Product Datasheet

PKM2 Antibody - BSA Free
NBP1-48308

Unit Size: 0.1 ml

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

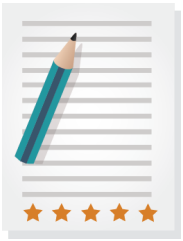
www.novusbio.com technical@novusbio.com

Reviews: 3 Publications: 17

Protocols, Publications, Related Products, Reviews, Research Tools and Images at:
www.novusbio.com/NBP1-48308

Updated 12/20/2023 v.20.1

Earn rewards for product reviews and publications.
Submit a publication at www.novusbio.com/publications
Submit a review at www.novusbio.com/reviews/destination/NBP1-48308



NBP1-48308

PKM2 Antibody - BSA Free

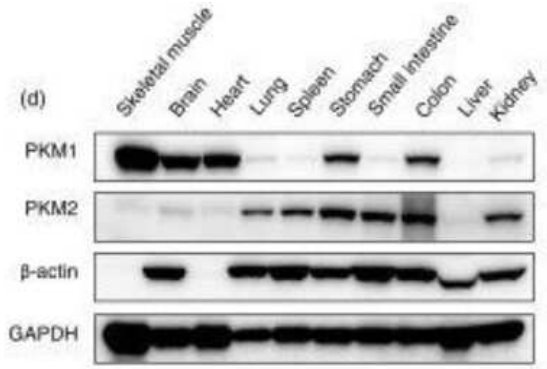
Product Information	
Unit Size	0.1 ml
Concentration	1.0 mg/ml
Storage	Store at -20C. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.1% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS and 30% Glycerol
Target Molecular Weight	60 kDa

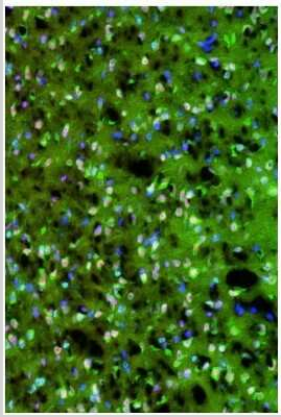
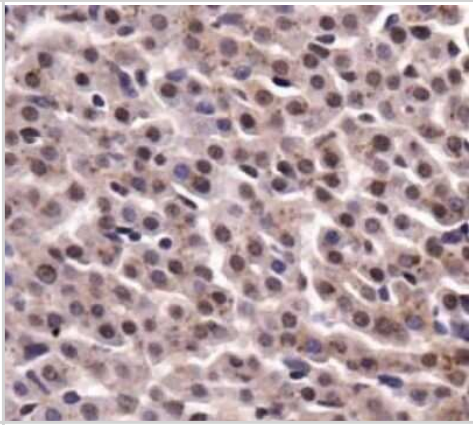
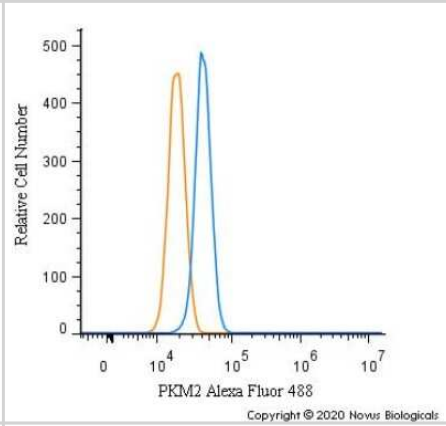
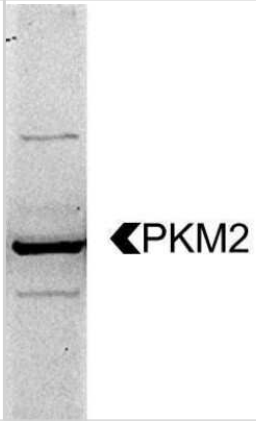
Product Description	
Host	Rabbit
Gene ID	5315
Gene Symbol	PKM
Species	Human, Mouse, Rat, Bovine
Reactivity Notes	Bovine reactivity reported in scientific literature (PMID: 25416385).
Immunogen	A synthetic peptide made to the internal region of human PKM2 protein (within residues 350-450). [Swiss-Prot: P14618]

