P. (2005) J Cell Biochem. 94(2): 241-6.

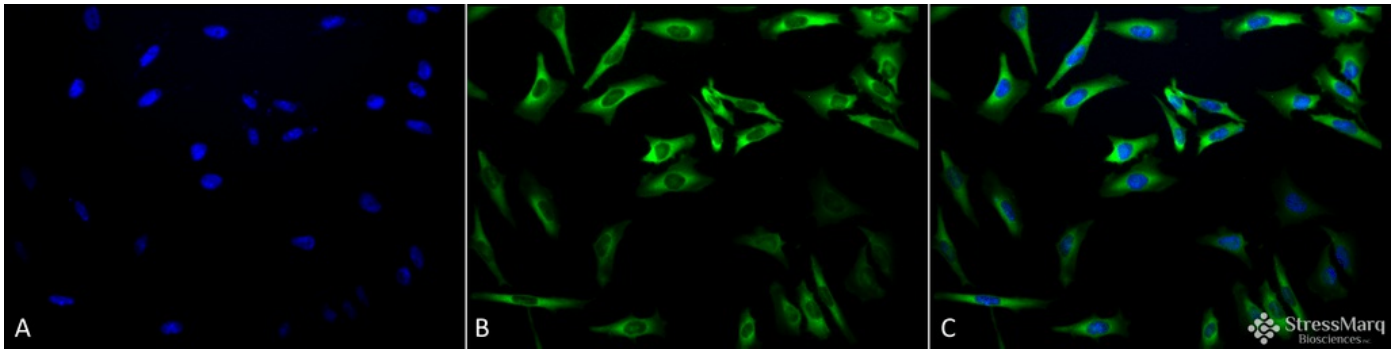
Product Images



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-Hsp27 Monoclonal Antibody, Clone 5D12-A3 (SMC-161). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Mouse Anti-Hsp27 Monoclonal Antibody (SMC-161) at 1:100 for 12 hours at 4°C. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Cytoplasm. Nucleus. Magnification: 100x. (A) DAPI (blue) nuclear stain. (B) Anti-Hsp27 Antibody. (C) Composite.



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-Hsp27 Monoclonal Antibody, Clone 5D12-A3 (SMC-161). Tissue: HaCaT cells. Species: Human. Fixation: Cold 100% methanol for 10 minutes at -20°C. Primary Antibody: Mouse Anti-Hsp27 Monoclonal Antibody (SMC-161) at 1:100 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT. Localization: Dull heterogeneous staining, some perinuclear, some nuclear and some cytoplasmic staining .



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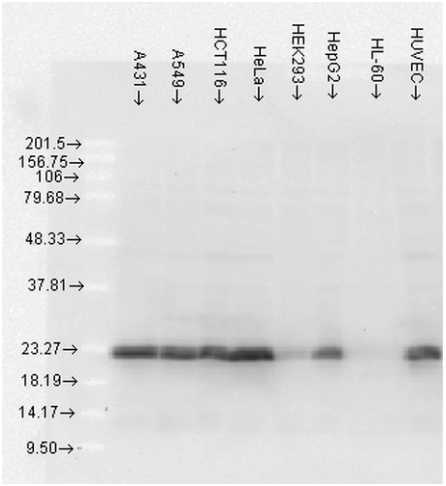

Western Blot analysis of Human Cell lysates showing detection of Hsp27 protein using Mouse Anti-Hsp27 Monoclonal Antibody, Clone 5D12-A3 (SMC-161). Load: 15 µg protein. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-Hsp27 Monoclonal Antibody (SMC-161) at 1:1000 for 2 hours at RT. Secondary Antibody: Sheep Anti-Mouse IgG: HRP for 1 hour at RT.

Product Citations (2)

Western Blot

Compositions and Methods for Inhibiting HSP90/HSP70 Machinery.

Chadli, A. and Patwardhan, C.A. (2015) United States Patent Application 20150025052.

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

Immunohistochemistry

Human myocytes are protected from titin aggregation-induced stiffening by small heat shock proteins.

Kötter, S. et al. (2014) J Cell Biol. 204(2):187-202.

PubMed ID: 24421331 **Reactivity:** Human **Applications:** Immunohistochemistry

Reviews

Based on validation through cited publications.

★★★★★

StressMarq Biosciences
June 14, 2016: