

# Calumenin (N-13): sc-51046

## BACKGROUND

Calumenin is a 315 amino acid Ca<sup>2+</sup>-binding member of the CREC, EF-hand protein family. Calumenin is a secreted protein that contains six Ca<sup>2+</sup>-binding (EF-hand) motifs and is expressed in the lumen of the endoplasmic reticulum (ER) and Golgi apparatus. In the presence of Ca<sup>2+</sup>, Calumenin interacts with serum amyloid P component (SAP) and, together, they may play a role in the immunological defense system and participate in amyloidosis, the pathological formation of amyloid deposits in different types of tissues. Calumenin has an inhibitory effect on the vitamin K-dependent  $\gamma$ -carboxylation system which converts vitamin K-dependent proteins to Gla-containing proteins. Calumenin may also be involved in the pathophysiology of thrombosis and/or wound healing by acting in an autocrine or paracrine manner.

## REFERENCES

1. Yabe, D., et al. 1997. Calumenin, a Ca<sup>2+</sup>-binding protein retained in the endoplasmic reticulum with a novel carboxyl-terminal sequence, HDEF. *J. Biol. Chem.* 272: 18232-18239.
2. Vorum, H., et al. 1999. Human calumenin localizes to the secretory pathway and is secreted to the medium. *Exp. Cell Res.* 248: 473-481.
3. Vorum, H., et al. 2000. Calumenin interacts with serum amyloid P component. *FEBS Lett.* 465: 129-134.
4. Jung, D.H. and Kim, D.H. 2004. Characterization of isoforms and genomic organization of mouse calumenin. *Gene* 327: 185-194.
5. Wajih, N., et al. 2004. The inhibitory effect of calumenin on the vitamin K-dependent  $\gamma$ -carboxylation system. Characterization of the system in normal and warfarin-resistant rats. *J. Biol. Chem.* 279: 25276-25283.
6. Hengstschlager, M., et al. 2005. The cellular response to ectopic overexpression of the tuberous sclerosis genes, TSC1 and TSC2: a proteomic approach. *Int. J. Oncol.* 27: 831-838.

## CHROMOSOMAL LOCATION

Genetic locus: CALU (human) mapping to 7q32.1; Calu (mouse) mapping to 6 A3.3.

## SOURCE

Calumenin (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Calumenin 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-51046 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.

## APPLICATIONS

Calumenin (N-13) is recommended for detection of Calumenin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

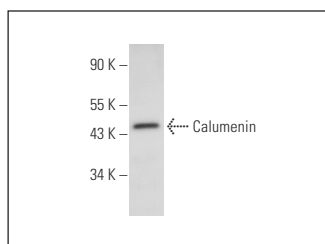
Calumenin (N-13) is also recommended for detection of Calumenin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Calumenin siRNA (h): sc-60320, Calumenin siRNA (m): sc-60321, Calumenin shRNA Plasmid (h): sc-60320-SH, Calumenin shRNA Plasmid (m): sc-60321-SH, Calumenin shRNA (h) Lentiviral Particles: sc-60320-V and Calumenin shRNA (m) Lentiviral Particles: sc-60321-V.

Molecular Weight of Calumenin: 52/57 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or SK-MEL-24 whole cell lysate: sc-364259.

## DATA



Calumenin (N-13): sc-51046. Western blot analysis of Calumenin expression in SK-MEL-24 whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Boraldi, F., et al. 2009. Fibroblast protein profile analysis highlights the role of oxidative stress and vitamin K recycling in the pathogenesis of pseudoxanthoma elasticum. *Proteomics Clin. Appl.* 3: 1084-1098.

## 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.



Try **Calumenin (F-8): sc-271357**, our highly recommended monoclonal alternative to Calumenin (N-13).