

Datasheet for ABIN7254061
anti-RDH5 antibody



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Overview

Quantity:	200 µL
Target:	RDH5
Reactivity:	Human, Mouse
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This RDH5 antibody is un-conjugated
Application:	ELISA, Immunohistochemistry (IHC)

Product Details

Immunogen:	Fusion protein of human RDH5
Isotype:	IgG
Characteristics:	Polyclonal Antibody
Purification:	Antigen affinity purification

Target Details

Target:	RDH5
Alternative Name:	RDH5 (RDH5 Products)
Background:	This gene encodes an enzyme belonging to the short-chain dehydrogenases/reductases (SDR) family. This retinol dehydrogenase functions to catalyze the final step in the biosynthesis of 11-cis retinaldehyde, which is the universal chromophore of visual pigments. Mutations in this gene cause autosomal recessive fundus albipunctatus, a rare form of night blindness that is

Target Details

characterized by a delay in the regeneration of cone and rod photopigments. Alternative splicing results in multiple transcript variants. Read-through transcription also exists between this gene and the neighboring upstream BLOC1S1 (biogenesis of lysosomal organelles complex-1, subunit 1) gene.

UniProt: [Q92781](#)

Application Details

Application Notes: IHC 1:50-1:100, ELISA 1:5000-1:10000

Restrictions: For Research Use only

Handling

Format: Liquid

Concentration: 0.84 mg/mL

Buffer: PBS with 0.05 % Sodium azide and 40 % Glycerol, pH 7.4

Preservative: Sodium azide

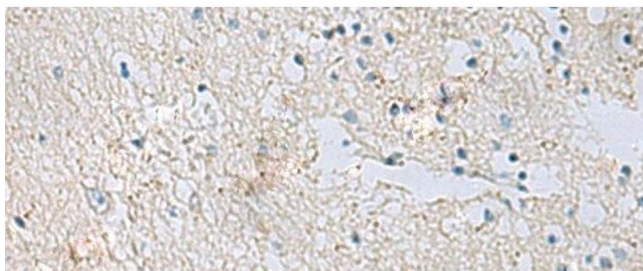
Precaution of Use: This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Storage: -20 °C

Storage Comment: Store at -20°C. Avoid freeze / thaw cycles.

Publications

Product cited in: Tworak, Kolesnikov, Hong, Choi, Luu, Palczewska, Dong, Lewandowski, Brooks, Campello, Swaroop, Kiser, Kefalov, Palczewski: "Rapid RGR-dependent visual pigment recycling is mediated by the RPE and specialized Müller glia." in: **Cell reports**, Vol. 42, Issue 8, pp. 112982, (2023) ([PubMed](#)).



Immunohistochemistry (Paraffin-embedded Sections)

Image 1. Immunohistochemistry of paraffin-embedded Human brain tissue using RDH5 Polyclonal Antibody at dilution of 1:50(x200)



Successfully validated (Immunohistochemistry (IHC))

by [Palczewski Lab, Center For Translational Vision Research, UC Irvine](#)

