SANTA CRUZ BIOTECHNOLOGY, INC.

RDH16 (S-14): sc-169127

BACKGROUND

RDH16 (retinol dehydrogenase 16) is a 317 amino acid single-pass type IV membrane protein that belongs to the short-chain dehydrogenases/reductases (SDR) family. Transiently up-regulated by retinoic acid, RDH16 is an oxidoreductase with a preference for NAD. RDH16 oxidizes 3-α-hydroxysteroids, as well as all-*trans*-retinol and 13-*cis*-retinol to the corresponding aldehydes. RDH16 also oxidizes androstanediol and androsterone to dihydrotestosterone and androstanedione, and can catalyze the reverse reaction as well. Inhibited by citral, perillyl alcohol, geraniol, farnesol and geranyl geraniol, RDH16 is highly expressed in adult liver at the protein level. Also detected in endometrium, liver and foreskin, RDH16 is expressed in the spineous layers of adult skin, and at lower levels in basal and granular skin layers. The RDH16 gene is conserved in chimpanzee, canine, bovine, mouse, rat and zebrafish, and maps to human chromosome 12q13.3.

REFERENCES

1. Gough, W.H., et al. 1998. cDNA cloning and characterization of a new human microsomal NAD^+-dependent dehydrogenase that oxidizes all-*trans*-retinol and 3α-hydroxysteroids. J. Biol. Chem. 273: 19778-19785.
2. Jurukovski, V., et al. 1999. Cloning and characterization of retinol dehydrogenase transcripts expressed in human epidermal keratinocytes. Mol. Genet. Metab. 67: 62-73.
3. Chetyrkin, S.V., et al. 2001. Characterization of a novel type of human microsomal 3α -hydroxysteroid dehydrogenase: unique tissue distribution and catalytic properties. J. Biol. Chem. 276: 22278-22286.
4. Cain, J.M., et al. 2002. Expression of a retinol dehydrogenase (hRoDH-4), a member of the retinol/steroid dehydrogenase family implicated in retinoic acid biosynthesis, in normal and neoplastic endometria. Am. J. Obstet. Gynecol. 186: 675-683.
5. Lapshina, E.A., et al. 2003. Differential recognition of the free versus bound retinol by human microsomal retinol/sterol dehydrogenases: characterization of the holo-CRBP dehydrogenase activity of RoDH-4. Biochemistry 42: 776-784.
6. Persson, B., et al. 2009. The SDR (short-chain dehydrogenase/reductase and related enzymes) nomenclature initiative. Chem. Biol. Interact. 178: 94-98.

CHROMOSOMAL LOCATION

Genetic locus: RDH16 (human) mapping to 12q13.3.

SOURCE

RDH16 (S-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of RDH16 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-169127 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RDH16 (S-14) is recommended for detection of RDH16 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other RDH family members.

RDH16 (S-14) is also recommended for detection of RDH16 in additional species, including bovine.

Suitable for use as control antibody for RDH16 siRNA (h): sc-95898, RDH16 shRNA Plasmid (h): sc-95898-SH and RDH16 shRNA (h) Lentiviral Particles: sc-95898-V.

Molecular Weight of RDH16: 36 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.