Overview

Product name: Anti-Hsp70 antibody [C92F3A-5]

Description: Mouse monoclonal [C92F3A-5] to Hsp70

Host species: Mouse

Specificity: Detects a 70kDa protein corresponding to the molecular mass of Hsp70 of SDS PAGE immunoblots. There is no cross-reactivity to Hsc70 (Hsp73).

Tested applications: Suitable for: Electron Microscopy, WB, IP, ELISA, ICC/IF, Flow Cyt, IHC-Fr, IHC-P

Species reactivity: Reacts with: Rat, Human

Predicted to work with: Mouse, Cow, Dog, Pig, Caenorhabditis elegans, Macaque monkey, Bos mutus grunniens, Saginus oedipus, Onchoerca volvulus, Onchorhynchus tshawytscha

Immunogen: Recombinant fragment corresponding to Human Hsp70 aa 436-503.

Sequence:
YSDNQPGVLIQVYEGERAMTKDNNLLGRFELSGIPPAP
RGVPQIEVTFDIDANGILNVATDKSTGKANKITI

Database link: P08107

Epitope: The mapped epitope is in the region of amino acid residues 436-503.

Positive control:
WB: HeLa, A431, A549, HCT116, HEK293, HepG2, HL-60, HUVEC, Jurkat, MCF7, PC3, T98G cell lysates; Rat Brain tumour lysate; Rat bone lysate. IHC-P: Mouse colon cancer tissue; human colon cancer tissue. Flow cyt: HeLa cells.

Properties

Form: Liquid


Storage buffer: pH: 7.20
Preservative: 0.09% Sodium azide
Constituents: 50% PBS, 50% Glycerol

Purity: Protein G purified

Clonality: Monoclonal
Clone number: C92F3A-5
Isotype: IgG1

Applications

Our Abpromise guarantee covers the use of ab47455 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electron Microscopy</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>WB</td>
<td></td>
<td>Use a concentration of 1 µg/ml. Predicted molecular weight: 70 kDa.</td>
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<tr>
<td>IP</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>ELISA</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>ICC/IF</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
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<tr>
<td>Flow Cyt</td>
<td></td>
<td>Use 1µg for 10⁶ cells. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.</td>
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<tr>
<td>IHC-Fr</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>IHC-P</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
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</tbody>
</table>

Target

Relevance

Function: In cooperation with other chaperones, the Hsp70 family stabilize preexistent proteins against aggregation and mediate the folding of newly translated polypeptides in the cytosol as well as within organelles. These chaperones participate in all these processes through their ability to recognize nonnative conformations of other proteins. They bind extended peptide segments with a net hydrophobic character exposed by polypeptides during translation and membrane translocation, or following stress-induced damage. In case of rotavirus A infection, serves as a post-attachment receptor for the virus to facilitate entry into the cell. Tissue specificity: HSPA1B is testis-specific.

Cellular localization

Cytoplasm. Localized in cytoplasmic mRNP granules containing untranslated mRNAs.

Images
All lanes: Anti-Hsp70 antibody [C92F3A-5] (ab47455) at 1 μg/ml

Lane 1: Cell lysate prepared from human A431 cell line
Lane 2: Cell lysate prepared from human A549 cell line
Lane 3: Cell lysate prepared from human HCT116 cells line
Lane 4: Cell lysate prepared from human Hela cell line
Lane 5: Cell lysate prepared from human HEK293 cell line
Lane 6: Cell lysate prepared from human HepG2 cell line
Lane 7: Cell lysate prepared from human HL-60 cell line
Lane 8: Cell lysate prepared from human HUVEC cell line
Lane 9: Cell lysate prepared from human Jurkat cell line
Lane 10: Cell lysate prepared from human MCF7 cell line
Lane 11: Cell lysate prepared from human PC3 cell line
Lane 12: Cell lysate prepared from human T98G cell line
Lane 13: Rat brain tissue lysates

Predicted band size: 70 kDa

All are cancer cell lines.

Western blot of Hela cell heat shock lysate, using HRP conjugated goat anti-mouse secondary antibody for detection. (1μg/mL ab47455 was used to detect in 10μg of heat shocked HeLa cell lysate)
Formalin-fixed, paraffin-embedded human colon carcinoma tissue stained for Hsp70 using ab47455 at 1/1000 dilution in immunohistochemical analysis. Counter stained with hematoxylin.

All lanes: Anti-Hsp70 antibody [C92F3A-5] (ab47455) at 1/500 dilution

All lanes: Rat bone (tibia) whole cell lysate

Lysates/proteins at 50 µg per lane.

Predicted band size: 70 kDa
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Hsp70 antibody [C92F3A-5] (ab47455)

ab47455 staining Hsp70 in mouse colon cancer tissue section by Immunohistochemistry (Bouin’s fixed paraffin embedded tissue sections). The primary antibody was diluted at 1/100,000. A Fluorophore conjugated goat anti mouse was used as secondary. An antibody amplifier™ system was used for staining.

Overlay histogram showing HeLa cells stained with ab47455 (red line). The cells were fixed with methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab47455, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1:500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a significantly decreased signal in HeLa cells fixed with 4% paraformaldehyde (10 min)/permeabilized in 0.1% PBS-Tween used under the same conditions.

Please note: All products are “FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES”

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