abcam

Product datasheet

Anti-PKM antibody ab38237

3 Abreviews 23 References 9 Images

Overview

Product name	Anti-PKM antibody
Description	Rabbit polyclonal to PKM
Host species	Rabbit
Tested applications	**Suitable for:** ICC/IF, IHC-P, WB
Species reactivity	**Reacts with:** Mouse, Human **Predicted to work with:** Rat, Monkey
Immunogen	Synthetic peptide corresponding to Human PKM aa 476-505 (C terminal) conjugated to keyhole limpet haemocyanin. Database link: 5315
Positive control	WB: Recombinant human PKM2 protein (ab89364), HeLa, PC-12, NIH/3T3 and Ramos cell lysates and mouse brain tissue lysate. IHC-P: Human breast carcinoma and hepatocarcinoma tissues. ICC/IF: MCF7 and HeLa cells.
General notes	There are 4 isozymes of pyruvate kinase in mammals: L, R, M1 and M2. ab38237 recognizes the M1/M2 isoform of pyruvate kinase.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.09% Sodium azide Constituent: PBS
Purity	Ammonium Sulphate Precipitation
Purification notes	This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Primary antibody notes	There are 4 isozymes of pyruvate kinase in mammals: L, R, M1 and M2. Ab38237 recognizes the M1/M2 isoform of pyruvate kinase
Clonality	Polyclonal
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab38237** in the following tested applications.

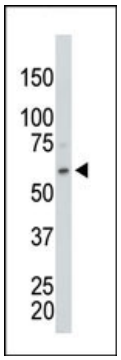
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF		1/200.
IHC-P		1/50 - 1/100.
WB	★★★★☆	1/1000. Detects a band of approximately 58 kDa (predicted molecular weight: 58 kDa).

Target

Function	Glycolytic enzyme that catalyzes the transfer of a phosphoryl group from phosphoenolpyruvate (PEP) to ADP, generating ATP. Stimulates POU5F1-mediated transcriptional activation. Plays a general role in caspase independent cell death of tumor cells. The ratio betwween the highly active tetrameric form and nearly inactive dimeric form determines whether glucose carbons are channeled to biosynthetic processes or used for glycolytic ATP production. The transition between the 2 forms contributes to the control of glycolysis and is important for tumor cell proliferation and survival.
Tissue specificity	Specifically expressed in proliferating cells, such as embryonic stem cells, embryonic carcinoma cells, as well as cancer cells.
Pathway	Carbohydrate degradation; glycolysis; pyruvate from D-glyceraldehyde 3-phosphate: step 5/5.
Sequence similarities	Belongs to the pyruvate kinase family.
Post-translational modifications	ISGylated. Under hypoxia, hydroxylated by EGLN3. Acetylation at Lys-305 is stimulated by high glucose concentration, it decreases enzyme activity and promotes its lysosomal-dependent degradation via chaperone-mediated autophagy. FGFR1-dependent tyrosine phosphorylation is reduced by interaction with TRIM35.
Cellular localization	Cytoplasm. Nucleus. Translocates to the nucleus in response to different apoptotic stimuli. Nuclear translocation is sufficient to induce cell death that is caspase independent, isoform-specific and independent of its enzymatic activity.

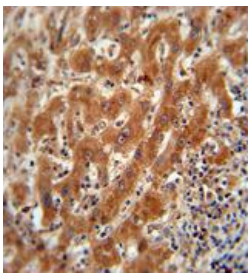
Images



Western blot - Anti-PKM antibody (ab38237)

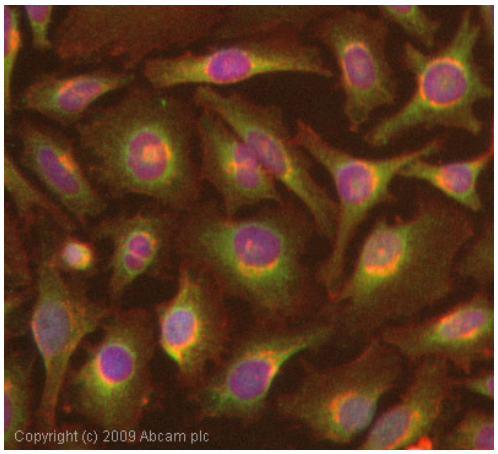
Anti-PKM antibody (ab38237) at 1/100 dilution + HeLa cell lysate

Predicted band size: 58 kDa
Observed band size: 58 kDa



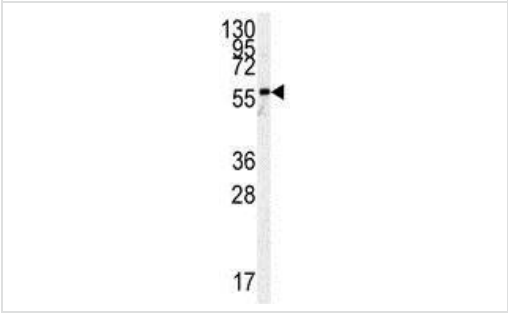
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PKM antibody (ab38237)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human hepatocarcinoma tissue labelling PKM with ab38237. A peroxidase-conjugated anti-rabbit IgG was used as the secondary antibody, followed by DAB staining.



Immunocytochemistry/ Immunofluorescence - Anti-PKM antibody (ab38237)

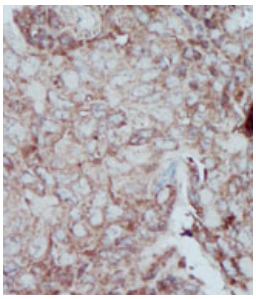
ICC/IF image of ab38237 stained HeLa cells. The cells were 4% PFA fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab38237, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.