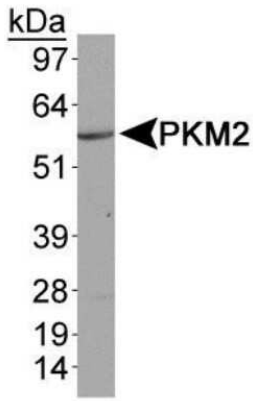
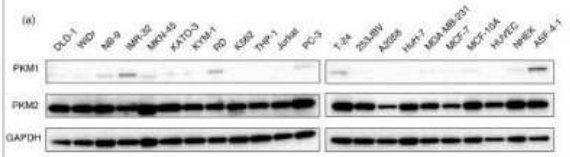
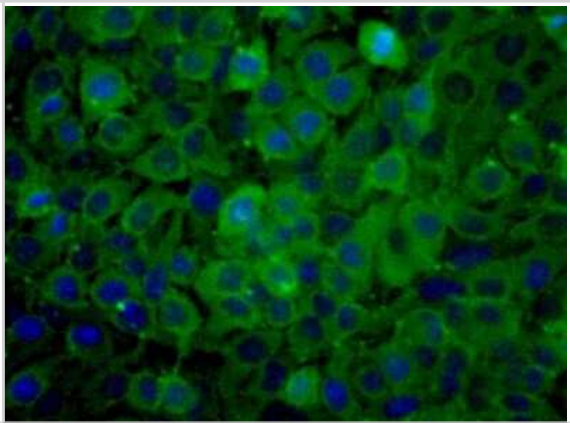
Product Application Details	
Applications	Western Blot, Simple Western, Flow Cytometry, Immunoblotting, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin, Immunoprecipitation, Knockdown Validated
Recommended Dilutions	Western Blot 0.5 ug/ml, Simple Western 1:12.5, Flow Cytometry 5 ug/ml, Immunohistochemistry 1:100, Immunocytochemistry/ Immunofluorescence 1:200, Immunoprecipitation reported in scientific literature (PMID 21620138), Immunohistochemistry-Paraffin 1:100, Immunoblotting reported in scientific literature (PMID 25416385), Knockdown Validated
Application Notes	In Western blot, a band is seen at approx. 60 kDa. Prior to immunostaining paraffin tissues, antigen retrieval with sodium citrate buffer (pH 6.0) is recommended. In Simple Western only 10 - 15 uL of the recommended dilution is used per data point. Separated by Size-Wes, Sally Sue/Peggy Sue.

Images

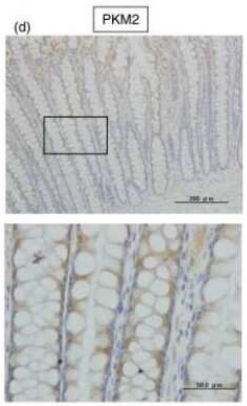
Western Blot: PKM2 Antibody - BSA Free [NBP1-48308] - Expression profile of PKM isoforms in tissues from mouse organs. PKM1 and PKM2 were detected by Western blotting in under the same experimental conditions at the same time. The full-length blots are presented in Supplementary Figure S2b. Results are presented as the mean +/- SD (** P < 0.01). Image collected and cropped by CiteAb from the following publication (https://www.nature.com/articles/srep08647) licensed under a CC-BY license.



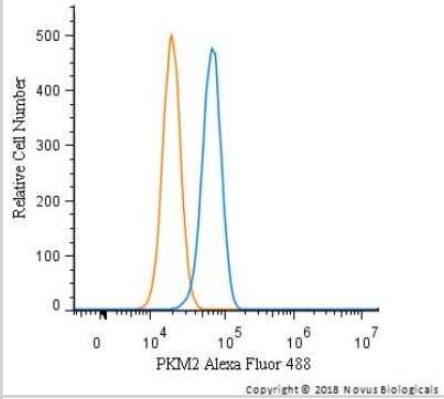
Immunocytochemistry/Immunofluorescence: PKM2 Antibody - BSA Free [NBP1-48308] - Analysis of PKM2 in frozen sections of rat glioblastoma tissue. Image courtsey of anonymous customer review.	
Immunohistochemistry: PKM2 Antibody - BSA Free [NBP1-48308] - Staining of PKM2 in mouse liver tissue.	
Flow Cytometry: PKM2 Antibody - BSA Free [NBP1-48308] - An intracellular stain was performed on Neuro2a cells with PKM2 Antibody NBP1-48308AF488 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 10 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Alexa Fluor 488.	
Western Blot: PKM2 Antibody - BSA Free [NBP1-48308] - Analysis of HeLa lysates using NBP1-48308. Image courtesy of Gregg Semenza, (PMID: 21620138).	

