SANTA CRUZ BIOTECHNOLOGY, INC.

PTCD3 (N-18): sc-130247

BACKGROUND

PTCD3 (pentatricopeptide repeat domain 3), also known as TRG15 (transformation-related gene 15 protein), is a 689 amino acid protein that contains 10 PPR (pentatricopeptide) repeats and belongs to the PTCD3 family. Localized to the mitochondrion, PTCD3 is encoded by a gene that maps to chromosome 2 and is expressed as two alternatively spliced isoforms. The second largest human chromosome, chromosome 2 encodes over 1,400 genes and comprises nearly 8% of the human genome, housing a number of disease-associated genes. Harlequin icthyosis, a rare and morbid skin deformity, is associated with mutations in the ABCA12 gene, while the lipid metabolic disorder sitosterolemia is associated with defects in the ABCG5 and ABCG8 genes. Additionally, an extremely rare recessive genetic disorder, Alström syndrome, is caused by mutations in the ALMS1 gene, which maps to chromosome 2.

REFERENCES

1. Ijdo, J.W., et al. 1991. Origin of human chromosome 2: an ancestral telomere-telomere fusion. Proc. Natl. Acad. Sci. USA 88: 9051-9055.
2. Hillier, L.W., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. Nature 434: 724-731.
3. Thomas, A.C., et al. 2006. ABCA12 is the major harlequin ichthyosis gene. J. Invest. Dermatol. 126: 2408-2413.
4. Akiyama, M., et al. 2007. Compound heterozygous ABCA12 mutations including a novel nonsense mutation underlie harlequin ichthyosis. Dermatology 215: 155-159.
5. Marshall, J.D., et al. 2007. Alström syndrome. Eur. J. Hum. Genet. 15: 1193-1202.
6. Marshall, J.D., et al. 2007. Spectrum of ALMS1 variants and evaluation of genotype-phenotype correlations in Alström syndrome. Hum. Mutat. 28: 1114-1123.
7. Tabas, I. 2007. A two-carbon switch to sterol-induced autophagic death. Autophagy 3: 38-41.
8. Wang, D.Q. 2007. Regulation of intestinal cholesterol absorption. Annu. Rev. Physiol. 69: 221-248.
9. Delannoy, E., et al. 2007. Pentatricopeptide repeat (PPR) proteins as sequence-specificity factors in post-transcriptional processes in organelles. Biochem. Soc. Trans. 35 (Pt 6): 1643-1647.

CHROMOSOMAL LOCATION

Genetic locus: PTCD3 (human) mapping to 2p11.2.

STORAGE

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

PROTOCOLS

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

SOURCE

PTCD3 (N-18) is a purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of PTCD3 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PTCD3 (N-18) is recommended for detection of PTCD3 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 PTCD3 siRNA (h): sc-94457, PTCD3 shRNA Plasmid (h): sc-94457-SH and PTCD3 shRNA (h) Lentiviral Particles: sc-94457-V.

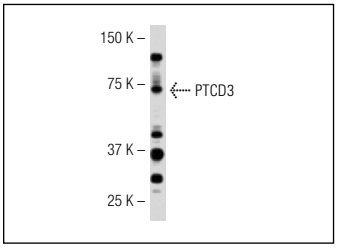
Molecular Weight of PTCD3: 79 kDa.

Positive Controls: T47D whole cell lysates.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



PTCD3 (N-18): sc-130247. Western blot analysis of PTCD3 expression in T47D whole cell lysate.

RESEARCH USE

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