

ZADH1 (D-12): sc-162428

BACKGROUND

ZADH1 (zinc binding alcohol dehydrogenase, domain containing 1), also known as PTGR2 (prostaglandin reductase 2), PGR2 or 15-oxoprostaglandin 13-reductase, is a 351 amino acid cytoplasmic protein that belongs to the NADP-dependent oxidoreductase L4BD family. Functioning as a 15-oxoprostaglandin 13-reductase, ZADH1 catalyzes the conversion of 15-keto-prostaglandin E2 to 15-keto-13,14-dihydro-prostaglandin E2 in a NADPH-dependent manner. ZADH1 overexpression has been found to repress PPAR γ transcriptional activity and adipocyte differentiation. Widely expressed, ZADH1 is found at highest levels in heart, kidney, liver, pancreas and prostate, with moderate levels found in brain, small intestine, lung, testis and skeletal muscle. ZADH1 exists as a monomer, utilizes NADPH as a cofactor, and undergoes alternative splicing to produce two isoforms that are encoded by a gene located on human chromosome 14q24.3.

REFERENCES

- Zhang, L., Zhang, F. and Huo, K. 2003. Cloning and characterization of a novel splicing variant of the ZADH1 gene. *Cytogenet. Genome Res.* 103: 79-83.
- Suzuki, Y., Yamashita, R., Shiota, M., Sakakibara, Y., Chiba, J., Mizushima-Sugano, J., Nakai, K. and Sugano, S. 2004. Sequence comparison of human and mouse genes reveals a homologous block structure in the promoter regions. *Genome Res.* 14: 1711-1718.
- Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608642. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Chou, W.L., Chuang, L.M., Chou, C.C., Wang, A.H., Lawson, J.A., FitzGerald, G.A. and Chang, Z.F. 2007. Identification of a novel prostaglandin reductase reveals the involvement of prostaglandin E2 catabolism in regulation of peroxisome proliferator-activated receptor gamma activation. *J. Biol. Chem.* 282: 18162-18172.
- Auld, D.S. and Bergman, T. 2008. Medium- and short-chain dehydrogenase/reductase gene and protein families: The role of zinc for alcohol dehydrogenase structure and function. *Cell. Mol. Life Sci.* 65: 3961-3970.
- Wu, Y.H., Ko, T.P., Guo, R.T., Hu, S.M., Chuang, L.M. and Wang, A.H. 2008. Structural basis for catalytic and inhibitory mechanisms of human prostaglandin reductase PTGR2. *Structure* 16: 1714-1723.

CHROMOSOMAL LOCATION

Genetic locus: PTGR2 (human) mapping to 14q24.3; Ptgr2 (mouse) mapping to 12 D1.

SOURCE

ZADH1 (D-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ZADH1 of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-162428 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ZADH1 (D-12) is recommended for detection of ZADH1 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); non cross-reactive with ZADH2.

ZADH1 (D-12) is also recommended for detection of ZADH1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ZADH1 siRNA (h): sc-92364, ZADH1 siRNA (m): sc-155427, ZADH1 shRNA Plasmid (h): sc-92364-SH, ZADH1 shRNA Plasmid (m): sc-155427-SH, ZADH1 shRNA (h) Lentiviral Particles: sc-92364-V and ZADH1 shRNA (m) Lentiviral Particles: sc-155427-V.

Molecular Weight of ZADH1 isoforms: 38/20 kDa.

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.

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.