Anti-Hsp70 Antibody [PD01-65]

HA721497

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	WB, IHC-P
Molecular Wt:	Predicted band size: 70 kDa
Clone number:	PD01-65

Description: The 70 kilodalton heat shock proteins (Hsp70s) are a family of conserved ubiquitously expressedheat shock proteins. Proteins with similar structure exist in virtually all living organisms. The Hsp70s are an important part of the cell's machinery for protein folding, and help to protect cells from stress. When not interacting with a substrate peptide, Hsp70 is usually in an ATP bound state. Hsp70 by itself is characterized by a very weak ATPase activity, such that spontaneous hydrolysis will not occur for many minutes. As newly synthesized proteins emerge from the ribosomes, the substrate binding domain of Hsp70 recognizes sequences of hydrophobic amino acid residues, and interacts with them. This spontaneous interaction is reversible, and in the ATP bound state Hsp70 may relatively freely bind and release peptides. However, the presence of a peptide in the binding domain stimulates the ATPase activity of Hsp70, increasing its normally slow rate of ATP hydrolysis.

Immunogen: Recombinant fragment within Human Hsp70 aa 50-300.

Positive control: HCT 116 cell lysate, HEK-293 cell lysate, HepG2 cell lysate, A431 cell lysate, A549 cell lysate, human breast carcinoma tissue, human liver carcinoma tissue.

Subcellular location: Cytoplasm.

Database links: SwissProt: P0DMV9 Human | P0DMV8 Human | P17879 Mouse | Q61696 Mouse | Q07439 Rat

Recommended Dilutions:

WB	1:1,000
IHC-P	1:200

Storage Buffer: PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

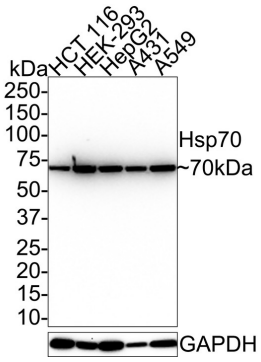

Fig1: Western blot analysis of Hsp70 on different lysates with Rabbit anti-Hsp70 antibody (HA721497) at 1/1,000 dilution.

Lane 1: HCT 116 cell lysate
Lane 2: HEK-293 cell lysate
Lane 3: HepG2 cell lysate
Lane 4: A431 cell lysate
Lane 5: A549 cell lysate

Lysates/proteins at 20 µg/Lane.

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

Exposure time: 24 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721497) at 1/1,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:100,000 dilution was used for 1 hour at room temperature.

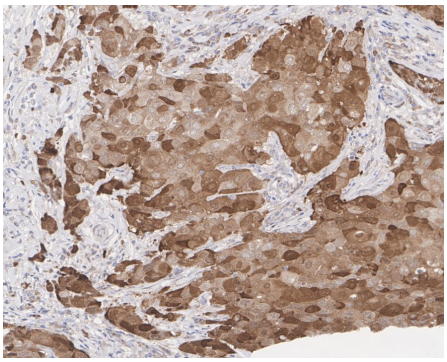

Fig2: Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue with Rabbit anti-Hsp70 antibody (HA721497) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721497) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

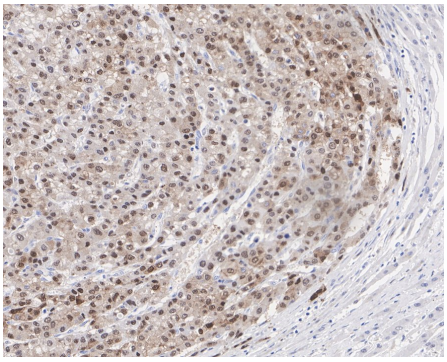

Fig3: Immunohistochemical analysis of paraffin-embedded human liver carcinoma tissue with Rabbit anti-Hsp70 antibody (HA721497) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721497) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Background References

1. Albakova Z et al. HSP70 Multi-Functionality in Cancer. Cells. 2020 Mar
2. Zhang H et al. Hsp70 in Redox Homeostasis. Cells. 2022 Feb