

Anti-Hsp70/HSPA1A/HSPA1B Antibody Picoband®

Catalog Number: PA1813

About HSPA1A

HSPA1 (heat shock 70kDa protein 1A) also known as HSP70-1, HSPA1A, HSP70-1A, HSP72 or HSP70I, is a protein that in humans is encoded by the HSPA1A gene. This intronless gene encodes a 70kDa heat shock protein which is a member of the heat shock protein 70 family. The HSPA1A gene encodes a predicted 641-amino acid protein. The HSPA1 gene is mapped on 6p21.33. Shimizu et al. (1999) found that peripheral blood mononuclear cells of 18 major depression patients expressed a short HSPA1A transcript that utilized exon 1 rather than exon 2, which is found in the more common HSPA1A transcript. No protein was associated with expression of this short HSPA1A mRNA, possibly due to lack of a TATA box or loss of internal ribosome binding sites. Treatment with BGP-15, a pharmacologic inducer of Hsp72 that can protect against obesity-induced insulin resistance, improved muscular architecture, strength, and contractile function in severely affected diaphragm muscles in mdx dystrophic mice.

Overview

Product Name	Anti-Hsp70/HSPA1A/HSPA1B Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Hsp70/HSPA1A/HSPA1B Antibody catalog # PA1813. Tested in 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	IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg Thimerosal, 0.01mg NaN ₃ .
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	P0DMV8

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Hsp70, different from the related mouse sequence by four amino acids and from the related rat sequence by three amino acids.
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), IHC(F) 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, By Heat Immunohistochemistry (Frozen Section), 0.5-1ug/ml, Rat Immunocytochemistry , 0.5-1ug/ml, Human, -

Anti-Hsp70/HSPA1A/HSPA1B Antibody Picoband® (PA1813) Images

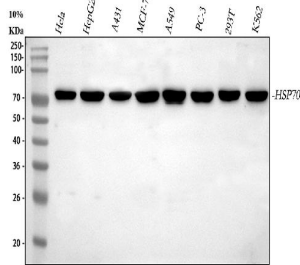


Figure 1. Western blot analysis of HSP70 using anti-HSP70 antibody (PA1813).

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 HeLa whole cell lysates,
Lane 2: human HepG2 whole cell lysates,
Lane 3: human A431 whole cell lysates,
Lane 4: human MCF-7 whole cell lysates,
Lane 5: human A549 whole cell lysates,
Lane 6: human PC-3 whole cell lysates,
Lane 7: human 293T whole cell lysates,
Lane 8: human K562 whole cell 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-HSP70 antigen affinity purified polyclonal antibody (Catalog # PA1813) 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 HSP70 at approximately 70 kDa. The expected band size for HSP70 is at 70 kDa.

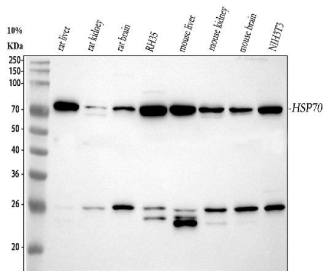


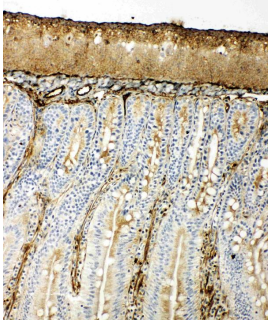
Figure 2. Western blot analysis of HSP70 using anti-HSP70 antibody (PA1813).

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.

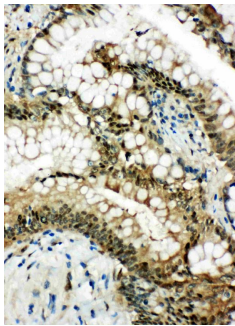
Lane 1: rat liver tissue lysates,
Lane 2: rat kidney tissue lysates,
Lane 3: rat brain tissue lysates,
Lane 4: rat RH35 whole cell lysates,
Lane 5: mouse liver tissue lysates,
Lane 6: mouse kidney tissue lysates,
Lane 7: mouse brain tissue lysates,
Lane 8: mouse NIH/3T3 whole cell lysates.

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-HSP70 antigen affinity purified polyclonal antibody (Catalog # PA1813) 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 HSP70 at approximately 70 kDa. The

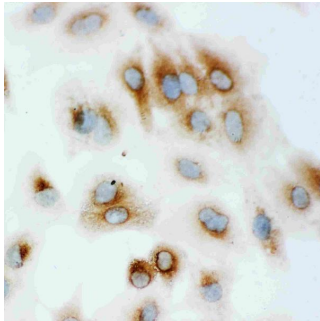
expected band size for HSP70 is at 70 kDa.



Anti-Hsp70 antibody, PA1813, IHC(F)
IHC(F):Rat Intestine Tissue



Anti-Hsp70 antibody, PA1813, IHC(P)
IHC(P): Human Intestinal Cancer Tissue



Anti-Hsp70 antibody, PA1813, ICC
ICC: A549 Cell

12 Publications Citing This Product

1. PubMed ID: 10.1016/j.fsi.2017.03.024, Expression of Hsp70 reveals significant differences between fin regeneration and inflammation in *Paramisgurnus dabryanus*
2. PubMed ID: 23554704, Effects of minocycline on the expression of NGF and HSP70 and its neuroprotection role following intracerebral hemorrhage in rats
3. PubMed ID: 15378770, Down-modulation of heat shock protein 70 and up-modulation of Caspase-3 during schisandrin B-induced apoptosis in human hepatoma SMMC-7721 cells

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