Product Datasheet

Hsp47 Antibody (M16.10A1) - BSA Free
NBP1-97491-0.05mg

Unit Size: 0.05 mg

Store at -20C. Avoid freeze-thaw cycles.

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Reviews: 2 Publications: 18

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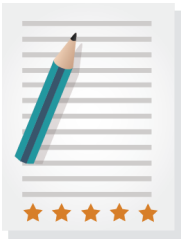
Updated 9/9/2025 v.20.1



NBP1-97491-0.05mg

Hsp47 Antibody (M16.10A1) - BSA Free

Product Information

Unit Size	0.05 mg
Concentration	1.0 mg/ml
Storage	Store at -20C. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	M16.10A1
Preservative	0.09% Sodium Azide
Isotype	IgG2b
Purity	Protein G purified
Buffer	PBS (pH 7.2) and 50% Glycerol

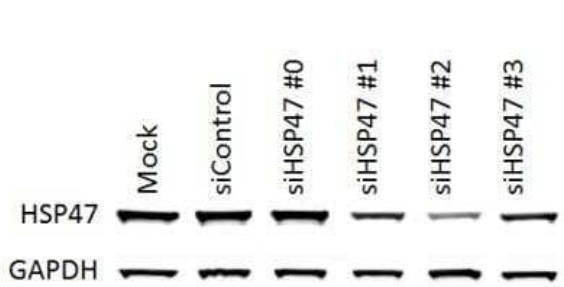
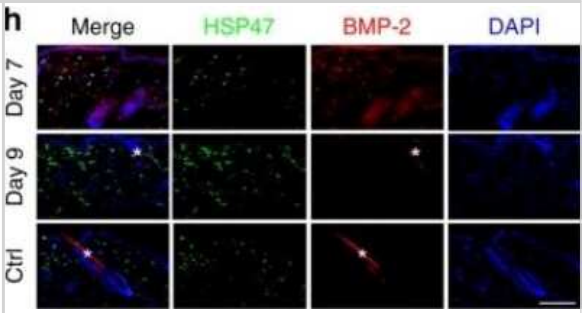
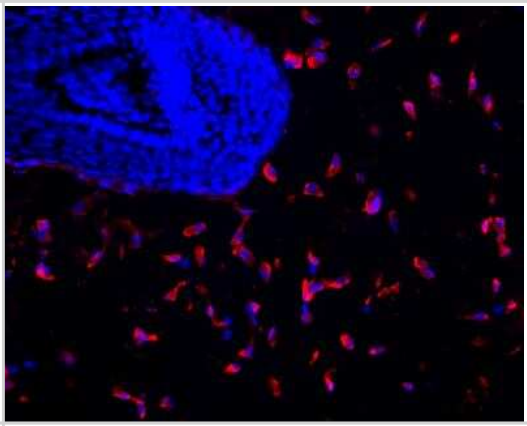
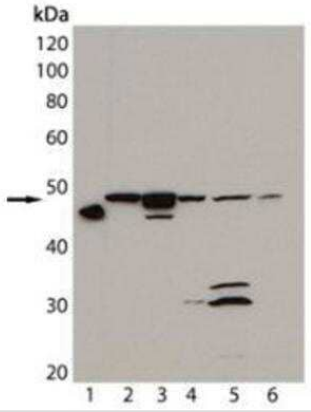
Product Description

