

Product Datasheet

HSP70/HSPA1A Antibody - BSA Free NBP1-77456

Unit Size: 0.1 ml

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

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NBP1-77456

HSP70/HSPA1A Antibody - BSA Free

Product Information	
Unit Size	0.1 ml
Concentration	1.0 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.05% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS and 30% Glycerol

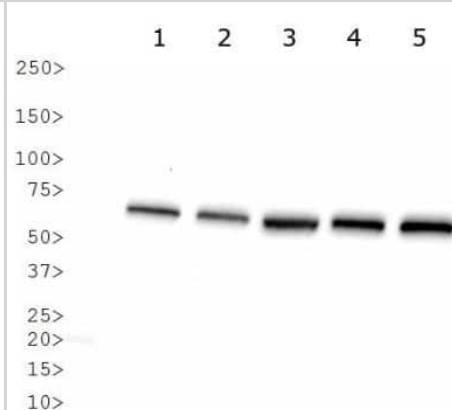
Product Description	
Description	Novus Biologicals Rabbit HSP70/HSPA1A Antibody - BSA Free (NBP1-77456) is a polyclonal antibody validated for use in IHC, WB, Flow and Simple Western. Anti-HSP70/HSPA1A Antibody: Cited in 10 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Rabbit
Gene ID	3303
Gene Symbol	HSPA1A
Species	Human, Rat
Reactivity Notes	Use in Human reported in scientific literature (PMID:33760187).
Immunogen	A synthetic peptide made to a C-terminus portion of the human Hsp70 protein (between residues 600-641) [UniProt # P08107]

Product Application Details	
Applications	Western Blot, Simple Western, Immunohistochemistry-Paraffin, Electron Microscopy, Flow Cytometry, Immunohistochemistry, Block/Neutralize
Recommended Dilutions	Western Blot 1:1000, Simple Western 1:50, Flow Cytometry reported in scientific literature (PMID 33760187), Immunohistochemistry 1:400, Immunohistochemistry-Paraffin 1:400, Electron Microscopy reported in scientific literature (PMID 33335563), Block/Neutralize reported in scientific literature (PMID 30417859)
Application Notes	<p>This Hsp70 antibody is useful for Western blot and IHC-paraffin embedded sections.</p> <p>In Simple Western only 10 - 15 uL of the recommended dilution is used per data point.</p> <p>See Simple Western Antibody Database for Simple Western validation: Tested in HeLa lysate 1.0 mg/mL, separated by Size, antibody dilution of 1:50, apparent MW was 67 kDa. Separated by Size-Wes, Sally Sue/Peggy Sue.</p>

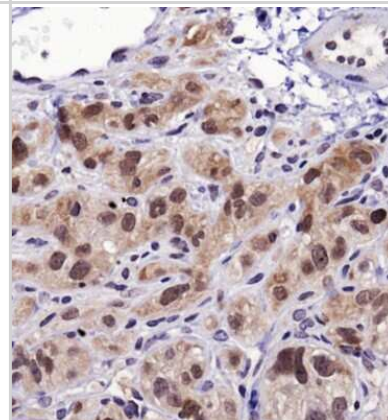


Images

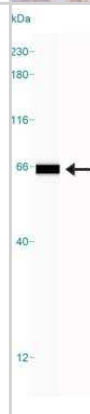
Western Blot: HSP70/HSPA1A Antibody [NBP1-77456] - Analysis of HSP70 in (1) human brain, (2) human liver, (3) human testes, (4) human skeletal muscle, and (5) human heart.



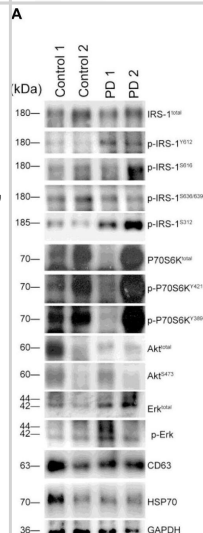
Immunohistochemistry: HSP70/HSPA1A Antibody [NBP1-77456] - Analysis of Hsp70 in human xenograft kidney cancer using DAB with hematoxylin counterstain.



