



Calcineurin A, pan (Protein Phosphatase 2B, PP2B, CnA)

Catalog number

C0114-02

Supplier

United States Biological

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). 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. 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. 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. Cyclosporin A and FK506 bind to the immunophilins, cyclophilin and FKBP respectively and the immunophilin-drug complex binds to calcineurin and blocks substrate binding.

Applications

Suitable for use in Western Blot, Immunoprecipitation, Flow Cytometry, Immunofluorescence and Immunocytochemistry. Other applications have not been tested.

Recommended Dilutions

Western Blot: 1:1000

Immunoprecipitation: 1:50

Immunofluorescence (IC): 1:50

Flow Cytometry: 1:25

Optimal dilutions to be determined by the researcher.

Storage and Stability:

May be stored at 4°C for short-term only. Aliquot to avoid repeated freezing and thawing. Store at -20°C. Aliquots are stable for 12 months after receipt. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap.

Immunogen

Synthetic peptide corresponding to the C-terminus of human Calcineurin A (alpha isoform). Species Sequence Homology: chicken, bovine, Xenopus and porcine, 100%

Formulation

Supplied as a liquid in 10mM sodium HEPES, pH 7.5, 150mM sodium chloride, 0.1mg/ml BSA, 50% glycerol

Purity

Purified by Protein A and peptide affinity chromatography

Specificity



Recognizes endogenous levels of human Calcineurin A (alpha isoform). It may also recognize the beta and gamma isoforms of Calcineurin A. Does not cross-react with protein phosphatase 1 or 2A. Species Crossreactivity: mouse, rat, monkey

Product Type

Pab

Source

human

Isotype

IgG

Grade

Affinity Purified

Applications

FC IC IF IP WB

Crossreactivity

Hu Mk Mo Rt

Storage

-20°C

MW

59

Reference

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