

PTK6/BRK (D4O2D) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IF-IC	H	Endogenous	48	Rabbit IgG	#Q13882	5753

Product Usage Information**Application**

Western Blotting
Immunoprecipitation
Immunofluorescence (Immunocytochemistry)

Dilution

1:1000
1:100
1:200

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

PTK6/BRK (D4O2D) Rabbit mAb recognizes endogenous levels of total PTK6/BRK protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human PTK6/BRK protein.

Background

PTK6/BRK (protein-tyrosine kinase 6, Breast Tumor Kinase) is a non-receptor tyrosine kinase that is closely related to the FRK family of kinases and distantly related to SRC family kinases (1). PTK6/BRK possesses an N-terminal SRC homology 3 (SH3) domain that regulates kinase-substrate interactions, an auto-inhibitory SRC homology 2 (SH2) domain, and a carboxy-terminal kinase domain. Phosphorylation at Tyr342 in the activation loop of the kinase domain upregulates kinase activity, whereas phosphorylation at Tyr447 inhibits kinase activity (2). PTK6/BRK is expressed in differentiated epithelial cells in normal skin, gastrointestinal tract and colon, and its expression level is reportedly upregulated in some cancer cell types, including breast carcinoma, prostate cancer and colon cancer (3-5). Although typically localized in the nucleus of normal cells, PTK6/BRK has also been observed in the cytosol and plasma membrane in some contexts, notably during tumor progression, where it likely interacts with unique substrates. In the nucleus, PTK6/BRK functions to mediate signaling events important for differentiation and apoptosis (4); outside the nucleus, PTK6/BRK may function to relay upstream RTK signaling to downstream pathways via phosphorylation and activation of substrates such as paxillin, STAT and AKT, which in turn activate pathways to promote cell survival, invasion and migration. The upregulation, altered subcellular localization and associated signaling functions of PTK6/BRK in tumor cells make it a promising target for cancer therapy (6).

Background References

- Goel, R.K. and Lukong, K.E. (2015) *Biochim Biophys Acta* 1856, 39-54.
- Qiu, H. and Miller, W.T. (2002) *J Biol Chem* 277, 34634-41.
- Ostrander, J.H. et al. (2010) *Curr Opin Pharmacol* 10, 662-9.
- Zheng, Y. and Tyner, A.L. (2013) *Eur J Clin Invest* 43, 397-404.
- Brauer, P.M. and Tyner, A.L. (2010) *Biochim Biophys Acta* 1806, 66-73.
- Jiang, J. et al. (2017) *Cancer Res* 77, 175-186.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human

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