# PTK2 Recombinant Monoclonal Antibody

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| **Product Code** | CSB-RA198162A0HU |
| **Storage** | Upon receipt, store at -20°C or -80°C. Avoid repeated freeze. |
| **Uniprot No.** | Q05397 |
| **Immunogen** | A synthesized peptide derived from human FAK |
| **Species Reactivity** | Human |
| **Tested Applications** | ELISA, IHC; Recommended dilution: IHC:1:50-1:200 |
| **Relevance** | Non-receptor protein-tyrosine kinase that plays an essential role in regulating cell migration, adhesion, spreading, reorganization of the actin cytoskeleton, formation and disassembly of focal adhesions and cell protrusions, cell cycle progression, cell proliferation and apoptosis. Required for early embryonic development and placenta development. Required for embryonic angiogenesis, normal cardiomyocyte migration and proliferation, and normal heart development. Regulates axon growth and neuronal cell migration, axon branching and synapse formation; required for normal development of the nervous system. Plays a role in osteogenesis and differentiation of osteoblasts. Functions in integrin signal transduction, but also in signaling downstream of numerous growth factor receptors, G-protein coupled receptors (GPCR), EPHA2, netrin receptors and LDL receptors. 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 the AKT1 signaling cascade. Promotes activation of MAPK1/ERK2, MAPK3/ERK1 and the MAP kinase signaling cascade. Promotes localized and transient activation of guanine nucleotide exchange factors (GEFs) and GTPase-activating proteins (GAPs), and thereby modulates the activity of Rho family GTPases. Signaling via CAS family members mediates activation of RAC1. Recruits the ubiquitin ligase MDM2 to P53/TP53 in the nucleus, and thereby regulates P53/TP53 activity, P53/TP53 ubiquitination and proteasomal degradation. Phosphorylates SRC; this increases SRC kinase activity. Phosphorylates ACTN1, ARHGEF7, GRB7, RET and WASL. Promotes phosphorylation of PXN and STAT1; most likely PXN and STAT1 are phosphorylated by a SRC family kinase that is recruited to autophosphorylated PTK2/FAK1, rather than by PTK2/FAK1 itself. Promotes phosphorylation of BCAR1; GIT2 and SHC1; this requires both SRC and PTK2/FAK1. Promotes phosphorylation of BMX and PIK3R1. Isoform 6 (FRNK) does not contain a kinase domain and inhibits PTK2/FAK1 phosphorylation and signaling. Its enhanced expression can attenuate the nuclear accumulation of LPXN and limit its ability to enhance serum response factor (SRF)-dependent gene transcription. |
| **Form** | Liquid |
| **Conjugate** | Non-conjugated |
| **Storage Buffer** | Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium |

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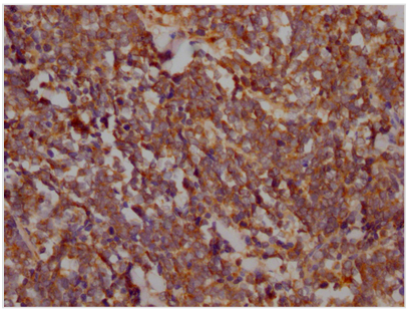
| | azide and 50% glycerol. |
| **Purification Method** | Affinity-chromatography |
| **Isotype** | Rabbit IgG |
| **Clonality** | Monoclonal |
| **Product Type** | Recombinant Antibody |
| **Immunogen Species** | Homo sapiens (Human) |
| **Research Area** | Cancer; Cardiovascular; Signal transduction |
| **Gene Names** | PTK2 |
| **Clone No.** | 3B2 |

**Image**



IHC image of CSB-RA198162A0HU diluted at 1:100 and staining in paraffin-embedded human lung cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.

**Description**

The production of the PTK2 recombinant monoclonal antibody involves the harvest of the PTK2 monoclonal antibody, sequencing its gene, constructing a vector that contains the PTK2 monoclonal antibody, and transfecting the plasmid vector into a host cell line. The immunogen for the PTK2 monoclonal antibody is a synthesized peptide derived from human PTK2. The PTK2 recombinant monoclonal antibody is purified from the cell culture supernatant using affinity chromatography. The specificity of this antibody is tested in ELISA and IHC applications. It only reacts with human PTK2 protein.

The PTK2 protein, also known as focal adhesion kinase (FAK), is a cytoplasmic tyrosine kinase that plays critical roles in regulating cell adhesion, migration, proliferation, and survival. PTK2 is involved in the regulation of cell migration by regulating the formation and turnover of focal adhesions. PTK2 activation can lead to the phosphorylation of downstream targets that regulate actin cytoskeleton dynamics and cell motility. PTK2 plays a role in the regulation of cell proliferation by regulating cell cycle progression and cell survival. PTK2 activation has been shown to promote cell cycle progression by regulating the activity of cyclin-dependent kinases and downstream signaling pathways. Dysregulation of PTK2 activity has been implicated in various diseases, including cancer, cardiovascular disease, and neurological disorders.