SANTA CRUZ BIOTECHNOLOGY, INC.

CYB5R1 (I-13): sc-160051

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

NADH-cytochrome b5 reductases participate in a variety of physiological processes including biosynthesis of cholesterol, methemoglobin reduction of erythrocytes, elongation of fatty acids and metabolism of drugs. CYB5R1 (cytochrome b5 reductase 1), also known as NADH-cytochrome b5 reductase 1, B5R1, NQO3A2, humb5R2 or NAD(P)H:quinone oxidoreductase type 3 polypeptide A2, is a 305 amino acid single-pass membrane protein that contains one FAD-binding FR-type domain and belongs to the flavoprotein pyridine nucleotide cytochrome reductase family. Widely expressed, CYB5R1 binds FAD as a cofactor and is encoded by a gene located on human chromosome 1. Human chromosome 1 spans 260 million base pairs, contains over 3,000 genes, comprises nearly 8% of the human genome and houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome.

REFERENCES

1. Borgese, N., et al. 1993. NADH-cytochrome b5 reductase and cytochrome b5. The problem of posttranslational targeting to the endoplasmic reticulum. Subcell. Biochem. 21: 313-341.
2. Dobbie, Z., et al. 1997. Identification of a modifier gene locus on chromosome 1p35-36 in familial adenomatous polyposis. Hum. Genet. 99: 653-657.
3. Eudy, J.D., et al. 1998. Mutation of a gene encoding a protein with extracellular matrix motifs in Usher syndrome type IIa. Science 280: 1753-1757.
4. Zhu, H., et al. 1999. Identification of a cytochrome b-type NAD(P)H oxidoreductase ubiquitously expressed in human cells. Proc. Natl. Acad. Sci. USA 96: 14742-14747.
5. Tayebi, N., et al. 2001. Gaucher disease and parkinsonism: a phenotypic and genotypic characterization. Mol. Genet. Metab. 73: 313-321.
6. Plasilova, M., et al. 2004. Exclusion of an extracolonic disease modifier locus on chromosome 1p33-36 in a large Swiss familial adenomatous polyposis kindred. Eur. J. Hum. Genet. 12: 365-371.

CHROMOSOMAL LOCATION

Genetic locus: CYB5R1 (human) mapping to 1q32.1; Cyb5r1 (mouse) mapping to 1 E4.

SOURCE

CYB5R1 (I-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CYB5R1 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-160051 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

CYB5R1 (I-13) is recommended for detection of CYB5R1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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); non cross-reactive with CYB5R2 or CYB5R13.

CYB5R1 (I-13) is also recommended for detection of CYB5R1 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for CYB5R1 siRNA (h): sc-78803, CYB5R1 siRNA (m): sc-142652, CYB5R1 shRNA Plasmid (h): sc-78803-SH, CYB5R1 shRNA Plasmid (m): sc-142652-SH, CYB5R1 shRNA (h) Lentiviral Particles: sc-78803-V and CYB5R1 shRNA (m) Lentiviral Particles: sc-142652-V.

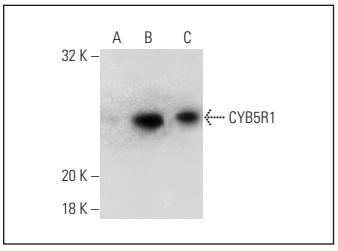
Molecular Weight of CYB5R1 isoforms: 34/25 kDa.

Positive Controls: CYB5R1 (m): 293T Lysate: sc-119541 or MOLT-4 cell lysate: sc-2233.

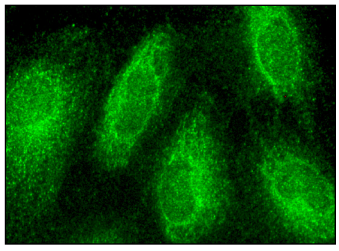
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



CYB5R1 (I-13): sc-160051. Western blot analysis of CYB5R1 expression in non-transfected 293T: sc-117752 (**A**), mouse CYB5R1 transfected 293T: sc-119541 (**B**) and MOLT-4 (**C**) whole cell lysates.



CYB5R1 (I-13): sc-160051. Immunofluorescence staining of formalin-fixed HeLa cells showing cytoplasmic localization.

STORAGE

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