Revision 3

#2329 Store at -20C

Phospho-PAR-4 (Thr163) Antibody

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H	Endogenous	43	Rabbit	#Q96IZ0	5074

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 and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

Phospho-PAR-4 (Thr163) Antibody detects endogenous levels of PAR-4 when phosphorylated at Thr163 (Thr163 corresponds to human sequence and is equivalent to Thr155 in rat and Thr156 in mouse).

Species predicted to react based on 100% sequence homology

Mouse, Rat, Monkey

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Thr163 of human PAR-4 (Thr155 in rat and Thr156 in mouse). Antibodies were purified by protein A and peptide affinity chromatography.

Background

PAR-4 (prostate apoptosis response-4) was identified as a protein that is upregulated in prostate tumor cells undergoing apoptosis (1). Additionally, in parallel studies PAR-4 was found in the yeast two-hybrid system to bind to the Wilms' tumor suppressor protein WT1 and may modulate WT1-medated transcriptional activation (2). PAR-4 contains a leucine zipper domain and a death domain and has been implicated as an effector of apoptosis during tumorigenesis as well as in neurodegenerative disorders (3,4). PAR-4 is widely expressed in normal tissues but can be downregulated in some tumor types. The mechanism of PAR-4 mediated apoptosis regulation appears to be complex and dependent on the cellular context. Studies have indicated roles for PAR-4 in activation of the Fas-FADD-caspase-8 pathway as well as inhibition of the NF-κB pro-survival pathway (5-7). Its activity is likely to depend on the cellular context and post-translational modifications. For instance, phosphorylation of PAR-4 by Akt prevents its nuclear translocation thereby promoting cell surivival (8). In contrast, phoshorylation of rat PAR-4 at T155 by PKA appears to positively regulate its apoptotic activity (9).

Background References

1. Sells, S.F. et al. (1997) *Mol. Cell Biol.* 17, 3823-3832.
2. Johnstone, R.W. et al. (1996) *Mol. Cell Biol.* 16, 6945-6956.
3. Guo, Q. et al. (1998) *Nat. Med.* 4, 957-962.
4. El-Guendy, N. and Rangnekar, V.M. (2003) *Exp. Cell Res.* 283, 51-66.
5. Chakraborty, M. et al. (2001) *Cancer Res.* 61, 7255-7263.
6. Díaz-Meco, M.T. et al. (1996) *Cell* 86, 777-786.
7. Diaz-Meco, M.T. et al. (1999) *J. Biol. Chem.* 274, 19606-79612.
8. Goswami, A. et al. (2005) *Mol. Cell* 20, 33-44.
9. Gurumurthy, S. et al. (2005) *Mol. Cell Biol.* 25, 1146-1161.

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

WB: Western Blotting

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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Limited Uses