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

# SLC29A4 Antibody

Catalog # ASC11906

## Product Information

| | |
|---|---|
| **Application** | WB, IF, E, IHC-P |
| **Primary Accession** | Q7RTT9 |
| **Other Accession** | NP_001035751, 100913034 |
| **Reactivity** | Human |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | IgG |
| **Calculated MW** | 58059 |
| **Concentration (mg/ml)** | 1 mg/mL |
| **Conjugate** | Unconjugated |
| **Application Notes** | SLC29A4 antibody can be used for detection of SLC29A4 by Western blot at 1 - 2 μg/mL. Antibody can also be used for immunohistochemistry starting at 5 μg/mL. For immunofluorescence start at 20 μg/mL. |

## Additional Information

| | |
|---|---|
| **Gene ID** | 222962 |
| **Other Names** | Equilibrative nucleoside transporter 4, hENT4, Plasma membrane monoamine transporter, Solute carrier family 29 member 4, SLC29A4, ENT4, PMAT |
| **Target/Specificity** | SLC29A4; SLC29A4 antibody is human specific. SLC29A4 antibody is predicted to not cross-react with other SLC29 proteins. |
| **Reconstitution & Storage** | SLC29A4 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. |
| **Precautions** | SLC29A4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

| | |
|---|---|
| **Name** | SLC29A4 ( HGNC:23097) |
| **Synonyms** | ENT4, PMAT |
| **Function** | Electrogenic voltage-dependent transporter that mediates the transport of a variety of endogenous bioactive amines, cationic xenobiotics and drugs (PubMed:15448143, PubMed:16099839, PubMed:16873718, PubMed:17018840, PubMed:17121826, PubMed:20592246, PubMed:20858707, PubMed:22396231, PubMed:31537831). Utilizes the physiologic inside-negative membrane potential as a driving force to facilitate cellular uptake of organic cations (PubMed:15448143, PubMed:20592246, PubMed:22396231). Functions as a Na(+)- and Cl(-)- independent bidirectional |

| | |
|---|---|
| | transporter (PubMed:15448143, PubMed:16099839, PubMed:22396231, PubMed:31537831). Substrate transport is pH-dependent and enhanced under acidic condition, which is most likely the result of allosteric changes in the transporter structure (PubMed:16873718, PubMed:17018840, PubMed:20592246, PubMed:22396231, PubMed:31537831). Implicated in monoamine neurotransmitters uptake such as serotonin, dopamine, adrenaline/epinephrine, noradrenaline/norepinephrine, histamine and tyramine, thereby supporting a role in homeostatic regulation of aminergic neurotransmission in the central nervous system (PubMed:15448143, PubMed:16099839, PubMed:17018840, PubMed:17121826, PubMed:20858707, PubMed:22396231). Also responsible for the uptake of bioactive amines and drugs through the blood-cerebrospinal fluid (CSF) barrier, from the CSF into choroid plexus epithelial cells, thereby playing a significant role in the clearance of cationic neurotoxins, xenobiotics and metabolic waste in the brain (By similarity). Involved in bidirectional transport of the purine nucleoside adenosine and plays a role in the regulation of extracellular adenosine concentrations in cardiac tissues, in particular during ischemia (PubMed:16873718, PubMed:20592246, PubMed:31537831). May be involved in organic cation uptake from the tubular lumen into renal tubular cells, thereby contributing to organic cation reabsorption in the kidney (PubMed:17018840). Also transports guanidine (PubMed:16099839). |
| **Cellular Location** | Cell membrane; Multi-pass membrane protein. Apical cell membrane; Multi-pass membrane protein. Note=Located to the plasma membranes of ventricular myocytes and vascular endothelial cells (PubMed:16873718). Targeted to the apical membranes of differentiated kidney epithelial cells (PubMed:17018840). Localized to the apical blood-cerebrospinal fluid (CSF)-facing membrane of the choroid plexus epithelium (PubMed:23255610). |
| **Tissue Location** | Mainly expressed in brain and skeletal muscle (PubMed:15448143, PubMed:16873718, PubMed:20592246, PubMed:20858707) In brain, expressed in cerebellum, cerebral cortex, medulla oblongata, occipital pole, frontal and temporal lobes putamen, spinal cord, substancia nigra, hippocampus, caudate nucleus, nucleus accumbens, pons and choroid plexus (PubMed:15448143, PubMed:16873718, PubMed:20858707, PubMed:23255610). Expressed in heart, in both cardiomyocytes and vascular endothelial cells (PubMed:15448143, PubMed:16873718, PubMed:20858707). Also expressed in adrenal gland, small intestine, pancreas, kidney, liver, bone marrow, lymph node (PubMed:15448143, PubMed:16873718, PubMed:17018840, PubMed:20858707). Located in endometrial stroma, where the expression is high in the proliferative phase, decreases during the secretory phase, and is no longer detectable in the menstrual phase (PubMed:17393420) |