Simple Western: HSP70/HSPA1A Antibody [NBP1-77456] - Lane view shows a specific band for Hsp70 in 1.0 mg/ml of HeLa lysate. This experiment was performed under reducing conditions using the 12-230kDa separation system.



Total IRS-1, p-IRS-1 and downstream substrates level in blood neuron-derived extracellular vesicles. (A) The representative protein blot images of IRS-1 and different phosphorylated forms of IRS-1, including Y612, S616, S636/639, and S312. HSP70 and CD63 were exosomal proteins and markers. GAPDH was the protein loading control (1 and 2 indicate different samples). Comparison of the levels of total IRS-1, p-IRS-1Y612, p-IRS-1S616, p-IRS-1S636/639, p-IRS-1S312(B), and downstream IRS-1 substrates (C–E) between healthy controls [with or without diabetes mellitus (DM)] and Parkinson's disease (PD) patients (with or without DM). The phosphorylation status of IRS-1, P70S6K, Akt, and Erk was normalized to total form IRS-1, P70S6K, Akt, and Erk. (F) The EV markers—CD63 and HSP70 was not different between 4 groups. Data was presented as mean \pm SEM. * $p < 0.05$. Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/33344443>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Ibrahim T, Wu P, Wang LJ et al. Sex-dependent differences in the genomic profile of lingual sensory neurons in naïve and tongue-tumor bearing mice *Scientific Reports* 2023-08-12 [PMID: 37573456] (Block/Neutralize, Rat)

Chan L, Hsu W, Chen KY et al. Therapeutic Effect of Human Adipocyte-derived Stem Cell-derived Exosomes on a Transgenic Mouse Model of Parkinson's Disease *In vivo* (Athens, Greece) 2023-08-31 [PMID: 37652511] (WB, Human)

Ibrahim T, Wu P, Wang LJ et al. Sex-dependent Differences in the Genomic Profile of Lingual Sensory Neurons in Naïve and Tongue-Tumor Bearing Mice *bioRxiv : the preprint server for biology* 2023-05-14 [PMID: 36711730] (IHC-Fr, Mouse)

Chung CC, Chan L, Chen JH et al. Plasma extracellular vesicles tau and beta-amyloid as biomarkers of cognitive dysfunction of Parkinson's disease *FASEB journal : official publication of the Federation of American Societies for Experimental Biology* 2021-10-01 [PMID: 34478572]

Freund E, Miebach L, Stope MB, Bekeschus S Hypochlorous acid selectively promotes toxicity and the expression of danger signals in human abdominal cancer cells *Oncology reports* 2021-05-01 [PMID: 33760187] (FLOW, Human)

Aoki S, Harada K, Kawai S, et al. Expression of Heat Shock Proteins in Response to Mild Short-term Heat Shock in Human Deciduous Dental Pulp Fibroblast-like Cells *Journal of Hard Tissue Biology* 2021-01-26

Chung CC, Chan L, Chen JH et al. Neurofilament light chain level in plasma extracellular vesicles and Parkinson's disease *Therapeutic advances in neurological disorders* 2020-12-07 [PMID: 33335563] (EM, Human)

Chou SY, Chan L, Chung CC et al. Altered Insulin Receptor Substrate 1 Phosphorylation in Blood Neuron-Derived Extracellular Vesicles From Patients With Parkinson's Disease *Frontiers in cell and developmental biology* 2020-12-03 [PMID: 33344443] (Human)

Chung CC, Huang PH, Chan L et al. Plasma Exosomal Brain-Derived Neurotrophic Factor Correlated with the Postural Instability and Gait Disturbance-Related Motor Symptoms in Patients with Parkinson's Disease *Diagnostics* (Basel, Switzerland) 2020-09-11 [PMID: 32932791] (WB, Human)