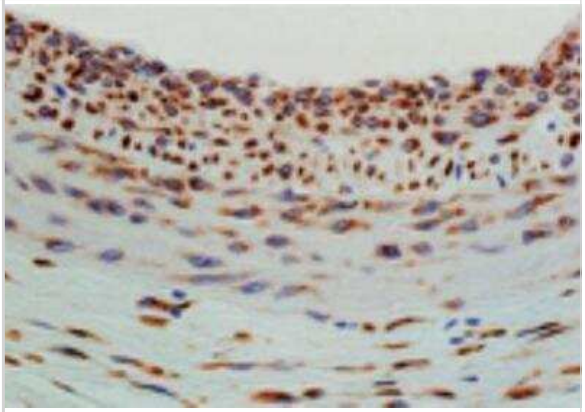
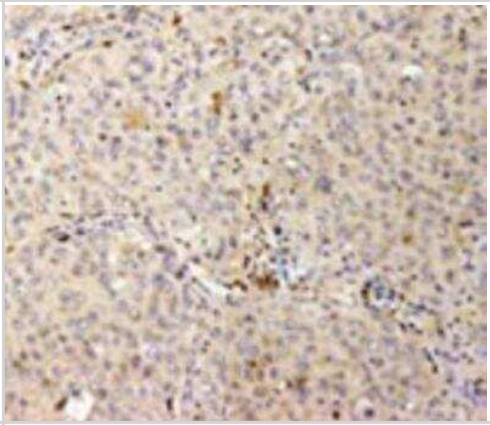
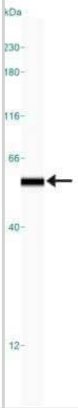
Description	Novus Biologicals Mouse Hsp47 Antibody (M16.10A1) - BSA Free (NBP1-97491) is a monoclonal antibody validated for use in IHC, WB, Flow, ICC/IF, Simple Western and IP. Anti-Hsp47 Antibody: Cited in 18 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Mouse
Gene ID	871
Gene Symbol	SERPINH1
Species	Human, Mouse, Rat, Porcine, Bovine, Canine, Chicken, Guinea Pig, Hamster, Monkey, Rabbit, Sheep
Reactivity Notes	Recognizes Sheep HSP47. Please note that this antibody is reactive to Mouse and derived from the same host, Mouse. Mouse-On-Mouse blocking reagent may be needed for IHC and ICC experiments to reduce high background signal. You can find these reagents under catalog numbers PK-2200-NB and MP-2400-NB. Please contact Technical Support if you have any questions.
Immunogen	Native rat HSP47.

Product Application Details

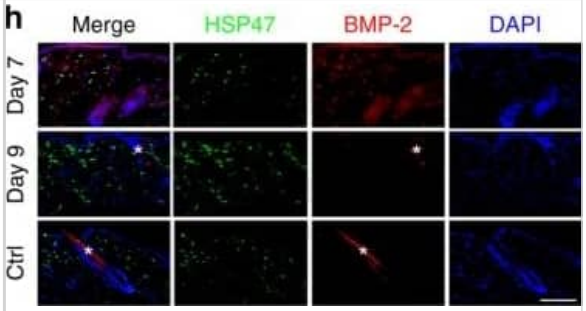
Applications	Western Blot, Simple Western, Immunohistochemistry-Paraffin, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunoprecipitation, Knockdown Validated
Recommended Dilutions	Western Blot 1:1000, Simple Western 1:100, Flow Cytometry 1:10-1:1000, Immunohistochemistry 1:10-1:500, Immunocytochemistry/ Immunofluorescence 1:10-1:500, Immunoprecipitation 1:10-1:500, Immunohistochemistry-Paraffin 1:50, Immunohistochemistry-Frozen 1:10-1:500, Knockdown Validated
Application Notes	This antibody is useful in IHC and detects a band of ~47kDa by WB. Immunoprecipitation, Flow Cytometry and ICC/IF were reported in scientific literature. In Simple Western only 10 - 15 uL of the recommended dilution is used per data point. See Simple Western Antibody Database for Simple Western validation: Tested in NIH-3T3 lysate, separated by Size, antibody dilution of 1:100, apparent MW was 57 kDa.

