10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

SLC22A4 Rabbit pAb

Catalog # AP98054

Product Information

Application	IHC-P, IHC-F, IF, E
Primary Accession	Q9H015
Other Accession	Q9H015
Predicted	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	62155
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human SLC22A4
Epitope Specificity	451-551/551
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	Preservative: 0.02% Proclin300, Constituents: 1% BSA, 0.01M PBS, pH7.4.
SIMILARITY	Belongs to the major facilitator superfamily. Organic cation transporter family.
DISEASE	Genetic variations in SLC22A4 are a cause of susceptibility to rheumatoid arthritis (RA) [MIM:180300]. It is a systemic inflammatory disease with autoimmune features and a complex genetic component. It primarily affects the joints and is characterized by inflammatory changes in the synovial membranes and articular structures, widespread fibrinoid degeneration of the collagen fibers in mesenchymal tissues, and by atrophy and rarefaction of bony structures.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Polyspecific organic cation transporters in the liver, kidney, intestine, and other organs are critical for elimination of many endogenous small organic cations as well as a wide array of drugs and environmental toxins. The encoded protein is an organic cation transporter and plasma integral membrane protein containing eleven putative transmembrane domains as well as a nucleotide-binding site motif. Transport by this protein is at least partially ATP-dependent. [provided by RefSeq, Jul 2008]

Additional Information

Gene ID	6583
Other Names	DFNB60; ETTh; OCTN1; S22A4_HUMAN; SLC22A4; Ergothioneine transporter (ET transporter | ETTh); Organic cation/carnitine transporter 1 (OCTN1); ETT; UT2H; S22A4_MOUSE; S22A4_RAT; solute carrier family 22 member 4; solute carrier family 22 (organic cation/ergothioneine transporter), member 4; solute carrier family 22 (organic cation/zwitterion transporter), member 4; deafness, autosomal recessive 60

Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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).

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