

Calumenin (S-17): sc-51047

BACKGROUND

Calumenin is a 315 amino acid Ca^{2+} -binding member of the CREC, EF-hand protein family. Calumenin is a secreted protein that contains six Ca^{2+} -binding (EF-hand) motifs and is expressed in the lumen of the endoplasmic reticulum (ER) and Golgi apparatus. In the presence of Ca^{2+} , 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 γ -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^{2+} -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 γ -carboxylation system. Characterization of the system in normal and warfarin-resistant rats. *J. Biol. Chem.* 279: 25276-25283.
6. Hengstschläger, 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.
7. Kollers, S., et al. 2005. Confirmation of the mapping of the porcine calumenin gene (CALU) to chromosome 18. *Anim. Genet.* 36: 177-178.
8. Pocernich, C.B., et al. 2005. Proteomics analysis of human astrocytes expressing the HIV protein TAT. *Brain Res. Mol. Brain Res.* 133: 307-316.
9. Jung, D.H., et al. 2006. Calumenin, a multiple EF-hands Ca^{2+} -binding protein, interacts with ryanodine receptor-1 in rabbit skeletal sarcoplasmic reticulum. *Biochem. Biophys. Res. Commun.* 343: 34-42.

CHROMOSOMAL LOCATION

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

SOURCE

Calumenin (S-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Calumenin of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 μg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-51047 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Calumenin (S-17) 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), 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 (S-17) 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.

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.

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 or our catalog for detailed protocols and support products.



Try **Calumenin (F-8): sc-271357**, our highly recommended monoclonal alternative to Calumenin (S-17).