

Datasheet for ABIN7154867
anti-HSP70 1A antibody (AA 418-512)[Go to Product page](#)

3 Images

Overview

| | |
|----------------------|---|
| Quantity: | 100 µg |
| Target: | HSP70 1A (HSPA1A) |
| Binding Specificity: | AA 418-512 |
| Reactivity: | Human |
| Host: | Rabbit |
| Clonality: | Polyclonal |
| Conjugate: | This HSP70 1A antibody is un-conjugated |
| Application: | Western Blotting (WB), Immunohistochemistry (IHC), ELISA, Immunofluorescence (IF) |

Product Details

| | |
|-------------------|--|
| Immunogen: | Recombinant Human Heat shock 70 kDa protein 1A protein (418-512AA) |
| 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:1:500-1:5000, IHC:1:200-1:500, IF:1:50-1:200,

Restrictions: For Research Use only

Handling

Format: Liquid

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

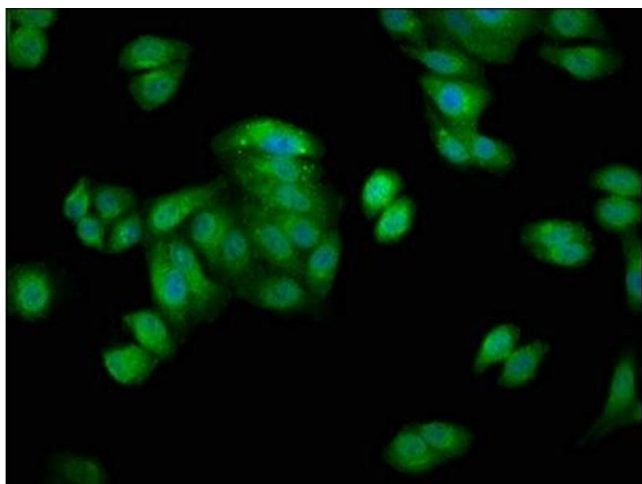
Preservative: ProClin

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

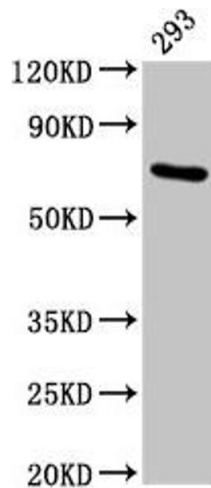
Storage Comment: Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.

Images



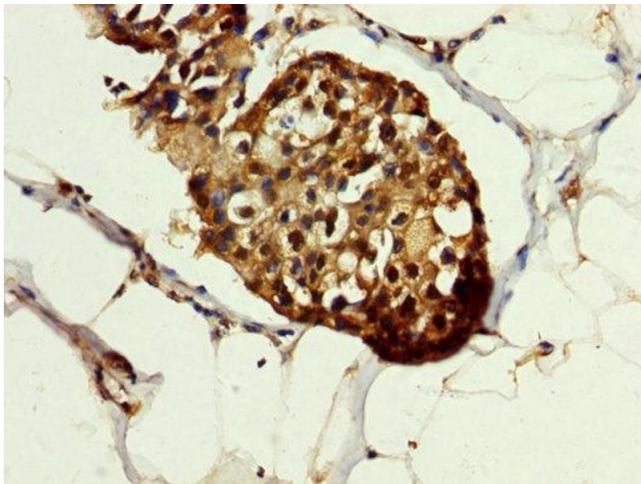
Immunofluorescence

Image 1. Immunofluorescence staining of HepG2 cells with ABIN7154867 at 1:66, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeabilized using 0.2% Triton X-100 and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4°C. The secondary antibody was Alexa Fluor 488-conjugated AffiniPure Goat Anti-Rabbit IgG(H+L).



Western Blotting

Image 2. Western Blot Positive WB detected in: 293 whole cell lysate All lanes: HSPA1A antibody at 4.9 µg/mL Secondary Goat polyclonal to rabbit IgG at 1/50000 dilution Predicted band size: 71, 64 kDa Observed band size: 71 kDa



Immunohistochemistry

Image 3. IHC image of ABIN7154867 diluted at 1:200 and staining in paraffin-embedded human breast 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 30min 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.