

# Product Datasheet

## BRP44L Antibody - BSA Free NBP1-91706

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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**Publications: 8**

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Updated 12/2/2025 v.20.1

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**NBP1-91706**

BRP44L Antibody - BSA Free

Product Information	
<b>Unit Size</b>	0.1 ml
<b>Concentration</b>	Concentrations vary lot to lot. See vial label for concentration. If unlisted please contact technical services.
<b>Storage</b>	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
<b>Clonality</b>	Polyclonal
<b>Preservative</b>	0.02% Sodium Azide
<b>Isotype</b>	IgG
<b>Purity</b>	Affinity purified
<b>Buffer</b>	PBS (pH 7.2) and 40% Glycerol

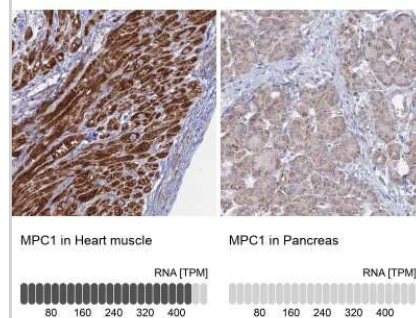
Product Description	
<b>Description</b>	Novus Biologicals Knockout (KO) Validated Rabbit BRP44L Antibody - BSA Free (NBP1-91706) is a polyclonal antibody validated for use in IHC, WB and ICC/IF. Anti-BRP44L Antibody: Cited in 8 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
<b>Host</b>	Rabbit
<b>Gene ID</b>	51660
<b>Gene Symbol</b>	MPC1
<b>Species</b>	Human, Mouse
<b>Reactivity Notes</b>	Mouse reactivity reported in scientific literature (PMID: 28624784).
<b>Immunogen</b>	This antibody was developed against Recombinant Protein corresponding to amino acids: MAGALVRKAADYVRSKDFRDYLMSTHFWGPVANWGLPIAAINDMKKSPEIISGR

Product Application Details	
<b>Applications</b>	Western Blot, Immunohistochemistry-Paraffin, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Knockout Validated
<b>Recommended Dilutions</b>	Western Blot 0.04-0.4 ug/ml, Immunohistochemistry 1:500 - 1:1000, Immunocytochemistry/ Immunofluorescence 0.25-2 ug/ml, Immunohistochemistry-Paraffin 1:500 - 1:1000, Knockout Validated
<b>Application Notes</b>	For IHC-Paraffin, HIER pH 6 retrieval is recommended. ICC/IF Fixation Permeabilization: Use PFA/Triton X-100.

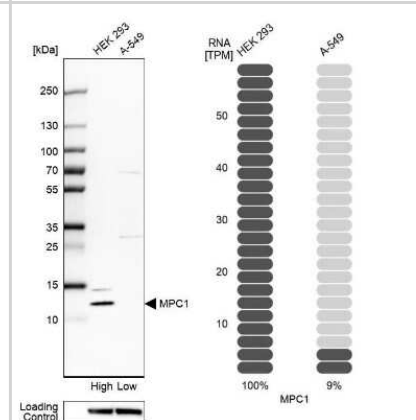


## Images

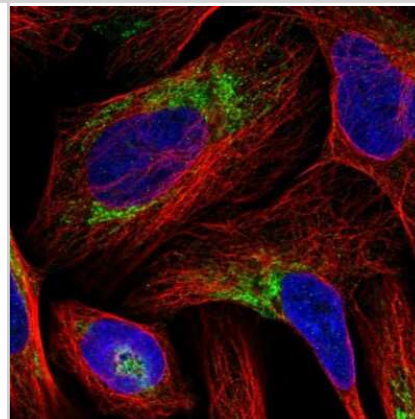
Immunohistochemistry-Paraffin: BRP44L Antibody [NBP1-91706] - Staining in human heart muscle and pancreas tissues.. Corresponding MPC1 RNA-seq data are presented for the same tissues.



