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Anti-OCTN1 Antibody

Catalog # AP60194

Product Information

Application	WB, IF/IC
Primary Accession	Q9H015
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	62155

Additional Information

Gene ID	6583
Other Names	ETT; OCTN1; UT2H; Solute carrier family 22 member 4; Ergothioneine transporter; ET transporter; Organic cation/carnitine transporter 1
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human OCTN1. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000) IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	SLC22A4 (HGNC:10968)
Function	Transporter that mediates the transport of endogenous and microbial zwitterions and organic cations (PubMed:10215651, PubMed:15107849, PubMed:15795384, PubMed:16729965, PubMed:20601551, PubMed:22206629, PubMed:22569296, PubMed:29530864). Functions as a Na(+)-dependent and pH-dependent high affinity microbial symporter of potent food-derived antioxidant ergothioeine (PubMed:15795384, PubMed:29530864, PubMed:33124720). Transports one sodium ion with one ergothioeine molecule (By similarity). Involved in the absorption of ergothioneine from the luminal/apical side of the small intestine and renal tubular cells, and into non-parenchymal liver cells, thereby contributing to maintain steady-state ergothioneine level in the body (PubMed:20601551). Also mediates the bidirectional transport of acetycholine, although the exact transport mechanism has not been fully identified yet (PubMed:22206629). Most likely exports anti-inflammatory acetylcholine in non-neuronal tissues, thereby contributing to the non- neuronal cholinergic system

(PubMed:22206629, PubMed:22569296). Displays a general physiological role linked to better survival by controlling inflammation and oxidative stress, which may be related to ergothioneine and acetycholine transports (PubMed:15795384, PubMed:22206629). May also function as a low-affinity Na(+)-dependent transporter of L-carnitine through the mitochondrial membrane, thereby maintaining intracellular carnitine homeostasis (PubMed:10215651, PubMed:15107849, PubMed:16729965). May contribute to regulate the transport of cationic compounds in testis across the blood-testis- barrier (PubMed:35307651).

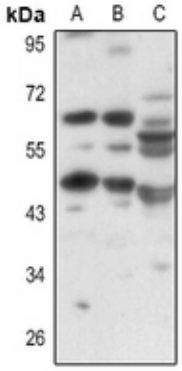
Cellular Location

Apical cell membrane; Multi-pass membrane protein. Basal cell membrane; Multi-pass membrane protein. Mitochondrion membrane; Multi-pass membrane protein. Note=Localized to the apical membrane of small intestines (PubMed:20601551). Localized to the basal membrane of Sertoli cells (PubMed:35307651).

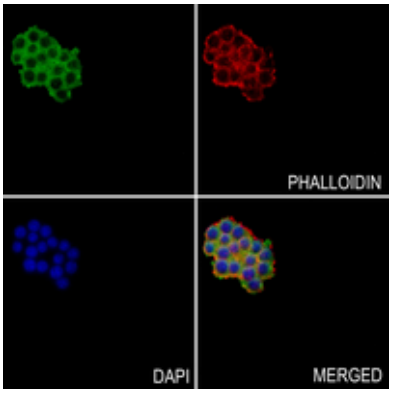
Tissue Location

Widely expressed (PubMed:9426230). Highly expressed in kidney, trachea, ileum, bone marrow and whole blood (PubMed:15795384, PubMed:9426230). Expressed in small intestines (PubMed:20601551). Weakly expressed in skeletal muscle, prostate, lung, pancreas, placenta, heart, uterus, spleen and spinal cord (PubMed:15795384, PubMed:16729965, PubMed:9426230). Expressed in testis, primarily to the basal membrane of Sertoli cells (PubMed:16729965, PubMed:35307651). Expressed in brain (PubMed:16729965). Expressed in liver (PubMed:16729965). Highly expressed in intestinal cell types affected by Crohn disease, including epithelial cells. Expressed in CD68 macrophage and CD43 T-cells but not in CD20 B-cells (PubMed:15107849). Predominantly expressed in CD14 cells in peripheral blood mononuclear cells (PubMed:14608356) Expressed in fetal liver, kidney and lung (PubMed:15795384, PubMed:9426230).

Images



Western blot analysis of OCTN1 expression in HEK293T (A), Hela (B), mouse lung (C) whole cell lysates. (Predicted band size: 62 kD; Observed band size: 62 kD)



Immunofluorescent analysis of OCTN1 staining in MDAMB231 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).

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