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Anti-HSP27 Antibody

Rabbit Anti-Human HSP27 Polyclonal
Catalog No. SPC-106



Discovery through partnership | Excellence through quality

Overview

Product Name

HSP27 Antibody

Description

Rabbit Anti-Human HSP27 Polyclonal

Species Reactivity

Human, Mouse, Gummy Shark (*Mustelus antarcticus*), School Shark (*Galeorhinus galeus*), Shark

Applications

WB, ICC/IF

Antibody Dilution

WB (1:2000), ICC/IF (1:250); optimal dilutions for assays should be determined by the user.

Host Species

Rabbit

Immunogen Species

Human

Immunogen

Human HSP27, His tagged

Concentration

1.38 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 pH 7.4, 50% glycerol, 0.09% sodium azide

Storage Temperature

-20°C

Shipping Temperature

Blue Ice or 4°C

Purification

Protein A purified

Clonality

Polyclonal

Specificity

Detects ~27kDa.

Cite This Product

Rabbit Anti-Human HSP27 Polyclonal (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPC-106)

Certificate Of Analysis

A 1:2000 dilution of SPC-106 was sufficient for detection of HSP27 in 20 µg of HeLa cell lysate by ECL immunoblot analysis.

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, Nucleus

Accession Number

NP_001531.1

Gene ID

3315

Swiss Prot

P04792

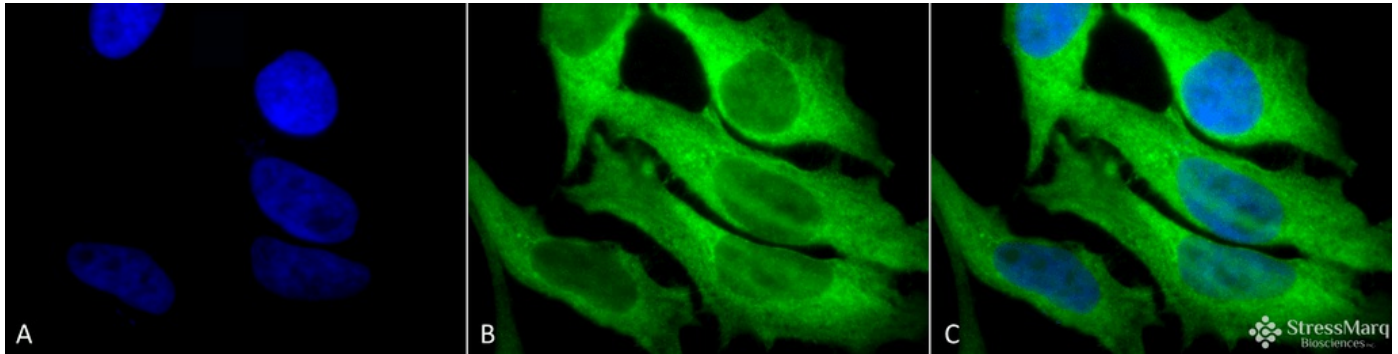
Scientific Background

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 α -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>.

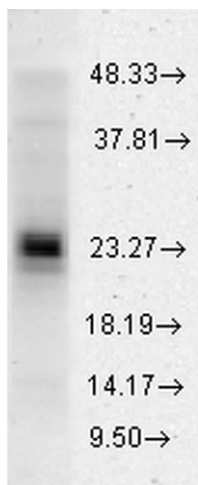
References

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.

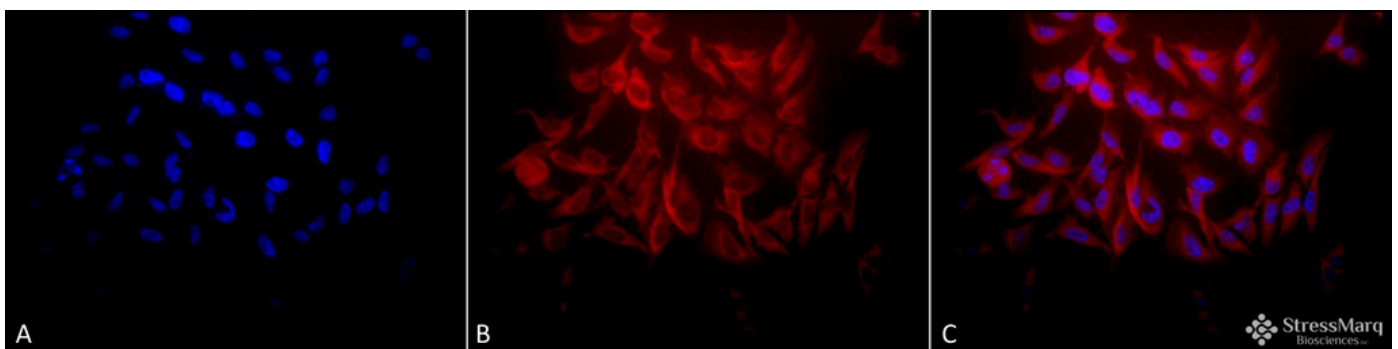
Product Images



Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-Hsp27 Polyclonal Antibody (SPC-106). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-Hsp27 Polyclonal Antibody (SPC-106) at 1:250 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. Mitochondrion matrix. Magnification: 100x. (A) DAPI (blue) nuclear stain. (B) Anti-Hsp27 Antibody. (C) Composite. Heat Shocked at 42°C for 1h.



Western blot analysis of Human HeLa cell lysates showing detection of HSP27 protein using Rabbit Anti-HSP27 Polyclonal Antibody (SPC-106). Load: 15 µg protein. Block: 1.5% BSA. Primary Antibody: Rabbit Anti-HSP27 Polyclonal Antibody (SPC-106) at 1:2000 for 2 hours at RT. Secondary Antibody: Donkey Anti-Rabbit IgG: HRP for 1 hour at RT.



Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-Hsp27 Polyclonal Antibody (SPC-106). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-Hsp27 Polyclonal Antibody (SPC-106) at 1:250 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. Mitochondrion matrix. Magnification: 20x. (A) DAPI (blue) nuclear stain. (B) Anti-Hsp27 Antibody. (C) Composite. Heat Shocked at 42°C for 1h.

Product Citations (1)

Western Blot

Protective effect of a molecular chaperone inducer, paeoniflorin, on the HCl- and ethanol-triggered gastric mucosal injury.

Asai, M. et al. -2011 Life Sci. 88 (7-8): 350-357.

PubMed ID: 21167840 **Reactivity:** Mouse **Applications:** Western Blot

Reviews

Based on validation through cited publications.



StressMarq Biosciences
June 15, 2016: