

## DESCRIPTION

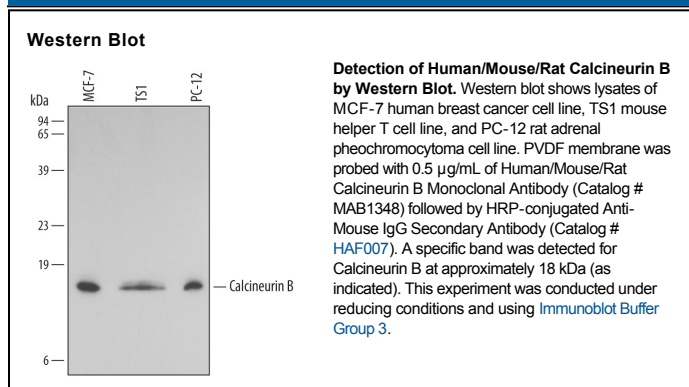
<b>Species Reactivity</b>	Human/Mouse/Rat
<b>Specificity</b>	Detects endogenous human, mouse, and rat Calcineurin B.
<b>Source</b>	Monoclonal Mouse IgG <sub>2A</sub> Clone # 212306
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Calcineurin B Met1-Val170 Accession # P63098
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.5 µg/mL	See Below

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

### Background

Calcineurin, also called Protein Phosphatase 2B, PP2B, PPP2B, Protein Phosphatase 3, and PPP3, is an enzyme that dephosphorylates serine and threonine residues in proteins. It is a heterodimer of a 59,000 dalton catalytic A subunit and a 1,900 dalton regulatory B subunit that is activated by the binding of calcium ions and calmodulin (1). Calcineurin is expressed in many tissues, but its levels are highest in the brain, where it may play a role in learning and memory (2). It has many substrates, including NFAT, a transcription factor that is activated by dephosphorylation (3). Complexes of the immunosuppressants cyclosporin and FK506 with immunophilin proteins such as cyclophilin and FKBP12 are potent and specific inhibitors of Calcineurin activity (4). Alterations in Calcineurin activity are suspected to play a role in cardiac hypertrophy (5) and graft versus host disease in organ transplantation (6).

### References:

1. Stemmer, P.M and C.B. Klee (1994) *Biochemistry* **33**:6859.
2. Zeng H. et al. (2001) *Cell* **107**:617.
3. Okamura, H. et al. (2000) *Molecular Cell* **6**:539.
4. Liu, J. et al. (1992) *Biochemistry* **31**:3896.
5. Molkenin, J.D. (2000) *Circulation Research* **87**:731.
6. Sanquer, S.A. et al. (2004) *Transplantation* **77**:854.