SANTA CRUZ BIOTECHNOLOGY, INC.

copine 2 (D-17): sc-242499

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Copine 2, also known as COPN2 or CPNE2, is a 548 amino acid protein that belongs to the 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 2 contains two C_2 domains and one C-terminal VWFA (von Willebrand factor A) domain, which is also referred to as the A domain or the core domain. The gene encoding copine 2 maps to human chromosome 16, which makes up nearly 3% of human cellular DNA and is associated with a variety of genetic disorders. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, through the CREBBP gene which encodes a critical CREB binding protein. Crohn's disease is a gastrointestinal inflammatory condition associated with chromosome 16 through the NOD2 gene.

REFERENCES

1. Baraitser, M., et al. 1983. The Rubinstein-Taybi syndrome: occurrence in two sets of identical twins. Clin. Genet. 23: 318-320.
2. Creutz, C.E., et al. 1998. The copines, a novel class of C_2 domain-containing, calcium-dependent, phospholipid-binding proteins conserved from paramecium to humans. J. Biol. Chem. 273: 1393-1402.
3. Tomsig, J.L., et al. 2000. Biochemical characterization of copine: a ubiquitous Ca^{2+}-dependent, phospholipid-binding protein. Biochemistry 39: 16163-16175.
4. Bomont, P., et al. 2000. The gene encoding gigaxonin, a new member of the cytoskeletal BTB/kelch repeat family, is mutated in giant axonal neuropathy. Nat. Genet. 26: 370-374.
5. Jambunathan, N., et al. 2001. A humidity-sensitive *Arabidopsis* copine mutant exhibits precocious cell death and increased disease resistance. Plant Cell 13: 2225-2240.
6. Tomsig, J.L., et al. 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.

CHROMOSOMAL LOCATION

Genetic locus: CPNE2 (human) mapping to 16q13; Cpne2 (mouse) mapping to 8 C5.

SOURCE

copine 2 (D-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of copine 2 of human origin.

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-242499 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

copine 2 (D-17) is recommended for detection of copine 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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); non cross-reactive with other copine family members.

copine 2 (D-17) is also recommended for detection of copine 2 in additional species, including canine and bovine.

Suitable for use as control antibody for copine 2 siRNA (h): sc-93106, copine 2 siRNA (m): sc-142503, copine 2 shRNA Plasmid (h): sc-93106-SH, copine 2 shRNA Plasmid (m): sc-142503-SH, copine 2 shRNA (h) Lentiviral Particles: sc-93106-V and copine 2 shRNA (m) Lentiviral Particles: sc-142503-V.

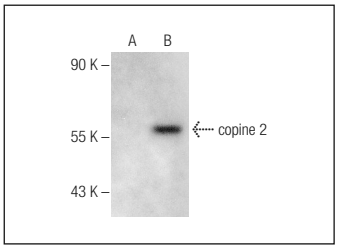
Molecular Weight of copine 2: 61 kDa.

Positive Controls: copine 2 (m): 293T Lysate: sc-119401.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



copine 2 (D-17): sc-242499. Western blot analysis of copine 2 expression in non-transfected: sc-117752 (**A**) and mouse copine 2 transfected: sc-119401 (**B**) 293T whole cell lysates.

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.