

HSP27 Antibody

Catalog # ASM10362

Specification

HSP27 Antibody - Product Information

| | |
|-------------------|-----------------------------|
| Application | WB |
| Primary Accession | P04792 |
| Other Accession | NP_001531.1 |
| Host | Rabbit |
| Reactivity | Shark, Human, Mouse, Dog |
| Clonality | Polyclonal |

Description

Rabbit Anti-Human HSP27 Polyclonal

Target/Specificity

Detects ~27kDa.

Other Names

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

Immunogen

Human HSP27, His tagged

Purification

Protein A Purified

Storage -20°C

Storage Buffer

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

Shipping Temperature Blue Ice or 4°C

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.

Cellular Localization

Cytoplasm | Nucleus

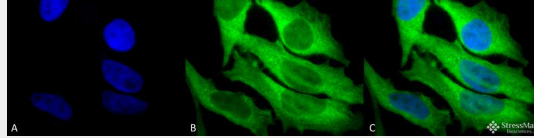
HSP27 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

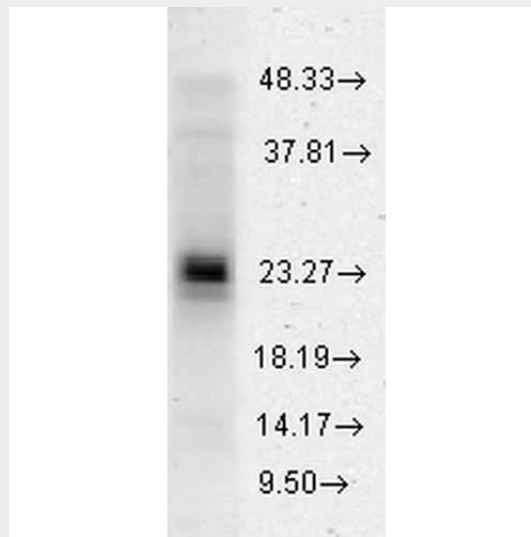
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)

- [Flow Cytometry](#)
- [Cell Culture](#)

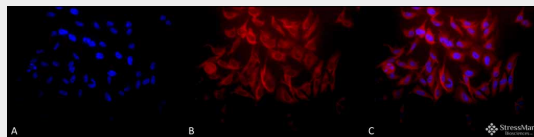
HSP27 Antibody - Images



Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-Hsp27 Polyclonal Antibody (ASM10362). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-Hsp27 Polyclonal Antibody (ASM10362) 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 (ASM10362). Load: 15 µg protein. Block: 1.5% BSA. Primary Antibody: Rabbit Anti-HSP27 Polyclonal Antibody (ASM10362) 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 (ASM10362). Tissue: Heat Shocked HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-Hsp27 Polyclonal Antibody (ASM10362) 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.

HSP27 Antibody - 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>.

HSP27 Antibody - 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) *Adv 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 Mocarrelli P. (2000) *Electrophoresis.* 21(6): 1218-26.
6. Arrigo A.P. (2005) *J Cell Biochem.* 94(2): 241-6.