Western Blot: PKM2 Antibody - BSA Free [NBP1-48308] - Analysis of PKM2 in MCF7 whole cell lysates.	
Western Blot: PKM2 Antibody - BSA Free [NBP1-48308] - Expression of PKM1 and PKM2 in clinical colorectal cancer samples. The protein expression of PKM1 and PKM2 in clinical specimens of cancer tumor (T) and the adjacent normal tissues (N) is shown. PKM1 and PKM2 were detected by Western blotting in under the same experimental conditions at the same time. The full-length blots are presented in Supplementary Figure S3b. Image collected and cropped by CiteAb from the following publication (https://www.nature.com/articles/srep08647) licensed under a CC-BY license.	
Western Blot: PKM2 Antibody - BSA Free [NBP1-48308] - Expression profile of PKM isoforms in various cancer cell lines, control cell lines, and cells in primary culture. PKM1 and PKM2 were detected by Western blotting under the same experimental conditions at the same time. The full-length blots are presented in Supplementary Figure S2a. Image collected and cropped by CiteAb from the following publication (https://www.nature.com/articles/srep08647) licensed under a CC-BY license.	
Immunocytochemistry/Immunofluorescence: PKM2 Antibody - BSA Free [NBP1-48308] - Analysis of PKM2 in HeLa cells.	

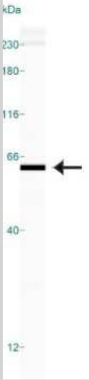
Immunohistochemistry: PKM2 Antibody - BSA Free [NBP1-48308] - Immunohistochemical staining of normal colon tissue adjacent to tumor tissue of case 10. Results of staining with anti-PKM2 is shown. The boxed regions are enlarged in the images below. Image collected and cropped by CiteAb from the following publication (//pubmed.ncbi.nlm.nih.gov/25721733/) licensed under a CC-BY license.



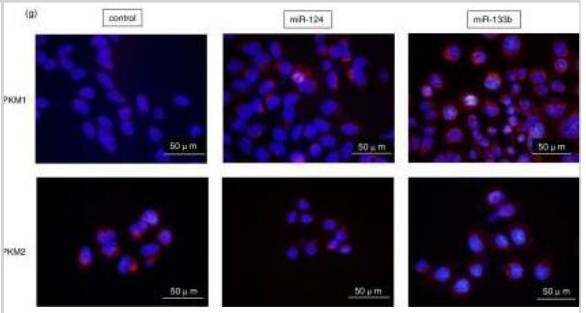
Flow Cytometry: PKM2 Antibody - BSA Free [NBP1-48308] - An intracellular stain was performed on HeLa cells with PKM2 Antibody NBP1-48308AF488 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 5 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Alexa Fluor 488.



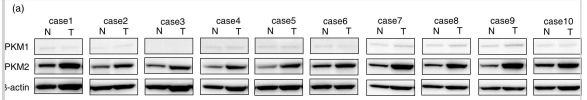
Simple Western: PKM2 Antibody - BSA Free [NBP1-48308] - Lane view shows a specific band for PKM2 in 0.1 mg/ml of HeLa lysate. This experiment was performed under reducing conditions using the 12-230kDa separation system. * Non-specific interaction with the 230 kDa Simple Western standard may be seen with this antibody.



