SANTA CRUZ BIOTECHNOLOGY, INC.

RDH12 (H-40): sc-98347

BACKGROUND

Retinol dehydrogenase 12 (RDH12), also known as all-*trans* and 9-*cis* retinol dehydrogenase, LCA3, LCA13 or SDR7C2, is a 316 amino acid protein belonging to the short-chain dehydrogenases/reductases (SDR) family. Widely expressed, mostly in eye, kidney, brain, skeletal muscle and stomach, RDH12 exhibits an oxidoreductive catalytic activity towards retinoids. RDH12 is an efficient NADPH-dependent retinal reductase and displays high activity toward 9-*cis* and all-*trans*-retinol. RDH12 is involved in the metabolism of short-chain aldehydes and may be a key enzyme in the formation of 11-*cis*-retinal from 11-*cis*-retinol during regeneration of the cone visual pigments. Leber congenital amaurosis (LCA) type 3, an inherited autosomal recessive retinal disease, has been associated with defects of RDH12. LCA represents the most common genetic cause of congenital visual impairment in infants and children.

REFERENCES

1. Yzer, S., et al. 2006. Microarray-based mutation detection and phenotypic characterization of patients with Leber congenital amaurosis. Invest. Ophthalmol. Vis. Sci. 47: 1167-1176.
2. Lippmann, T., et al. 2006. Indirect exclusion of four candidate genes for generalized progressive retinal atrophy in several breeds of dogs. J. Negat. Results Biomed. 5: 19.
3. Maeda, A., et al. 2006. Retinol dehydrogenase (RDH12) protects photoreceptors from light-induced degeneration in mice. J. Biol. Chem. 281: 37697-37704.
4. Jacobson, S.G., et al. 2007. RDH12 and RPE65, visual cycle genes causing Leber congenital amaurosis, differ in disease expression. Invest. Ophthalmol. Vis. Sci. 48: 332-338.
5. Schuster, A., et al. 2007. The phenotype of early-onset retinal degeneration in persons with RDH12 mutations. Invest. Ophthalmol. Vis. Sci. 48: 1824-1831.
6. Keller, B. and Adamski, J. 2007. RDH12, a retinol dehydrogenase causing Leber's congenital amaurosis, is also involved in steroid metabolism. J. Steroid Biochem. Mol. Biol. 104: 190-194.

CHROMOSOMAL LOCATION

Genetic locus: RDH12 (human) mapping to 14q24.1; Rdh12 (mouse) mapping to 12 C3.

SOURCE

RDH12 (H-40) is a rabbit polyclonal antibody raised against amino acids 277-316 mapping at the C-terminus of RDH12 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.

RESEARCH USE

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

APPLICATIONS

RDH12 (H-40) is recommended for detection of RDH12 of mouse, rat and 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)], 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).

RDH12 (H-40) is also recommended for detection of RDH12 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for RDH12 siRNA (h): sc-76378, RDH12 siRNA (m): sc-76379, RDH12 shRNA Plasmid (h): sc-76378-SH, RDH12 shRNA Plasmid (m): sc-76379-SH, RDH12 shRNA (h) Lentiviral Particles: sc-76378-V and RDH12 shRNA (m) Lentiviral Particles: sc-76379-V.

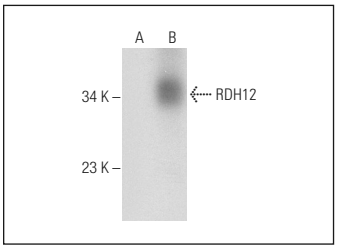
Molecular Weight of RDH12: 35 kDa.

Positive Controls: RDH12 (h): 293 Lysate: sc-114062 or Y79 cell lysate: sc-2240.

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). 3) 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.

DATA



RDH12 (H-40): sc-98347. Western blot analysis of RDH12 expression in non-transfected: sc-110760 (**A**) and human RDH12 transfected: sc-114062 (**B**) 293 whole cell lysates.

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.