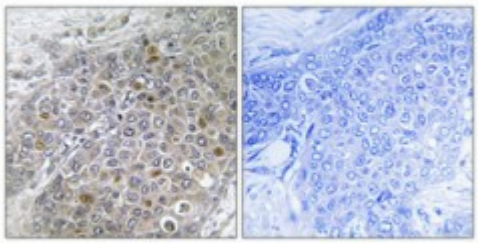
Anti-Brk antibody



Description	Rabbit polyclonal to Brk.

Model	STJ91891
Host	Rabbit
Reactivity	Human, Mouse
Applications	ELISA, IF, IHC, WB
Immunogen	Synthesized peptide derived from human Brk
Immunogen Region	10-90 aa, N-terminal
Gene ID	5753
Gene Symbol	PTK6
Dilution range	WB 1:500-1:2000IHC 1:100-1:300IF 1:200-1:1000ELISA 1:20000
Specificity	Brk Polyclonal Antibody detects endogenous levels of Brk protein.
Tissue Specificity	Epithelia-specific. Very high level in colon and high levels in small intestine and prostate, and low levels in some fetal tissues. Not expressed in breast or ovarian tissue but expressed in high percentage of breast and ovarian cancers. Also overexpressed in some metastatic melanomas, lymphomas, colon cancers, squamous cell carcinomas and prostate cancers. Also found in melanocytes. Not expressed in heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. Isoform 2 is present in prostate
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).

Protein Name	Protein-tyrosine kinase 6 Breast tumor kinase Tyrosine-protein kinase BRK
Molecular Weight	48 kDa
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:9617OMIM:602004
Alternative Names	Protein-tyrosine kinase 6 Breast tumor kinase Tyrosine-protein kinase BRK
Function	Non-receptor tyrosine-protein kinase implicated in the regulation of a variety of signaling pathways that control the differentiation and maintenance of normal epithelia, as well as tumor growth. Function seems to be context dependent and differ depending on cell type, as well as its intracellular localization. A number of potential nuclear and cytoplasmic substrates have been identified. These include the RNA-binding proteins: KHDRBS1/SAM68, KHDRBS2/SLM1, KHDRBS3/SLM2 and SFPQ/PSF; transcription factors: STAT3 and STAT5A/B and a variety of signaling molecules: ARHGAP35/p190RhoGAP, PXN/paxillin, BTK/ATK, STAP2/BKS. Associates also with a variety of proteins that are likely upstream of PTK6 in various signaling pathways, or for which PTK6 may play an adapter-like role. These proteins include ADAM15, EGFR, ERBB2, ERBB3 and IRS4. In normal or non-tumorigenic tissues, PTK6 promotes cellular differentiation and apoptosis. In tumors PTK6 contributes to cancer progression by sensitizing cells to mitogenic signals and enhancing proliferation, anchorage-independent survival and migration/invasion. Association with EGFR, ERBB2, ERBB3 may contribute to mammary tumor development and growth through enhancement of EGF-induced signaling via BTK/AKT and PI3 kinase. Contributes to migration and proliferation by contributing to EGF-mediated phosphorylation of ARHGAP35/p190RhoGAP, which promotes association with RASA1/p120RasGAP, inactivating RhoA while activating RAS. EGF stimulation resulted in phosphorylation of PNX/Paxillin by PTK6 and activation of RAC1 via CRK/CrKII, thereby promoting migration and invasion. PTK6 activates STAT3 and STAT5B to promote proliferation. Nuclear PTK6 may be important for regulating growth in normal epithelia, while cytoplasmic PTK6 might activate oncogenic signaling pathways.; Isoform 2 inhibits PTK6 phosphorylation and PTK6 association with other tyrosine-phosphorylated proteins.
Sequence and Domain Family	The SH3 domain plays a major role in substrate interactions. The SH2 domain of PTK6 plays a role in protein-protein interactions, but is likely more important for the regulation of catalytic activity.
Cellular Localization	Cytoplasm. Nucleus. Cell projection, ruffle. Membrane. Colocalizes with KHDRBS1, KHDRBS2 or KHDRBS3, within the nucleus. Nuclear localization in epithelial cells of normal prostate but cytoplasmic localization in cancer prostate.
Post-translational	Autophosphorylated. Autophosphorylation of Tyr-342 leads to an increase of

Modifications	kinase activity. Tyr-447 binds to the SH2 domain when phosphorylated and negatively regulates kinase activity.