Report Number: 104468

Date: Mar 23 2023

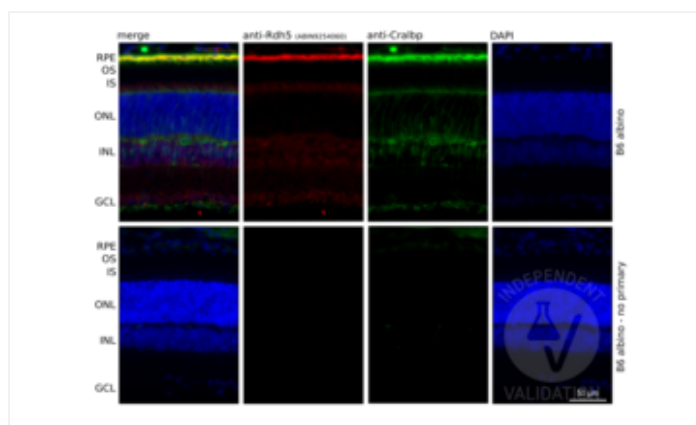
Target:	RDH5
Lot Number:	SG5433
Method validated:	Immunohistochemistry (IHC)
Positive Control:	Retina cryosection from B6 Albino (B6(Cg)-Tyr ^c -2J/J) animal
Negative Control:	Retina cryosection from B6 Albino (B6(Cg)-Tyr ^c -2J/J) animal No primary antibody
Notes:	Passed. Presence of specific signal in the RPE cell layer was considered as indication of specific immunoreactivity using the anti-RDH5 antibody ABIN7254060.
Primary Antibody:	ABIN7254060
Secondary Antibody:	donkey anti-rabbit AF647-conjugated antibody (Abcam, 150075)
Protocol:	<ul style="list-style-type: none"> Collect eyes from mice and fix with paraformaldehyde 4% (Electron Microscopy Sciences, 15710) in 1x PBS for 30 min at RT. Cryoprotection with sucrose series: <ul style="list-style-type: none"> Wash in 10% sucrose in 1x PBS. Immerse in 10% sucrose in 1x PBS for 30 min at RT. Wash in 20% sucrose in 1x PBS. Immerse in 20% sucrose in 1x PBS for 30 min RT. Wash in 30% sucrose in 1x PBS. 30% sucrose ON at 4°C. Embed eyes in OCT compound (Tissue-Tek O.C.T. Compound, 4583). Cut retinal sections at a thickness of 12 µm on a cryostat. Air dry sections for 15 min at RT, store at -80°C until use. Bring sections to RT and rehydrate in 1x PBS for 1 h. Incubate sections in blocking buffer (1x PBS, 3% BSA (Sigma-Aldrich, A7030), 3% Donkey serum (Sigma-Aldrich, S30-100ML), 0.1% Triton X-100 (Sigma-Aldrich, X100-500ML)) for 1 h at RT. Incubate sections with primary rabbit anti-RDH5 antibody (antibodies-online, ABIN7254060, lot SG5433) diluted 1:50 in blocking buffer ON at RT. Include a no primary antibody negative controls. Additionally, counterstaining with primary mouse anti-CRALBP antibody (Thermo Fisher Scientific, MA1-813).

- Rinse sections 3 times with 1x PBS, 0.1% Triton X100. Keep negative controls in a separate container.
- Incubate sections with secondary AF647-conjugated donkey anti-rabbit antibody (Abcam, Ab150075) or AF488-conjugated donkey anti-mouse antibody (Thermo Fisher Scientific, A32766) diluted 1:500 in blocking buffer for 1 h at RT.
- Rinse sections once with 1x PBS, 0.1% Triton X-100 for 5 min at RT.
- Incubate sections in 1x DAPI (Thermo Fisher Scientific, 62248) in 1x PBS, 0.1% Triton X-100 for 15 min at RT.
- Rinse sections 3x with 1x PBS, 0.1% Triton X-100 for 5 min at RT.
- Mount sections in VECTASHIELD® HardSet™ Antifade Mounting Medium (Vector Laboratories, H-1400) mounting medium.
- Acquire images with a fluorescence microscope and appropriate filter settings. For the validation purposes Keyence BZ-X800E fluorescence microscope was used with following filters: BZ-X DAPI for DAPI, BZ-X GFP for AF488, BZ-X Cy5 for AF647. Images were taken at 10x and 40x magnification.

Experimental Notes:

- Experiment involved validation of the specificity of 4 antibodies against different Rdh proteins: Rdh5 (ABIN7254060), Rdh10 (ABIN7118460), Rdh11 (ABIN966957), and Rdh12 (ABIN7167836). All 4 proteins are important for eye function and highly expressed in neural retina and/or RPE. Validation is based on comparison of each staining with known pattern of expression in the mouse retina. For review highlighting each Rdh localization see [PMID20801113](https://pubmed.ncbi.nlm.nih.gov/20801113/).
- To aid orientation in the cell layers anti-Cralbp counterstain was included in the staining (Thermo MA1-813). Cralbp (Rlbp1) is highly expressed in RPE and Müller glia cells in mouse retina.

Image for Validation report #104468



Validation image no. 1 for anti-Retinol Dehydrogenase 5 (11-Cis/9-Cis) (RDH5) antibody (ABIN7254060)

Retinal sections from the wild-type (B6 albino) mice immunostained with anti-RDH5 antibody ABIN7254060. DAPI staining shows localization of the inner (INL) and outer (ONL) nuclear layer of the mouse retina. Cralbp (Rlbp1) co-staining was used to visualize RPE and Müller glia cells in the retina. Presence of specific signal in the RPE cell layer confirms specific immunoreactivity.