

IDH3G (C-8): sc-398066

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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- 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.
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- 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.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: IDH3G (human) mapping to Xq28; Idh3g (mouse) mapping to X A7.3.

SOURCE

IDH3G (C-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 119-156 within an internal region of IDH3G of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-398066 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

IDH3G (C-8) is recommended for detection of IDH3G of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 (C-8) 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 (h): sc-62493, IDH3G siRNA (m): sc-62494, IDH3G shRNA Plasmid (h): sc-62493-SH, IDH3G shRNA Plasmid (m): sc-62494-SH, IDH3G shRNA (h) Lentiviral Particles: sc-62493-V and IDH3G shRNA (m) Lentiviral Particles: sc-62494-V.

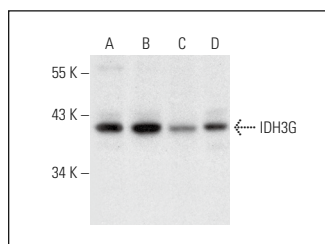
Molecular Weight of IDH3G: 43 kDa.

Positive Controls: HT-1080 whole cell lysate: sc-364183, HeLa whole cell lysate: sc-2200 or MCF7 whole cell lysate: sc-2206.

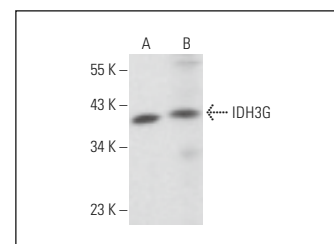
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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 L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



IDH3G (C-8): sc-398066. Western blot analysis of IDH3G expression in HeLa (A), MCF7 (B), SK-BR-3 (C) and HT-1080 (D) whole cell lysates.



IDH3G (C-8): sc-398066. Western blot analysis of IDH3G expression in BC3H1 whole cell lysate (A) and mouse heart tissue extract (B).

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.