

IDH3G (E-15): sc-55679

BACKGROUND

IDH3G (isocitrate dehydrogenase [NAD] subunit γ (mitochondrial), NAD⁺-specific ICDH) is a 393 amino acid protein encoded by the human gene IDH3G. IDH3G 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 K_m 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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- Lee, P. and Colman, R.F. 2006. Thr 373, Asp 375, and Lys 260 are in the coenzyme site of porcine NADP-dependent isocitrate dehydrogenase. *Arch. Biochem. Biophys.* 450: 183-190.
- Liu, W., et al. 2006. Expression of cytosolic NADP⁺-dependent isocitrate dehydrogenase in bovine mammary epithelium: modulation by regulators of differentiation and metabolic effectors. *Exp. Biol. Med.* 231: 599-610.
- 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.
- Soundar, S., et al. 2006. Identification of Mn²⁺-binding aspartates from α , β , and γ subunits of human NAD-dependent isocitrate dehydrogenase. *J. Biol. Chem.* 281: 21073-21081.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: *Idh3g* (mouse) mapping to X A7.3.

SOURCE

IDH3G (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of IDH3G of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-55679 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

IDH3G (E-15) is recommended for detection of IDH3G of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

IDH3G (E-15) is also recommended for detection of IDH3G in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for IDH3G siRNA (m): sc-62494, IDH3G shRNA Plasmid (m): sc-62494-SH and IDH3G shRNA (m) Lentiviral Particles: sc-62494-V.

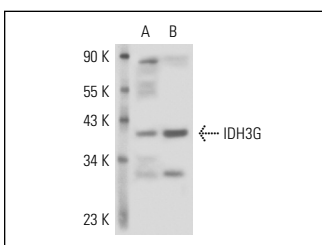
Molecular Weight of IDH3G: 43 kDa.

Positive Controls: rat heart extract: sc-2393 or mouse heart extract: sc-2254.

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



IDH3G (E-15): sc-55679. Western blot analysis of IDH3G expression in rat heart (A) and mouse heart (B) tissue extracts.

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.