Identification of plasma membrane calcium ATPase isoform PMCA4b as a renalase binding protein.A, HK-2 cells incubated with either labeled RP-Scr220 or RP-220, biotin-labeled proteins purified using streptavidin column, separated by SDS-PAGE and visualized by western blot using streptavidin-HRP; * = regions evaluated by mass spectrometry in samples labeled with either RP-Scr220 or RP-220; # = RP-220 band containing the plasma membrane calcium ATPase isoform PMCA4b. B, Endogenous expression of PMCA4b in HK-2 cells, western immunoblot using isoform specific monoclonal; CCL-119: human leukemic cell line; thyroid tumor = human thyroid tumor cell line (ATCC, CRL-1803) 10 µg protein loaded in each lane. C, co-immunolocalization of PMCA4b and renalase in HK-2 cells, images acquired using a Zeiss laser scanning confocal microscope, scale bar = 9 µm; arrow = plasma membrane. D, Co-Immunoprecipitation of PMCA4b and renalase from HK-2 cell lysates; renalase-Ab-beads = renalase antibody coated beads; PMCA4b-Ab-beads = PMCA4b antibody coated beads. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/25906147), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



KLF4 ablation leads to abnormal proliferation and differentiation in small intestinal epithelium.(A) Small intestine from Klf4−/− mice induced by tamoxifen for different time endurances were stained by H&E and PAS, and also immunohistochemistry staining was performed with anti-Ki67, anti-Lysozyme, anti-DCAMKL-1, and anti-PCNA antibodies respectively. (B) Statistic analysis of IHC staining results from (A). (*, P<0.05) (C) IHC staining from (A) in higher magnification of highlighted frames. Bottom panel: IHC staining with ZO-1 antibody in one-month knockout intestine tissue. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/22384261), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Cheng Z, Qin H, Cao W et al. Intravoxel incoherent motion imaging used to assess tumor microvascular changes after transarterial chemoembolization in a rabbit VX2 liver tumor model Frontiers in Oncology 2023-02-28 [PMID: 36925931] (WB)

Li Y, Chen X, Huang H et al. A feedback loop between NONHSAT024276 and PTBP1 inhibits tumor progression and glycolysis in HCC by increasing the PKM1/PKM2 ratio Cancer Science 2023-04-01 [PMID: 36529521] (WB)

Li H, Guglielmetti C, Sei YJ et al. Neurons require glucose uptake and glycolysis in vivo Cell reports 2023-04-06 [PMID: 37027294] (IHC-Fr, Mouse)

Zhang H, Wang D et al. Metabolic and Proliferative State of Vascular Adventitial Fibroblasts in Pulmonary Hypertension Is Regulated Through a MicroRNA-124/PTBP1 (Polypyrimidine Tract Binding Protein 1)/Pyruvate Kinase Muscle Axis. Circulation 2017-12-19 [PMID: 28972001] (WB, Bovine)

Sung WW, Chen PR, Liao MH, Lee JW. Enhanced aerobic glycolysis of nasopharyngeal carcinoma cells by Epstein-Barr virus latent membrane protein 1 Exp. Cell Res. 2017-08-04 [PMID: 28827059] (WB, Human)

Tan Shen Mynn, Altschuler Gabriel, Zhao Tian Yun et al. Divergent LIN28-mRNA associations result in translational suppression upon the initiation of differentiation. Nucleic Acids Res 2014-01-01 [PMID: 24860167] (WB, Human)

Minami K, Taniguchi K, Sugito N et al. MiR-145 negatively regulates Warburg effect by silencing KLF4 and PTBP1 in bladder cancer cells. Oncotarget. 2017-05-16 [PMID: 28380435] (WB, Human)

Takai T, Yoshikawa Y, Inamoto T et al. A Novel Combination RNAi toward Warburg Effect by Replacement with miR-145 and Silencing of PTBP1 Induces Apoptotic Cell Death in Bladder Cancer Cells Int J Mol Sci 2017-01-17 [PMID: 28106737] (WB, Human)

Sugiyama T, Taniguchi K, Matsuhashi N et al. MiR-133b inhibits growth of human gastric cancer cells by silencing pyruvate kinase muscle-splicer polypyrimidine tract-binding protein 1. Cancer Sci. 2016-12-01 [PMID: 27696637] (WB, Human)

