Phospho-PAR-4 (Thr163) Antibody

#2329 Store at -20°C

☐ Small 100 µl (10 western blots)
☐ Petite 40 µl (4 western blots)

Cell Signaling TECHNOLOGY®

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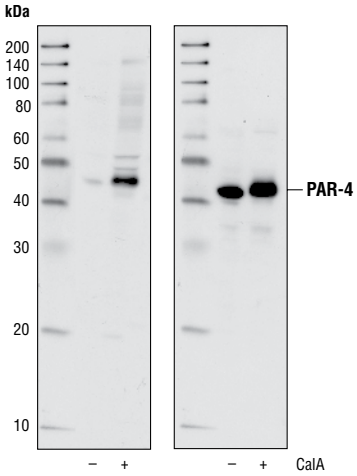
rev. 02/04/10

Entrez-Gene ID #5074
Swiss-Prot Acc. #Q96IZ0

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, (M, R, Mk)	43 kDa	Rabbit**

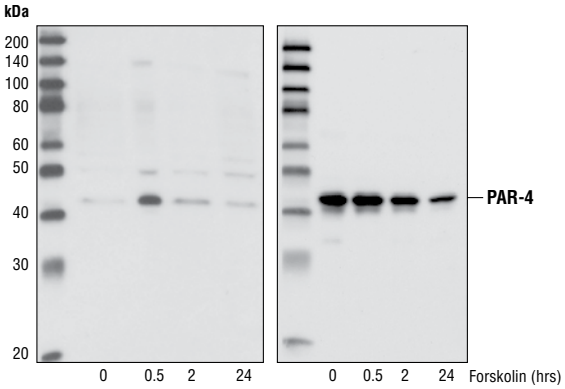
Background: PAR-4 (prostate apoptosis response-4) was identified as a protein that is upregulated in prostate tumor cells undergoing apoptosis (1). Additionally, in parallel studies PAR-4 was found in the yeast two-hybrid system to bind to the Wilms' tumor suppressor protein WT1 and may modulate WT1-medated 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).

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).



Western blot analysis of extracts from HeLa cells, untreated or treated with Calyculin A (100 nM, 5 minutes), using Phospho-PAR-4 (Thr163) Antibody (left) or total PAR-4 Antibody #2328 (right).

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.



Western blot analysis of extracts from HeLa cells, untreated or forskolin-treated (30 µM), using Phospho-PAR-4 (Thr163) Antibody (left) or total PAR-4 Antibody #2328 (right).

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.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:
Western blotting 1:1000

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.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **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 **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.