SANTA CRUZ BIOTECHNOLOGY, INC.

OCTN2 (H-13): sc-19822

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Carnitine (β-hydroxy-γ-trimethylaminobutyrate) is a small, highly polar compound that aids in the β-oxidation of long-chain fatty acids. Organic cation/carnitine transporters (OCTN) assist in the elimination of cationic compounds, including xenobiotics, and transport carnitine for reabsorption in the kidney. Similar to organic cation transporters (OCT), OCTN proteins localize to the plasma membrane of epithelial cells. OCTN1 is expressed in kidney, trachea, bone marrow and fetal liver. OCTN2 is abundantly expressed in kidney, skeletal muscle, placenta and heart. OCTN3 is strongly expressed in testis and weakly expressed in kidney. The gene encoding human OCTN1 maps to chromosome 5 and the gene encoding human OCTN2 maps to chromosome 5q31.1. Mutations in the gene encoding OCTN2 lead to systemic carnitine deficiency (SCD), an autosomal recessive disorder characterized by cardiomyopathy, skeletal myopathy, lethargy, hypoglycemia and hyperammonemia.

CHROMOSOMAL LOCATION

Genetic locus: SLC22A5 (human) mapping to 5q31.1.

SOURCE

OCTN2 (H-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of OCTN2 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-19822 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

OCTN2 (H-13) is recommended for detection of OCTN2 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).

Suitable for use as control antibody for OCTN2 siRNA (h): sc-42560, OCTN2 shRNA Plasmid (h): sc-42560-SH and OCTN2 shRNA (h) Lentiviral Particles: sc-42560-V.

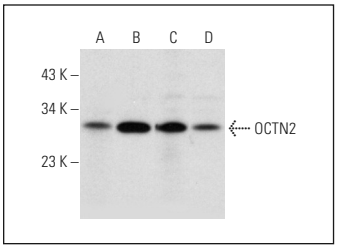
Molecular Weight of OCTN2 isoforms: 63/25/65 kDa.

Positive Controls: human skeletal muscle extract: sc-363776, human kidney extract: sc-363764 or human placenta extract: sc-363772.

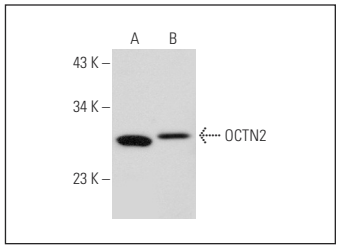
RECOMMENDED SECONDARY REAGENTS

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



OCTN2 (H-13): sc-19822. Western blot analysis of OCTN2 expression in human skeletal muscle (**A**), human kidney (**B**) and human placenta (**C**) tissue extracts and MCF7 whole cell lysate (**D**).



OCTN2 (H-13): sc-19822. Western blot analysis of OCTN2 expression in K-562 (**A**) and JEG-3 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Garrett, Q., et al. 2008. Expression and localization of carnitine/organic cation transporter OCTN1 and OCTN2 in ocular epithelium. Invest. Ophthalmol. Vis. Sci. 49: 4844-4849.
2. Markova, N.G., et al. 2009. Skin cells and tissue are capable of using L-ergothioneine as an integral component of their antioxidant defense system. Free Radic. Biol. Med. 46: 1168-1176.
3. Broderick, T.L., et al. 2011. The effects of exercise training on γ-butyrobetaine hydroxylase and novel organic cation transporter-2 gene expression in the rat. Appl. Physiol. Nutr. Metab. 36: 781-789.

PROTOCOLS

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