SANTA CRUZ BIOTECHNOLOGY, INC.

IDI2 (C-14): sc-164638

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

IDI2 (isopentenyl-diphosphate δ-isomerase 2), also known as IPPI2 (isopentenyl pyrophosphate isomerase 2), is a 227 amino acid protein that belongs to the IPP isomerase type 1 family. Localizing to the peroxisome, IDI2 is expressed in skeletal muscle and contains one nudix hydrolase domain. IDI2 utilizes magnesium as a cofactor and participates in isoprenoid biosythesis. IDI2 catalytically converts isopentenyl diphosphate (IPP) to its electrophilic isomer, dimethylallyl diphosphate (DMAPP), a substrate for subsequent reactions that synthesize farnesyl diphosphate and, ultimately, cholesterol. The gene encoding IDI2 maps to human chromosome 10p15.3. Segmental copy-number gains to the IDI2 gene may contribute to the pathogenesis of sporadic amyotrophic lateral sclerosis (SALS). SALS, also known as Lou Gehrig's disease, is a motor neuron disease characterized by neuron degeneration.

REFERENCES

1. Breitling, R., et al. 2003. Isopentenyl-diphosphate isomerases in human and mouse: evolutionary analysis of a mammalian gene duplication. J. Mol. Evol. 57: 282-291.
2. Clizbe, D.B., et al. 2007. IDI2, a second isopentenyl diphosphate isomerase in mammals. J. Biol. Chem. 282: 6668-6676.
3. Phillips, M.A., et al. 2008. The *Arabidopsis thaliana* type I isopentenyl diphosphate isomerases are targeted to multiple subcellular compartments and have overlapping functions in isoprenoid biosynthesis. Plant Cell 20: 677-696.
4. Dutoit, R., et al. 2008. Overexpression, physicochemical characterization, and modeling of a hyperthermophilic *Pyrococcus furiosus* type 2 IPP isomerase. Proteins 71: 1699-1707.
5. Kato, T., et al. 2010. Segmental copy-number gain within the region of isopentenyl diphosphate isomerase genes in sporadic amyotrophic lateral sclerosis. Biochem. Biophys. Res. Commun. 402: 438-442.
6. Valdez, et al. 2011. Modeling cholesterol metabolism by gene expression profiling in the hippocampus. Mol. Biosyst. 7: 1891-1901.
7. Ferraiuolo, L., et al. 2011. Molecular pathways of motor neuron injury in amyotrophic lateral sclerosis. Nat. Rev. Neurol. 7: 616-630.

CHROMOSOMAL LOCATION

Genetic locus: IDI2 (human) mapping to 10p15.3.

SOURCE

IDI2 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of IDI2 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-164638 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IDI2 (C-14) is recommended for detection of IDI2 of 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 IDI1.

Suitable for use as control antibody for IDI2 siRNA (h): sc-90701, IDI2 shRNA Plasmid (h): sc-90701-SH and IDI2 shRNA (h) Lentiviral Particles: sc-90701-V.

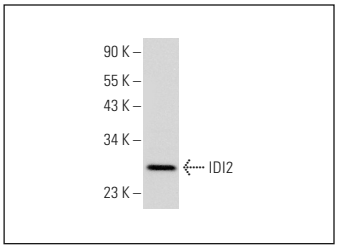
Molecular Weight of IDI2: 27 kDa.

Positive Controls: RT-4 whole cell lysate: sc-364257.

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



IDI2 (C-14): sc-164638. Western blot analysis of IDI2 expression in RT-4 whole cell lysate.

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.