

copine 3 (K-12): sc-87053

BACKGROUND

Copine 3, also known as CPNE3, CPN3 or COPN3, 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. Copine 3 is ubiquitously expressed and contains two N-terminal C2 domains and one C-terminal 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 3 functions in membrane trafficking and is capable of binding phospholipids in a calcium-dependent manner. Differing from other members of the copine family, copine 3 may possess some intrinsic kinase activity. Copine 3 exists as a monomer in the cytosol and undergoes a conformational change upon binding to calcium.

REFERENCES

- 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.
- Caudell, E.G., Caudell, J.J., Tang, C.H., Yu, T.K., Frederick, M.J. and Grimm, E.A. 2000. Characterization of human copine 3 as a phosphoprotein with associated kinase activity. *Biochemistry* 39: 13034-13043.
- Tomsig, J.L. and Creutz, C.E. 2000. Biochemical characterization of copine: a ubiquitous Ca²⁺-dependent, phospholipid-binding protein. *Biochemistry* 39: 16163-16175.
- 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.
- 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.
- 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 1 and 3 from the cytosol of human neutrophils. *J. Leukoc. Biol.* 74: 379-388.
- Thomas, G., Jacobs, K.B., Yeager, M., Kraft, P., Wacholder, S., Orr, N., Yu, K., Chatterjee, N., Welch, R., Hutchinson, A., Crenshaw, A., Cancel-Tassin, G., Staats, B.J., Wang, Z., Gonzalez-Bosquet, J., Fang, J., Deng, X., Berndt, S.I., Calle, E.E., Feigelson, H.S., et al. 2008. Multiple loci identified in a genome-wide association study of prostate cancer. *Nat. Genet.* 40: 310-315.

CHROMOSOMAL LOCATION

Genetic locus: CPNE3 (human) mapping to 8q21.3; Cpne3 (mouse) mapping to 4 A3.

SOURCE

copine 3 (K-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of copine 3 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-87053 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

copine 3 (K-12) is recommended for detection of copine 3 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 3 (K-12) is also recommended for detection of copine 3 in additional species, including canine, bovine and avian.

Suitable for use as control antibody for copine 3 siRNA (h): sc-77730, copine 3 siRNA (m): sc-142504, copine 3 shRNA Plasmid (h): sc-77730-SH, copine 3 shRNA Plasmid (m): sc-142504-SH, copine 3 shRNA (h) Lentiviral Particles: sc-77730-V and copine 3 shRNA (m) Lentiviral Particles: sc-142504-V.

Molecular Weight of copine 3: 61 kDa.

Positive Controls: SK-BR-3 cell lysate: sc-2218.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.