Christensen DR, Calder PC, Houghton FD. GLUT3 and PKM2 regulate OCT4 expression and support the hypoxic culture of human embryonic stem cells. Sci Rep. 2015-12-07 [PMID: 26639784] (WB, ICC/IF, Human)

Taniguchi K, Sugito N, Kumazaki M et al. Positive feedback of DDX6/c-Myc/PTB1 regulated by miR-124 contributes to maintenance of the Warburg effect in colon cancer cells Biochim. Biophys. Acta. 2015-07-02 [PMID: 26144048] (WB, Human)

Details:
PKM2 antibody was used for WB assay on lysates of human colon cancer cells (DLD-1 cells and WiDr cells) transfected with miR-124 or siR-PTB1 (Fig. 3B and 3C). WB was also performed on lysates after the transfection of colon cancer cells with siR-c-Myc or siR-DDX6 (Fig. 4A qand 4B), and on DLD-1 cells /WiDr cells that were subjected to PKM1 and/or PKM2 knockdown using siRNAPKM1 and siRNAPKM2 (Fig. 5B and 5E).

Taniguchi K, Ito Y, Sugito N et al. Organ-specific PTB1-associated microRNAs determine expression of pyruvate kinase isoforms Sci Rep 2015-02-27 [PMID: 25721733] (IHC-P, ICC/IF, WB, Human, Mouse)

More publications at http://www.novusbio.com/NBP1-48308

Procedures

Serum protocol for PKM2 Antibody (NBP1-48308)
Western Blot Protocol
1. Perform SDS-PAGE (4-12% MOPS) on samples to be analyzed, loading 40 ug of total protein per lane.
2. Transfer proteins to Nitrocellulose according to the instructions provided by the manufacturer of the transfer apparatus.
3. Rinse membrane with dH2O and then stain the blot using Ponceau S for 1-2 minutes to access the transfer of proteins onto the nitrocellulose membrane. Rinse the blot in water to remove excess stain and mark the lane locations and locations of molecular weight markers using a pencil.
4. Rinse the blot in TBS for approximately 5 minutes.
5. Block the membrane using 5% NFDM + 1% BSA in TBS + Tween, 1 hour at RT.
6. Rinse the membrane in dH2O and then wash the membrane in wash buffer [TBS + 0.1% Tween] 3 times for 10 minutes each.
7. Dilute the rabbit anti-PKM2 primary antibody (NBP1-48308) in blocking buffer and incubate 1 hour at room temperature.
8. Rinse the membrane in dH2O and then wash the membrane in wash buffer [TBS + 0.1% Tween] 3 times for 10 minutes each.
9. Apply the diluted rabbit-IgG 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 [TBS + 0.1% Tween] 3 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 (Pierce ECL).
Note: Tween-20 can be added to the blocking or antibody dilution buffer at a final concentration of 0.05-0.2%, provided it does not interfere with antibody-antigen binding.

Novus Biologicals USA
10730 E. Briarwood Avenue
Centennial, CO 80112
USA
Phone: 303.730.1950
Toll Free: 1.888.506.6887
Fax: 303.730.1966
nb-customerservice@bio-techne.com

Bio-Techne Canada
21 Canmotor Ave
Toronto, ON M8Z 4E6
Canada
Phone: 905.827.6400
Toll Free: 855.668.8722
Fax: 905.827.6402
canada.inquires@bio-techne.com

Bio-Techne Ltd
19 Barton Lane
Abingdon Science Park
Abingdon, OX14 3NB, United Kingdom
Phone: (44) (0) 1235 529449
Free Phone: 0800 37 34 15
Fax: (44) (0) 1235 533420
info.EMEA@bio-techne.com

General Contact Information
www.novusbio.com
Technical Support: nb-technical@bio-techne.com
Orders: nb-customerservice@bio-techne.com
General: novus@novusbio.com

Products Related to NBP1-48308

NB800-PC1	HeLa Whole Cell Lysate
NBP1-48308PEP	PKM2 Antibody Blocking Peptide
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.

For more information on our 100% guarantee, please visit www.novusbio.com/guarantee

Earn gift cards/discounts by submitting a review: www.novusbio.com/reviews/submit/NBP1-48308

Earn gift cards/discounts by submitting a publication using this product: www.novusbio.com/publications