

CALM (A-2): sc-271224

BACKGROUND

Clathrin-coated pits and vesicles are assembled for receptor-mediated endocytosis through interaction with clathrin associated protein complexes. Vesicle transport is mediated from the *trans*-Golgi network by the adapter complex AP-1 and from the plasma membrane by the AP-2 complex. The AP-1 and AP-2 adapter protein complexes consist of clathrin binding Adaptin proteins (γ and β 1 for AP-1, α and β 2 for AP-2) and two smaller subunits known as AP50 and AP17. The α - and β -Adaptin chains have a similar two-domain organization with C-terminal domains that vary in both sequence and length. α -Adaptin splice variants A and C display variable relative expression levels and differential distribution in different tissues. AP180 (also designated AP-3 or F1-20) is a synapse-specific clathrin assembly protein. The protein CALM (clathrin assembly protein lymphoid myeloid leukemia) is highly homologous to AP180 and may also be involved in clathrin assembly.

CHROMOSOMAL LOCATION

Genetic locus: PICALM (human) mapping to 11q14.2; Picalm (mouse) mapping to 7 E1.

SOURCE

CALM (A-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 619-651 at the C-terminus of CALM of human origin.

PRODUCT

Each vial contains 200 μ g IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271224 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

CALM (A-2) is recommended for detection of CALM of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

CALM (A-2) is also recommended for detection of CALM in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CALM siRNA (h): sc-29882, CALM siRNA (m): sc-29883, CALM shRNA Plasmid (h): sc-29882-SH, CALM shRNA Plasmid (m): sc-29883-SH, CALM shRNA (h) Lentiviral Particles: sc-29882-V and CALM shRNA (m) Lentiviral Particles: sc-29883-V.

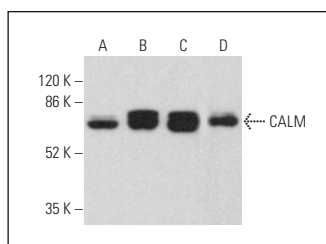
Molecular Weight of CALM: 62-72 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HEK293 whole cell lysate: sc-45136 or K-562 whole cell lysate: sc-2203.

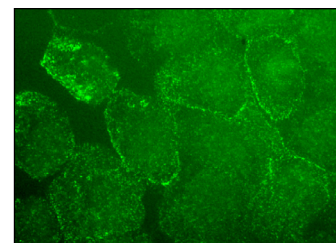
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



CALM (A-2): sc-271224. Western blot analysis of CALM expression in K-562 (A), HEK293 (B), 3T3-L1 (C) and Hep G2 (D) whole cell lysates. Detection reagent used: m-IgG κ BP-HRP: sc-516102.



CALM (A-2): sc-271224. Immunofluorescence staining of formalin-fixed A-431 cells showing membrane and cytoplasmic vesicles localization.

SELECT PRODUCT CITATIONS

- Deshpande, A.J., et al. 2011. The clathrin-binding domain of CALM and the OM-LZ domain of AF10 are sufficient to induce acute myeloid leukemia in mice. *Leukemia* 25: 1718-1727.
- Kim, J.O., et al. 2018. A novel system-level approach using RNA-sequencing data identifies miR-30-5p and miR-142a-5p as key regulators of apoptosis in myocardial infarction. *Sci. Rep.* 8: 14638.
- Chae, C.W., et al. 2020. High glucose-mediated PICALM and mTORC1 modulate processing of amyloid precursor protein via endosomal abnormalities. *Br. J. Pharmacol.* 177: 3828-3847.
- Azarnia Tehran, D., et al. 2022. Selective endocytosis of Ca²⁺-permeable AMPARs by the Alzheimer's disease risk factor CALM bidirectionally controls synaptic plasticity. *Sci. Adv.* 8: eabi5032.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.