Images

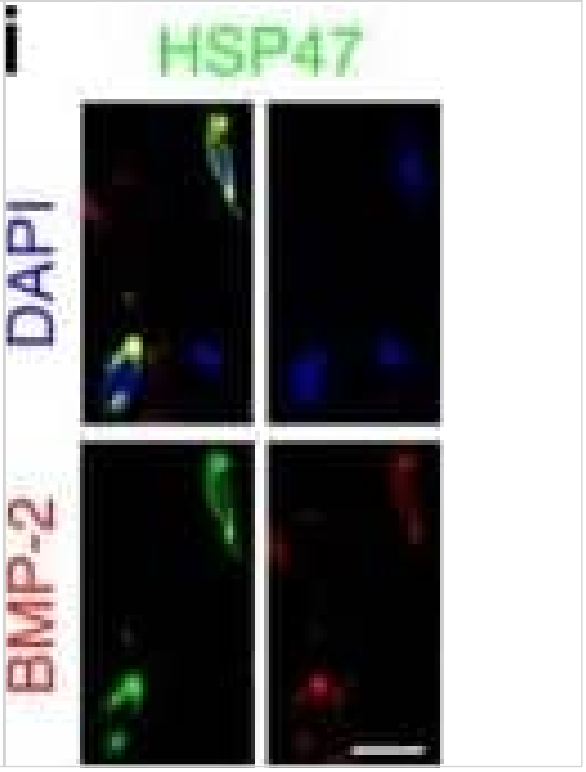
Western Blot: Hsp47 Antibody (M16.10A1) [NBP1-97491] - analysis of Hsp47 in NIH/3T3 cell lysate (20ug/lane) using anti-Hsp47 antibody. 5x10^4 NIH/3T3 cells were seeded in 6-well plate and transfected with 50nM of HSP47 siRNA the following day. Total protein was harvested 72h after transfection. Image from verified customer review.	
Immunocytochemistry/Immunofluorescence: Hsp47 Antibody (M16.10A1) [NBP1-97491] - WNT and BMP signaling pathways play crucial roles in regeneration. a-d Real-time PCR for WNT and BMP signals, including Wnt7b Dual immunostaining for K15 and phospho-Smad1/5 (pSmad1/5) revealed the nuclear staining of pSmad1/5 in hair stem cells at day 7 when skin was stretched (arrow). Scale bar?=?50? um. h, i Immunostaining and confocal microscope. Image collected and cropped by CiteAb from the following publication (//www.nature.com/articles/s41467-019-09402-8) licensed under a CC-BY license.	
Immunohistochemistry-Frozen: Hsp47 Antibody (M16.10A1) [NBP1-97491] - Hsp47 antibody in guinea pig skin (subdermis). Image from verified customer review.	
Western Blot: Hsp47 Antibody (M16.10A1) [NBP1-97491] - Analysis of HSP47, mAb (M16.10A1): Lane 1: Rat recombinant HSP47; Lane 2: Rat-2 (heat shocked); Lane 3: L929 (heat shocked); Lane 4: 3T3 (heat shocked); Lane 5: CHO (heat shocked); Lane 6: HeLa (heat shocked).	

Immunohistochemistry-Paraffin: Hsp47 Antibody (M16.10A1) [NBP1-97491] - Analysis of paraffin-embedded tissue section of rat carotid artery 14 days after balloon-injury to the artery, stained using Hsp47 (Colligin) mAb (M16.10A1).	
Immunohistochemistry-Paraffin: Hsp47 Antibody (M16.10A1) [NBP1-97491] - Analysis of human breast cancer tissue immunohistochemically stained using Hsp47 mAb (M16.10A1).	
Simple Western: Hsp47 Antibody (M16.10A1) [NBP1-97491] - Simple Western lane view shows a specific band for Hsp47 in 0.5 mg/ml of NIH-3T3 lysate. This experiment was performed under reducing conditions using the 12-230 kDa separation system.	

