SANTA CRUZ BIOTECHNOLOGY, INC.

IDH3B (V-13): sc-55676

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The Power to Question

BACKGROUND

IDH3B (isocitrate dehydrogenase 3 NAD^+ β, NAD^+-specific ICDH) is a 384 amino acid protein encoded by the human gene IDH3B. IDH3B belongs to the isocitrate and isopropylmalate dehydrogenases family and can bind one magnesium or manganese ion per subunit. It is usually found in the mitochondrion as a heterooligomer of subunits α, β, and γ in the apparent ratio of 2:1:1. Human NAD-dependent isocitrate dehydrogenase (IDH) is allosterically activated by ADP by lowering the Km for isocitrate. NAD-dependent isocitrate dehydrogenase is a tricarboxylic acid cycle enzyme that produces 2-oxoglutarate, an organic acid required by the glutamine synthetase/glutamate synthase cycle to assimilate ammonium.

REFERENCES

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2. Hong, G., et al. 1997. Molecular cloning of a highly conserved mouse and human integral membrane protein (Itm1) and genetic mapping to mouse chromosome 9. Genomics 31: 295-300.
3. Huh, T.L., et al. 1997. Assignment of the human mitochondrial NAD^+-specific isocitrate dehydrogenase α-subunit (IDH3A) gene to 15q25.1→25.2 by *in situ* hybridization. Genomics 32: 295-296.
4. Dash, D.P., et al. 2006. Fine mapping of the keratoconus with cataract locus on chromosome 15q and candidate gene analysis. Mol. Vis. 12: 499-505.
5. Soundar, S., et al. 2006. Identification of Mn^{2+}-binding aspartates from α, β, and γ subunits of human NAD-dependent isocitrate dehydrogenase. J. Biol. Chem. 281: 21073-21081.
6. Imabayashi, F., et al. 2006. Substrate-free structure of a monomeric NADP isocitrate dehydrogenase: an open conformation phylogenetic relationship of isocitrate dehydrogenase. Proteins 63: 100-112.
7. Veena, C.K., et al. 2007. Mitochondrial dysfunction in an animal model of hyperoxaluria: A prophylactic approach with fucoidan. Eur. J. Pharmacol. 579: 330-336.
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CHROMOSOMAL LOCATION

Genetic locus: IDH3B (human) mapping to 20p13; Idh3b (mouse) mapping to 2 F3.

SOURCE

IDH3B (V-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of IDH3B of human origin.

STORAGE

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

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-55676 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IDH3B (V-13) is recommended for detection of IDH3B of mouse, rat and 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).

IDH3B (V-13) is also recommended for detection of IDH3B in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for IDH3B siRNA (h): sc-62491, IDH3B siRNA (m): sc-62492, IDH3B shRNA Plasmid (h): sc-62491-SH, IDH3B shRNA Plasmid (m): sc-62492-SH, IDH3B shRNA (h) Lentiviral Particles: sc-62491-V and IDH3B shRNA (m) Lentiviral Particles: sc-62492-V.

Molecular Weight of IDH3B: 42 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.

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.