Revision 1

Store at -20C

#4485

PTPmu (BK2) Mouse mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	Mi	Endogenous	100, 110, 210	Mouse IgG2a	#P28827	5797

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

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

PTPmu Mouse mAb detects endogenous levels of total PTPmu protein. This antibody does not cross react with other receptor tyrosine phosphatases.

Species predicted to react based on 100% sequence homology

Mouse

Source / Purification

Monoclonal antibody (isotype: IgG2a) is produced by immunizing mice with a synthetic peptide corresponding to the amino-terminal residues of human PTPmu.

Background

Receptor tyrosine phosphatase PTPmu has an extracellular segment characteristic of adhesion molecules: an MEM domain, an Ig domain and four fibronectin III like (FN III) repeats (1,2). PTPmu is proteolytically cleaved into two noncovalently associated fragments: one is the extracellular domain, the other includes the transmembrane and the intracellular catalytic domains. Both fragments are approximately 100 kDa (3). The extracellular domain mediates cell-cell adhesion in a homophilic, Ca2+ independent manner (1,2). PTPmu associates with multiple cadherins (4). It is able to restore E-cadherin-dependent adhesion in human prostate cancer, and is required for N-cadherin-mediated neurite outgrowth (5,6). The phosphatase activity seems to be essential for the latter function but is dispensable for the former (5,6). PTPmu also associates with and recruits a scaffold protein, RACK (receptor for activated protein C kinase), to cell-cell contact sites (7). Both PKCdelta and src seem to be involved in this process (6,7).

Background References

1. Gebbink, M. F. et al. (1993) *J. Biol. Chem.* 268, 16101-16104.
2. Brady-Kalnay, S.M. and Tonks, N.K. (1994) *J. Biol. Chem.* 269, 28472-28477.
3. Brady-Kalnay, S. M. et al. (1998) *J. Cell Biol.* 141, 287-296.
4. Hellberg, C. B. et al. (2002) *J. Biol. Chem.* 277, 11165-11173.
5. Burden-Gulley, S.M. and Brady-Kalnay, S.M. (1999) *J. Cell Biol.* 144, 1323-1336.
6. Mourton, T. et al. (2001) *J. Biol. Chem.* 276, 14896-14901.

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

Mi: Mink

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Limited Uses

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