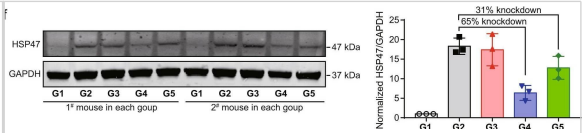
Immunocytochemistry/ Immunofluorescence: Hsp47 Antibody (M16.10A1) [NBP1-97491] - WNT & BMP signaling pathways play crucial roles in regeneration. a–d Real-time PCR for WNT & BMP signals, including Wnt7b (a), Wnt10a (b), Lef1 (c), & Bmp2 (d) in response to stretch (day 1 & day 7) & release of stretch (day 9); n = 6 for each group. e Schematic of hair cycle activator & inhibitor in response to strain alteration. f Dual immunostaining for K15 & β-catenin revealed nuclear staining of β-catenin in hair follicles at day 9 & day 14 when stretch was released. Scale bar = 50 μm. g Dual immunostaining for K15 & phospho-Smad1/5 (pSmad1/5) revealed the nuclear staining of pSmad1/5 in hair stem cells at day 7 when skin was stretched (arrow). Scale bar = 50 μm. h, i Immunostaining (h) & confocal microscope (i) revealed co-localization of HSP47 & BMP-2 signals at day 7 when skin was stretched. Scale bar = 100 μm (h) or 10 μm (i). j, k Immunostaining (j) & confocal microscope (k) revealed co-localization of Perilipin-1 & BMP-2 signals at day 7 when skin was stretched. Scale bar = 100 μm (j) or 10 μm (k). Statistical significance was determined using ANOVA followed by a Bonferroni post hoc test. Data are presented as means ± SEM. *p < 0.05. **p < 0.01. ***p < 0.001. Source data are provided as a Source Data file. *Autofluorescence of hair shafts in g, h Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/30944305), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



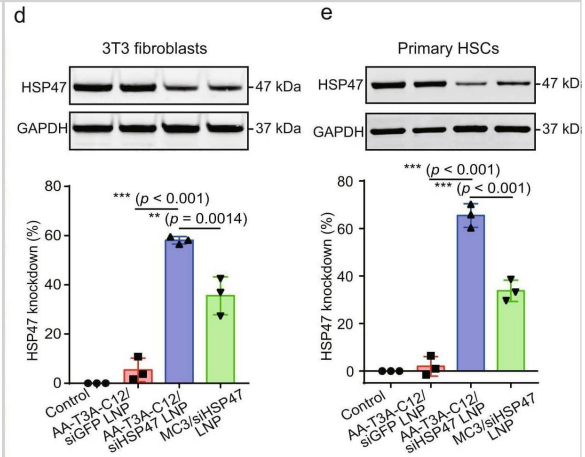
Immunocytochemistry/ Immunofluorescence: Hsp47 Antibody (M16.10A1) [NBP1-97491] - WNT & BMP signaling pathways play crucial roles in regeneration. a–d Real-time PCR for WNT & BMP signals, including Wnt7b (a), Wnt10a (b), Lef1 (c), & Bmp2 (d) in response to stretch (day 1 & day 7) & release of stretch (day 9); n = 6 for each group. e Schematic of hair cycle activator & inhibitor in response to strain alteration. f Dual immunostaining for K15 & β-catenin revealed nuclear staining of β-catenin in hair follicles at day 9 & day 14 when stretch was released. Scale bar = 50 μm. g Dual immunostaining for K15 & phospho-Smad1/5 (pSmad1/5) revealed the nuclear staining of pSmad1/5 in hair stem cells at day 7 when skin was stretched (arrow). Scale bar = 50 μm. h, i Immunostaining (h) & confocal microscope (i) revealed co-localization of HSP47 & BMP-2 signals at day 7 when skin was stretched. Scale bar = 100 μm (h) or 10 μm (i). j, k Immunostaining (j) & confocal microscope (k) revealed co-localization of Perilipin-1 & BMP-2 signals at day 7 when skin was stretched. Scale bar = 100 μm (j) or 10 μm (k). Statistical significance was determined using ANOVA followed by a Bonferroni post hoc test. Data are presented as means ± SEM. *p < 0.05. **p < 0.01. ***p < 0.001. Source data are provided as a Source Data file. *Autofluorescence of hair shafts in g, h Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/30944305), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



