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BRK (PTK6) Antibody (N-term) Blocking peptide

Synthetic peptide
Catalog # BP7715a

Specification

BRK (PTK6) Antibody (N-term) Blocking peptide - Product Information

Primary Accession Q13882

BRK (PTK6) Antibody (N-term) Blocking peptide - Additional Information

Gene ID 5753

Other Names
Protein-tyrosine kinase 6, Breast tumor kinase, Tyrosine-protein kinase BRK, PTK6, BRK

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7715a was selected from the N-term region of human PTK6 . 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.

BRK (PTK6) Antibody (N-term) Blocking peptide - Protein Information

Name PTK6

Synonyms 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.

Cellular Location
Cytoplasm. Nucleus. Cell projection, ruffle. Membrane. Note=Colocalizes with KHDRBS1, KHDRBS2 or KHDRBS3, within the nucleus. Nuclear localization in epithelial cells of normal prostate but cytoplasmic localization in cancer prostate

Tissue Location
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 epithelial cell lines derived from normal prostate and prostate adenocarcinomas, as well as in a variety of cell lines.

BRK (PTK6) Antibody (N-term) Blocking peptide - Protocols

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

- Blocking Peptides

BRK (PTK6) Antibody (N-term) Blocking peptide - Images

BRK (PTK6) Antibody (N-term) Blocking peptide - Background

PTK6 is a cytoplasmic nonreceptor protein kinase which may function as an intracellular signal transducer in epithelial tissues. Overexpression of this gene in mammary epithelial cells leads to sensitization of the cells to epidermal growth factor and results in a partially transformed phenotype. Expression of this gene has been detected at low levels in some breast tumors but not in normal breast tissue. The encoded protein has been shown to undergo autophosphorylation.

BRK (PTK6) Antibody (N-term) Blocking peptide - References

Derry, J.J., et al., Oncogene 22(27):4212-4220 (2003).Coyle, J.H., et al., Mol. Cell. Biol. 23(1):92-103 (2003).Koo, B.K., et al., J. Biochem. Mol. Biol. 35(3):343-347 (2002).Kang, K.N., et al., Biochim. Biophys. Acta 1574(3):365-369 (2002).Hong, E., et al., J. Biomol. NMR 19(3):291-292 (2001).

BRK (PTK6) Antibody (N-term) Blocking peptide - Citations

- Overexpression of PTK6 predicts poor prognosis in bladder cancer patients.