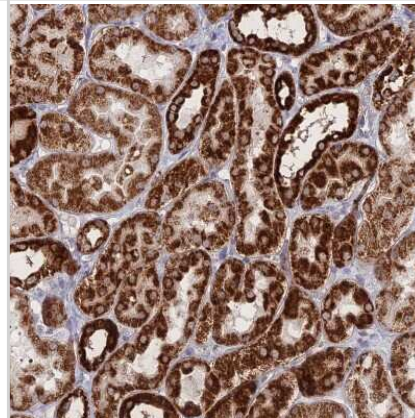
Western Blot: BRP44L Antibody [NBP1-91706] - Analysis in human cell lines HEK293 and A-549 using anti-MPC1 antibody. Corresponding MPC1 RNA-seq data are presented for the same cell lines. Loading control: anti-COX411.



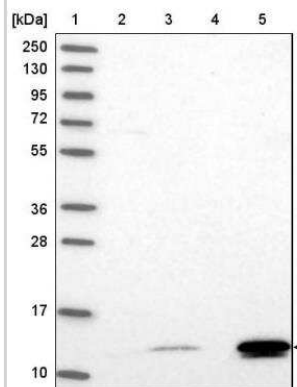
Immunocytochemistry/Immunofluorescence: BRP44L Antibody [NBP1-91706] - Staining of human cell line U-2 OS shows localization to mitochondria. Antibody staining is shown in green.



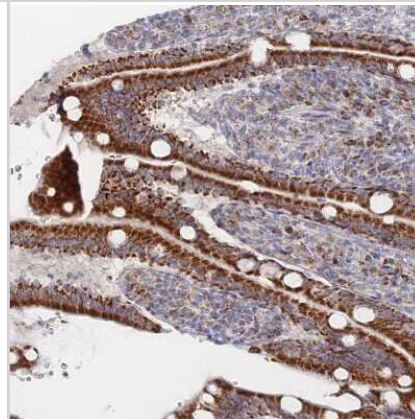
Immunohistochemistry-Paraffin: BRP44L Antibody [NBP1-91706] - Staining of human kidney shows moderate to strong positivity in mitochondria in cells in tubules.



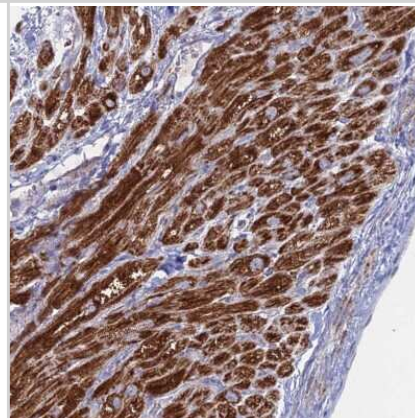
Western Blot: BRP44L Antibody [NBP1-91706] - Lane 1: Marker [kDa] 250, 130, 95, 72, 55, 36, 28, 17, 10. Lane 2: Human cell line RT-4. Lane 3: Human cell line U-251MG sp. Lane 4: Human plasma (IgG/HSA depleted). Lane 5: Human liver tissue



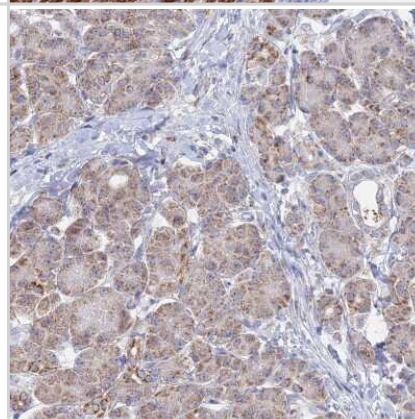
Immunohistochemistry-Paraffin: BRP44L Antibody [NBP1-91706] - Staining of human duodenum shows strong positivity in mitochondria in glandular cells.



