

Product datasheet for MR227424

Ptk2b (NM_001162366) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Ptk2b (NM_001162366) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Ptk2b
Synonyms:	CADTK; CAKB; CAKbeta; E430023O05Rik; FADK2; FAK2; PYK2; Raftk
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>MR227424 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGTCCGGGGTGTCTGAGCCCTTGAGCCGTGTAAAAGTGGGCACTTTACGCCGCCTGAGGGCCCCCAG
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GGCATCATTGAAGAGGAACCCACCTGGATTATCATGGAAGTGTATCCTTATGGGGAGCTGGGACACTACC
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Protein Sequence:

>MR227424 protein sequence
 Red=Cloning site Green=Tags(s)

MSGVSEPLSRVKVGLTRRPEGPPEPMVVPVDVEKEDVRIILKVCFYNSFNPGKNFKLVKCTVQTEIQEI
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 MESLKEDRTLLYFYQQLRNDYMQRYASKVSEGMALQLGCLELRRFFKDMPHNALDKSNFELLEKEVGL
 DLFFPKMQENLKPKQFRKMIQQTFQYASLREEECVMKFFNTLAGFANIDQETYRCEL IQGWNITVDLV
 IGPKGIRQLTSQDTKPTCLAEFKQIRSIKPLEETQAVLQLGIEGAPQSLSIKTSSLAEENMADLIDG
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 LTPEKEAGYTEFTGPPQKPPRLGAQSIQPTANLDRDLDL VYHNVMTLVEAVLELKNKLGQLPPEDYVVVV
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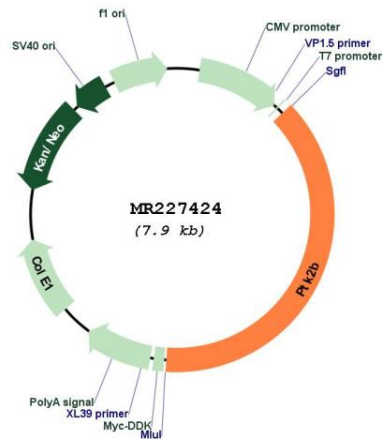
Restriction Sites:

SgfI-MluI

Locus ID: 19229
UniProt ID: [Q9QVP9](#)
Cytogenetics: 14 34.36 cM
MW: 115.8 kDa

Gene Summary: 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' (By similarity). 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 (By similarity).
[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR227424