

PTPLAD2 (N-12): sc-139420

BACKGROUND

PTPLAD2 (protein tyrosine phosphatase-like A domain containing 2), also known as HACD4 (3-hydroxyacyl-CoA dehydratase 4), is a 232 amino acid multi-pass membrane protein that belongs to the very long-chain fatty acids dehydratase HACD family. Localizing to endoplasmic reticulum membrane, the PTPLAD2 protein is responsible for the dehydration step in very long-chain fatty acids (VLCFAs) synthesis. Highly expressed in leukocytes, and low expression in heart, spleen, kidney and placenta, the PTPLAD2 protein interact with the condensation enzymes of the ELOVL family. The PTPLAD2 gene is conserved in chimpanzee, dog, cow, mouse, rat and chicken, and maps to human chromosome 9p21.3. Chromosome 9 consists of about 145 million bases and 4% of the human genome and encodes nearly 900 genes. Hereditary hemorrhagic telangiectasia, which is characterized by harmful vascular defects, is associated with the chromosome 9 gene encoding endoglin protein, ENG.

REFERENCES

1. Ruppert, J.M., Tokino, K. and Sidransky, D. 1993. Evidence for two bladder cancer suppressor loci on human chromosome 9. *Cancer Res.* 53: 5093-5095.
2. Humphray, S.J., Oliver, K., Hunt, A.R., Plumb, R.W., Loveland, J.E., Howe, K.L., Andrews, T.D., Searle, S., Hunt, S.E., Scott, C.E., Jones, M.C., Ainscough, R., Almeida, J.P., Ambrose, K.D., Ashwell, R.I., Babbage, A.K., Babbage, S., Bagguley, C.L., Bailey, J., Banerjee, R., Barker, D.J., et al. 2004. DNA sequence and analysis of human chromosome 9. *Nature* 429: 369-374.
3. Fernandez-L, A., Fernandez-Lopez, A., Garrido-Martin, E.M., Sanz-Rodriguez, F., Pericacho, M., Rodriguez-Barbero, A., Eleno, N., Lopez-Novoa, J.M., Düwell, A., Vega, M.A., Bernabeu, C. and Botella, L.M. 2007. Gene expression fingerprinting for human hereditary hemorrhagic telangiectasia. *Hum. Mol. Genet.* 16: 1515-1533.
4. Cottin, V., Dupuis-Girod, S., Lesca, G. and Cordier, J.F. 2007. Pulmonary vascular manifestations of hereditary hemorrhagic telangiectasia (Rendu-Osler disease). *Respiration* 74: 361-378.
5. Ikeda, M., Kanao, Y., Yamanaka, M., Sakuraba, H., Mizutani, Y., Igarashi, Y. and Kihara, A. 2008. Characterization of four mammalian 3-hydroxyacyl-CoA dehydratases involved in very long-chain fatty acid synthesis. *FEBS Lett.* 582: 2435-2440.
6. Legoffic, A., Calvo, E.L., Barthet, M., Delpero, J.R., Dagorn, J.C. and Iovanna, J.L. 2009. Identification of genomic alterations associated with the aggressiveness of pancreatic cancer using an ultra-high-resolution CGH array. *Pancreatology* 9: 267-272.

CHROMOSOMAL LOCATION

Genetic locus: PTPLAD2 (human) mapping to 9p21.3; Ptplad2 (mouse) mapping to 4 C4.

SOURCE

PTPLAD2 (N-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of PTPLAD2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-139420 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PTPLAD2 (N-12) is recommended for detection of PTPLAD2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with HSPC121.

PTPLAD2 (N-12) is also recommended for detection of PTPLAD2 in additional species, including bovine and porcine.

Suitable for use as control antibody for PTPLAD2 siRNA (h): sc-92656, PTPLAD2 siRNA (m): sc-152584, PTPLAD2 shRNA Plasmid (h): sc-92656-SH, PTPLAD2 shRNA Plasmid (m): sc-152584-SH, PTPLAD2 shRNA (h) Lentiviral Particles: sc-92656-V and PTPLAD2 shRNA (m) Lentiviral Particles: sc-152584-V.

Molecular Weight of PTPLAD2: 28 kDa.

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) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.