Calmodulin, human recombinant

CATALOG #: 7838-500 500 µg

ALTERNATE NAMES: CaM, CALM Phosphodiesterase 3':5'-cyclic nucleotide activator, CALM2, PHKD, CAMII, PHKD2, phosphorylase kinase delta.

SOURCE: *E. coli*

PURITY: >95% by SDS-PAGE

MOL. WEIGHT: 16.8 kDa

FORM: Lyophilized, Human recombinant calmodulin

FORMULATION: Lyophilized from a salt free solution.

RECONSTITUTION: Reconstitute in water or an appropriate buffer (TBS, PBS, etc)

STORAGE CONDITIONS: Store at –20˚C or –80˚C in small aliquots. Stable for 12 months.

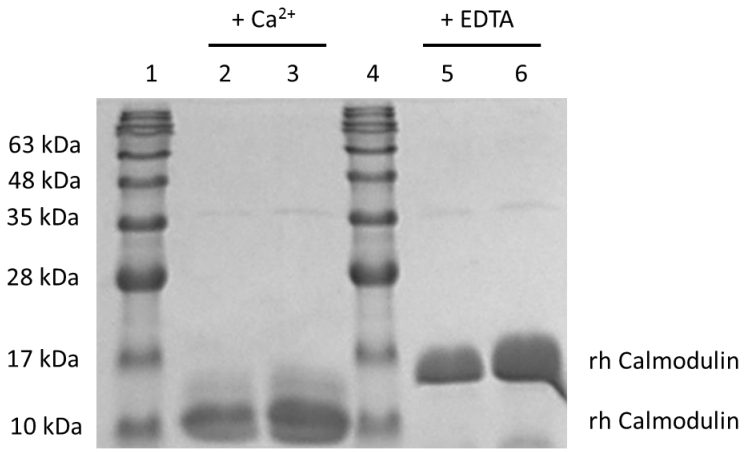
ENDOTOXIN: Not Determined

ACTIVITY: The Ca^{2+} binding affinity of rh Calmodulin was evidenced by the electrophoretic mobility shift of Calmodulin in the presence of calcium and EDTA. Calmodulin has been shown to migrate differently in the presence and absence of Calcium. Ref.: *Proc Natl Acad Sci* U S A. 2004 Apr 6;101 (14):4787-92.

DESCRIPTION: Calmodulin (CaM) is a ubiquitous, calcium-binding protein that can bind to and regulate a multitude of different protein targets, thereby affecting many different cellular functions. CaM mediates processes such as inflammation, metabolism, apoptosis, muscle contraction, intracellular movement, short-term and long-term memory, nerve growth and the immune response. Calmodulin is expressed in many cell types and can have different subcellular locations, including the cytoplasm, within organelles, or associated with the plasma or organelle membranes. Many of the proteins that CaM binds are unable to bind calcium themselves, and as such use CaM as a calcium sensor and signal transducer. Calmodulin can also make use of the calcium stores in the endoplasmic reticulum, and the sarcoplasmic reticulum. CaM undergoes a conformational change upon binding to calcium, which enables it to bind to specific proteins for a specific response. CaM can bind up to four calcium ions, and can undergo post-translational modifications, such as phosphorylation, acetylation, methylation and proteolytic cleavage, each of which can potentially modulate its actions.

APPLICATIONS: Western blotting, ELISA, Inhibition assays.

AA SEQUENCE:
MADQLTEEQIAEFKEAFSLFDKDGDGTITTKELGTVMRSLGQNPTEAELQDM
INEVDADGNGTIDFPEFLTMMARKMKDTDSEEEIREAFRVFDKDGNGYISAA
ELRHVMTNLGEKLTDEEVDEMIREADIDGDGQVNYEEFVQMMTAK



17% SDS-PAGE analysis of recombinant human Calmodulin protein. The calcium binding capacity of the rh Calmodulin is evidenced by the electrophoretic mobility shift of calcium-bound Calmodulin (lane 2-3), in comparison to its migration at presence of EDTA (lane 5-6).

Lane 1 & 4: protein marker
Lane 2: rh Calmodulin (6 µg) in the presence of 5mM Ca^{2+}
Lane 3: rh Calmodulin (12 µg) in the presence of 5mM Ca^{2+}
Lane 5: rh Calmodulin (6 µg) in the presence of 5mM EDTA
Lane 6: rh Calmodulin (12 µg) in the presence of 5mM EDTA

RELATED PRODUCTS:

- Calmodulin, Bovine Brain **(Cat. No. 7291-500, -1000)**
- Active CAMK1b **(Cat. No. 7729-5)**
- Active CAMK1d **(Cat. No. 7713-5)**
- Active CAMK1G **(Cat. No. 7736-5)**
- Active CAMK4 **(Cat. No. 7740-5)**
- CaMKII Antibody **(Cat. No. 3383-100)**
- Phospho-CaMKII Antibody **(Cat. No. 3384-100)**
- Phospho-MARCKS Antibody **(Cat. No. 3650-100)**

FOR RESEARCH USE ONLY! Not to be used on humans.