

ARG51707 anti-Pyk 2 phospho (Tyr402) antibody

Package: 100 µl, 50 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes Pyk 2 phospho (Tyr402)
Tested Reactivity	Hu, Ms, Rat
Tested Application	ICC/IF, IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	Pyk 2
Species	Human
Immunogen	Peptide sequence around phosphorylation site of tyrosine 402 (D-I-Y(p)-A-E) derived from Human Pyk2.
Conjugation	Un-conjugated
Alternate Names	FAK2; Proline-rich tyrosine kinase 2; Focal adhesion kinase 2; FADK2; PTK; Calcium-dependent tyrosine kinase; PYK2; FADK 2; CADTK; Cell adhesion kinase beta; PKB; CAK-beta; Protein-tyrosine kinase 2-beta; Calcium-regulated non-receptor proline-rich tyrosine kinase; RAFTK; EC 2.7.10.2; Related adhesion focal tyrosine kinase; CAKB

Application Instructions

Application table	Application	Dilution
	ICC/IF	1:100 - 1:200
	IHC-P	1:50 - 1:100
	WB	1:500 - 1:1000

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

Properties

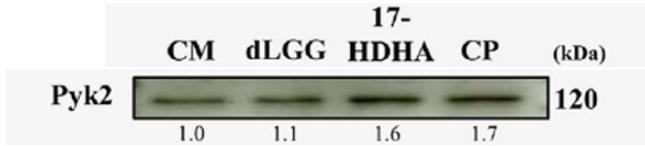
Form	Liquid
Purification	Antibodies were produced by immunizing rabbits with KLH-conjugated synthetic phosphopeptide. Antibodies were purified by affinity-chromatography using epitope-specific phosphopeptide. In addition, non-phospho specific antibodies were removed by chromatography using non-phosphopeptide.
Buffer	PBS (without Mg ²⁺ and Ca ²⁺ , 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

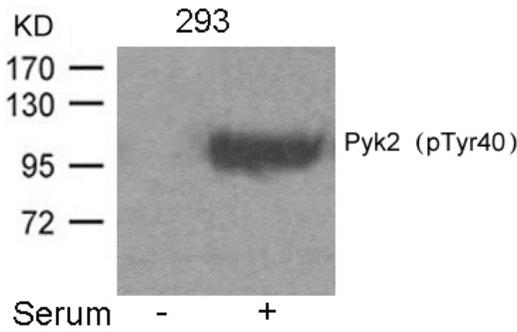
Gene Symbol	PTK2B
Gene Full Name	protein tyrosine kinase 2 beta
Background	Involved in calcium induced regulation of ion channel and activation of the map kinase signaling pathway. May represent an important signaling intermediate between neuropeptide activated receptors or neurotransmitters that increase calcium flux and the downstream signals that regulate neuronal activity. Interacts with the SH2 domain of Grb2. May phosphorylate the voltage-gated potassium channel protein Kv1.2. Its activation is highly correlated with the stimulation of c-Jun N-terminal kinase activity. Involved in osmotic stress-dependent SNCA 'Tyr-125' phosphorylation.
Function	Non-receptor protein-tyrosine kinase that regulates reorganization of the actin cytoskeleton, cell polarization, cell migration, adhesion, spreading and bone remodeling. Plays a role in the regulation of the humoral immune response, and is required for normal levels of marginal B-cells in the spleen and normal migration of splenic B-cells. Required for normal macrophage polarization and migration towards sites of inflammation. Regulates cytoskeleton rearrangement and cell spreading in T-cells, and contributes to the regulation of T-cell responses. Promotes osteoclastic bone resorption; this requires both PTK2B/PYK2 and SRC. May inhibit differentiation and activity of osteoprogenitor cells. Functions in signaling downstream of integrin and collagen receptors, immune receptors, G-protein coupled receptors (GPCR), cytokine, chemokine and growth factor receptors, and mediates responses to cellular stress. Forms multisubunit signaling complexes with SRC and SRC family members upon activation; this leads to the phosphorylation of additional tyrosine residues, creating binding sites for scaffold proteins, effectors and substrates. Regulates numerous signaling pathways. Promotes activation of phosphatidylinositol 3-kinase and of the AKT1 signaling cascade. Promotes activation of NOS3. Regulates production of the cellular messenger cGMP. Promotes activation of the MAP kinase signaling cascade, including activation of MAPK1/ERK2, MAPK3/ERK1 and MAPK8/JNK1. Promotes activation of Rho family GTPases, such as RHOA and RAC1. Recruits the ubiquitin ligase MDM2 to P53/TP53 in the nucleus, and thereby regulates P53/TP53 activity, P53/TP53 ubiquitination and proteasomal degradation. Acts as a scaffold, binding to both PDPK1 and SRC, thereby allowing SRC to phosphorylate PDPK1 at 'Tyr-9', 'Tyr-373', and 'Tyr-376'. Promotes phosphorylation of NMDA receptors by SRC family members, and thereby contributes to the regulation of NMDA receptor ion channel activity and intracellular Ca(2+) levels. May also regulate potassium ion transport by phosphorylation of potassium channel subunits. Phosphorylates SRC; this increases SRC kinase activity. Phosphorylates ASAP1, NPHP1, KCNA2 and SHC1. Promotes phosphorylation of ASAP2, RHOU and PXN; this requires both SRC and PTK2/PYK2. [UniProt]
Research Area	Cancer antibody; Metabolism antibody; Signaling Transduction antibody
Calculated Mw	116 kDa
PTM	Phosphorylated on tyrosine residues in response to various stimuli that elevate the intracellular calcium concentration; this activation is indirect and may be mediated by production of reactive oxygen species (ROS). Tyr-402 is the major autophosphorylation site, but other kinases can also phosphorylate Tyr-402. Autophosphorylation occurs in trans, i.e. one subunit of the dimeric receptor phosphorylates tyrosine residues on the other subunit. Phosphorylation at Tyr-402 promotes interaction with SRC and SRC family members, leading to phosphorylation at Tyr-579; Tyr-580 and Tyr-881. Phosphorylation at Tyr-881 is important for interaction with GRB2. Phosphorylated on tyrosine residues upon activation of FGR and PKC. Recruitment by NPHP1 to cell matrix adhesions initiates Tyr-402 phosphorylation. In monocytes, adherence to substrata is required for tyrosine phosphorylation and kinase activation. Angiotensin II, thapsigargin and L-alpha-lysophosphatidic acid (LPA) also induce autophosphorylation and increase kinase activity. Phosphorylation by MYLK promotes ITGB2 activation and is thus essential to trigger neutrophil transmigration during lung injury. Dephosphorylated by PTPN12.



