

Pan-Calcineurin A Antibody

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IF-IC, FC-FP	H M R Mk	Endogenous	59	Rabbit	#P16298, #Q08209, #P48454	5532, 5530, 5533

Product Usage Information**Application**

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

Dilution

1:1000
1:50
1:50
1:25

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

This antibody detects endogenous levels of Calcineurin A (alpha isoform). It may also recognize the beta and gamma isoforms of Calcineurin A. The antibody does not cross-react with protein phosphatase 1 or 2A.

Species predicted to react based on 100% sequence homology

Chicken, Xenopus, Bovine, Pig

Source / Purification

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

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.

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.

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 **Mk:** Monkey

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