Product name: Anti-Hsp70 antibody [EPR16892] ab181606

Description: Rabbit monoclonal [EPR16892] to Hsp70

Host species: Rabbit

Tested applications: Suitable for: IHC-P, WB, ICC/IF, Flow Cyt

Species reactivity: Reacts with: Mouse, Rat, Human

Immunogen: Recombinant fragment within Mouse Hsp70 aa 400 to the C-terminus. The exact sequence is proprietary. Database link: P17879

Positive control: WB: HeLa, 293T, A431, K562, C6, RAW 264.7, PC-12, and NIH/3T3 whole cell lysates; Human fetal heart and kidney lysates; Mouse and Rat brain, heart, kidney and spleen lysates. IHC-P: Human squamous cell carcinoma of cervix tissue; Mouse testis and cerebral cortex tissue; Rat testis tissue. ICC/IF: HeLa cells. Flow: K562 cells.

General notes: This product is a recombinant monoclonal antibody, which offers several advantages including:
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free production

For more information see here.

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

Properties

Form: Liquid


Storage buffer: Preservative: 0.01% Sodium azide
Constituents: 59% PBS, 40% Glycerol, 0.05% BSA

Purity: Protein A purified

Clonality: Monoclonal
Clone number: EPR16892
Isotype: IgG

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.

Applications
Our Abpromise guarantee covers the use of ab181606 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>
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</thead>
<tbody>
<tr>
<td>IHC-P</td>
<td></td>
<td>1/1000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.</td>
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<tr>
<td>WB</td>
<td>! ! ! !</td>
<td>1/1000. Detects a band of approximately 70 kDa (predicted molecular weight: 70 kDa).</td>
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<tr>
<td>ICC/IF</td>
<td></td>
<td>1/50.</td>
</tr>
<tr>
<td>Flow Cyt</td>
<td></td>
<td>1/230. ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.</td>
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Target

Images
Immunocytochemistry/Immunofluorescence - Anti-Hsp70 antibody [EPR16892] (ab181606)

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling Hsp70 with ab181606 at 1/50 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/400 dilution (green). Nuclear and cytoplasm staining on HeLa cell line is observed. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (Tubulin mouse mAb) at 1/500 and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).

The negative controls are as follows;
1. ab181606 at 1/50 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
2. ab7291 (anti-Tubulin mouse mAb) at 1/500 dilution followed by ab 150077 (Goat anti rabbit IgG (Alexa Fluor®488) secondary antibody at 1/400 dilution.

Western blot - Anti-Hsp70 antibody [EPR16892] (ab181606)

**All lanes:** Anti-Hsp70 antibody [EPR16892] (ab181606) at 1/10000 dilution

**Lane 1:** HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell lysates

**Lane 2:** 293T (Human epithelial cells from embryonic kidney) whole cell lysates

**Lane 3:** A431 (Human epidermoid carcinoma) whole cell lysates

**Lane 4:** K562 (Human chronic myelogenous leukemia cells from bone marrow) whole cell lysates

Lysates/proteins at 20 μg per lane.

**Secondary**

**All lanes:** Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution
Predicted band size: 70 kDa
Observed band size: 70 kDa

Blocking/Dilution buffer: 5% NFDM/TBST.

All lanes: Anti-Hsp70 antibody [EPR16892] (ab181606) at 1/1000 dilution

Lane 1: Human fetal heart lysate
Lane 2: Human fetal kidney lysate

Lysates/proteins at 10 µg per lane.

Secondary

All lanes: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 70 kDa
Observed band size: 70 kDa

Blocking/Dilution buffer: 5% NFDM/TBST.

All lanes: Anti-Hsp70 antibody [EPR16892] (ab181606) at 1/1000 dilution

Lane 1: Mouse brain lysate
Lane 2: Mouse heart lysate
Lane 3: Mouse kidney lysate
Lane 4: Mouse spleen lysate
Lane 5: Rat brain lysate
Lane 6: Rat heart lysate
Lane 7: Rat kidney lysate
Lane 8: Rat spleen lysate
Lane 9: C6 (Rat glial tumor cells) whole cell lysates
Lane 10: RAW 264.7 (Mouse macrophage cells transformed with Abelson murine leukemia virus) whole cell lysates
Lane 11: PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysates
Lane 12: NIH/3T3 (Mouse embryo fibroblast cells) whole cell lysates
Lysates

Lysates/proteins at 10 µg per lane.

**Secondary**

**All lanes:** Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

**Predicted band size:** 70 kDa

**Observed band size:** 70 kDa

Blocking/Dilution buffer: 5% NFDM/TBST.

Immunohistochemical analysis of paraffin-embedded Human squamous cell carcinoma of cervix tissue labeling Hsp70 with ab181606 at 1/1000 dilution, followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Nucleus and cytoplasm staining on tumor cells of Human squamous cell carcinoma of cervix is observed. Counter stained with Hematoxylin.

Negative control: Using PBS instead of primary ab, secondary ab is prediluted HRP Polymer for Rabbit/Mouse IgG.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
Immunohistochemical analysis of paraffin-embedded Rat testis tissue labeling Hsp70 with ab181606 at 1/1000 dilution, followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Nucleus and cytoplasm staining on epithelial cells of rat testis is observed. Counter stained with Hematoxylin.

Negative control: Using PBS instead of primary ab, secondary ab is prediluted HRP Polymer for Rabbit/Mouse IgG.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Immunohistochemical analysis of paraffin-embedded Mouse testis tissue labeling Hsp70 with ab181606 at 1/1000 dilution, followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Cytoplasm staining on epithelial cells of mouse testis is observed. Counter stained with Hematoxylin.

Negative control: Using PBS instead of primary ab, secondary ab is prediluted HRP Polymer for Rabbit/Mouse IgG.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
Immunohistochemical analysis of paraffin-embedded Mouse cerebral cortex tissue labeling Hsp70 with ab181606 at 1/1000 dilution, followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Cytoplasm and Nucleus staining on neuron cells of mouse cerebral cortex tissue is observed. Counter stained with Hematoxylin.

Negative control: Using PBS instead of primary ab, secondary ab is prediluted HRP Polymer for Rabbit/Mouse IgG.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Flow cytometric analysis of 2% paraformaldehyde-fixed K562 (Human chronic myelogenous leukemia cells from bone marrow) cells labeling Hsp70 with ab181606 at 1/230 dilution (red) compared with a rabbit monoclonal IgG control (black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/150 dilution was used as the secondary antibody.

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

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