SANTA CRUZ BIOTECHNOLOGY, INC.

RDH10 (F-6): sc-514121

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

RDH10 (retinol dehydrogenase 10) is a 341 amino acid single-pass membrane protein that belongs to the short-chain dehydrogenases/reductases (SDR) family. RDH10 generates all-*trans* retinal from all-*trans* retinol and may plan an important role in the photic visual cycle. It is suggested that RDH10 is essential for generating retinoic acid at early embryonic stages. It is also suggested that the size of the residue at position 197 is critical for the activity of RDH10. RDH10 shares 100% and 98.6% amino acid identity with the bovine and murine Rdh10 proteins, respectively. RDH10 physically interacts with CRALBP and RPE65 in RPE cells. RDH10 is detected in retina, kidney, liver, small intestine, placenta, lung, heart and skeletal muscle. The RDH10 gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken and zebrafish, and maps to human chromosome 8q21.11.

REFERENCES

1. Wu, B.X., et al. 2002. Cloning and characterization of a novel all-*trans* retinol short-chain dehydrogenase/reductase from the RPE. Invest. Ophthalmol. Vis. Sci. 43: 3365-3372.
2. Picozzi, P., et al. 2003. Genomic organization and transcription of the human retinol dehydrogenase 10 (RDH10) gene. FEBS Lett. 554: 59-66.

CHROMOSOMAL LOCATION

Genetic locus: RDH10 (human) mapping to 8q21.11; Rdh10 (mouse) mapping to 1 A3.

SOURCE

RDH10 (F-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 280-295 within an internal region of RDH10 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RDH10 (F-6) is available conjugated to agarose (sc-514121 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514121 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514121 PE), fluorescein (sc-514121 FITC), Alexa Fluor® 488 (sc-514121 AF488), Alexa Fluor® 546 (sc-514121 AF546), Alexa Fluor® 594 (sc-514121 AF594) or Alexa Fluor® 647 (sc-514121 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514121 AF680) or Alexa Fluor® 790 (sc-514121 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514121 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

RDH10 (F-6) is recommended for detection of RDH10 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for RDH10 siRNA (h): sc-76376, RDH10 siRNA (m): sc-76377, RDH10 shRNA Plasmid (h): sc-76376-SH, RDH10 shRNA Plasmid (m): sc-76377-SH, RDH10 shRNA (h) Lentiviral Particles: sc-76376-V and RDH10 shRNA (m) Lentiviral Particles: sc-76377-V.

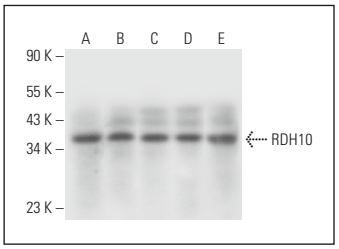
Molecular Weight of RDH10: 38 kDa.

Positive Controls: PC-3 cell lysate: sc-2220, NCI-H460 whole cell lysate: sc-364235 or WiDr cell lysate: sc-24779.

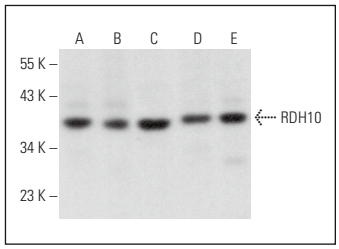
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



RDH10 (F-6): sc-514121. Western blot analysis of RDH10 expression in NCI-H460 (**A**), PC-3 (**B**), WiDr (**C**), Hep G2 (**D**) and A549 (**E**) whole cell lysates.



RDH10 (F-6): sc-514121. Western blot analysis of RDH10 expression in c4 (**A**), SH-SY5Y (**B**), A-673 (**C**), RAW 264.7 (**D**) and 3T3-L1 (**E**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Al-Hussaini, H., et al. 2018. Effects of *trans*-resveratrol on type 1 diabetes-induced inhibition of retinoic acid metabolism pathway in retinal pigment epithelium of Dark Agouti rats. Eur. J. Pharmacol. 834: 142-151.
2. Sun, W., et al. 2023. Congenital cataracts affect the retinal visual cycle and mitochondrial function: a multi-omics study of GJA8 knockout rabbits. J. Proteomics 287: 104972.

RESEARCH USE

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