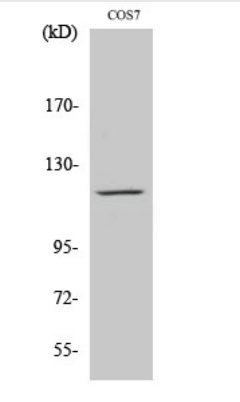
PYK2 Antibody – Rabbit Polyclonal

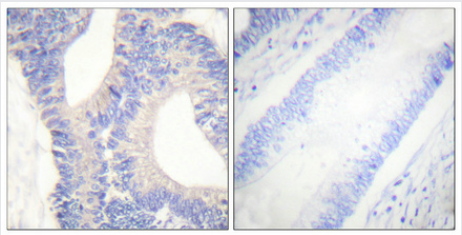
PRODUCT OVERVIEW

Product Name	PYK2, Polyclonal Antibody
Full Product Name	PYK2 Polyclonal Antibody
Product Gene Name	anti-PYK2 antibody
Product Synonym Gene Name	PTK2B
Product Synonym Names	PTK2B; FAK2; PYK2; RAFTK; Protein-tyrosine kinase 2-beta; Calcium-dependent tyrosine kinase; CADTK; Calcium-regulated non-receptor proline-rich tyrosine kinase; Cell adhesion kinase beta; CAK-beta; CAKB; Focal adhesion kinase 2; FADK 2; Pro
Clonality	Polyclonal
Host	Rabbit
Species Reactivity	Human, Mouse, Rat, Monkey
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 2 weeks. For long term storage store at -20 degree C in small aliquots to prevent freeze-thaw cycles.
Molecular Weight	115,875 Da
Chromosome Location	Chromosome: 8; NC_000008.10 (27168999..27316908). Location: 8p21.1
OMIM	601212
3D Structure	ModBase 3D Structure for Q14289
Applications Tested/Suitable for anti-PYK2 antibody	Western Blot (WB), Immunohistochemistry-Paraffin (IHC-P)
Related Product Information for anti-PYK2 antibody	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.
Other Notes	Small volumes of anti-PYK2 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

Searchable Terms for PYK2 purchase	MBS9244992 is an antibody targeting PYK2. Also known as PYK2 Polyclonal Antibody. Reactive in Human, Mouse, Rat, Monkey. Host: Rabbit.



Wester Blot (WB) of anti-PYK2 antibody
Dilution: Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/10000. Not yet tested in other applications.



Immunohistochemistry (IHC)-Paraffin of anti-PYK2 antibody
Dilution: Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/10000. Not yet tested in other applications.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for PYK2. It may not necessarily be applicable to this product.

NCBI GI #	27886584
NCBI GeneID	2185
NCBI Accession #	NP_004094.3
UniProt Primary Accession #	Q14289
UniProt Secondary Accession #	Q13475; Q14290; Q16709; Q6PID4; D3DST0
UniProt Related Accession #	Q14289
GenBank Nucleotide #	NM_004103.4
NCBI Official Full Name	protein-tyrosine kinase 2-beta isoform a
NCBI Official Synonym Full Names	protein tyrosine kinase 2 beta
NCBI Official Symbol	PTK2B
NCBI Official Synonym Symbols	PKB; PTK; CAKB; FAK2; PYK2; CADTK; FADK2; RAFTK
UniProt Protein Name	Protein-tyrosine kinase 2-beta
UniProt Synonym Protein Names	Calcium-dependent tyrosine kinase; CADTK; Calcium-regulated non-receptor proline-rich tyrosine kinase; Cell adhesion kinase beta; CAK-beta; CAKB; Focal adhesion kinase 2; FADK 2; Proline-rich tyrosine kinase 2; Related adhesion focal tyrosine kinase
Protein Family	Pyruvate kinase
UniProt Gene Name	PTK2B
UniProt Synonym Gene Names	FAK2; PYK2; RAFTK; CADTK; CAK-beta; CAKB; FADK 2; RAFTK
UniProt Entry Name	FAK2_HUMAN
NCBI Protein Information	protein-tyrosine kinase 2-beta; FADK 2; CAK-beta; protein kinase B; focal adhesion kinase 2; cell adhesion kinase beta; proline-rich tyrosine kinase 2; calcium-dependent tyrosine kinase; PTK2B protein tyrosine kinase 2 beta; related adhesion focal tyrosin

