

HSP70 Polyclonal Antibody

Catalog Number **PA5-32446**

Product data sheet

Details		Species Reactivity	
Size	500 µL	Species reactivity	Dog, Human, Mouse, Non-human primate
Host/Isotope	Rabbit / IgG		
Class	Polyclonal	Tested Applications	Dilution *
Type	Antibody	Immunohistochemistry (Paraffin) (IHC (P))	1:100
Immunogen	Synthetic peptide corresponding to aa 574-591 of human HSP70	Immunoprecipitation (IP)	5 µg/mL
Conjugate	Unconjugated	Western Blot (WB)	1:1,000
Form	Liquid	Immunocytochemistry (ICC/IF)	Assay-dependent
Concentration	0.062 mg/mL	* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.	
Storage Conditions	Store at 4°C short term. For long term storage, store at -20°C, avoiding freeze/thaw cycles.		

Product specific information

This antibody is predicted to react with bovine, mouse, porcine and rat based on sequence homology. Heat-mediated antigen retrieval is recommended prior to staining, using a 10mM citrate buffer, pH 6.0, for 10 minutes followed by cooling at room temperature for 20 min. Following antigen retrieval, incubate samples with primary antibody for 30 min at room temperature. A suggested positive control is breast carcinoma.

Background/Target Information

HSP70 is a Heat shock protein (HSP) which are expressed in response to various biological stresses, including high temperatures. There are several major families of HSPs that include HSP70, there are HSP90 and HSP100. The HSP70 family is a set of highly conserved proteins that are induced by a variety of biological stresses, including heat stress, in every organism in which the proteins have been examined. The human HSP70 family members include: HSP70, a protein which is strongly inducible in all organisms but which is also constitutively expressed in primate cells; HSP72, a 72 kDa protein that is induced exclusively under stress conditions; HSC70, or cognate protein, is a 72 kDa, constitutively expressed, protein which is involved in the uncoating of clathrin coated vesicles; GRP78, or BiP, is a glucose regulated 78 kDa protein localized in the endoplasmic reticulum; and p75, or HSP75, a 75 kDa protein that is found within the mitochondria. Further, HSP70 is encoded by an intronless gene and, in conjunction with other heat shock proteins, HSP70 stabilizes existing proteins against aggregation and mediates the folding of newly translated proteins in the cytosol and organelles. HSP70 is also involved in the ubiquitin-proteasome pathway through interaction with the AU-rich element RNA-binding protein 1. The HSP70 gene is located in the major histocompatibility complex class III region, in a cluster with two closely related genes which encode similar proteins.

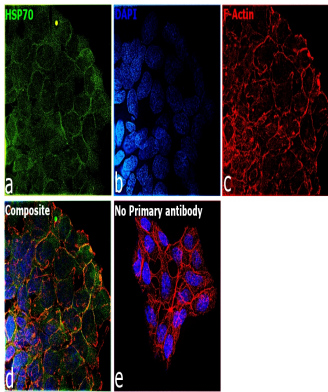
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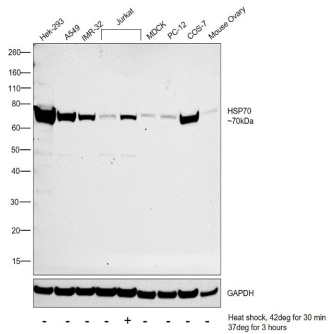
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Product Images For HSP70 Polyclonal Antibody



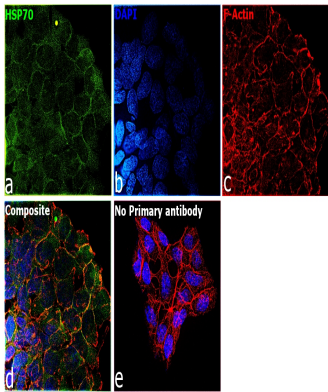
HSP70 Antibody (PA5-32446) in ICC/IF

Immunofluorescence analysis of HSP70 was performed using 70% confluent log phase HEK-293 cells. The cells were fixed with 4% paraformaldehyde for 10 minutes, permeabilized with 0.1% Triton™ X-100 for 15 minutes, and blocked with 1% BSA for 1 hour at room temperature. The cells were labeled with HSP70 Polyclonal Antibody (Product # PA5-32446) at 1:100 dilution in 0.1% BSA, incubated at 4 degree Celsius overnight and then labeled with Goat anti-Rabbit IgG (H+L) Superclonal™ Recombinant Secondary Antibody, Alexa Fluor® 488 conjugate (Product # A27034) at a dilution of 1:2000 for 45 minutes at room temperature (Panel a: green). Nuclei (Panel b: blue) were stained with SlowFade® Gold Antifade Mountant with DAPI (Product # S36938). F-actin (Panel c: red) was stained with Rhodamine Phalloidin (Product # R415, 1:300). Panel d represents the merged image showing cytoplasmic localization. Panel e represents control cells with no primary antibody to assess background. The images were captured at 60X magnification.



