

Anti-HSP60/HSPD1 Antibody Picoband®

Catalog Number: PA1106

About Hspd1

HSP60 is a member of the chaperonin class of protein factors, which include the Escherichia coli groEL protein and the Rubisco subunit-binding protein of chloroplasts. It acts as a costimulator of human regulatory CD4-positive/CD25⁻positive T cells, which inhibit lymphoproliferation and IFNG and TNF secretion by CD4-positive and CD8-positive T cells. HSP60 enhances Treg activity via TLR2, leading to activation of an intracellular signaling cascade that included p38, as well as inhibition of ERK phosphorylation. Suppression of target T cells is mediated by both cell-to-cell contact and by secretion of TGFB and IL10, and it leads to downregulation of ERK, NFKB, and TBET expression. The self-molecule HSP60 can downregulate adaptive immune responses by upregulating Tregs through TLR2 signaling.

Overview

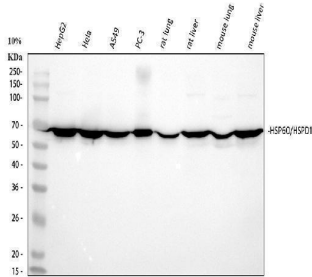
Product Name	Anti-HSP60/HSPD1 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-HSP60/HSPD1 Antibody catalog # PA1106. Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	Flow Cytometry, IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains antibody formulated with stabilizing components, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.01mg Thimerosal, 0.01mg NaN ₃ . *This antibody is supplied in a stabilized formulation. Compatibility with conjugation reactions depends on the chemistry of the conjugation method used. For conjugation methods that are not compatible with the stabilizing components present in this formulation, a carrier-free antibody format is required.
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P63039

Technical Details

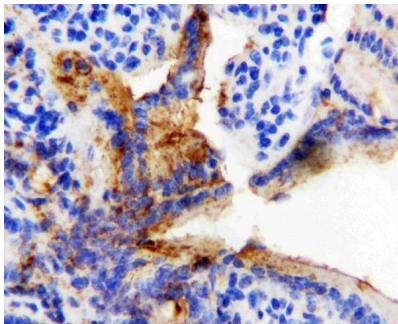
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of rat HSP60, different from the related human sequence by one amino acid.
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Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P) and ICC.
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, Mouse, Rat Immunocytochemistry , 0.5-1ug/ml, Human, - Immunocytochemistry/Immunofluorescence, 5ug/ml, Human Flow Cytometry (Fixed), 1-3ug/1x10 ⁶ cells, Human

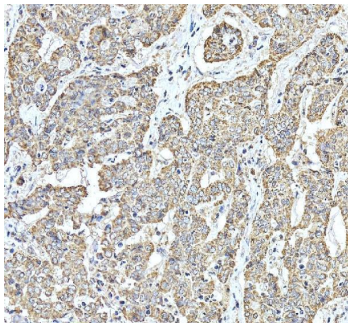
Anti-HSP60/HSPD1 Antibody Picoband® (PA1106) Images



Western blot analysis of HSP60 using anti-HSP60 antibody (PA1106). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human HepG2 whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: human A549 whole cell lysates, Lane 4: human PC-3 whole cell lysates. Lane 5: rat lung tissue lysates, Lane 6: rat liver tissue lysates, Lane 7: mouse lung tissue lysates, Lane 8: mouse liver tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-HSP60 antigen affinity purified polyclonal antibody (Catalog # PA1106) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for HSP60 at approximately 61 kDa. The expected band size for HSP60 is at 61 kDa.

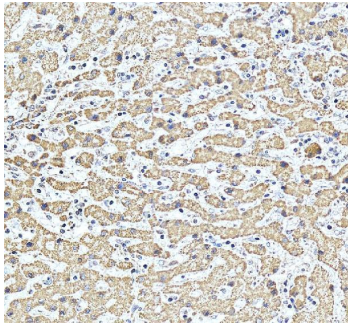


Anti-HSP60 antibody, PA1106, IHC(P)IHC(P): Rat Intestine Tissue

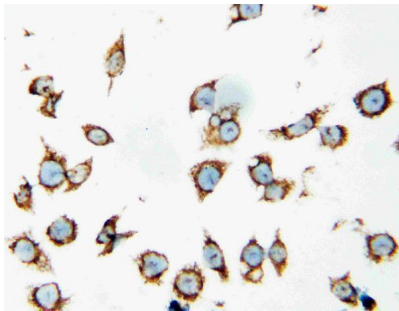


IHC analysis of HSP60/HSPD1 using anti-HSP60/HSPD1 antibody (PA1106). HSP60/HSPD1 was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-HSP60/HSPD1 Antibody (PA1106) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

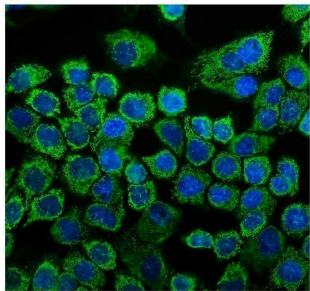
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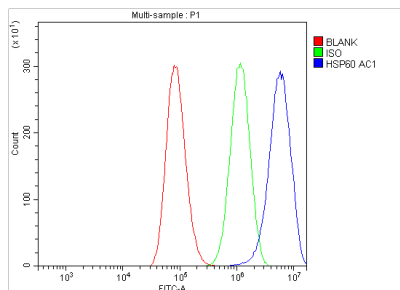
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Anti-HSP60 antibody, PA1106, ICCICC: SMMC Cell



IF analysis of HSPD1 using anti-HSPD1 antibody (PA1106). HSPD1 was detected in immunocytochemical section of A431 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5ug/mL rabbit anti- HSPD1 Antibody (PA1106) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Flow Cytometry analysis of A549 cells using anti-HSPD1 antibody (PA1106). Overlay histogram showing A549 cells stained with PA1106 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-HSPD1 Antibody (PA1106, 1ug/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x10⁶) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

6 Publications Citing This Product

1. PubMed ID: 24735884, Hepatic mitochondrial and ER stress induced by defective PPAR γ signaling in the pathogenesis of hepatic steatosis
2. PubMed ID: 27698781, Expression and location of HSP60 and HSP10 in the heart tissue of heat-stressed rats

3. PubMed ID: 24380831, Li L, Zhai S, Wang L, Si S, Wu H, Chang Z. Fish Shellfish Immunol. 2014 Feb;36(2):401-8. Doi: 10.1016/J.Fsi.2013.12.016. Epub 2013 Dec 29. Hsp60 In Caudal Fin Regeneration From Paramisgurnus Dabryanus: Molecular Cloning And Expression Characteriza...

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Anti-HSP60/HSPD1 Antibody

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