SANTA CRUZ BIOTECHNOLOGY, INC.

CANT1 (C-3): sc-515574

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CANT1 Antibody (C-3) is a high quality monoclonal CANT1 antibody (also designated CANT1 antibody) suitable for the detection of the CANT1 protein of mouse, rat and human origin. CANT1 Antibody (C-3) is available as both the non-conjugated anti-CANT1 antibody form, as well as multiple conjugated forms of anti-CANT1 antibody, including agarose, HRP, PE, FITC and multiple Alexa Fluor® conjugates. CANT1 (calcium activated nucleotidase 1), also known as apyrase homolog, DBQD, SCAN1 (soluble calcium-activated nucleotidase 1) or SHAPY, is a 401 amino acid single-pass type II membrane protein of the endoplasmic reticulum and Golgi apparatus. A member of the apyrase family, CANT1 functions as a calcium-dependent nucleotidase that preferentially binds UDP. CANT1 is expressed at highest levels in testis, placenta, prostate and small intestine, and undergoes post-translational N-glycosylation and alternative splicing events to produce two isoforms. Homozygous mutation in the gene encoding CANT1 is the cause of Desbuquois dysplasia, an autosomal recessive chondrodysplasia in which extreme prenatal and postnatal growth retardation is observed.

REFERENCES

1. Faivre, L., et al. 2004. Clinical and genetic heterogeneity in Desbuquois dysplasia. Am. J. Med. Genet. A 128A: 29-32.
2. Yang, M. and Kirley, T.L. 2004. Site-directed mutagenesis of human soluble calcium-activated nucleotidase 1 (hSCAN-1): identification of residues essential for enzyme activity and the Ca^{2+}-induced conformational change. Biochemistry 43: 9185-9194.
3. Yang, M., et al. 2008. Characterization and importance of the dimer interface of human calcium-activated nucleotidase. Biochemistry 47: 771-778.

CHROMOSOMAL LOCATION

Genetic locus: CANT1 (human) mapping to 17q25.3; Cant1 (mouse) mapping to 11 E2.

SOURCE

CANT1 (C-3) is a mouse monoclonal antibody raised against amino acids 145-233 mapping within an internal region of CANT1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CANT1 (C-3) is available conjugated to agarose (sc-515574 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515574 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515574 PE), fluorescein (sc-515574 FITC), Alexa Fluor® 488 (sc-515574 AF488), Alexa Fluor® 546 (sc-515574 AF546), Alexa Fluor® 594 (sc-515574 AF594) or Alexa Fluor® 647 (sc-515574 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515574 AF680) or Alexa Fluor® 790 (sc-515574 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

CANT1 (C-3) is recommended for detection of CANT1 of mouse, rat and human 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 CANT1 siRNA (h): sc-94075, CANT1 siRNA (m): sc-141999, CANT1 shRNA Plasmid (h): sc-94075-SH, CANT1 shRNA Plasmid (m): sc-141999-SH, CANT1 shRNA (h) Lentiviral Particles: sc-94075-V and CANT1 shRNA (m) Lentiviral Particles: sc-141999-V.

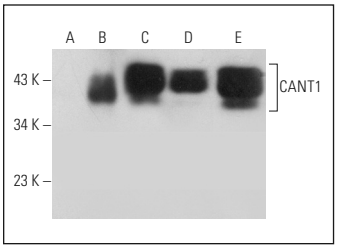
Molecular Weight of CANT1 isoform 1/2: 45/28 kDa.

Positive Controls: CANT1 (h2): 293T Lysate: sc-117116, A-431 whole cell lysate: sc-2201 or Jurkat whole cell lysate: sc-2204.

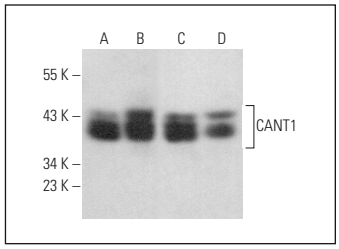
RECOMMENDED SUPPORT REAGENTS

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



CANT1 (C-3): sc-515574. Western blot analysis of CANT1 expression in non-transfected 293T: sc-117752 (**A**), human CANT1 transfected 293T: sc-117116 (**B**), A-431 (**C**), Jurkat (**D**) and WiDr (**E**) whole cell lysates.



CANT1 (C-3): sc-515574. Western blot analysis of CANT1 expression in EOC 20 (**A**), Neuro-2A (**B**), H4 (**C**) and T98G (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kodama, K., et al. 2020. CANT1 deficiency in a mouse model of Desbuquois dysplasia impairs glycosaminoglycan synthesis and chondrocyte differentiation in growth plate cartilage. FEBS Open Bio. E-published.

STORAGE

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