## Background

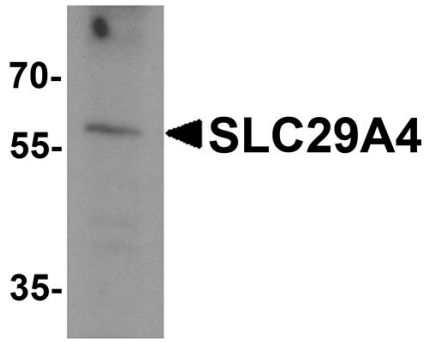
SLC29A4 is a member of the equilibrative nucleoside transporter family which plays a key role in nucleoside and nucleobase uptake for salvage pathways of nucleotide synthesis (1,2). SLC29A4 is a transmembrane protein that catalyzes the reuptake of monoamines into presynaptic neurons, thus determining the intensity and duration of monoamine neural signaling (1,3). SLC29A4 has been shown to transport several compounds, including serotonin, dopamine, and the neurotoxin 1-methyl-4-phenylpyridinium (3).

## References

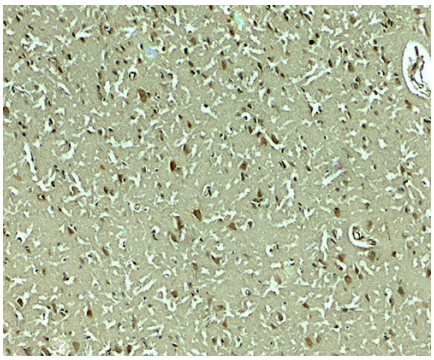
Engel K, Zhou M, and Wang J. Identification and characterization of a novel monomine transporter in the human brain. J. Biol. Chem. 2004; 279:50042-9.
Young JD, Yao SY, Baldwin JM, et al. The human concentrative and equilibrative nucleoside transporter families, SLC28 and SLC29. Mol. Aspects. Med. 34:529-47.

Duan H and Wang J. Selective transport of monoamine neurotransmitters by human plasma membrane monoamine transporter and organic cation transporter 3. J. Pharmacol. Exp. Ther. 2010; 335:743-53.

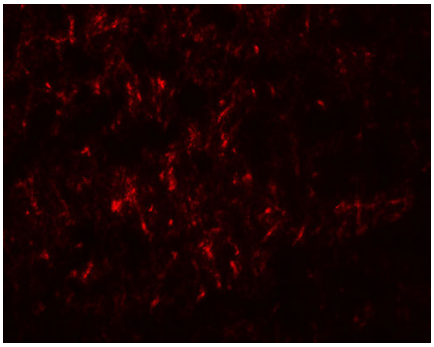
## Images




Western blot analysis of SLC29A4 in SK-N-SH cell lysate with SLC29A4 antibody at 1 µg/ml.



Immunohistochemistry of SLC29A4 in human brain tissue with SLC29A4 antibody at 5 µg/mL.



Immunofluorescence of SLC29A4 in human brain tissue with SLC29A4 antibody at 20 µg/mL.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.