ARG61996
anti-PKM1 / 2 antibody

Package: 50 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes PKM1 / 2
Tested Reactivity	Hu, Ms, Rat
Tested Application	ICC/IF, IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	PKM1 / 2
Species	Human
Immunogen	Recombinant Protein of human PKM2
Conjugation	Un-conjugated
Alternate Names	PK3; PKM2; OIP3; Pyruvate kinase muscle isozyme; CTHBP; HEL-S-30; THBP1; OIP-3; Pyruvate kinase 2/3; Tumor M2-PK; Cytosolic thyroid hormone-binding protein; EC 2.7.1.40; Opa-interacting protein 3; p58; TCB; Pyruvate kinase PKM; Thyroid hormone-binding protein 1

Application Instructions

Application table

Application	Dilution
ICC/IF	1:20 - 1:100
IHC-P	1:50 - 1:200
WB	1:500 - 1:2000

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Properties

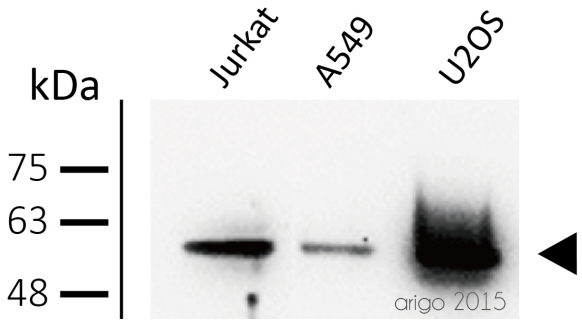
Form	Liquid
Purification	Antibodies were purified by affinity purification using immunogen.
Buffer	PBS (without Mg2+ and Ca2+, pH 7.4), 150mM NaCl, 0.02% Sodium azide and 50% Glycerol.
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

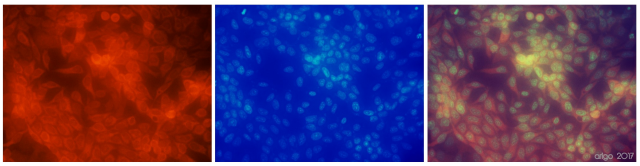
Gene Symbol	PKM
Gene Full Name	pyruvate kinase, muscle
Background	Pyruvate kinase, a glycolytic enzyme, catalyses the conversion of phosphoenolpyruvate to pyruvate. In mammals, the M1 isoform (PKM1) is expressed in most adult tissues (1). The M2 isoform (PKM2), an alternatively-spliced variant of M1, is expressed during embryonic development (1). Studies found that cancer cells exclusively express PKM2 (1-3). PKM2 is shown to be essential for aerobic glycolysis in tumors (Warburg effect) (1). When the M2 isoform is switched to the M1 isoform, aerobic glycolysis is reduced and oxidative phosphorylation is increased in cancer cells (1). These cells also show decreased tumorigenicity in mouse xenografts (1). Recent studies show that the oncogenic forms of FGFR1 directly phosphorylate Tyr105 of PKM2 and thereby inhibit the formation of active tetrameric PKM2 (4). A PKM2 mutant found in cancer cells, in which Tyr105 is replaced by phenylalanine, leads to reduced cell proliferation in hypoxia and tumor growth in xenografts in nude mice (4). These findings suggest that the phosphorylation at Tyr105 is a critical switch for the metabolism in cancer cells that promotes tumor growth (4).
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. [UniProt]
Highlight	Related Antibody Duos and Panels: ARG30013 Colorectal Carcinoma Marker Antibody Duo (Colorectal carcinoma antibody, PKM2) ARG30014 Phospho PKM2 Antibody Duo (Total, pS37) Related products: PKM antibodies; PKM Duos / Panels; Anti-Rabbit IgG secondary antibodies;
Research Area	Cancer antibody; Gene Regulation antibody; Metabolism antibody; Signaling Transduction antibody; Colorectal Carcinoma Marker antibody
Calculated Mw	58 kDa
PTM	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.

Images



ARG61996 anti-PKM1/2 antibody WB image

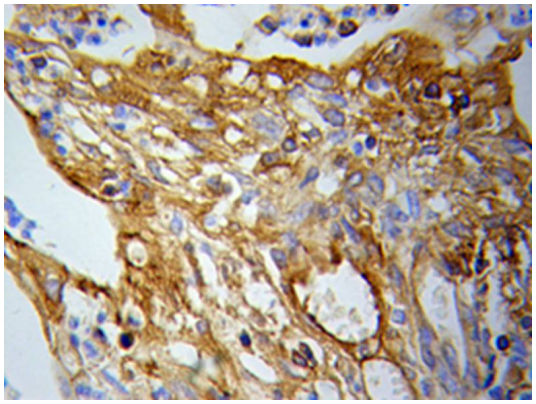
Western blot: 30 µg of Jurkat, A549, and U2OS cell lysates stained with ARG61996 anti-PKM1/2 antibody at 1:500 dilution.



ARG61996 anti-PKM1/2 antibody ICC/IF image

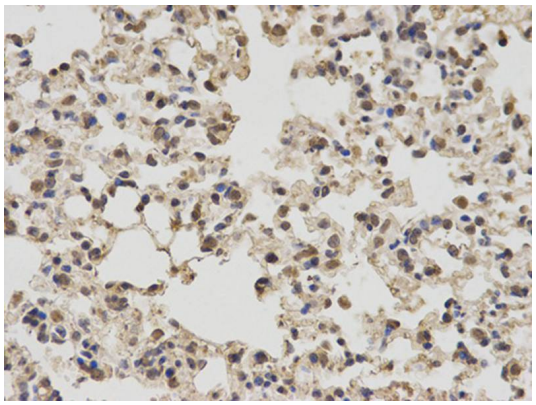
Immunofluorescence: 100% Methanol fixed (RT, 10 min) HeLa cells stained with ARG61996 anti-PKM1/2 antibody at 1:20 dilution. Left: primary antibody (red). Middle: DAPI (blue). Right: Merge.

Secondary antibody: ARG21917 Goat anti-Rabbit IgG antibody (TRITC)



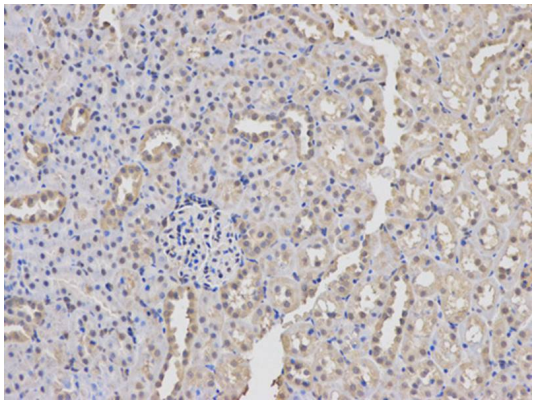
ARG61996 anti-PKM1/2 antibody IHC-P image

Immunohistochemistry: paraffin-embedded Lung cancer stained with anti-PKM1/2 antibody ARG61996.



ARG61996 anti-PKM1/2 antibody IHC-P image

Immunohistochemistry: paraffin-embedded mouse lung stained with ARG61996 anti-PKM1/2 antibody at dilution of 1:100 (400x lens).



ARG61996 anti-PKM1/2 antibody IHC-P image

Immunohistochemistry: paraffin-embedded rat kidney stained with ARG61996 anti-PKM1/2 antibody at dilution of 1:100 (200x lens).