

Calmodulin 1 Protein

Full-length recombinant protein expressed in *E. coli* cells

Catalog # C01-30H

Lot # R171-3

Product Description

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](#).

Gene Aliases

CALM1; CALML2; CAMI; DD132; PHKD

Formulation

Recombinant protein stored in 50mM sodium phosphate, pH 7.0, 300mM NaCl, 150mM imidazole, 0.1mM PMSF, 0.25mM DTT, 25% glycerol.

Storage and Stability

Store product at -70°C . For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

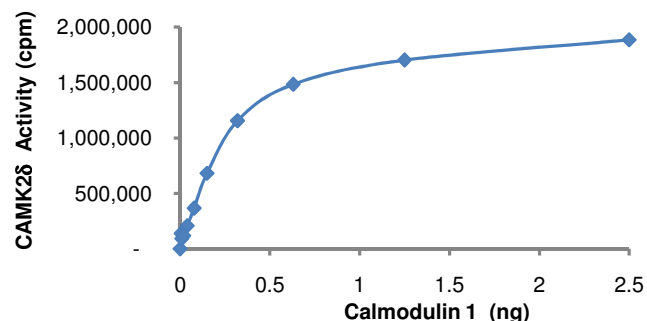
Scientific Background

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 (1). A number of other proteins including HSP70 have been shown to interact with Calmodulin 1 in a cell-phase-specific manner (2).

References

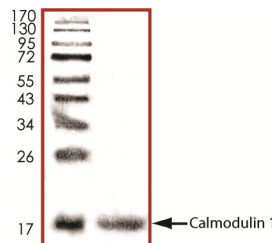
- Li, H. et al: Endogenous calmodulin interacts with the epidermal growth factor receptor in living cells. *FEBS Lett.* 2004 Feb 13;559(1-3):175-80.
- Huang, M. et al: The association of CaM and Hsp70 regulates S-phase arrest and apoptosis in a spatially and temporally dependent manner in human cells. *Cell Stress Chaperones.* 2009 Jul;14(4):343-53.

Activation of CAMK Kinase



The Calmodulin1 dilution curve in CAMK2δ activation assay. The assay was performed in 25ng CAMK2δ, 200ng/µl autocamtide-2 peptide, 0.4mM CaCl₂, 50µM ATP and trace [³³P]-γ-ATP in 25µl of reaction volume for 15 minutes at 30°C.

Purity



The purity of Calmodulin 1 was determined to be **>95%** by densitometry. Approx. MW **17kDa**.

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Specific Lot Number R171-3

Purity >95%

Concentration 0.2µg/µl

Stability 1 yr at -70°C from date of shipment

Storage & Shipping Store product at -70°C . For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles. Product shipped on dry ice.

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