

RPE65 (E-5): sc-390787

BACKGROUND

The retinal pigment epithelium (RPE) is a monolayer simple epithelium in proximity to the outer surface of the retinal photoreceptor cells. Retinal pigment epithelium-specific protein (RPE65) is a 65kDa protein belonging to the β -carotene dioxygenase family. This protein is important in 11-*cis* retinal production as well as in visual pigment regeneration. RPE65 is attached to the membrane by a lipid anchor when palmitoylated (membrane form) and soluble when unpalmitoylated. The soluble form of the protein binds vitamin A. Defects in RPE65 causes autosomal dominant retinitis pigmentosa and/or Leber congenital amaurosis type 2.

CHROMOSOMAL LOCATION

Genetic locus: RPE65 (human) mapping to 1p31.3; Rpe65 (mouse) mapping to 3 H4.

SOURCE

RPE65 (E-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 445-470 of RPE65 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RPE65 (E-5) is available conjugated to agarose (sc-390787 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390787 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390787 PE), fluorescein (sc-390787 FITC), Alexa Fluor[®] 488 (sc-390787 AF488), Alexa Fluor[®] 546 (sc-390787 AF546), Alexa Fluor[®] 594 (sc-390787 AF594) or Alexa Fluor[®] 647 (sc-390787 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-390787 AF680) or Alexa Fluor[®] 790 (sc-390787 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390787 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

RPE65 (E-5) is recommended for detection of RPE65 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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). RPE65 (E-5) is also recommended for detection of RPE65 in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for RPE65 siRNA (h): sc-44898, RPE65 siRNA (m): sc-44899, RPE65 shRNA Plasmid (h): sc-44898-SH, RPE65 shRNA Plasmid (m): sc-44899-SH, RPE65 shRNA (h) Lentiviral Particles: sc-44898-V and RPE65 shRNA (m) Lentiviral Particles: sc-44899-V.

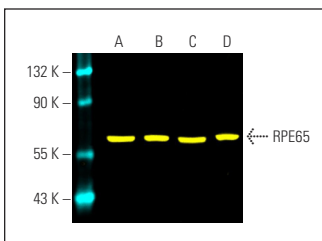
Molecular Weight of RPE65: 65 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, NIH/3T3 whole cell lysate: sc-2210 or RAW 264.7 whole cell lysate: sc-2211.

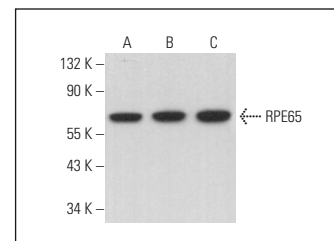
STORAGE

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

DATA



RPE65 (E-5) Alexa Fluor[®] 488: sc-390787 AF488. Direct fluorescent western blot analysis of RPE65 expression in NIH/3T3 (A), RAW 264.7 (B), Jurkat (C) and SP2/O (D) whole cell lysates. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Cruz Marker[™] Molecular Weight Standards detected with Cruz Marker[™] MW Tag-Alexa Fluor[®] 647: sc-516791.



RPE65 (E-5): sc-390787. Western blot analysis of RPE65 expression in SCC-4 (A), C3H/10T1/2 (B) and RPE-J (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Zhong, H., et al. 2015. CRISPR-engineered mosaicism rapidly reveals that loss of Kcnj13 function in mice mimics human disease phenotypes. *Sci. Rep.* 5: 8366.
- Paschalis, E.I., et al. 2019. Microglia regulate neuroglia remodeling in various ocular and retinal injuries. *J. Immunol.* 202: 539-549.
- Khan, A.Z., et al. 2021. The silk protein sericin promotes viability of ARPE-19 and induced pluripotent stem cell-derived retinal pigment epithelial cells *in vitro*. *Curr. Eye Res.* 46: 504-514.
- Niu, Z., et al. 2021. Protective effect of rapamycin in models of retinal degeneration. *Exp. Eye Res.* 210: 108700.
- Cetkovic, A., et al. 2022. *In vitro* cytotoxicity of D18 and Y6 as potential organic photovoltaic materials for retinal prostheses. *Int. J. Mol. Sci.* 23: 8666.
- Wang, X., et al. 2023. SOX2-positive retinal stem cells are identified in adult human pars plicata by single-cell transcriptomic analyses. *MedComm* 4: e198.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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