

Pan-Calcineurin A Antibody

100 µl
(10 western blots)

Orders ■ 877-616-CELL (2355)
orders@cellsignal.com
Support ■ 877-678-TECH (8324)
info@cellsignal.com
Web ■ www.cellsignal.com

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

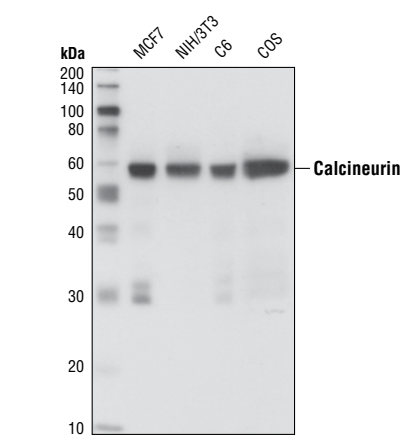
Entrez-Gene ID #5530, 5532
Swiss-Prot Acc. #Q08209, P16298

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP, IF-IC, F Endogenous	H, M, R, Mk, Dm, (C, B, X, Pg)	59 kDa	Rabbit**

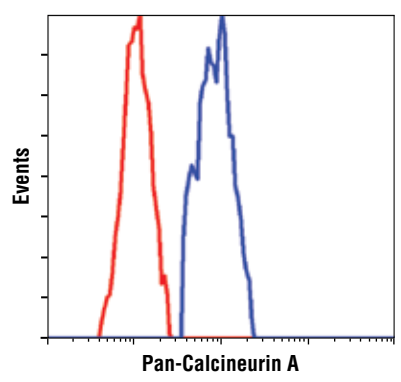
Background: Calcineurin, also known as protein phosphatase 2B (PP2B), is a calmodulin-dependent, calcium-activated, serine/threonine protein phosphatase composed of a catalytic subunit (calcineurin A) and a tightly bound regulatory subunit (calcineurin B) (1). Calcineurin A is highly homologous to protein phosphatases 1 and 2A. Calcineurin B, like calmodulin, contains four EF-hand, calcium-binding motifs.

Calcineurin signaling has been implicated in a broad spectrum of cellular processes including cell-cycle regulation, stress response and apoptosis and is required for proper cardiovascular and skeletal muscle development (2,3). Calcineurin-mediated dephosphorylation of the nuclear factor of activated T cells (NFAT) transcription factor is essential for NFAT activation and nuclear translocation and early gene expression in T lymphocytes (2,3). Calcineurin is the target of the immunosuppressive drugs Cyclosporin A and FK506, both of which block the activation of quiescent T cells after T cell receptor engagement (2,3). Cyclosporin A and FK506 bind to the immunophilins, cyclophilin and FKBP respectively and the immunophilin-drug complex binds to calcineurin and blocks substrate binding.

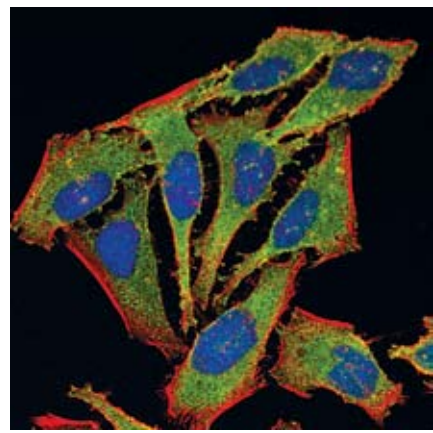
Specificity/Sensitivity: This antibody detects endogenous levels of calcineurin A (α isoform). It may also recognize the β and γ isoforms of calcineurin A. The antibody does not cross-react with protein phosphatase 1 or 2A.



Western blot analysis of lysates from MCF7, NIH/3T3 and COS cells, using Pan-Calcineurin A Antibody.



Flow cytometric analysis of NIH/3T3 cells, using Pan-Calcineurin A antibody (blue) compared to a nonspecific negative control antibody (red).



Confocal immunofluorescent analysis of HeLa cells, using Pan-Calcineurin A Antibody exhibiting cytoplasmic localization (green). Actin filaments have been labeled with Alexa Fluor® 555 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the carboxy-terminus of human Calcineurin A (α isoform). Antibodies are purified by protein A and peptide affinity chromatography.

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
Immunoprecipitation	1:50
Immunofluorescence (IF-IC)	1:50
Flow Cytometry	1:25

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

- (1) Rusnak, F. and Mertz, P. (2000) *Physiol. Rev.* 80, 1483–521.
- (2) Kahl, C.R. and Means, A.R. (2003) *Endocr. Rev.* 24, 719–36.
- (3) Schulz, R.A. and Yutzey, K.E. (2004) *Dev. Biol.* 266, 1–16.

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.