

Datasheet for ABIN7154863
anti-HSP70 1A antibody (AA 291-641)[Go to Product page](#)

2 Images

Overview

Quantity:	100 µL
Target:	HSP70 1A (HSPA1A)
Binding Specificity:	AA 291-641
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This HSP70 1A antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), ELISA

Product Details

Immunogen:	Recombinant Human Heat shock 70 kDa protein 1A protein (291-641AA)
Isotype:	IgG
Cross-Reactivity:	Human
Purification:	>95%, Protein G purified

Target Details

Target:	HSP70 1A (HSPA1A)
Alternative Name:	HSPA1A (HSPA1A Products)
Background:	Background: Molecular chaperone implicated in a wide variety of cellular processes, including protection of the proteome from stress, folding and transport of newly synthesized

polypeptides, activation of proteolysis of misfolded proteins and the formation and dissociation of protein complexes. Plays a pivotal role in the protein quality control system, ensuring the correct folding of proteins, the re-folding of misfolded proteins and controlling the targeting of proteins for subsequent degradation. This is achieved through cycles of ATP binding, ATP hydrolysis and ADP release, mediated by co-chaperones. The co-chaperones have been shown to not only regulate different steps of the ATPase cycle, but they also have an individual specificity such that one co-chaperone may promote folding of a substrate while another may promote degradation. The affinity for polypeptides is regulated by its nucleotide bound state. In the ATP-bound form, it has a low affinity for substrate proteins. However, upon hydrolysis of the ATP to ADP, it undergoes a conformational change that increases its affinity for substrate proteins. It goes through repeated cycles of ATP hydrolysis and nucleotide exchange, which permits cycles of substrate binding and release. The co-chaperones are of three types: J-domain co-chaperones such as HSP40s (stimulate ATPase hydrolysis by HSP70), the nucleotide exchange factors (NEF) such as BAG1/2/3 (facilitate conversion of HSP70 from the ADP-bound to the ATP-bound state thereby promoting substrate release), and the TPR domain chaperones such as HOPX and STUB1 (PubMed:24012426, PubMed:26865365, PubMed:24318877). Maintains protein homeostasis during cellular stress through two opposing mechanisms: protein refolding and degradation. Its acetylation/deacetylation state determines whether it functions in protein refolding or protein degradation by controlling the competitive binding of co-chaperones HOPX and STUB1. During the early stress response, the acetylated form binds to HOPX which assists in chaperone-mediated protein refolding, thereafter, it is deacetylated and binds to ubiquitin ligase STUB1 that promotes ubiquitin-mediated protein degradation (PubMed:27708256). Regulates centrosome integrity during mitosis, and is required for the maintenance of a functional mitotic centrosome that supports the assembly of a bipolar mitotic spindle (PubMed:27137183). Enhances STUB1-mediated SMAD3 ubiquitination and degradation and facilitates STUB1-mediated inhibition of TGF-beta signaling (PubMed:24613385). Essential for STUB1-mediated ubiquitination and degradation of FOXP3 in regulatory T-cells (Treg) during inflammation (PubMed:23973223). Negatively regulates heat shock-induced HSF1 transcriptional activity during the attenuation and recovery phase period of the heat shock response (PubMed:9499401).

Aliases: HSPA1A antibody, HSP72 antibody, HSPA1 antibody, HSX70Heat shock 70 kDa protein 1A antibody, Heat shock 70 kDa protein 1 antibody, HSP70-1 antibody, HSP70.1 antibody

UniProt: [P0DMV8](#)

Pathways: [Regulation of Leukocyte Mediated Immunity](#), [Positive Regulation of Immune Effector Process](#)

Application Details

Application Notes: Recommended dilution: WB:1:1000-1:5000, IHC:1:500-1:1000,

Restrictions: For Research Use only

Handling

Format: Liquid

Buffer: Preservative: 0.03 % Proclin 300
Constituents: 50 % Glycerol, 0.01M PBS, pH 7.4

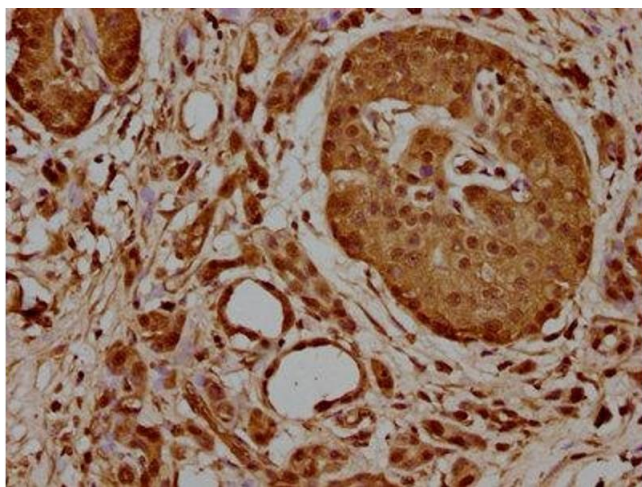
Preservative: ProClin

Precaution of Use: This product contains ProClin: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Storage: -20 °C,-80 °C

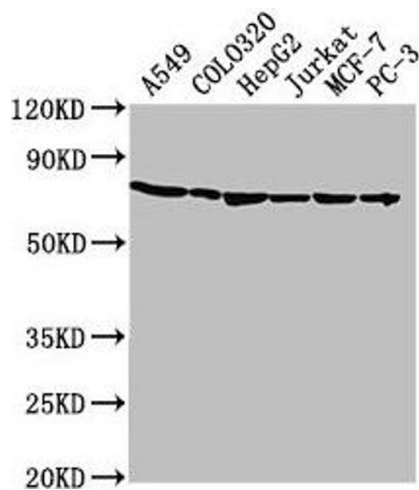
Storage Comment: Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.

Images



Immunohistochemistry

Image 1. IHC image of ABIN7154863 diluted at 1:700 and staining in paraffin-embedded human pancreatic cancer performed on a Leica Bond™ system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10 % normal goat serum 30 min at RT. Then primary antibody (1 % BSA) was incubated at 4 °C overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.



Western Blotting

Image 2. Western Blot Positive WB detected in: A549 whole cell lysate, COLO320 whole cell lysate, HepG2 whole cell lysate, Jurkat whole cell lysate, MCF-7 whole cell lysate, PC-3 whole cell lysate All lanes: HSPA1A antibody at 1:2000 Secondary Goat polyclonal to rabbit IgG at 1/50000 dilution Predicted band size: 71, 64 kDa Observed band size: 71 kDa