

PTK7 Antibody

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W, IP	Reactivity: H M R	Sensitivity: Endogenous	MW (kDa): 160	Source/Isotype: Rabbit	UniProt ID: #Q13308	Entrez-Gene Id: 5754
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Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:100

Storage

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

Specificity/Sensitivity

PTK7 Antibody recognizes endogenous levels of total PTK7 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human PTK7 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

PTK7 (CCK4) is a non-active receptor tyrosine kinase originally identified in colon carcinoma cells (1). PTK7 functions in cell adhesion, cell migration, cell polarity, proliferation, actin cytoskeleton reorganization, and apoptosis to regulate embryogenesis, epithelial tissue organization, neuronal tube closure, neuronal crest formation, and axon guidance (2-5). PTK7 acts as a co-receptor in both the non-canonical (also known as the Wnt/planar cell polarity signaling) and the canonical Wnt signaling pathways (6). In the non-canonical Wnt pathway, PTK7 activates downstream signaling by direct interaction with RACK1 and recruitment of DSH into the membrane localized receptor complex (3,6,7). PTK7 exerts an inhibitory effect on canonical Wnt pathway signal transduction through competition for frizzled receptor binding at the membrane surface (8). PTK7 gene expression is regulated by Cdx (9), while protein stability is regulated by membrane associated proteinase degradation. PTK7 is targeted for proteolytic degradation and extracellular domain shedding by the metalloproteinases MMP14 and Adam17, leading to enhanced cell proliferation, migration, and facilitated cancer cell invasion (10,11). PTK7 has been shown to regulate other signaling pathways by functioning as a co-receptor with membrane receptors, such as Plexin A1 and VEGFR1 (12-14).

Background References

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7. Wehner, P. et al. (2011) *Development* 138, 1321-7.
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12. Wagner, G. et al. (2010) *Biochem Biophys Res Commun* 402, 402-7.
13. Lee, H.K. et al. (2011) *Blood* 117, 5762-71.
14. Shin, W.S. et al. (2008) *Biochem Biophys Res Commun* 371, 793-8.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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