NCBI Summary for PYK2	This gene encodes a cytoplasmic protein tyrosine kinase which is involved in calcium-induced regulation of ion channels and activation of the map kinase signaling pathway. The encoded protein may represent an important signaling intermediate between neuropeptide-activated receptors or neurotransmitters that increase calcium flux and the downstream signals that regulate neuronal activity. The encoded protein undergoes rapid tyrosine phosphorylation and activation in response to increases in the intracellular calcium concentration, nicotinic acetylcholine receptor activation, membrane depolarization, or protein kinase C activation. This protein has been shown to bind CRK-associated substrate, nephrocystin, GTPase regulator associated with FAK, and the SH2 domain of GRB2. The encoded protein is a member of the FAK subfamily of protein tyrosine kinases but lacks significant sequence similarity to kinases from other subfamilies. Four transcript variants encoding two different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]
UniProt Comments for PYK2	Pyk2: a nonreceptor tyrosine kinase of the Fak family. Predominantly expressed in the cells derived from hematopoietic lineages and in the central nervous system. Pyk2 is one of the signaling mediators for G-protein-coupled receptors. Involved in calcium induced regulation of ion channel and activation of the map kinase signaling pathway. 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. It plays an important role in cell motility such as spreading and migration. Two alternatively spliced isoforms have been described. Protein type: EC 2.7.10.2; Kinase, protein; Nuclear receptor co-regulator; Protein kinase, tyrosine (non-receptor); Protein kinase, TK; TK group; Fak family Chromosomal Location of Human Ortholog: 8p21.1 Cellular Component: focal adhesion; dendrite; postsynaptic density; cell cortex; cytosol; lipid raft; N-methyl-D-aspartate selective glutamate receptor complex; nucleoplasm; extrinsic to internal side of plasma membrane; growth cone; cytoskeleton; cell soma; lamellipodium; axon; perinuclear region of cytoplasm; cytoplasm; nucleus Molecular Function: protein binding; signal transducer activity; calmodulin-dependent protein kinase activity; protein-tyrosine kinase activity; N-methyl-D-aspartate selective glutamate receptor activity; 3-phosphoinositide-dependent protein kinase binding; non-membrane spanning protein tyrosine kinase activity; protein complex binding; ATP binding; receptor binding Biological Process: focal adhesion formation; positive regulation of JNK activity; regulation of nitric oxide biosynthetic process; regulation of cGMP biosynthetic process; protein amino acid phosphorylation; glial cell proliferation; regulation of cell shape; regulation of inositol trisphosphate biosynthetic process; negative regulation of bone mineralization; elevation of cytosolic calcium ion concentration; cell surface receptor linked signal transduction; tumor necrosis factor-mediated signaling pathway; response to glucose stimulus; protein complex assembly; negative regulation of neuron apoptosis; neurite development; bone resorption; response to drug; negative regulation of myeloid cell differentiation; positive regulation of nitric-oxide synthase activity; response to osmotic stress; positive regulation of cell growth; marginal zone B cell differentiation; positive regulation of peptidyl-tyrosine phosphorylation; positive regulation of angiogenesis; response to ethanol; ionotropic glutamate receptor signaling pathway; response to mechanical stimulus; response to calcium ion; negative regulation of apoptosis; activation of JAK protein; response to cAMP; peptidyl-tyrosine phosphorylation; blood vessel endothelial cell migration; positive regulation of translation; apoptosis; response to lithium ion; negative regulation of potassium ion transport; protein amino acid autophosphorylation; response to hormone stimulus; regulation of calcium-mediated signaling; positive regulation of JNK cascade; signal transduction; positive regulation of synaptic transmission, glutamatergic; negative regulation of cell proliferation; positive regulation of cell proliferation; response to stress; angiogenesis; positive regulation of cell-matrix adhesion; regulation of cell adhesion; integrin-mediated signaling pathway; epidermal growth factor receptor signaling pathway; MAPKKK cascade; positive regulation of phosphoinositide 3-kinase activity; signal complex assembly; response to cocaine; oocyte maturation; regulation of release of sequestered calcium ion into cytosol; response to hydrogen peroxide; positive regulation of actin filament polymerization; positive regulation of protein kinase activity; response to hypoxia; stress fiber formation; innate immune response; cellular defense response; sprouting angiogenesis; vascular endothelial growth factor receptor signaling pathway; positive regulation of cell migration
Research Articles on PYK2	**1.** SOCS3 definitely plays roles in regulating Pyk2 signaling and cell motility in A549 cells.
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