Product datasheet

Anti-RPE65 antibody [401.8B11.3D9] ab13826

Overview

Product name
Anti-RPE65 antibody [401.8B11.3D9]

Description
Mouse monoclonal [401.8B11.3D9] to RPE65

Host species
Mouse

Tested applications
Suitable for: WB, ICC, IHC-Fr

Species reactivity
Reacts with: Mouse, Cow, Human, Pig

Predicted to work with: Dog

Immunogen
Tissue, cells or virus corresponding to RPE65. Bovine RPE microsomal membrane proteins.

Positive control

General notes
Expression in primary culture of RPE cells is undetectable in Western blot after day 14. Established cell lines are similarly devoid of RPE65 protein, as indicated in western blot. However, mRNA levels are detectable by Northern for at least 7 weeks. (see reference Hamel, C.P., et al. Molecular Cloning and expression of RPE65 a novel retinal pigment epithelium-specific microsomal protein that is post-transcriptionally regulated in vitro. JBC. 268(21): 15751-15757, 1993.)

Reproducibility is key to advancing scientific discovery and accelerating scientists’ next breakthrough.

Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.

We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise guarantee.

In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.

We are also updating the applications & species that this product has been “predicted to work with,” however this information is not covered by our Abpromise guarantee.

Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.

Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, as well as...
Properties

Form
Liquid

Storage instructions
Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.

Storage buffer
pH: 7.40
Preservative: 0.05% Sodium azide
Constituent: PBS

Purity
Ascites

Purification notes
Purified from ascites.

Clonality
Monoclonal

Clone number
401.8B11.3D9

Isotype
IgG1

Light chain type
kappa

Applications

Our Abpromise guarantee covers the use of ab13826 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>WB</td>
<td>⭐⭐⭐⭐⭐</td>
<td>1/5000 - 1/10000. Detects a band of approximately 65 kDa.</td>
</tr>
<tr>
<td>ICC</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>IHC-Fr</td>
<td>⭐⭐⭐⭐⭐</td>
<td>1/250.</td>
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Target

Function
Plays important roles in the production of 11-cis retinal and in visual pigment regeneration. The soluble form binds vitamin A (all-trans-retinol), making it available for LRAT processing to all-trans-retinyl ester. The membrane form, palmitoylated by LRAT, binds all-trans-retinyl esters, making them available for IMH (isomerohydrolase) processing to all-cis-retinol. The soluble form is regenerated by transferring its palmitoyl groups onto 11-cis-retinol, a reaction catalyzed by LRAT. The enzymatic activity is linearly dependent of the expression levels and membrane association.

Tissue specificity
Retinal pigment epithelium specific.

Involvement in disease
Defects in RPE65 are the cause of Leber congenital amaurosis type 2 (LCA2) [MIM:204100]. LCA designates a clinically and genetically heterogeneous group of childhood retinal degenerations, generally inherited in an autosomal recessive manner. Affected infants have little or no retinal photoreceptor function as tested by electroretinography. LCA represents the most common genetic cause of congenital visual impairment in infants and children.
Defects in RPE65 are the cause of retinitis pigmentosa type 20 (RP20) [MIM:613794]. RP leads
to degeneration of retinal photoreceptor cells. Patients typically have night vision blindness and loss of midperipheral visual field. As their condition progresses, they lose their far peripheral visual field and eventually central vision as well. RP20 inheritance is autosomal dominant.

**Sequence similarities**
Belongs to the carotenoid oxygenase family.

**Post-translational modifications**
Palmitoylation by LRAT regulates ligand binding specificity; the palmitoylated form (membrane form) specifically binds all-trans-retinyl-palmitate, while the soluble unpalmitoylated form binds all-trans-retinol (vitamin A).

**Cellular localization**
Cytoplasm. Cell membrane. Attached to the membrane by a lipid anchor when palmitoylated (membrane form), soluble when unpalmitoylated.

**Images**

**Western blot - Anti-RPE65 antibody**
- **All lanes**: Anti-RPE65 antibody [401.8B11.3D9] (ab13826) at 1/5000 dilution
- **Lane 1**: Recombinant human RPE-transfected COS-7 (African green monkey kidney fibroblast-like cell line) cell lysate at 20 µg
- **Lane 2**: Bovine retinal pigment epithelium membrane fraction at 5 µg

**Secondary**
All lanes: Alkaline phosphatase conjugated goat-anti Mouse IgG

**Observed band size**: 60 kDa

_why is the actual band size different from the predicted?_

**Immunocytochemistry - Anti-RPE65 antibody**
ARPE19 (spontaneously arising human retinal pigment epithelia cell line) cells stained for RPE65 (green) using ab13826 (1/100 dilution) in ICC/IF.

Cells were fixed in 4% PFA for 10 minutes, permeabilized in PBS containing 0.2% Triton X-100 (PBS-T) for 10 minutes, then blocked for 1 hour in 10% normal goat serum containing 1% BSA in PBS-T. Incubated with primary antibody at 4°C.
Frozen sectioned mouse retina tissue stained for RPE65 with ab13826 at a 1/250 dilution in immunohistochemical analysis.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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