

# Calmegin (C-15): sc-49897

## 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 pellicuda binding through association with sperm membrane proteins (fertilin  $\alpha$  and  $\beta$ ). A loss in Calmegin results in male sterility. However, if the zona pellicuda is partially dissected and fertilized *in vitro*, the egg will develop normally.

## REFERENCES

1. Siep, M., Sleddens-Linkels, E., Mulders, S., van Eenennaam, H., Wassenaar, E., Van Cappellen, W.A., Hoogerbrugge, J., Grootegoed, J.A. and Baarends, W.M. 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., Isotani, A., Yamaguchi, R., Ikawa, M., Baba, T., Suarez, S.S. and Okabe, M. 2004. Selective passage through the uterotubal junction of sperm from a mixed population produced by chimeras of Calmegin-knock-out and wildtype male mice. *Biol. Reprod.* 71: 959-965.
3. Kim, D.H., Shim, J.S. and Kwon, H.J. 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; Clgn (mouse) mapping to 8 C2.

## SOURCE

Calmegin (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Calmegin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-49897 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

Calmegin (C-15) is recommended for detection of Calmegin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 siRNA (m): sc-60317, Calmegin shRNA Plasmid (h): sc-60316-SH, Calmegin shRNA Plasmid (m): sc-60317-SH, Calmegin shRNA (h) Lentiviral Particles: sc-60316-V and Calmegin shRNA (m) Lentiviral Particles: sc-60317-V.

Molecular Weight (predicted) of Calmegin: 70 kDa.

Molecular Weight (observed) of Calmegin: 69 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.



Try **Calmegin (B-11): sc-515251**, our highly recommended monoclonal alternative to Calmegin (C-15).