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KD-Validated Anti-Protein Tyrosine Kinase 2 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1302

Specification

KD-Validated Anti-Protein Tyrosine Kinase 2 Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	Q05397
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 119 kDa; observed, 119 kDa KDa**
Gene Name	**PTK2**
Aliases	**PTK2; Protein Tyrosine Kinase 2; PPP1R7; FAK; FAK; FADK; Protein Phosphatase 1 Regulatory Subunit 71; Focal Adhesion Kinase-Related Nonkinase; PTK2 Protein Tyrosine Kinase 2; Focal Adhesion Kinase 1; EC 2.7.10.2; Pp125FAK; P125FAK; FADK 1; FRNK; Protein Phosphatase 1, Regulatory Subunit 71; FAK-Related Non-Kinase Polypeptide; Protein-Tyrosine Kinase 2; EC 2.7.10**
Immunogen	**A synthesized peptide derived from human FAK**

KD-Validated Anti-Protein Tyrosine Kinase 2 Rabbit Monoclonal Antibody - Additional Information

Gene ID	**5747**

Other Names
Focal adhesion kinase 1, FADK 1, 2.7.10.2, Focal adhesion kinase-related nonkinase, FRNK, Protein phosphatase 1 regulatory subunit 71, PPP1R71, Protein-tyrosine kinase 2, p125FAK, pp125FAK, PTK2 (HGNC:9611), FAK, FAK1

KD-Validated Anti-Protein Tyrosine Kinase 2 Rabbit Monoclonal Antibody - Protein Information

Name PTK2 (HGNC:9611)

Synonyms FAK, FAK1

Function
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. Phosphorylates NEDD9 following integrin stimulation (PubMed:9360983). 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.

Cellular Location
Cell junction, focal adhesion. Cell membrane {ECO:0000250|UniProtKB:Q00944}; Peripheral membrane protein {ECO:0000250|UniProtKB:Q00944}; Cytoplasmic side {ECO:0000250|UniProtKB:Q00944}. Cytoplasm, perinuclear region. Cytoplasm, cell cortex. Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:O35346}. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Nucleus. Cytoplasm, cytoskeleton, cilium basal body Cytoplasm Note=Constituent of focal adhesions. Detected at microtubules {ECO:0000250|UniProtKB:P34152}

Tissue Location
Detected in B and T-lymphocytes. Isoform 1 and isoform 6 are detected in lung fibroblasts (at protein level) Ubiquitous. Expressed in epithelial cells (at protein level) (PubMed:31630787).

KD-Validated Anti-Protein Tyrosine Kinase 2 Rabbit Monoclonal Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

KD-Validated Anti-Protein Tyrosine Kinase 2 Rabbit Monoclonal Antibody - Images

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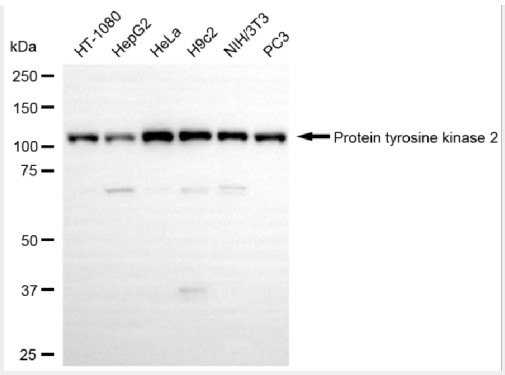
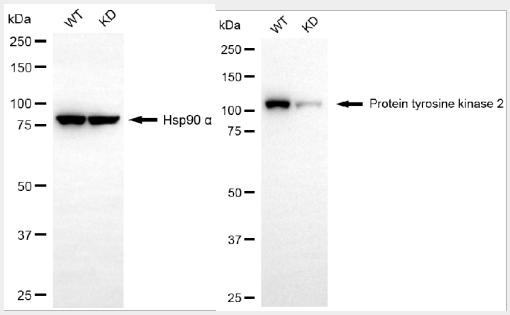
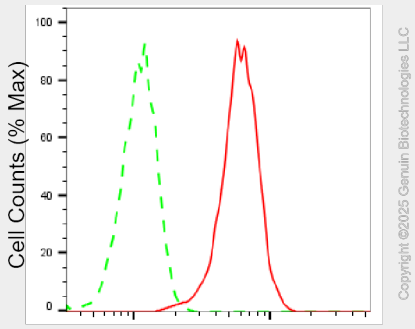


Western blotting analysis using anti-protein tyrosine kinase 2 antibody (Cat#AGI1302). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-protein tyrosine kinase 2 antibody (Cat#AGI1302, 1:5,000) and HRP-conjugated goat anti rabbit secondary antibody respectively.

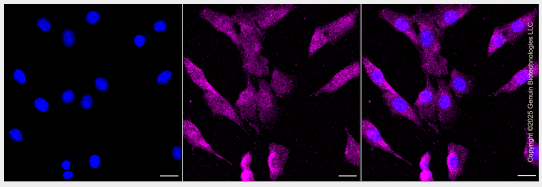


Western blotting analysis using anti-protein tyrosine kinase 2 antibody (Cat#AGI1302). Protein tyrosine kinase 2 expression in wild-type (WT) and protein tyrosine kinase 2 (PTK2) knockdown (KD) 293T cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-protein tyrosine kinase 2 antibody (Cat#AGI1302, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Protein tyrosine kinase 2-Alexa Fluor® 647

Flow cytometric analysis of Protein tyrosine kinase 2 expression in C2C12 cells using anti-Protein tyrosine kinase 2 antibody (Cat#AGI1302, 1:2,000). Green, isotype control; red, Protein tyrosine kinase 2.



Immunocytochemical staining of C2C12 cells with Protein tyrosine kinase 2 antibody

(Cat#AGI1302, 1:1,000). Nuclei were stained blue with DAPI; Protein tyrosine kinase 2 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar, 20 µm.