

**Phospho-PZR (Tyr241) (D6F9) Rabbit mAb**

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

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

Western Blotting  
Immunoprecipitation  
Immunofluorescence (Immunocytochemistry)  
Flow Cytometry (Fixed/Permeabilized)

**Dilution**

1:1000  
1:50  
1:800  
1:800

**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 (Tyr241) (D6F9) Rabbit mAb recognizes endogenous levels of PZR protein only when phosphorylated at Tyr241.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Tyr241 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, PZR $\alpha$ , and PZR $\beta$ ; both PZR $\alpha$  and PZR $\beta$  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<sub>2</sub>O<sub>2</sub> 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**

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