

Calmegin (B-11): sc-515251

BACKGROUND

Calmegin, belonging to the calreticulin family, is expressed in testis as an endoplasmic reticulum membrane protein, where it acts as a chaperone protein and plays a role in spermatogenesis. Calmegin is a single-pass type I membrane protein that is transcriptionally regulated in coordination by CpG methyltransferase and histone deacetylase (HDAC). First expressed in meiotic prophase of spermatocytes, Calmegin facilitates sperm-egg zona pellucida binding through association with sperm membrane proteins (fertilin α and β). A loss in Calmegin results in male sterility. However, if the zona pellucida is partially dissected and fertilized *in vitro*, the egg will develop normally.

REFERENCES

1. Siep, M., et al. 2004. Basic helix-loop-helix transcription factor Tcf15 interacts with the Calmegin gene promoter in mouse spermatogenesis. *Nucleic Acids Res.* 32: 6425-6436.
2. Nakanishi, T., et al. 2004. Selective passage through the uterotubal junction of sperm from a mixed population produced by chimeras of Calmegin-knockout and wildtype male mice. *Biol. Reprod.* 71: 959-965.
3. Kim, D.H., et al. 2005. Coordinated transcriptional regulation of Calmegin, a testis-specific molecular chaperon, by histone deacetylase and CpG methyltransferase. *Exp. Mol. Med.* 37: 492-496.

CHROMOSOMAL LOCATION

Genetic locus: CLGN (human) mapping to 4q31.1.

SOURCE

Calmegin (B-11) is a mouse monoclonal antibody raised against amino acids 507-610 mapping at the C-terminus of Calmegin of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Calmegin (B-11) is available conjugated to agarose (sc-515251 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515251 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515251 PE), fluorescein (sc-515251 FITC), Alexa Fluor® 488 (sc-515251 AF488), Alexa Fluor® 546 (sc-515251 AF546), Alexa Fluor® 594 (sc-515251 AF594) or Alexa Fluor® 647 (sc-515251 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515251 AF680) or Alexa Fluor® 790 (sc-515251 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

RESEARCH USE

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

APPLICATIONS

Calmegin (B-11) is recommended for detection of Calmegin of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Calmegin siRNA (h): sc-60316, Calmegin shRNA Plasmid (h): sc-60316-SH and Calmegin shRNA (h) Lentiviral Particles: sc-60316-V.

Molecular Weight (predicted) of Calmegin: 70 kDa.

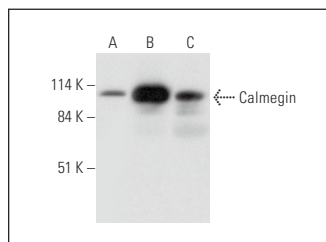
Molecular Weight (observed) of Calmegin: 93 kDa.

Positive Controls: human testis extract: sc-363781, human heart extract: sc-363763 or U-251-MG whole cell lysate: sc-364176.

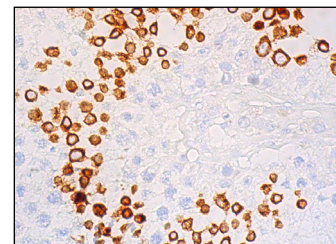
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Calmegin (B-11): sc-515251. Western blot analysis of Calmegin expression in U-251-MG whole cell lysate (A) and human testis (B) and human heart (C) tissue extracts.



Calmegin (B-11): sc-515251. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse testis tissue showing cytoplasmic staining of cells in seminiferous ducts. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detected with m-IgG κ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216.

PROTOCOLS

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