SANTA CRUZ BIOTECHNOLOGY, INC.

ACD (F-12): sc-163619

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.
7. Wang, F., et al. 2007. The POT1-TPP1 telomere complex is a telomerase processivity factor. Nature 445: 506-510.
8. Xin, H., et al. 2007. TPP1 is a homologue of ciliate TEBP-β and interacts with POT1 to recruit telomerase. Nature 445: 559-562.

CHROMOSOMAL LOCATION

Genetic locus: ACD (human) mapping to 16q22.1; Acd (mouse) mapping to 8 D3.

SOURCE

ACD (F-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ACD 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-163619 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ACD (F-12) is recommended for detection of ACD 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).

Suitable for use as control antibody for ACD siRNA (h): sc-93019, ACD siRNA (m): sc-140802, ACD shRNA Plasmid (h): sc-93019-SH, ACD shRNA Plasmid (m): sc-140802-SH, ACD shRNA (h) Lentiviral Particles: sc-93019-V 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: IMR-32 cell lysate: sc-2409.

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) 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.

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 or our catalog for detailed protocols and support products.