Datasheet for ABIN7167836

anti-RDH12 antibody (AA 1-316)

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Overview

Quantity:	100 µg
Target:	RDH12
Binding Specificity:	AA 1-316
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This RDH12 antibody is un-conjugated
Application:	ELISA, Immunohistochemistry (IHC)

Product Details

Immunogen:	Recombinant Human Retinol dehydrogenase 12 protein (1-316AA)
Isotype:	IgG
Cross-Reactivity:	Human
Purification:	>95%, Protein G purified

Target Details

Target:	RDH12
Alternative Name:	RDH12 (RDH12 Products)
Background:	Background: Exhibits an oxidoreductive catalytic activity towards retinoids. Most efficient as an NADPH-dependent retinal reductase. Displays high activity toward 9-cis and all-trans-retinol.

Target Details

	Also involved in the metabolism of short-chain aldehydes. No steroid dehydrogenase activity detected. Might be the key enzyme in the formation of 11-cis-retinal from 11-cis-retinol during regeneration of the cone visual pigments. Aliases: All trans and 9 cis retinol dehydrogenase antibody, All-trans and 9-cis retinol dehydrogenase antibody, LCA 3 antibody, LCA13 antibody, LCA3 antibody, RDH 12 antibody, RDH12 antibody, RDH12_HUMAN antibody, Retinol dehydrogenase 12 (all trans/9 cis/11 cis) antibody, Retinol dehydrogenase 12 all trans and 9 cis antibody, Retinol dehydrogenase 12 antibody, RP53 antibody, SDR7C2 antibody, Short chain dehydrogenase/reductase family 7C member 2 antibody
UniProt:	Q96NR8

Application Details

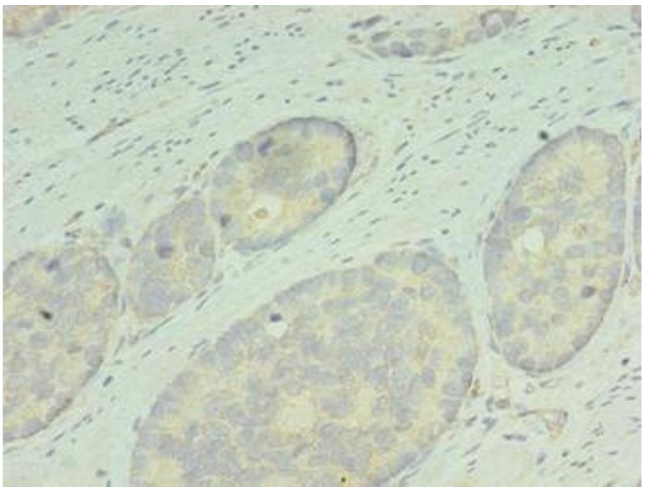
Application Notes:	Recommended dilution: IHC:1:20-1:200,
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	Preservative: 0.03 % Proclin 300 Constituents: 50 % Glycerol, 0.01M PBS, PH 7.4
Preservative:	ProClin
Precaution of Use:	This product contains ProClin: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C,-80 °C
Storage Comment:	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.

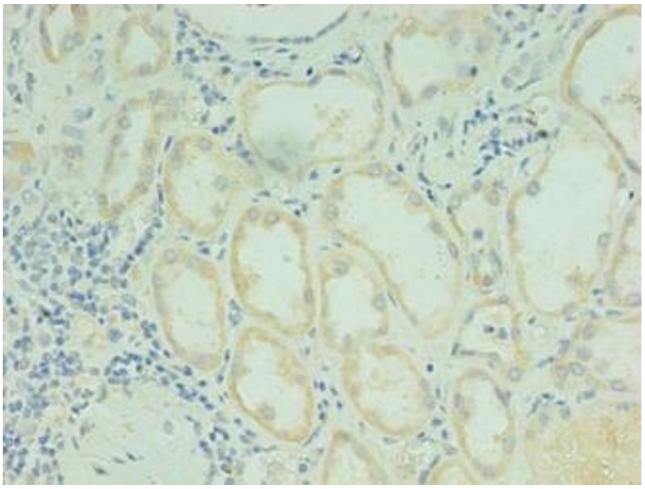
Publications

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

Image 1. Immunohistochemistry of paraffin-embedded human gastric cancer using ABIN7167836 at dilution of 1:100



Immunohistochemistry

Image 2. Immunohistochemistry of paraffin-embedded human kidney tissue using ABIN7167836 at dilution of 1:100

Successfully validated (Immunohistochemistry (IHC))

by Palczewski Lab, Center For Translational Vision Research, UC Irvine

Report Number: 104484

Date: Mar 23 2023

Target:	RDH12
Lot Number:	E0629A
Method validated:	Immunohistochemistry (IHC)
Positive Control:	Retina cryosection from B6 Albino (B6(Cg)-Tyrc-2J/J) animal
Negative Control:	Retina cryosection from B6 Albino (B6(Cg)-Tyrc-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 RDH12 antibody ABIN7167836.
Primary Antibody:	ABIN7167836
Secondary Antibody:	donkey anti-rabbit AF647-conjugated antibody (Abcam, 150075)

Protocol:

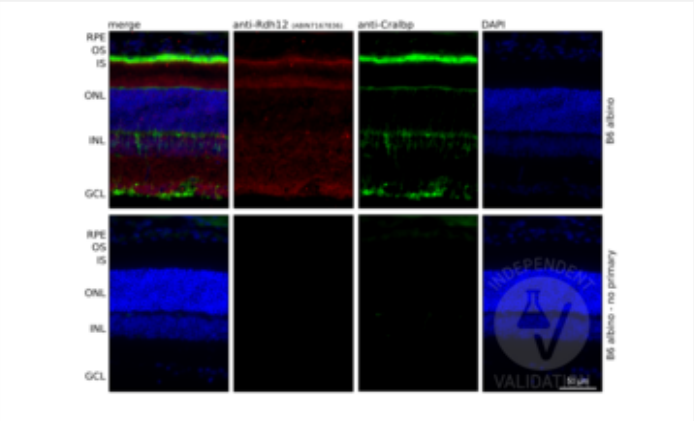
- Collect eyes from mice and fix with paraformaldehyde 4% (Electron Microscopy Sciences, 15710) in 1x PBS for 30 min at RT.
- Cryoprotection with sucrose series:
  - Wash in 10% sucrose in 1x PBS.
  - Immerse in 10% sucrose in 1x PBS for 30 min at RT.
  - Wash in 20% sucrose in 1x PBS.
  - Immerse in 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-RDH12 antibody (antibodies-online, ABIN7167836, lot E0629A) 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).

- 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.
- 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 #104484



Validation image no. 1 for anti-Retinol Dehydrogenase 12 (All-Trans/9-Cis/11-Cis) (RDH12) (AA 1-316) antibody (ABIN7167836)

Retinal sections from the wild-type (B6 albino) mice immunostained with anti-RDH12 antibody ABIN7167836. 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.