**BACKGROUND**

The level of intracellular calcium is tightly regulated in all eukaryotic cells. A modest increase in this level can result in a myriad of physiological responses, most of which are mediated by calmodulin (CaM), the universal calcium sensor. CaM directly modulates the activity of protein kinases and phosphatases, ion channels and nitric oxide synthetases. It is generally involved in such diverse processes as cell proliferation, endocytosis, cellular adhesion, protein turnover and smooth muscle contraction. CaM (calmodulin) is an acidic protein, 148 amino acids in length, with 4 helix-loop-helix calcium binding domains. In humans, 3 distinct genes have been identified (CALM1, CALM2 and CALM3); each encoding the identical protein. CALML3 (calmodulin-like 3, or calmodulin-related protein NB-1) shares significant sequence identity with CaM and it is suggested that it may competitively bind CaM substrates. Interestingly, CaM has been shown to associate with the carboxy terminus of the dystrophin gene product, implying that it may regulate its activity.

**SOURCE**

CaM (G-3) is a mouse monoclonal antibody raised against amino acids 1-149 representing full length CaM I of human origin.

**PRODUCT**

Each vial contains 200 µg IgGκ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CaM (G-3) is available conjugated to agarose (sc-137079 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-137079 HRP), 200 µg/ml, for WB, IHC and ELISA; to either phycoerythrin (sc-137079 PE), fluorescein (sc-137079 FITC), Alexa Fluor® 488 (sc-137079 AF488), Alexa Fluor® 546 (sc-13709 AF546), Alexa Fluor® 594 (sc-13709 AF594) or Alexa Fluor® 647 (sc-13709 AF647), 200 µg/ml, for WB (RGB), IF, IHC and FCM; and to either Alexa Fluor® 680 (sc-13709 AF680) or Alexa Fluor® 790 (sc-13709 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM. Each vial contains 200 µg IgG2a kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CaM (G-3) is recommended for detection of calmodulin and CALML3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:1000-1:10000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CaM (G-3) is also recommended for detection of calmodulin in CALML3 in additional species, including equine, canine, bovine, porcine and avian.

**APPLICATIONS**

Molecular Weight of CaM: 17 kDa.

Positive Controls: CALML3 (h): 293T Lysate: sc-113991, rat brain extract: sc-2392 or rat liver extract: sc-2395.

**STORAGE**

Store at 4°C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

**DATA**

CaM (G-3): sc-137079. Western blot analysis of CALML3 expression in non-transfected: sc-117702 (A) and human CALML3 transfected: sc-113991 (B) 293T whole cell lysates and rat brain (C) and rat liver (D) tissue extracts.

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

For research use only, not for use in diagnostic procedures.