ARG51707 anti-Pyk 2 phospho (Tyr402) antibody WB image

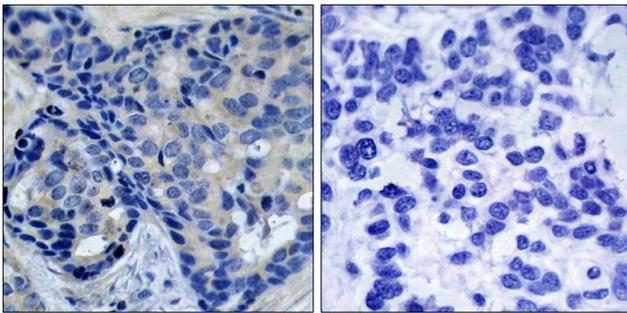
Western blot: Mouse HUVEC stained with ARG51707 anti-Pyk 2 phospho (Tyr402) antibody at dilution.

From Chung-Chih Yang et al. *Int J Cancer*. (2018), [doi: 10.1002/ijc.31663](https://doi.org/10.1002/ijc.31663), Fig. 5.



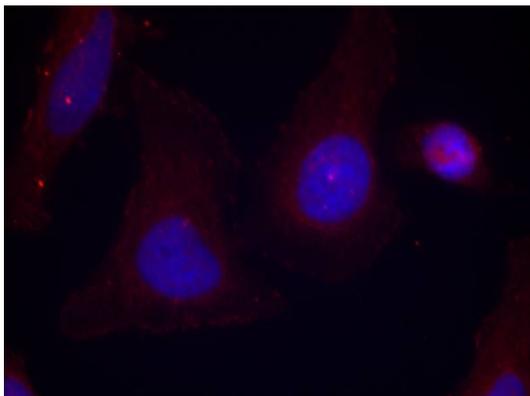
ARG51707 anti-Pyk 2 phospho (Tyr402) antibody WB image

Western blot: Extracts from 293 cells untreated or treated with Serum stained with ARG51707 anti-Pyk 2 phospho (Tyr402) antibody.



ARG51707 anti-Pyk 2 phospho (Tyr402) antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Human breast carcinoma tissue stained with ARG51707 anti-Pyk 2 phospho (Tyr402) antibody (left) or the same antibody preincubated with blocking peptide (right).



ARG51707 anti-Pyk 2 phospho (Tyr402) antibody ICC/IF image

Immunofluorescence: methanol-fixed HeLa cells stained with ARG51707 anti-Pyk 2 phospho (Tyr402) antibody.