

## Product Information

### Calmodulin 1, His tagged, human recombinant, expressed in *E. coli* cells

Catalog Number **SRP5169**  
Storage Temperature  $-70^{\circ}\text{C}$

Synonyms: CALM1; CALML2; CAM1; DD132; PHKD

#### Product Description

Calmodulin 1 is a member of calcium-modulated proteins, which is present in the cytosol and on membranes facing the cytosol, and has a high affinity for calcium. Calmodulin 1 has 4 calcium-binding domains and plays a role in cell growth, cell cycle, signal transduction, and the synthesis and release of neurotransmitters. Calmodulin can bind to the epidermal growth factor receptor at its cytosolic juxtamembrane region and this inhibits its tyrosine kinase activity.<sup>1</sup> A number of other proteins including HSP70 have been shown to interact with Calmodulin 1 in a cell-phase-specific manner.<sup>2</sup>

Recombinant, full-length, human Calmodulin 1 was expressed in *E. coli* cells using an N-terminal His tag. The gene accession number is NM\_006888. Recombinant protein stored in 50 mM sodium phosphate, pH 7.0, 300 mM NaCl, 150 mM imidazole, 0.1 mM PMSF, 0.25 mM DTT, and 25% glycerol.

Molecular mass: ~17 kDa

Purity: 70–95% (SDS-PAGE, see Figure 1)

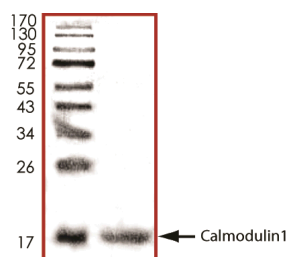
#### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

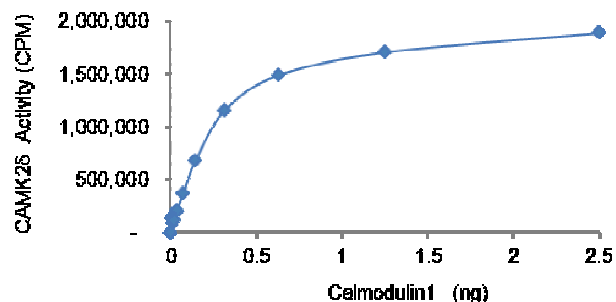
#### Storage/Stability

The product ships on dry ice and storage at  $-70^{\circ}\text{C}$  is recommended. After opening, aliquot into smaller quantities and store at  $-70^{\circ}\text{C}$ . Avoid repeated handling and multiple freeze/thaw cycles.

**Figure 1.**  
SDS-PAGE Gel of Typical Lot  
70–95% (densitometry)



**Figure 2.**  
Activation of CAMK Kinase by Calmodulin 1



$\delta$  activation assay. The assay was performed with 25 ng CAMK2 $\delta$ , 200 ng/ $\mu\text{l}$  autocamtide-2 peptide, 0.4 mM  $\text{CaCl}_2$ , 50  $\mu\text{M}$  ATP, and trace  $\gamma$ - $^{33}\text{P}$ -ATP in 25  $\mu\text{l}$  of reaction volume for 15 minutes at  $30^{\circ}\text{C}$ .

#### References

- Li, H. et al., Endogenous calmodulin interacts with the epidermal growth factor receptor in living cells. *FEBS Lett.*, **13**, 175-180 (2004).
- Huang, M. et al., The association of CaM and Hsp70 regulates S-phase arrest and apoptosis in a spatially and temporally dependent manner in human cells. *Cell Stress Chaperones*, **14**, 343-53 (2009).

FF 11/11-1