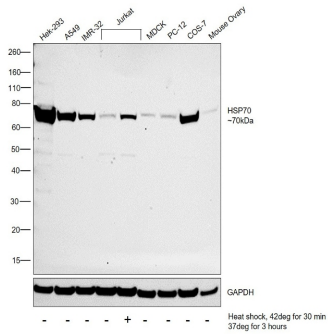
HSP70 Antibody (PA5-32446)

Altered expression of proteins upon cell treatment demonstrates antibody specificity. Western blot using HSP70 Polyclonal Antibody (Product # PA1-37842), shows increased expression of proteins upon heat shock treatment in Jurkat cell line. {TM}



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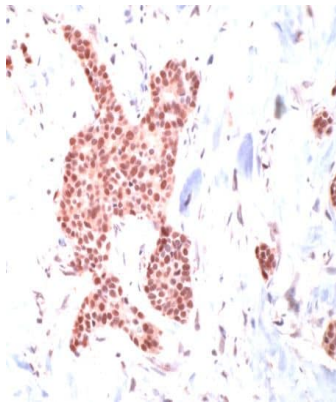
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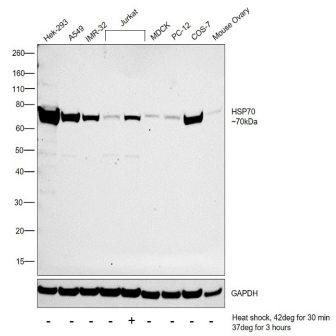
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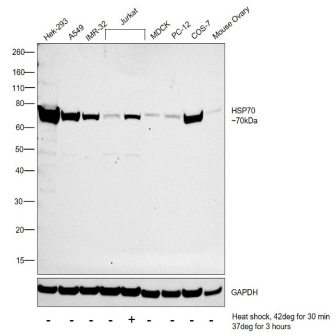
HSP70 Antibody (PA5-32446) in IHC

Immunohistochemical analysis of Heat Shock Protein 70 using anti-Heat Shock Protein 70 Polyclonal Antibody (Product # PA5-32446) in Breast Carcinoma Cancer Tissue. The recommended dilution for this antibody in immunohistochemistry applications is 1:100.



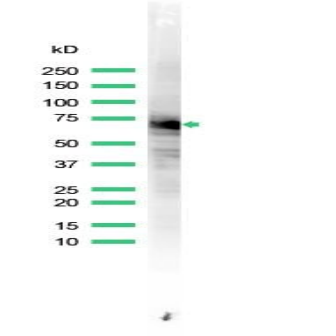
HSP70 Antibody (PA5-32446) in WB

Western blot was performed using Anti-HSP70 Polyclonal Antibody (Product # PA1-37842) and a 70kDa band corresponding to HSP70 was observed across cell lines and tissues tested and was induced upon heat shock in Jurkat cell line. Whole cell extracts (30 µg lysate) of HEK-293 (Lane 1), A549 (Lane 2), IMR-32 (Lane 3), Jurkat (Lane 4), Jurkat treated with heat shock (42deg for 30 min followed by 37deg for 3 hours) (Lane 5), MDCK (Lane 6), PC-12 (Lane 7), COS-7 (Lane 8) and Mouse Ovary (Lane 9) were electrophoresed using Novex® NuPAGE® 4-12 % Bis-Tris gel (Product # NP0322BOX). Resolved proteins were then transferred onto a nitrocellulose membrane (Product # IB23001) by iBlot® 2 Dry Blotting System (Product # IB21001). The blot was probed with the primary antibody (1:1000 dilution) and detected by chemiluminescence with Goat anti-Rabbit IgG (H+L) Superclonal™ Recombinant Secondary Antibody, HRP (Product # A27036, 1:4000 dilution) using the iBright FL 1000 (Product # A32752). Chemiluminescent detection was performed using Novex® ECL Chemiluminescent Substrate Reagent Kit (Product # WP20005).



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HSP70 Antibody (PA5-32446) in WB

Western blot analysis of 293T Cells using anti-Heat Shock Protein 70 Polyclonal Antibody (Product # PA5-32446). The recommended dilution for this antibody in western blot applications is 1:25.

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