SANTA CRUZ BIOTECHNOLOGY, INC.

IDH1/2 (G-11): sc-373816

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: IDH1 (human) mapping to 2q34, IDH2 (human) mapping to 15q26.1; Idh1 (mouse) mapping to 1 C2, Idh2 (mouse) mapping to 7 D3.

SOURCE

IDH1/2 (G-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 123-154 within an internal region of IDH2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IDH1/2 (G-11) is available conjugated to agarose (sc-373816 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-373816 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373816 PE), fluorescein (sc-373816 FITC), Alexa Fluor® 488 (sc-373816 AF488), Alexa Fluor® 546 (sc-373816 AF546), Alexa Fluor® 594 (sc-373816 AF594) or Alexa Fluor® 647 (sc-373816 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373816 AF680) or Alexa Fluor® 790 (sc-373816 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

IDH1/2 (G-11) is recommended for detection of IDH1 and IDH2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

IDH1/2 (G-11) is also recommended for detection of IDH1 and IDH2 in additional species, including equine, canine, bovine, porcine and avian.

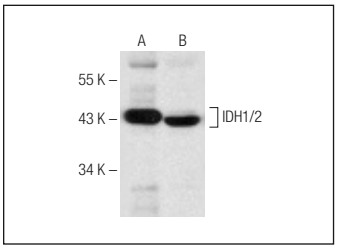
Molecular Weight of IDH1/2: 51 kDa.

Positive Controls: human heart extract: sc-363763, rat heart extract: sc-2393 or DU 145 cell lysate: sc-2268.

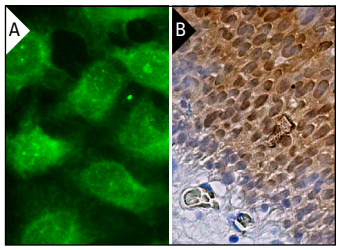
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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 A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



IDH1/2 (G-11): sc-373816. Western blot analysis of IDH1/2 expression in rat heart (**A**) and human heart (**B**) tissue extracts.



IDH1/2 (G-11): sc-373816. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Dohi, T., et al. 2019. The interplay of mechanical stress, strain, and stiffness at the keloid periphery correlates with increased Caveolin-1/ROCK signaling and scar progression. Plast. Reconstr. Surg. 144: 58e-67e.
2. Shankar, T.S., et al. 2021. Cardiac-specific deletion of voltage dependent anion channel 2 leads to dilated cardiomyopathy by altering calcium homeostasis. Nat. Commun. 12: 4583.
3. Sardoiwala, M.N., et al. 2022. Hytrin loaded polydopamine-serotonin nanohybrid induces IDH2 mediated neuroprotective effect to alleviate Parkinson's disease. Biomater. Adv. 133: 112602.
4. Kaundal, B., et al. 2022. Mitochondria-targeting nano therapy altering IDH2-mediated EZH2/EZH1 interaction as precise epigenetic regulation in glioblastoma. Biomater. Sci. E-published.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.