Revision 1

Store at -20C

#13808

PTPN14 (D5T6Y) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R	Endogenous	160	Rabbit IgG	#Q15678	5784

Product Usage Information

Application	Dilution
Western Blotting	1:1000

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

PTPN14 (D5T6Y) Rabbit mAb recognizes endogenous levels of total PTPN14 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu737 of human PTPN14 protein.

Background

Tyrosine-protein phosphatase non-receptor type-14 (PTPN14, Pez, PTPD2 and PTP36) is an evolutionarily conserved non-membrane tyrosine phosphatase with homology to the band 4.1 family of proteins (1-3). The PTPN14 protein contains an amino-terminal FERM (4.1-ezrin-radixin-moesin) domain, which suggests plasma membrane localization of the protein, and a carboxy-terminal protein tyrosine phosphatase (PTP) domain (4). Research studies have identified possible roles for PTPN14 in multiple, diverse signaling pathways, including cell growth and proliferation, cell migration and adhesion, and development. The PTPN14 phosphatase regulates the subcellular localization of YAP in a cell density-dependent manner, indicating a role for PTPN14 in the Hippo signaling pathway (5). The *Drosophila* PTPN14 homolog Pez localizes to adherens junctions, where it may regulate cell motility through dephosphorylation of β-catenin (3). PTPN14 may play a role in epithelial-mesenchymal transition through effects on the TGF-β signaling pathway (6), and interacts with VEGFR3, a receptor tyrosine kinase involved in lymphangiogenesis (7). Loss-of-function mutations in the *PTPN14* gene are associated with colorectal cancer (8), and choanal atresia and lymphedema, an autosomal recessive disorder characterized by defects in both nasal passage development and lymphangiogenesis (7).

Background References

1. Smith, A.L. et al. (1995) *Biochem Biophys Res Commun* 209, 959-65.
2. Ogata, M. et al. (1999) *J Biol Chem* 274, 20717-24.
3. Wadham, C. et al. (2003) *Mol Biol Cell* 14, 2520-9.
4. Wadham, C. et al. (2000) *J Cell Sci* 113 (Pt 17), 3117-23.
5. Wang, W. et al. (2012) *Genes Dev* 26, 1959-71.
6. Wyatt, L. et al. (2007) *J Cell Biol* 178, 1223-35.
7. Au, A.C. et al. (2010) *Am J Hum Genet* 87, 436-44.
8. Laczmanska, I. and Sasiadek, M.M. (2011) *Acta Biochim Pol* 58, 467-70.

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

Cross-Reactivity Key

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

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