10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

HSP27 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7199e

Product Information

Application	WB, IHC-P, E
Primary Accession	P04792
Other Accession	P42930, P14602, Q3T149
Reactivity	Human
Predicted	Bovine, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB19530
Calculated MW	22783
Antigen Region	108-136

Additional Information

Gene ID	3315
Other Names	Heat shock protein beta-1, HspB1, 28 kDa heat shock protein, Estrogen-regulated 24 kDa protein, Heat shock 27 kDa protein, HSP 27, Stress-responsive protein 27, SRP27, HSPB1, HSP27, HSP28
Target/Specificity	This HSP27 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 108-136 amino acids from the Central region of human HSP27.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	HSP27 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	HSPB1
Synonyms	HSP27, HSP28

Function	Small heat shock protein which functions as a molecular chaperone probably maintaining denatured proteins in a folding- competent state (PubMed:10383393, PubMed:20178975). Plays a role in stress resistance and actin organization (PubMed:19166925). Through its molecular chaperone activity may regulate numerous biological processes including the phosphorylation and the axonal transport of neurofilament proteins (PubMed:23728742).
Cellular Location	Cytoplasm. Nucleus Cytoplasm, cytoskeleton, spindle Note=Cytoplasmic in interphase cells. Colocalizes with mitotic spindles in mitotic cells. Translocates to the nucleus during heat shock and resides in sub-nuclear structures known as SC35 speckles or nuclear splicing speckles.
Tissue Location	Detected in all tissues tested: skeletal muscle, heart, aorta, large intestine, small intestine, stomach, esophagus, bladder, adrenal gland, thyroid, pancreas, testis, adipose tissue, kidney, liver, spleen, cerebral cortex, blood serum and cerebrospinal fluid. Highest levels are found in the heart and in tissues composed of striated and smooth muscle.

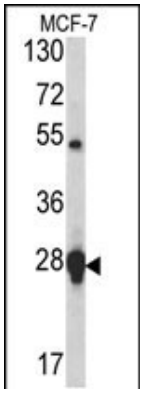
Background

In response to adverse changes in their environment, cells from many organisms increase the expression of a class of proteins referred to as heat shock or stress proteins. HSBP1 exhibits rapid increased phosphorylation in response to various mitogens, tumor promoters (e.g. phorbol esters) and calcium ionophores, and high levels are associated with carcinoma of the breast and with endometrial adenocarcinomas. Heat shock of HeLa cell cultures, or treatment with arsenite, phorbol ester, or tumor necrosis factor, causes a rapid phosphorylation of preexisting HSBP1, with Ser82 as the major site and Ser78 the minor site of phosphorylation. HSBP1 may exert phosphorylation-activated functions linked with growth signaling pathways in unstressed cells. A homeostatic function at this level could protect cells from adverse effects of signal transduction systems which may be activated inappropriately during stress.

References

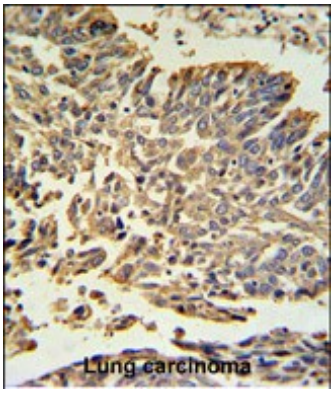
Wano, C., et al., Exp. Cell Res. 298(2):584-592 (2004).
Evgrafov, O.V., et al., Nat. Genet. 36(6):602-606 (2004).
Song, H., et al., Biochem. Biophys. Res. Commun. 314(1):143-150 (2004).
Chauhan, D., et al., Blood 102(9):3379-3386 (2003).
Van Why, S.K., et al., J. Am. Soc. Nephrol. 14(1):98-106 (2003).

Images



Western blot analysis of HSP27 antibody (Center) (Cat.# AP7199e) in MCF-7 cell line lysates (35ug/lane). HSP27 (arrow) was detected using the purified Pab.

Hsp 27 Antibody (Center) (Cat.# AP7199e) IHC analysis in formalin fixed and paraffin embedded human Lung



carcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the Hsp 27 Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.