Revision 1

#8088 Store at -20C

Phospho-PZR (Tyr263) (D6A5) Rabbit mAb

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IF-IC, FC-FP	H M R B	Endogenous	30-50	Rabbit IgG	#O95297	9019

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50
Immunofluorescence (Immunocytochemistry)	1:400
Flow Cytometry (Fixed/Permeabilized)	1:6400

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

Phospho-PZR (Tyr263) (D6A5) Rabbit mAb recognizes endogenous levels of PZR protein only when phosphorylated at Tyr263.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Tyr263 of human PZR protein.

Background

PZR (Protein zero related) is an immunoglobulin superfamily protein that specifically binds the tyrosine phosphatase SHP-2 through its intracellular immunoreceptor tyrosine-based inhibitory motifs (ITIMs) (1,2). PZR is phosphorylated by c-Src, c-Fyn, c-Lyn, Csk, and c-Abl (3). PP1, a Src family kinase inhibitor, inhibits PZR phosphorylation (4,5). There are three alternatively spliced isoforms, designated as PZR, PZRa, and PZRb; both PZRa and PZRb lack ITIMs (6,7). PZR is the main receptor of ConA and has an important role in cell signaling via c-Src (4). PZR is expressed in many cell types and is localized to cell contacts and intracellular granules in BAECs and mesothelioma (REN) cells. PZR has been implicated as a cell adhesion protein that may be involved in SHP-2-dependent signaling at interendothelial cell contacts (3). Hypertyrosine phosphorylation of PZR was observed during embryogenesis in a mouse model of Noonan syndrome (8).
Upon Con A treatment or H_2O_2 treatment, two PZR intracellular ITIM tyrosine sites-Tyr241 and Tyr263 are phosphorylated (4,8). Phosphorylation of these two sites facilitates recruitment of SHP-2 to PZR which alters the phosphatase activity of SHP-2 and affects its downstream signaling (5,8,9).

Background References

1. Zhao, Z.J. and Zhao, R. (1998) *J Biol Chem* 273, 29367-72.
2. Zhao, R. and Zhao, Z.J. (2000) *J Biol Chem* 275, 5453-9.
3. Kusano, K. et al. *Endothelium* 15, 127-36.
4. Zhao, R. et al. (2002) *J Biol Chem* 277, 7882-8.
5. Zhao, R. et al. (2003) *J Biol Chem* 278, 42893-8.
6. Zannettino, A.C. et al. (2003) *Biochem J* 370, 537-49.
7. Zhao, R. and Zhao, Z.J. (2003) *Biochem Biophys Res Commun* 303, 1028-33.
8. Eminaga, S. and Bennett, A.M. (2008) *J Biol Chem* 283, 15328-38.
9. Zhao, R. et al. (2003) *J Biol Chem* 278, 42893-8.

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 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) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

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

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