Western blot - Anti-PKM antibody (ab38237)

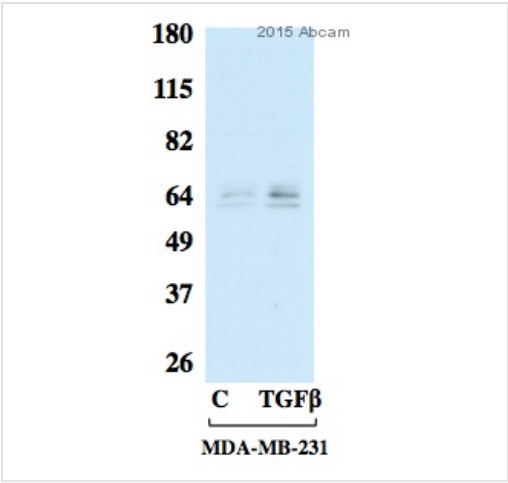
Anti-PKM antibody (ab38237) + Ramos cell lysate at 35 µg

Predicted band size: 58 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PKM antibody (ab38237)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast carcinoma tissue labelling PKM with ab38237 at 1/50. A peroxidase-conjugated anti-rabbit IgG was used as the secondary antibody, followed by ACE staining.



Western blot - Anti-PKM antibody (ab38237)

This image is courtesy of an Abreview submitted by Wendy Greenwood.

All lanes : Anti-PKM antibody (ab38237) at 1/500 dilution

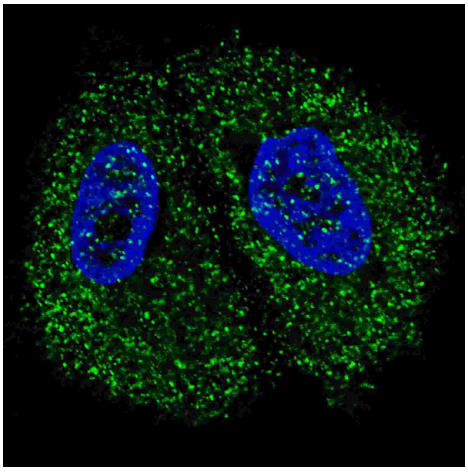
Lane 1 : MDA-MB-231 breast cancer cells.
Lane 2 : MDA-MB-231 breast cancer cells treated with TGF beta.

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : HRP conjugated goat polyclonal at 1/2000 dilution

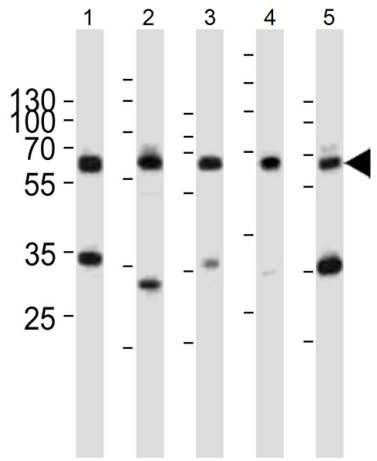
Predicted band size: 58 kDa

Blocked with 5% milk for 1 hour at 21ºC.



Immunocytochemistry/ Immunofluorescence - Anti-PKM antibody (ab38237)

Immunocytochemistry/Immunofluorescence analysis of MCF7 cells labelling PKM (green) with ab38237. Cells were fixed with 4% PFA (20 min) and permeabilized with Triton X-100 (0.2%, 30 min). Cells were incubated with the primary antibody (1/200, 2 h at room temperature). An Alexa Fluor® 488-conjugated donkey anti-rabbit antibody was used as the secondary antibody (1/1000, 1h). Nuclei were counterstained with Hoechst 33342 (blue) (10 µg/ml, 5 min).



Western blot - Anti-PKM antibody (ab38237)

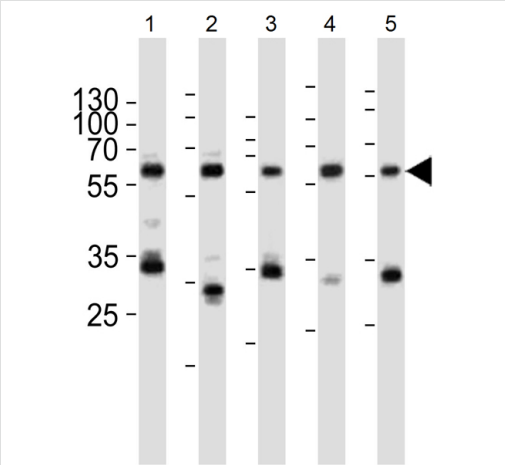
All lanes : Anti-PKM antibody (ab38237) at 1/1000 dilution

Lane 1 : HeLa cell lysate
Lane 2 : PC-12 cell lysate
Lane 3 : Ramos cell lysate
Lane 4 : NIH/3T3 cell lysate
Lane 5 : Mouse brain tissue lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : HRP-conjugated goat anti-rabbit IgG (H+L) at 1/10000 dilution

Predicted band size: 58 kDa



Western blot - Anti-PKM antibody (ab38237)

All lanes : Anti-PKM antibody (ab38237) at 1/1000 dilution

Lane 1 : HeLa cell lysate
Lane 2 : PC-12 cell lysate
Lane 3 : Ramos cell lysate
Lane 4 : NIH/3T3 cell lysate
Lane 5 : Mouse brain tissue lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : HRP-conjugated goat anti-rabbit IgG (H+L) at 1/10000 dilution

Predicted band size: 58 kDa

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit https://www.abcam.com/abpromise or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors