

IDH2 (N-16): sc-55666

BACKGROUND

IDH2 (isocitrate dehydrogenase 2 (NADP⁺), mitochondrial), also designated NADP⁺-specific ICDH; isocitrate dehydrogenase, mitochondrial; and oxalosuccinate decarboxylase, is a 452 amino acid enzyme encoded by the human gene IDH2. IDH2 belongs to the isocitrate and isopropylmalate dehydrogenases family and contains two nucleotide binding regions. IDH2 is involved in the reduction of NADP⁺ to NADPH and maintains the supply of glutathione (GSH) in mitochondria. It is believed to play a role in intermediary metabolism and energy production. IDH2 also tightly associates with the pyruvate dehydrogenase complex. IDH2 is found in the mitochondrion as a homodimer and can bind one magnesium or manganese ion per subunit.

REFERENCES

1. Grzeschik, K.H. 1976. Assignment of a gene for human mitochondrial isocitrate dehydrogenase (ICD-M, EC 1.1.1.41) to chromosome 15. *Hum. Genet.* 34: 23-28.
2. Champion, M.J., et al. 1979. Assignment of cytoplasmic α -mannosidase (MANA) and confirmation of mitochondrial isocitrate dehydrogenase (IDHM) to the q11 leads to qter region of chromosome 15 in man. *Cytogenet. Cell Genet.* 22: 498-502.
3. Luo, H., et al. 1996. Expression of human mitochondrial NADP-dependent isocitrate dehydrogenase during lymphocyte activation. *J. Cell. Biochem.* 60: 495-507.
4. Huh, T.L., et al. 1997. Assignment of the human mitochondrial NAD⁺-specific isocitrate dehydrogenase α subunit (IDH3A) gene to 15q25.1-15q25.2 by *in situ* hybridization. *Genomics* 32: 295-296.
5. Oh, I.U., et al. 1997. Assignment of the human mitochondrial NADP⁺-specific isocitrate dehydrogenase (IDH2) gene to 15q26.1 by *in situ* hybridization. *Genomics* 38: 104-106.
6. Lancien, M., et al. 1999. Molecular characterization of higher plant NAD-dependent isocitrate dehydrogenase: evidence for a heteromeric structure by the complementation of yeast mutants. *Plant J.* 16: 325-333.
7. Johnson, C.H., et al. 1999. Isolation of a histoplasma capsulatum cDNA that complements a mitochondrial NAD⁺-isocitrate dehydrogenase subunit I-deficient mutant of *Saccharomyces cerevisiae*. *Yeast* 15: 799-804.
8. Asano, T., et al. 2005. Effect of NAD⁺-dependent isocitrate dehydrogenase gene (IDH1, IDH2) disruption of sake yeast on organic acid composition in sake mash. *J. Biosci. Bioeng.* 88: 258-263.
9. Kim, S.J., et al. 2006. Mitochondrial isocitrate dehydrogenase protects human neuroblastoma SH-SY5Y cells against oxidative stress. *J. Neurosci. Res.* 85: 139-152.

CHROMOSOMAL LOCATION

Genetic locus: IDH2 (human) mapping to 15q26.1.

SOURCE

IDH2 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of IDH2 of human 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-55666 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IDH2 (N-16) is recommended for detection of IDH2 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).

IDH2 (N-16) is also recommended for detection of IDH2 in additional species, including bovine and porcine.

Suitable for use as control antibody for IDH2 siRNA (h): sc-62487, IDH2 shRNA Plasmid (h): sc-62487-SH and IDH2 shRNA (h) Lentiviral Particles: sc-62487-V.

Molecular Weight of IDH2: 44 kDa.

Positive Controls: DU 145 cell lysate: sc-2268.

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.



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Try **IDH1/2 (G-11): sc-373816** or **IDH2 (B-6): sc-374476**, our highly recommended monoclonal alternatives to IDH2 (N-16).