SANTA CRUZ BIOTECHNOLOGY, INC.

DHRS6 (E-4): sc-393030

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

DHRS6 (dehydrogenase/reductase SDR family member 6), also known as EFA6R, SDR15C1, UCPA-OR, UNQ6308 or BDH2, is a 245 amino acid cytoplasmic protein belonging to the short-chain dehydrogenases/reductases (SDR) family, an evolutionarily conserved family of oxidoreductases found in all forms of life. DHRS6 is a novel, cytosolic type II R-β-hydroxybutyrate dehydrogenase that exists as two alternatively spliced isoforms and may have an essential role as a nutrient or building block in cellular survival. Human DHRS6 and its vertebrate orthologs show high levels of sequence identities to bacterial hydroxybutyrate dehydrogenases. DHRS6 may play an important role in the peripheral utilization of 3-hydroxybutyrate and its cytoplasmic localization with its high ratio of oxidized NAD^+, the NAD^+ dependence and the kinetic parameters of DHRS6 make it suitable to convert high levels of circulating 3-hydroxybutyrate into acetoacetate.

REFERENCES

1. Guo, K., et al. 2006. Characterization of human DHRS6, an orphan short chain dehydrogenase/reductase enzyme: a novel, cytosolic type 2 R-β-hydroxybutyrate dehydrogenase. J. Biol. Chem. 281: 10291-10297.
2. Ito, K., et al. 2006. D-3-hydroxybutyrate dehydrogenase from *Pseudomonas fragi:* molecular cloning of the enzyme gene and crystal structure of the enzyme. J. Mol. Biol. 355: 722-733.
3. Matsunaga, T., et al. 2008. Characterization of human DHRS4: an inducible short-chain dehydrogenase/reductase enzyme with 3β-hydroxysteroid dehydrogenase activity. Arch. Biochem. Biophys. 477: 339-347.

CHROMOSOMAL LOCATION

Genetic locus: BDH2 (human) mapping to 4q24; Bdh2 (mouse) mapping to 3 G3.

SOURCE

DHRS6 (E-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 26-59 within an internal region of DHRS6 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DHRS6 (E-4) is available conjugated to agarose (sc-393030 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393030 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393030 PE), fluorescein (sc-393030 FITC), Alexa Fluor® 488 (sc-393030 AF488), Alexa Fluor® 546 (sc-393030 AF546), Alexa Fluor® 594 (sc-393030 AF594) or Alexa Fluor® 647 (sc-393030 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393030 AF680) or Alexa Fluor® 790 (sc-393030 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393030 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

DHRS6 (E-4) is recommended for detection of DHRS6 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

DHRS6 (E-4) is also recommended for detection of DHRS6 in additional species, including equine and canine.

Suitable for use as control antibody for DHRS6 siRNA (h): sc-89195, DHRS6 siRNA (m): sc-143032, DHRS6 shRNA Plasmid (h): sc-89195-SH, DHRS6 shRNA Plasmid (m): sc-143032-SH, DHRS6 shRNA (h) Lentiviral Particles: sc-89195-V and DHRS6 shRNA (m) Lentiviral Particles: sc-143032-V.

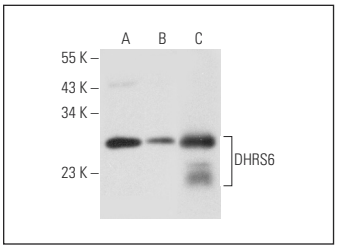
Molecular Weight of DHRS6: 27 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, Hep G2 cell lysate: sc-2227 or IMR-32 cell lysate: sc-2409.

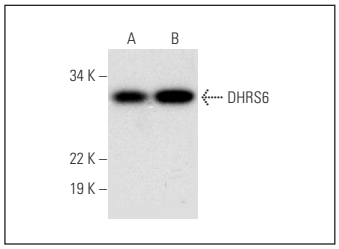
RECOMMENDED SUPPORT REAGENTS

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.

DATA



DHRS6 (E-4): sc-393030. Western blot analysis of DHRS6 expression in Jurkat (**A**) and Hep G2 (**B**) whole cell lysates and human kidney tissue extract (**C**).



DHRS6 (E-4): sc-393030. Western blot analysis of DHRS6 expression in Caki-1 (**A**) and IMR-32 (**B**) whole cell lysates.

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.