

OCTN1 (C-13): sc-19819

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. Mutations in the gene encoding OCTN2 leads to systemic carnitine deficiency (SCD), an autosomal recessive disorder characterized by cardiomyopathy, skeletal myopathy, lethargy, hypoglycemia and hyperammonemia.

REFERENCES

1. Tamai, I., et al. 1997. Cloning and characterization of a novel human pH-dependent organic cation transporter, OCTN1. *FEBS Lett.* 419: 107-111.
2. Tamai, I., et al. 1998. Molecular and functional identification of sodium ion-dependent, high affinity human carnitine transporter OCTN2. *J. Biol. Chem.* 273: 20378-20382.
3. Wu, X., et al. 1998. cDNA sequence, transport function, and genomic organization of human OCTN2, a new member of the organic cation transporter family. *Biochem. Biophys. Res. Commun.* 246: 589-595.

CHROMOSOMAL LOCATION

Genetic locus: SLC22A4 (human) mapping to 5q31.1.

SOURCE

OCTN1 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of OCTN1 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-19819 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

OCTN1 (C-13) is recommended for detection of OCTN1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

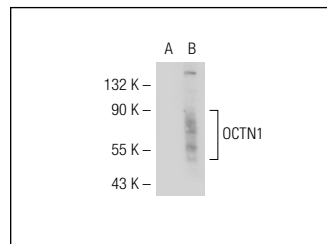
Suitable for use as control antibody for OCTN1 siRNA (h): sc-42558, OCTN1 shRNA Plasmid (h): sc-42558-SH and OCTN1 shRNA (h) Lentiviral Particles: sc-42558-V.

Positive Controls: OCTN1 (h): 293T Lysate: sc-114319.

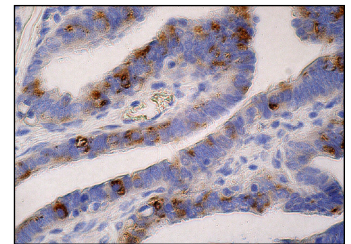
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



OCTN1 (C-13): sc-19819. Western blot analysis of OCTN1 expression in non-transfected: sc-117752 (A) and human OCTN1 transfected: sc-114319 (B) 293T whole cell lysates.



OCTN1 (C-13): sc-19819. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic staining of subset of glandular cells.

SELECT PRODUCT CITATIONS

1. Dong, K.K., et al. 2007. A comparison of the relative antioxidant potency of L-ergothioneine and idebenone. *J. Cosmet. Dermatol.* 6: 183-188.
2. 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.
3. 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.

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.


 MONOS
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Try **OCTN1/2 (H-9): sc-515731**, our highly recommended monoclonal alternative to OCTN1 (C-13).