

PYK2 (FAK2) Antibody (N-term) Blocking peptide
Synthetic peptide
Catalog # BP7703a**Specification****PYK2 (FAK2) Antibody (N-term) Blocking peptide**
- Product InformationPrimary Accession [Q14289](#)**PYK2 (FAK2) Antibody (N-term) Blocking peptide**
- Additional Information**Gene ID 2185****Other Names**

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, Proline-rich tyrosine kinase 2,
Related adhesion focal tyrosine kinase,
RAFTK, PTK2B, FAK2, PYK2, RAFTK

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP7703a](/product/products/AP7703a) was selected from the N-term region of human FAK2. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

PYK2 (FAK2) Antibody (N-term) Blocking peptide - Background

FAK2 is 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.

PYK2 (FAK2) Antibody (N-term) Blocking peptide - References

Avraham, H.K., et al., J. Biol. Chem. 278(38):36661-36668 (2003). Zeleznik, A.J., et al., Endocrinology 144(9):3985-3994 (2003). Rose, D.M., et al., J. Immunol. 170(12):5912-5918 (2003). Han, H., et al., J. Exp. Med. 197(1):63-75 (2003). Gismondi, A., et al., J. Immunol. 170(6):3065-3073 (2003).

PYK2 (FAK2) Antibody (N-term) Blocking peptide
- Protein Information**Name** PTK2B**Synonyms** FAK2, PYK2, RAFTK**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.

Cellular Location

Cytoplasm. Cytoplasm, perinuclear region. Cell membrane; Peripheral membrane protein; Cytoplasmic side. Cell junction, focal adhesion. Cell projection, lamellipodium. Cytoplasm, cell cortex Nucleus. Note=Interaction with NPHP1 induces the membrane-association of the kinase. Colocalizes with integrins at the cell periphery

Tissue Location

Most abundant in the brain, with highest levels in amygdala and hippocampus. Low levels in kidney (at protein level). Also expressed in spleen and lymphocytes.

PYK2 (FAK2) Antibody (N-term) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)