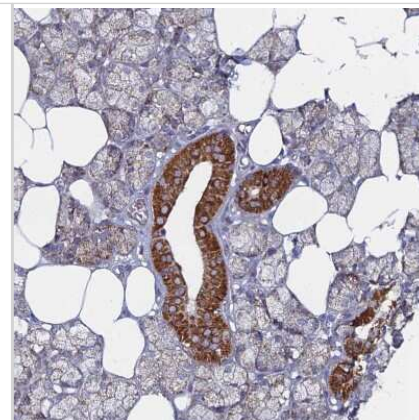
Immunohistochemistry-Paraffin: BRP44L Antibody [NBP1-91706] - Staining of human heart muscle shows strong positivity in mitochondria in cardiomyocytes.



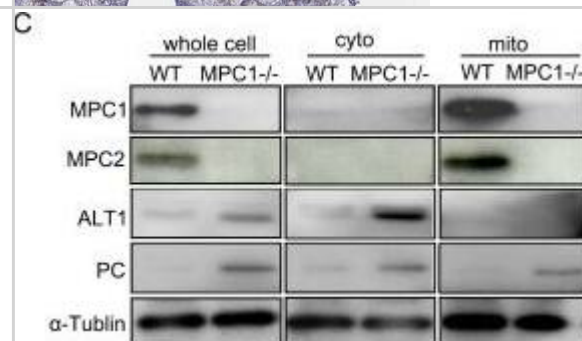
Immunohistochemistry-Paraffin: BRP44L Antibody [NBP1-91706] - Staining of human pancreas shows weak positivity in exocrine glandular cells as expected.



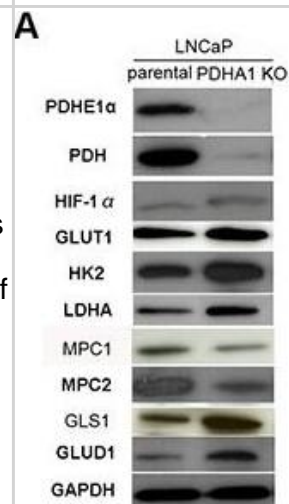
Immunohistochemistry-Paraffin: BRP44L Antibody [NBP1-91706] - Staining of human salivary gland shows strong positivity in mitochondria in ductal cells.



