

OCTN1 (h): 293T Lysate: sc-114319

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 5q31.1 and the gene encoding human OCTN2 maps to chromosome 5q31. 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

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3. Lamhonwah, A.M., et al. 1998. Carnitine uptake defect: frameshift mutations in the human plasmalemmal carnitine transporter gene. *Biochem. Biophys. Res. Commun.* 252: 396-401.
4. Km, L., et al. 1998. A missense mutation of mouse OCTN2, a sodium-dependent carnitine cotransporter, in the juvenile visceral steatosis mouse. *Biochem. Biophys. Res. Commun.* 252: 590-594.
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6. Tamai, I., et al. 2000. Molecular and functional characterization of organic cation/carnitine transporter family in mice. *J. Biol. Chem.* 275: 40064-40072.
7. Tamai, I., et al. 2001. Na^+ -coupled transport of L-carnitine via high-affinity carnitine transporter OCTN2 and its subcellular localization in kidney. *Biochim. Biophys. Acta* 1512: 273-284.

CHROMOSOMAL LOCATION

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

PRODUCT

OCTN1 (h): 293T Lysate represents a lysate of human OCTN1 transfected 293T cells and is provided as 100 μg protein in 200 μl SDS-PAGE buffer.

APPLICATIONS

OCTN1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive OCTN1 antibodies. Recommended use: 10-20 μl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20°C . Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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 for detailed protocols and support products.