

# RDH5 (T-14): sc-79026

## BACKGROUND

Retinol dehydrogenase 5 (RDH5), also known as 11-*cis* retinol dehydrogenase (11-*cis* RDH) or RDH1, is a 318 amino acid protein belonging to the short-chain dehydrogenases/reductases (SDR) family. Highly expressed in the retinal pigment epithelium and localized to the membrane, RDH5 catalyzes the final step in the biosynthesis of 11-*cis* retinal (11-*cis* retinaldehyde), the universal chromophore of visual pigment, from all-*trans* retinol (vitamin A). RDH5 has been shown to be active in the presence of NAD as a cofactor, but not in the presence of NADP. Mutations in the gene encoding RDH5 lead to Fundus albipunctatus (FA), a rare form of stationary night blindness characterized by delay in the regeneration of cone and rod photopigments.

## REFERENCES

1. Yamamoto, H., et al. 1999. Mutations in the gene encoding 11-*cis* retinol dehydrogenase cause delayed dark adaptation and fundus albipunctatus. *Nat. Genet.* 22: 188-191.
2. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 601617. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Hayashi, T., et al. 2006. Compound heterozygous RDH5 mutations in familial fleck retina with night blindness. *Acta Ophthalmol. Scand.* 84: 254-258.
4. Maeda, A., et al. 2006. Aberrant metabolites in mouse models of congenital blinding diseases: formation and storage of retinyl esters. *Biochemistry* 45: 4210-4219.
5. Maeda, A., et al. 2006. Improvement in rod and cone function in mouse model of Fundus albipunctatus after pharmacologic treatment with 9-*cis*-retinal. *Invest. Ophthalmol. Vis. Sci.* 47: 4540-4546.
6. Humbert, G., et al. 2006. Homozygous deletion related to Alu repeats in RLBP1 causes retinitis punctata albescens. *Invest. Ophthalmol. Vis. Sci.* 47: 4719-4724.

## CHROMOSOMAL LOCATION

Genetic locus: RDH5 (human) mapping to 12q13.2; Rdh5 (mouse) mapping to 10 D3.

## SOURCE

RDH5 (T-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RDH5 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.

Blocking peptide available for competition studies, sc-79026 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

RDH5 (T-14) is recommended for detection of RDH5 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).

RDH5 (T-14) is also recommended for detection of RDH5 in additional species, including canine and bovine.

Suitable for use as control antibody for RDH5 siRNA (h): sc-76380, RDH5 siRNA (m): sc-76381, RDH5 shRNA Plasmid (h): sc-76380-SH, RDH5 shRNA Plasmid (m): sc-76381-SH, RDH5 shRNA (h) Lentiviral Particles: sc-76380-V and RDH5 shRNA (m) Lentiviral Particles: sc-76381-V.

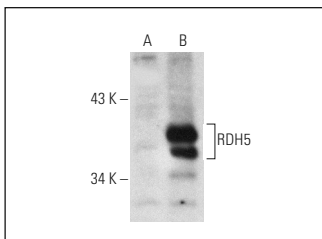
Molecular Weight of RDH5: 35 kDa.

Positive Controls: RDH5 (h): 293T Lysate: sc-158923.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



RDH5 (T-14): sc-79026. Western blot analysis of RDH5 expression in non-transfected: sc-117752 (A) and human RDH5 transfected: sc-158923 (B) 293T whole cell lysates.

## RESEARCH USE

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

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Try **RDH5 (G-5): sc-377057**, our highly recommended monoclonal alternative to RDH5 (T-14).