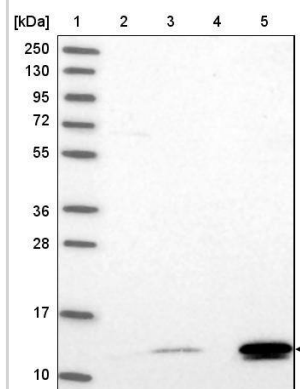
Western Blot: BRP44L Antibody [NBP1-91706] - Characterization of MPC1<sup>-/-</sup> in the RM-1 murine prostate cancer cells (A) Shows representative sequencings of the MPC1 PCR products in WT & MPC1<sup>-/-</sup> cells. The upper panel shows a representative MPC1 PCR product sequencing chart of WT cells at the left part, & the right part on the upper panel shows the full cDNA sequence & the speculated amino acids (110 amino acids). The left part on the lower panel shows a representative MPC1 PCR product of the MPC1<sup>-/-</sup> cells, which reveals double sets of peak. The right part of the lower panel shows the mutated DNA sequences at both alleles, on which one allele on the upper part has a two-base "at" deletion (green arrow), while another allele on the lower part harbors one base "a" insertion (red arrow). Both mutated sequences create an early terminator "tga", which results in only 1/3 of the translation (41 amino acids in the upper allele & 42 amino acids in another allele). (B) The IF & IHC results. Co-localization of MPC1 or MPC2 & the mitochondrial protein MT-CO1 are shown in the WT RM-1 cells, while there is no MPC1 protein expression revealed by either IF or ICC in the MPC1<sup>-/-</sup> cells. There was only weak MPC2 protein expression in the MPC1<sup>-/-</sup> cells revealed by ICC. Scale bars, 200  $\mu$ m. Western blotting results of subcellular proteins from WT & MPC1<sup>-/-</sup> cells & corresponding densitometry histograms of ALT1 & PC are shown in (C). Cyto means cytoplasmic protein. Mito stands for mitochondrial protein. Protein  $\alpha$ -Tubulin was used as a loading control. \*\*\*P<0.001. All experiments were performed at least three times with consistent & repeatable results. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/28624784>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: BRP44L Antibody [NBP1-91706] - The results of western blotting & RT-PCR assay A. shows Western blotting results, where the PDHA1 protein expression in the parental LNCaP cells is strongly positive, but its expression in the PDHA1 KO cells is almost negative with two different PDHA1 antibodies. Comparatively, the protein expression of the MPC1 & MPC2 is comparatively decreased & the protein expression of the GLUT1, HK2, LDHA, HIF1 $\alpha$ , GLS1 & GLUD1 is increased in the LNCaP PDHA1 KO cells. GAPDH was added as a loading control. B. shows the RT-PCR results of the mRNA expression of GLUD1 & GLS1, where the expression of the GLUD1 & GLS1 is significantly increased in the PDHA1 KO cells, with P values of 0.000 & 0.001, respectively, compared to the parental LNCaP cells. \*\*P < 0.01, \*\*\*P<0.001. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/27462778>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Lane 1: Marker [kDa] 250, 130, 95, 72, 55, 36, 28, 17, 10  
 Lane 2: Human cell line RT-4  
 Lane 3: Human cell line U-251MG sp  
 Lane 4: Human plasma (IgG/HSA depleted)  
 Lane 5: Human liver tissue



## Publications

Li M, Plecítá-Hlavatá L, Dobrinskikh E et al. SIRT3 Is a Critical Regulator of Mitochondrial Function of Fibroblasts in Pulmonary Hypertension American journal of respiratory cell and molecular biology 2023-06-21 [PMID: 37343939]

Liu Y, Yuan Y, Yan Y et al. Mitochondrial pyruvate carrier 1 alleviates hypoxic-ischemic brain injury in rats Life sciences 2023-04-06 [PMID: 37030616]

Li Y, Li X, et al. PDHA1 gene knockout in prostate cancer cells results in metabolic reprogramming towards greater glutamine dependence. Oncotarget 2016-08-16 [PMID: 27462778] (WB, Human)

You JH, Lee J, Roh JL Mitochondrial pyruvate carrier 1 regulates ferroptosis in drug-tolerant persister head and neck cancer cells via epithelial-mesenchymal transition Cancer letters 2021-03-16 [PMID: 33741422] (WB)

Kim J, Yu L, Chen W et al. Wild-Type p53 Promotes Cancer Metabolic Switch by Inducing PUMA-Dependent Suppression of Oxidative Phosphorylation Cancer Cell 2019-02-11 [PMID: 30712844] (ICC/IF, Human)

Li X, Han G, Li X et al. Mitochondrial pyruvate carrier function determines cell stemness and metabolic reprogramming in cancer cells Oncotarget 2017-07-11 [PMID: 28624784] (WB, Mouse)

Li X, Ji Y, Han G et al. MPC1 and MPC2 expressions are associated with favorable clinical outcomes in prostate cancer. BMC Cancer. 2016-11-16 [PMID: 27852261] (WB, Human)

Konstantakou EG, Voutsinas GE, Velentzas AD et al. 3-BrPA eliminates human bladder cancer cells with highly oncogenic signatures via engagement of specific death programs and perturbation of multiple signaling and metabolic determinants Mol. Cancer. 2015-07-22 [PMID: 26198749] (WB, Human)



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### **Products Related to NBP1-91706**

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NBP1-91706PEP	BRP44L Recombinant Protein Antigen
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

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### **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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