SANTA CRUZ BIOTECHNOLOGY, INC.

ACBD3 (518): sc-101277

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

ACBD3 (acyl-CoA-binding domain-containing protein 3), also known as GCP60 (Golgi resident protein GCP60), GOCAP1, PAP7 or GOLPH1, is a Golgi apparatus membrane protein that contains one ACB (acyl-CoA-binding) domain and one GOLD (Golgi dynamics) domain which is essential for its interaction with other proteins. Expressed ubiquitously with highest expression in ovary and testes, ACBD3 is responsible for maintaining Golgi structure and, through binding to Giantin (golgin subfamily B member 1), functions to mediate protein transport between the Golgi and the endoplasmic reticulum (ER). Changes in the subcellular location of ACBD3 trigger signaling cascades within the Golgi that regulate cell fate and cell cycle progression. Additionally, ACBD3 is thought to act as a peripheral-type benzodiazepine receptor-associated protein, possibly playing a role in hormonal regulation and steroid formation.

REFERENCES

1. Li, H., et al. 2001. Identification, localization, and function in steroidogenesis of PAP7: a peripheral-type benzodiazepine receptor- and PKA (RIα)-associated protein. Mol. Endocrinol. 15: 2211-2228.
2. Sohda, M., et al. 2001. Identification and characterization of a novel Golgi protein, GCP60, that interacts with the integral membrane protein Giantin. J. Biol. Chem. 276: 45298-45306.

CHROMOSOMAL LOCATION

Genetic locus: ACBD3 (human) mapping to 1q42.12; Acbd3 (mouse) mapping to 1 H4.

SOURCE

ACBD3 (518) is a mouse monoclonal antibody raised against amino acids 73-172 representing a partial length of ACBD3 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ACBD3 (518) is recommended for detection of ACBD3 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ACBD3 siRNA (h): sc-78612, ACBD3 siRNA (m): sc-105029, ACBD3 shRNA Plasmid (h): sc-78612-SH, ACBD3 shRNA Plasmid (m): sc-105029-SH, ACBD3 shRNA (h) Lentiviral Particles: sc-78612-V and ACBD3 shRNA (m) Lentiviral Particles: sc-105029-V.

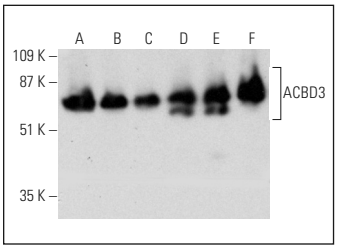
Molecular Weight of ACBD3: 52 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or MCF7 whole cell lysate: sc-2206.

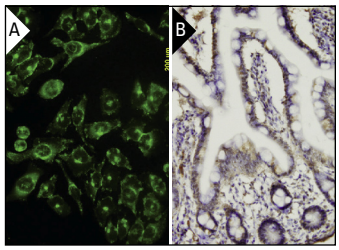
STORAGE

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

DATA



ACBD3 (518): sc-101277. Western blot analysis of ACBD3 expression in HeLa (**A**), Hep G2 (**B**), MCF7 (**C**), RAW 264.7 (**D**), NIH/3T3 (**E**) and PC-12 (**F**) whole cell lysates.



ACBD3 (518): sc-101277. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing membrane and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human small Intestine tissue showing cytoplasmic localization (**B**).

SELECT PRODUCT CITATIONS

1. Greninger, A.L., et al. 2012. The 3A protein from multiple picornaviruses utilizes the Golgi adaptor protein ACBD3 to recruit PI4KIIIβ. J. Virol. 86: 3605-3616.
2. Löffler, M.G., et al. 2013. Enhanced fasting glucose turnover in mice with disrupted action of TUG protein in skeletal muscle. J. Biol. Chem. 288: 20135-20150.
3. Horova, V., et al. 2019. Convergent evolution in the mechanisms of ACBD3 recruitment to picornavirus replication sites. PLoS Pathog. 15: e1007962.
4. Smola, M., et al. 2020. Structural basis for hijacking of the host ACBD3 protein by bovine and porcine enteroviruses and kobuviruses. Arch. Virol. 165: 355-366.
5. Tan, X., et al. 2021. A pro-tumorigenic secretory pathway activated by p53 deficiency in lung adenocarcinoma. J. Clin. Invest. 131: e137186.
6. Tan, X., et al. 2021. p53 loss activates prometastatic secretory vesicle biogenesis in the Golgi. Sci. Adv. 7: eabf4885.
7. Kutchukian, C., et al. 2021. NPC1 regulates the distribution of phosphatidylinositol 4-kinases at Golgi and lysosomal membranes. EMBO J. 40: e105990.
8. Kacal, M., et al. 2021. Quantitative proteomic analysis of temporal lysosomal proteome and the impact of the KFERQ-like motif and LAMP2A in lysosomal targeting. Autophagy 17: 3865-3874.
9. Houghton, F.J., et al. 2022. Interacting partners of Golgi-localized small G protein Arl5b identified by a combination of *in vivo* proximity labelling and GFP-Trap pull down. FEBS Lett. E-published.

RESEARCH USE

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