

copine 8 (N-14): sc-167535

BACKGROUND

Copine 8, also known as CPNE8, is a member of the copine family of evolutionarily conserved soluble calcium-dependent membrane-binding proteins. Members of the copine family are involved in signal transduction and membrane trafficking. *Arabidopsis thaliana* mutants lacking copine proteins exhibit reduced cell number and smaller cell size, effects which may be due to a defect in vesicle fusion or transport. Copine 8 contains two C2 domains and one VWFA (von Willebrand factor A) domain, which is also referred to as the A domain or the core domain. As is characteristic of the copine family, copine 8 functions in membrane trafficking and is capable of binding phospholipids in a calcium-dependent manner. Copine 8 is subject to posttranslational phosphorylation, most likely by either ATR or Atm, and is encoded by a gene that maps to human chromosome 12q12.

REFERENCES

1. Creutz, C.E., Tomsig, J.L., Snyder, S.L., Gautier, M.C., Skouri, F., Beisson, J. and Cohen, J. 1998. The copines, a novel class of C2 domain-containing, calcium-dependent, phospholipid-binding proteins conserved from *Paramecium* to humans. *J. Biol. Chem.* 273: 1393-1402.
2. Nakayama, T., Yaoi, T., Yasui, M. and Kuwajima, G. 1998. N-copine: a novel two C2-domain-containing protein with neuronal activity-regulated expression. *FEBS Lett.* 428: 80-84.
3. Tomsig, J.L. and Creutz, C.E. 2000. Biochemical characterization of copine: a ubiquitous Ca²⁺-dependent, phospholipid-binding protein. *Biochemistry* 39: 16163-16175.
4. Tomsig, J.L. and Creutz, C.E. 2002. Copines: a ubiquitous family of Ca²⁺-dependent phospholipid-binding proteins. *Cell. Mol. Life Sci.* 59: 1467-1477.
5. Church, D.L. and Lambie, E.J. 2003. The promotion of gonadal cell divisions by the *Caenorhabditis elegans* TRPM cation channel GON-2 is antagonized by GEM-4 copine. *Genetics* 165: 563-574.
6. Tomsig, J.L., Snyder, S.L. and Creutz, C.E. 2003. Identification of targets for calcium signaling through the copine family of proteins. Characterization of a coiled-coil copine-binding motif. *J. Biol. Chem.* 278: 10048-10054.
7. Cowland, J.B., Carter, D., Bjerregaard, M.D., Johnsen, A.H., Borregaard, N. and Lollike, K. 2003. Tissue expression of copines and isolation of copines I and III from the cytosol of human neutrophils. *J. Leukoc. Biol.* 74: 379-388.

CHROMOSOMAL LOCATION

Genetic locus: CPNE8 (human) mapping to 12q12; Cpne8 (mouse) mapping to 15 E3.

SOURCE

copine 8 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of copine 8 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-167535 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

copine 8 (N-14) is recommended for detection of copine 8 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); non cross-reactive with other copine family members.

copine 8 (N-14) is also recommended for detection of copine 8 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for copine 8 siRNA (h): sc-95662, copine 8 siRNA (m): sc-142509, copine 8 shRNA Plasmid (h): sc-95662-SH, copine 8 shRNA Plasmid (m): sc-142509-SH, copine 8 shRNA (h) Lentiviral Particles: sc-95662-V and copine 8 shRNA (m) Lentiviral Particles: sc-142509-V.

Molecular Weight of copine 8: 63 kDa.

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.