SANTA CRUZ BIOTECHNOLOGY, INC.

RDH13 (E-2): sc-515447

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

RDH13 (Retinol dehydrogenase 13), also known as all-*trans* and 9-*cis* retinol dehydrogenase 13 or SDR7C3, is a 331 amino acid mitochondrial protein belonging to the short-chain dehydrogenases/reductases (SDR) family. Widely expressed, mostly in eye, pancreas, placenta and lung, RDH13 localizes on the outer side of the inner mitochondrial membrane. Related to microsomal retinoid oxidoreductase RDH11, RDH13 is considered to be a major enzyme among the RDH family of proteins. Catalytically active, RDH13 recognizes retinoids as substrates and may function in retinoic acid production. RDH13 may function to protect the mitochondria against oxidative stress. Leber congenital amaurosis (LCA) type 3, an inherited autosomal recessive retinal disease, has been associated with defects of RDH13. LCA represents the most common genetic cause of congenital visual impairment in infants and children.

REFERENCES

1. Haeseleer, F., et al. 2002. Dual-substrate specificity short chain retinol dehydrogenases from the vertebrate retina. J. Biol. Chem. 277: 45537-45546.
2. Kasus-Jacobi, A., et al. 2005. Functional characterization of mouse RDH11 as a retinol dehydrogenase involved in dark adaptation *in vivo*. J. Biol. Chem. 280: 20413-20420.
3. Yzer, S., et al. 2006. Microarray-based mutation detection and phenotypic characterization of patients with Leber congenital amaurosis. Invest. Ophthalmol. Vis. Sci. 47: 1167-1176.
4. Keller, B. and Adamski, J. 2007. RDH12, a retinol dehydrogenase causing Leber's congenital amaurosis, is also involved in steroid metabolism. J. Steroid Biochem. Mol. Biol. 104: 190-194.
5. Pares, X., et al. 2008. Medium- and short-chain dehydrogenase/reductase gene and protein families: medium-chain and short-chain dehydrogenases/reductases in retinoid metabolism. Cell. Mol. Life Sci. 65: 3936-3949.

CHROMOSOMAL LOCATION

Genetic locus: RDH13 (human) mapping to 19q13.42.

SOURCE

RDH13 (E-2) is a mouse monoclonal antibody raised against amino acids 226-282 mapping within an internal region of RDH13 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RDH13 (E-2) is available conjugated to agarose (sc-515447 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515447 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515447 PE), fluorescein (sc-515447 FITC), Alexa Fluor® 488 (sc-515447 AF488), Alexa Fluor® 546 (sc-515447 AF546), Alexa Fluor® 594 (sc-515447 AF594) or Alexa Fluor® 647 (sc-515447 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515447 AF680) or Alexa Fluor® 790 (sc-515447 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

RDH13 (E-2) is recommended for detection of RDH13 of 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 RDH13 siRNA (h): sc-97134, RDH13 shRNA Plasmid (h): sc-97134-SH and RDH13 shRNA (h) Lentiviral Particles: sc-97134-V.

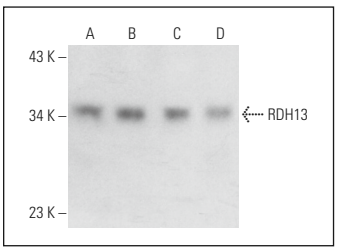
Molecular Weight of RDH13: 36 kDa.

Positive Controls: Y79 cell lysate: sc-2240, LNCaP cell lysate: sc-2231 or human liver extract: sc-363766.

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



RDH13 (E-2): sc-515447. Western blot analysis of RDH13 expression in Y79 (**A**), LNCaP (**B**) and MIA PaCa-2 (**C**) whole cell lysates and human liver tissue extract (**D**).

STORAGE

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

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.