SANTA CRUZ BIOTECHNOLOGY, INC.

copine 1 (Z6): sc-101269

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Copine 1, also known as CPNE1, CPN1 or COPN1, 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 1 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 1 functions in membrane trafficking and is capable of binding phospholipids in a calcium-dependent manner. Copine 1 is also able to bind liposomes. Via its VWFA domain, copine 1 directly interacts with the ubiquitin-conjugating enzyme, UBC12, and may play a role in the regulation of TNFα-signaling.

REFERENCES

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2. Tomsig, J.L. and Creutz, C.E. 2000. Biochemical characterization of copine: a ubiquitous Ca^{2+}-dependent, phospholipid-binding protein. Biochemistry 39: 16163-16175.
3. Jambunathan, N., Siani, J.M. and McNellis, T.W. 2001. A humidity-sensitive *Arabidopsis* copine mutant exhibits precocious cell death and increased disease resistance. Plant Cell 13: 2225-2240.
4. 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.
5. 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.
6. Tomsig, J.L., Sohma, H. and Creutz, C.E. 2004. Calcium-dependent regulation of tumour necrosis factor-α receptor signalling by copine. Biochem. J. 378: 1089-1094.
7. Damer, C.K., Bayeva, M., Hahn, E.S., Rivera, J. and Socec, C.I. 2005. Copine A, a calcium-dependent membrane-binding protein, transiently localizes to the plasma membrane and intracellular vacuoles in *Dictyostelium*. BMC Cell Biol. 6: 46.

CHROMOSOMAL LOCATION

Genetic locus: CPNE1 (human) mapping to 20q11.22.

SOURCE

copine 1 (Z6) is a mouse monoclonal antibody raised against recombinant copine 1 of human origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

copine 1 (Z6) is recommended for detection of copine 1 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for copine 1 siRNA (h): sc-72972, copine 1 shRNA Plasmid (h): sc-72972-SH and copine 1 shRNA (h) Lentiviral Particles: sc-72972-V.

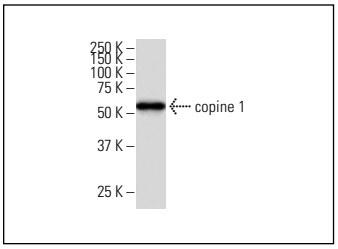
Molecular Weight of copine 1: 60 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



copine 1 (Z6): sc-101269. Western blot analysis of copine 1 expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Tang, H., Zhu, J., Du, W., Liu, S., Zeng, Y., Ding, Z., Zhang, Y., Wang, X., Liu, Z. and Huang, J. 2018. CPNE1 is a target of miR-335-5p and plays an important role in the pathogenesis of non-small cell lung cancer. J. Exp. Clin. Cancer Res. 37: 131.
2. Alves, S., Pereira, J.M., Mayer, R.L., Gonçalves, A.D.A., Impens, F., Cabanes, D. and Sousa, S. 2022. Cells responding to closely related cholesterol-dependent cytolysins release extracellular vesicles with a common proteomic content including membrane repair proteins. Toxins 15: 4.

RESEARCH USE

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