Brewster LM, Coombs GB, Garcia VP et al. Effects of circulating extracellular microvesicles from spinal cord injured adults on endothelial cell function *Clin. Sci.* 2020-03-27 [PMID: 32219341] (Human)

Wu Hsing-Hsien, Huang Chien-Cheng, Chang Ching-Ping et al. Heat Shock Protein 70 (HSP70) Reduces Hepatic Inflammatory and Oxidative Damage in a Rat Model of Liver Ischemia/Reperfusion Injury with Hyperbaric Oxygen Preconditioning. *Medical Science Monitor : International Medical Journal of Experimental and Clinical Research* 2018-11-12 [PMID: 30417859] (B/N, Rat)



Procedures

Western Blot protocol specific for Hsp70 antibody (NBP1-77456)

HSP70/HSPA1A Antibody:

Western Blot Protocol

1. Perform SDS-PAGE on samples to be analyzed, loading 40 ug of total protein per lane.
2. Transfer proteins to membrane according to the instructions provided by the manufacturer of the membrane and transfer apparatus.
3. Stain according to standard Ponceau S procedure (or similar product) to assess transfer success, and mark molecular weight standards where appropriate.
4. Rinse the blot.
5. Block the membrane using standard blocking buffer for at least 1 hour.
6. Wash the membrane in wash buffer three times for 10 minutes each.
7. Dilute primary antibody in blocking buffer and incubate 1 hour at room temperature.
8. Wash the membrane in wash buffer three times for 10 minutes each.
9. Apply the diluted HRP conjugated secondary antibody in blocking buffer (as per manufacturers instructions) and incubate 1 hour at room temperature.
10. Wash the blot in wash buffer three times for 10 minutes each (this step can be repeated as required to reduce background).
11. Apply the detection reagent of choice in accordance with the manufacturers instructions.

*Note: Tween-20 can be added to the blocking or antibody dilution buffer at a final concentration of 0.05-0.2%.

Immunohistochemistry-Paraffin protocol for HSP70/HSPA1A Antibody (NBP1-77456)

HSP70/HSPA1A Antibody:

Immunohistochemistry-Paraffin Embedded Sections

Antigen Unmasking:

Bring slides to a boil in 10 mM sodium citrate buffer (pH 6.0) then maintain at a sub-boiling temperature for 10 minutes. Cool slides on bench-top for 30 minutes.

Staining:

1. Wash sections in deionized water three times for 5 minutes each.
2. Wash sections in wash buffer for 5 minutes.
3. Block each section with 100-400 ul blocking solution for 1 hour at room temperature.
4. Remove blocking solution and add 100-400 ul diluted primary antibody. Incubate overnight at 4C.
5. Remove antibody solution and wash sections in wash buffer three times for 5 minutes each.
6. Add 100-400 ul biotinylated diluted secondary antibody. Incubate 30 minutes at room temperature.
7. Remove secondary antibody solution and wash sections three times with wash buffer for 5 minutes each.
8. Add 100-400 ul Streptavidin-HRP reagent to each section and incubate for 30 minutes at room temperature.
9. Wash sections three times in wash buffer for 5 minutes each.
10. Add 100-400 ul DAB substrate to each section and monitor staining closely.
11. As soon as the sections develop, immerse slides in deionized water.
12. Counterstain sections in hematoxylin.
13. Wash sections in deionized water two times for 5 minutes each.
14. Dehydrate sections.
15. Mount coverslips.

*The above information is only intended as a guide. The researcher should determine what protocol best meets their needs. Please follow safe laboratory procedures.



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Products Related to NBP1-77456

NB820-59177	Human Brain Whole Tissue Lysate (Adult Whole Normal)
NBP2-33376H	Blue Marker Antibody (6F4-F6) [HRP]
HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control

Limitations

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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