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Phospho-HSPB1(S78) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3347a

Product Information

Application	DB, WB, E
Primary Accession	P04792
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB11379
Calculated MW	22783

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 HSPB1 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding S78 of human HSPB1.
Dilution	DB~~1:500 WB~~1:500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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	Phospho-HSPB1(S78) Antibody 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.

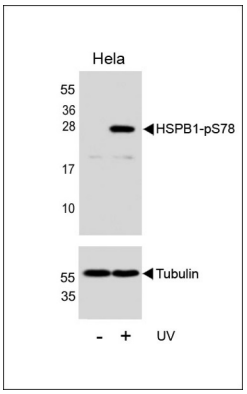
Background

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

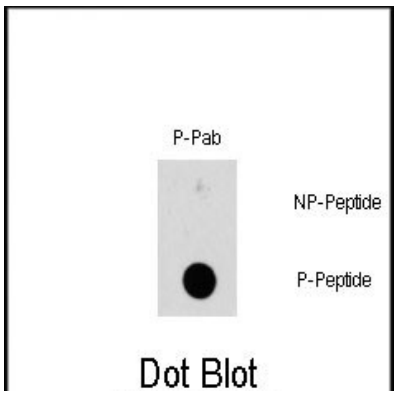
Wano, C., et al., Exp. Cell Res. 298(2):584-592 (2004).
Evgrafov, O.V., et al., Nat. Genet. 36(6):602-606 (2004).
Song, H., et al., Biochem. Biophys. Res. Commun. 314(1):143-150 (2004).
Chauhan, D., et al., Blood 102(9):3379-3386 (2003).
Van Why, S.K., et al., J. Am. Soc. Nephrol. 14(1):98-106 (2003).

Images



Western blot analysis of lysates from Hela cell line, untreated or treated with UV, 2 hours, using HSPB1 Antibody(RB56433)(upper) or Tubulin (lower).

Dot blot analysis of Phospho-HSBP1-S78 polyclonal antibody (Cat# AP3347a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentration was



0.5ug per ml. P-Pab: phospho-antibody; P-Peptide: phospho-peptide; NP-Peptide: non-phospho-peptide.