SANTA CRUZ BIOTECHNOLOGY, INC.

ACD (A-8): sc-377318

BACKGROUND

ACD (adrenocortical dysplasia homolog), also known as PIP1, PTOP, TPP1 or TINT1 is a 544 amino acid human homolog of the mouse Acd protein and is one of six components in the telosome/shelterin complex; a complex involved in shaping and guarding telomeres. ACD is essential for the proper assembly and stabilization of the telomere-associated complex and is able to interact directly with POT1 (protection of telomeres 1) and TRF1 (telomeric repeat binding factor 1), two additional members of the multi-protein complex. Localized to the nucleus, ACD helps to control telomere length and elongation by mediating telomerase activity and telomerase access to DNA. Through its ability to control and maintain telomere growth, ACD is thought to be involved in organogenesis. Two isoforms of ACD are expressed due to alternative splicing events.

REFERENCES

1. Ye, J.Z., et al. 2004. POT1-interacting protein PIP1: a telomere length regulator that recruits POT1 to the TIN2/TRF1 complex. Genes Dev. 18: 1649-1654.
2. Liu, D., et al. 2004. PTOP interacts with POT1 and regulates its localization to telomeres. Nat. Cell Biol. 6: 673-680.
3. de Lange, T. 2005. Shelterin: the protein complex that shapes and safeguards human telomeres. Genes Dev. 19: 2100-2110.
4. O'Connor, M.S., et al. 2006. A critical role for TPP1 and TIN2 interaction in high-order telomeric complex assembly. Proc. Natl. Acad. Sci. USA 103: 11874-11879.
5. Hockemeyer, D., et al. 2007. Telomere protection by mammalian Pot1 requires interaction with Tpp1. Nat. Struct. Mol. Biol. 14: 754-761.
6. Cristofari, G., et al. 2007. Telomerase unplugged. ACS Chem. Biol. 2: 155-158.

CHROMOSOMAL LOCATION

Genetic locus: Acd (mouse) mapping to 8 D3.

SOURCE

ACD (A-8) is a mouse monoclonal antibody raised against amino acids 117-416 mapping at the C-terminus of ACD of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ACD (A-8) is available conjugated to agarose (sc-377318 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377318 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377318 PE), fluorescein (sc-377318 FITC), Alexa Fluor® 488 (sc-377318 AF488), Alexa Fluor® 546 (sc-377318 AF546), Alexa Fluor® 594 (sc-377318 AF594) or Alexa Fluor® 647 (sc-377318 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377318 AF680) or Alexa Fluor® 790 (sc-377318 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ACD (A-8) is recommended for detection of ACD of mouse and rat origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for ACD siRNA (m): sc-140802, ACD shRNA Plasmid (m): sc-140802-SH and ACD shRNA (m) Lentiviral Particles: sc-140802-V.

Molecular Weight of ACD human isoforms 1/2: 58/57 kDa.

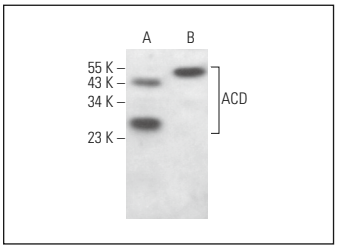
Molecular Weight of ACD mouse isoforms 1/2/3/4/5: 45/34/24/18/8 kDa.

Positive Controls: WEHI-231 whole cell lysate: sc-2213, C2C12 whole cell lysate: sc-364188 or SP2/0 whole cell lysate: sc-364795.

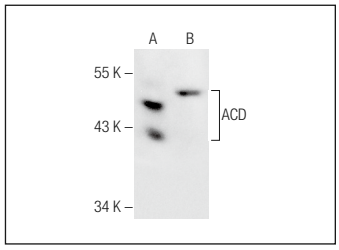
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ACD (A-8): sc-377318. Western blot analysis of ACD expression in SP2/0 (**A**) and U266 (**B**) whole cell lysates.



ACD (A-8): sc-377318. Western blot analysis of ACD expression in WEHI-231 (**A**) and C2C12 (**B**) 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.