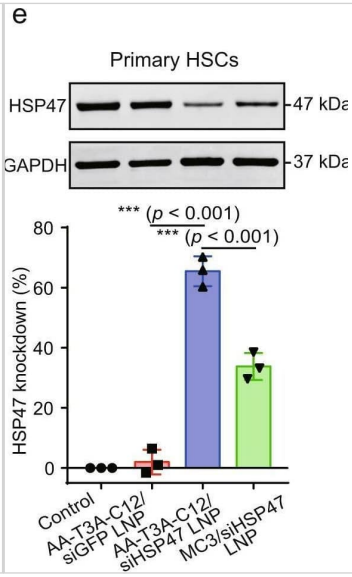
Biodistribution and HSP47 silencing activity of LNPs in fibrotic mice.a Ex vivo fluorescence imaging and signal quantification of major organs from PBS, AA-T3A-C12 LNP/Cy5-siRNA or MC3 LNP/Cy5-siRNA treated fibrotic mice (representative dataset from n = 3/group). b Scheme of CCl4 and LNP treatment. Mice received intraperitoneal (i.p.) injections of 20% CCl4 (0.7 µl/g) in corn oil twice a week for 4 weeks. LNPs were intravenously (i.v.) administered at a siRNA dose of 5 µg/mouse twice weekly for 2 weeks. c Body weight changes of mice over time during the experiment (n = 5/group). d Body weight at the end of the experiment (n = 5/group). e IF staining of HSP47 in liver sections (representative dataset from n = 5/group). Arrows indicate central veins. Quantitative analysis was performed using ImageJ software (n = 5/group). Scale bar: 100 µm. f Western blot analysis of HSP47 expression in liver lysates (representative dataset from n = 3/group). GAPDH was used as an internal control. Representative images for two sets of mouse liver samples are shown. Quantitative analysis was performed using ImageJ software (n = 3/group). Data are presented as mean +/- SD. G1, healthy mice; G2, PBS-treated fibrotic mice; G3, AA-T3A-C12/siGFP LNP-treated fibrotic mice; G4, AA-T3A-C12/siHSP47 LNP-treated fibrotic mice; G5, MC3/siHSP47 LNP-treated fibrotic mice. ns, not significant; *p < 0.05; **p < 0.01; ***p < 0.001. a, d, e one-way ANOVA with Tukey's correction. Source data are provided as a Source Data file. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/36650129), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



AA-T3A-C12 LNP-mediated GFP and HSP47 knockdown in activated fibroblasts.a GFP knockdown using AA-T3A-C12/siGFP LNP (n = 3/group). Activated 3T3-GFP fibroblasts were treated with AA-T3A-C12/siGFP LNP at the indicated dose for 24 or 48 h. b Flow cytometry analysis of GFP expression after AA-T3A-C12/siGFP LNP treatment for 48 h (representative dataset from n = 3/group). c Immunofluorescence (IF) staining of HSP47 in LNP-treated activated 3T3 fibroblasts. Scale bar: 20 µm. d and e Western blot analysis of HSP47 expression in LNP-treated activated 3T3 fibroblasts and primary HSCs (representative dataset from n = 3/group). GAPDH was used as an internal control. Quantitative analysis was performed using ImageJ software. Data are presented as mean +/- SD (n = 3). **p < 0.01; ***p < 0.001. b, d, e one-way ANOVA with Tukey's correction. Source data are provided as a Source Data file. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/36650129), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



AA-T3A-C12 LNP-mediated GFP and HSP47 knockdown in activated fibroblasts.a GFP knockdown using AA-T3A-C12/siGFP LNP (n = 3/group). Activated 3T3-GFP fibroblasts were treated with AA-T3A-C12/siGFP LNP at the indicated dose for 24 or 48 h. b Flow cytometry analysis of GFP expression after AA-T3A-C12/siGFP LNP treatment for 48 h (representative dataset from n = 3/group). c Immunofluorescence (IF) staining of HSP47 in LNP-treated activated 3T3 fibroblasts. Scale bar: 20 μm. d and e Western blot analysis of HSP47 expression in LNP-treated activated 3T3 fibroblasts and primary HSCs (representative dataset from n = 3/group). GAPDH was used as an internal control. Quantitative analysis was performed using ImageJ software. Data are presented as mean +/- SD (n = 3). **p < 0.01; ***p < 0.001. b, d, e one-way ANOVA with Tukey's correction. Source data are provided as a Source Data file. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/36650129), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Gan, C;Yaqoob, U;Lu, J;Xie, M;Anwar, AA;Jalan-Sakrikar, N;Jerez, S;Sehrawat, T;Navarro-Corcuera, A;Kostallari, E;Habash, NW;Cao, S;Shah, VH; Liver Sinusoidal Endothelial Cells Contribute to Portal Hypertension Through Collagen Type IV-Driven Sinusoidal Remodeling JCI insight 2024-05-07 [PMID: 38713515]

