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SLC29A3 Antibody

Catalog # ASC11905

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q9BZD2
Other Accession	NP_060814, 148596922
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	51815
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	SLC29A3 antibody can be used for detection of SLC29A3 by Western blot at 1 - 2 g/mL. Antibody can also be used for immunohistochemistry starting at 5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	55315
Other Names	Equilibrative nucleoside transporter 3, hENT3, Solute carrier family 29 member 3, SLC29A3, ENT3
Target/Specificity	SLC29A3; SLC29A3 antibody is human, mouse and rat reactive. At least two isoforms of SLC29A3 are known to exist; this antibody will detect both isoforms. SLC29A3 antibody is predicted to not cross-react with other SLC29 proteins.
Reconstitution & Storage	SLC29A3 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	SLC29A3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SLC29A3 (HGNC:23096)
Synonyms	ENT3
Function	Uniporter that mediates the facilitative transport of nucleoside across lysosomal and mitochondrial membranes (PubMed:15701636, PubMed:19164483, PubMed:20595384, PubMed:28729424). Functions as a non-electrogenic Na(+)-independent transporter (PubMed:15701636, PubMed:19164483, PubMed:28729424). Substrate transport is pH-dependent and enhanced under acidic condition, probably reflecting the location of the

	transporter in acidic intracellular compartments (PubMed:15701636, PubMed:19164483, PubMed:28729424). Proton is not a cotransporting ion but most likely change the ionization state of the transporter which dictates transport- permissible/impermissible conformation for nucleoside translocation (PubMed:28729424). May direct the nucleoside transport from lysosomes to cytosol or cytosol to mitochondria to facilitate the fundamental function of salvage synthesis of nucleic acids (PubMed:28729424). Involved in the transport of nucleosides (adenosine, guanosine, uridine, thymidine, cytidine and inosine) and deoxynucleosides (deoxyadenosine, deoxycytidine) (PubMed:15701636, PubMed:19164483, PubMed:20595384, PubMed:28729424). Also mediates transport of purine nucleobases (adenine, guanine) and pyrimidine nucleobases (uracil) (PubMed:15701636, PubMed:19164483). Also able to transport monoamine neurotransmitters dopamine, serotonin, noradrenaline and tyramine (PubMed:19164483). Capable of transporting ATP (PubMed:19164483). Mediates nucleoside export from lysosomes in macrophages, which regulates macrophage functions and numbers (By similarity).
Cellular Location	Lysosome membrane; Multi-pass membrane protein. Late endosome membrane; Multi-pass membrane protein. Mitochondrion membrane; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein. Note=Observed in a punctate intracellular pattern showing partial colocalization with late endosomes/lysosomes (PubMed:15701636). Detected at the cell surface only in certain placental cells (PubMed:19164483)
Tissue Location	Widely expressed in both adult and fetal tissues (PubMed:15701636). Highest levels in placenta, uterus, ovary, spleen, lymph node and bone marrow (PubMed:15701636). Expressed in liver (PubMed:19164483). Lowest levels in brain and heart (PubMed:15701636) Expressed in macrophages (PubMed:22174130)

Background

SLC29A3 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). SLC29A3 is a transmembrane glycoprotein that localizes to the lysosomal membrane and is a broad selectivity, low affinity nucleoside transporter (3). Mutations in the SLC29A3 gene have been associated with H syndrome, which is characterized by cutaneous hyperpigmentation and hypertrichosis, hepatosplenomegaly, heart anomalies, and hypogonadism (4). A related disorder, PHID (pigmented hypertrichosis with insulin-dependent diabetes mellitus), has also been associated with mutations at this locus (5).

References

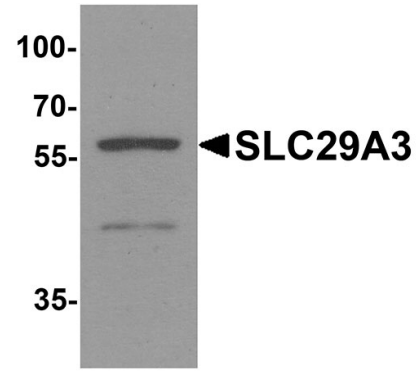
Hyde RJ, