

HSP27 (G31) Mouse mAb

✓ 100 µl
(10 western blots)

Orders ■ 877-616-CELL (2355)
orders@cellsignaling.com

Support ■ 877-678-TECH (8324)
info@cellsignaling.com

Web ■ www.cellsignaling.com

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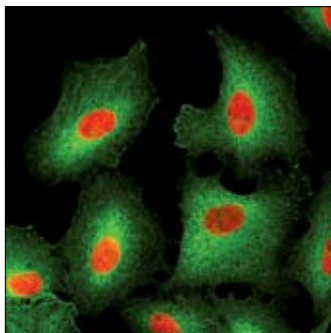
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IHC-P, IF-IC Endogenous	H, Mk	27 kDa	Mouse IgG1**

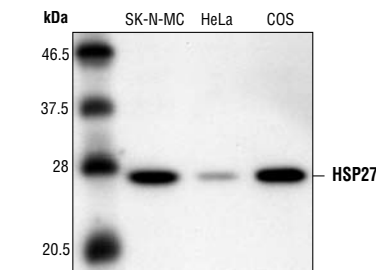
Background: Heat shock protein (HSP) 27 is one of the small HSPs that are constitutively expressed at different levels in various cell types and tissues. Like other small heat shock proteins, HSP27 is regulated at both the transcriptional and posttranslational levels (1). In response to stress, the expression level of HSP27 increases several-fold to confer cellular resistance to the adverse environmental change. HSP27 is phosphorylated at Ser15, Ser78 and Ser82 by MAPKAP kinase 2 as a result of the activation of the p38 MAP kinase pathway (2,3). Phosphorylation of HSP27 causes a change in its tertiary structure, which shifts from large homotypic multimers to dimers and monomers (4). It has been shown that phosphorylation and increased concentration of HSP27 modulates actin polymerization and reorganization (5,6).

Specificity/Sensitivity: HSP27 (G31) Mouse mAb detects endogenous levels of total HSP27 protein. The antibody does not cross-react with other heat shock proteins.

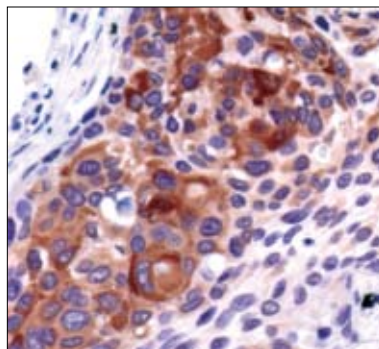
Source/Purification: Monoclonal antibody is produced by immunizing animals with full length HSP27 protein.



Confocal immunofluorescent analysis of A549 cells using HSP27 (G31) Mouse mAb (green). Red = Propidium iodide (fluorescent DNA dye).



Western blot analysis of extracts from SK-N-MC, HeLa and COS cells, using HSP27 (G31) Mouse mAb.



Immunohistochemical analysis of paraffin-embedded human lung carcinoma, using HSP27 (G31) Mouse mAb.

Entrez-Gene ID # 3315
Swiss-Prot Acc. # P04792

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-mouse secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western Blotting	1:1000
Immunohistochemistry (Paraffin)	1:50
Unmasking buffer:	Citrate
Antibody diluent:	TBST-5%NGS
Immunofluorescence (IF-IC)	1:200

For application specific protocols please see the web page for this product at www.cellsignaling.com.

Please visit www.cellsignaling.com for a complete listing of recommended companion products.

Background References:

- (1) Arrigo, A.P. and Landry, J. (1994) *Cold Spring Harbor Laboratory Press, NY*, 335-373.
- (2) Landry, J. et al. (1992) *J. Biol. Chem.* 267, 794-803.
- (3) Rouse, J. et al. (1994) *Cell* 78, 1027-1037.
- (4) Rogalla, T. et al. (1999) *J. Biol. Chem.* 274, 18947-18956.
- (5) Lavoie, J. et al. (1993) *J. Biol. Chem.* 268, 24210-24214.
- (6) Rousseau, S. et al. (1997) *Oncogene* 15, 2169-2177.

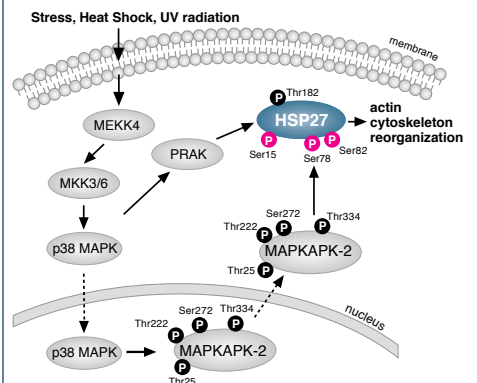


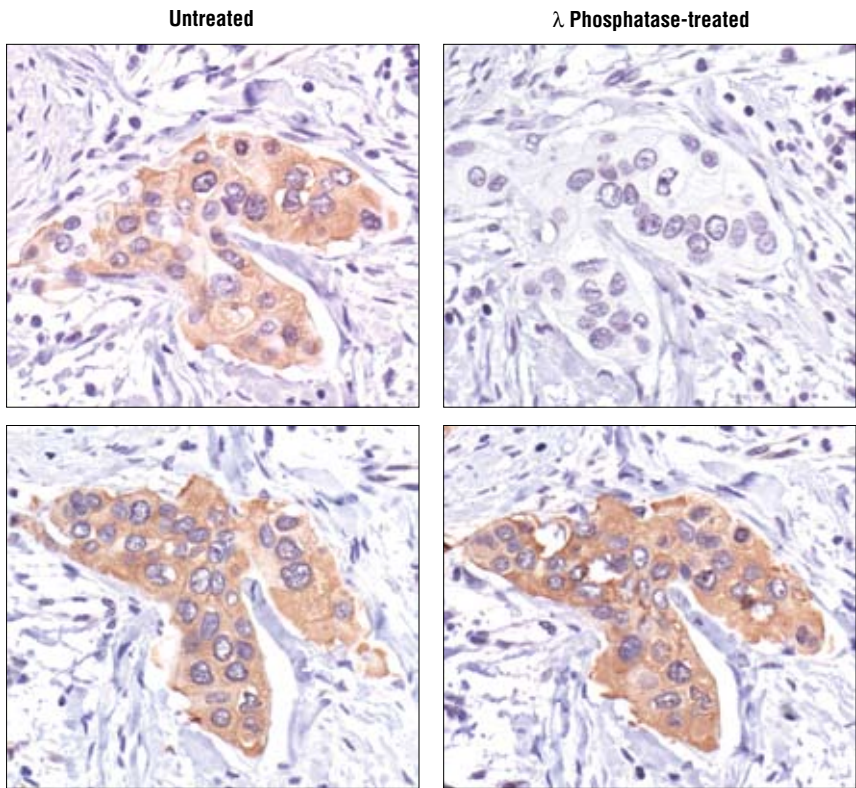
Fig.1: Phosphorylation of HSP27 by a p38 MAPK pathway regulates actin polymerization and organization.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% nonfat dry milk, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide

Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine

Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



Immunohistochemical analysis of paraffin-embedded human breast carcinoma, untreated (left panels) or λ phosphatase-treated (right panels), using Phospho-HSP27 (Ser82) Antibody #2401 (upper panels) or HSP27 (G31) Mouse mAb (lower panels).