Xuexiang Han, Ningqiang Gong, Lulu Xue, Margaret M. Billingsley, Rakan El-Mayta, Sarah J. Shepherd, Mohamad-Gabriel Alameh, Drew Weissman, Michael J. Mitchell Ligand-tethered lipid nanoparticles for targeted RNA delivery to treat liver fibrosis Nature Communications 2023-01-17 [PMID: 36650129]

Sano M, Hirakawa S, Sasaki T et al. Role of Subcutaneous Adipose Tissues in the Pathophysiology of Secondary Lymphedema Lymphatic research and biology 2022-04-07 [PMID: 35394362] (IHC-P, Rat)

Sun X, Chen C, Liu H, Tang S High glucose induces HSP47 expression and promotes the secretion of inflammatory factors through the IRE1 alpha /XBP1/HIF-1 alpha pathway in retinal MUller cells Experimental and therapeutic medicine 2021-12-01 [PMID: 34676004] (IP, WB, Mouse)

Kim SH, Kim B, Kim JH Et al. L-myc Gene Expression in Canine Fetal Fibroblasts Promotes Self-Renewal Capacity but Not Tumor Formation Cells 2021-08-04 [PMID: 34440750] (ICC/IF)

Marom R, Burrage LC, Venditti R Et al. COPB2 loss of function causes a coatopathy with osteoporosis and developmental delay American journal of human genetics 2021-08-24 [PMID: 34450031]

Strack E, Rolfe PA, Fink AF et al. Identification of tumor associated macrophage subsets that are associated with breast cancer prognosis Clinical and translational medicine 2020-12-01 [PMID: 33377644] (ICC/IF, Human)

Khalil H, Kanisicak O, Vagnozzi RJ et al. Cell-specific ablation of Hsp47 defines the collagen-producing cells in the injured heart JCI Insight 2019-08-08 [PMID: 31393098] (WB, Mouse)

Chu, SY;Chou, CH;Huang, HD;Yen, MH;Hong, HC;Chao, PH;Wang, YH;Chen, PY;Nian, SX;Chen, YR;Liou, LY;Liu, YC;Chen, HM;Lin, FM;Chang, YT;Chen, CC;Lee, OK; Mechanical stretch induces hair regeneration through the alternative activation of macrophages Nat Commun 2019-04-03 [PMID: 30944305] (ICC/IF, Mouse)

A Furusu et al. Renoprotective Effect of Azelnidipine in Rats. Biol. Pharm. Bull. 31, 2237 . 2008-01-01 [PMID: 19043206] (IF/IHC, Rat)

D Li et al. Novel Adenoviral Gene Delivery System Targeted Against Head and NeckCancer. Laryngoscope 118, 650 . 2008-01-01 [PMID: 18176343] (FLOW, ICC/IF, Human)

Y Ogawa et al. Role of heat shock protein 47, a collagen-binding chaperone, inlacrimal gland pathology in patients with cGVHD. Invest. Ophthalmol. Vis. Sci. 48, 1079 . 2007-01-01 [PMID: 17325149] (WB, IF/IHC, ICC/IF, Human)

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HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB7539	Goat anti-Mouse IgG (H+L) Secondary Antibody [HRP]
NBP2-27231	Mouse IgG2b Isotype Control (MPC-11)

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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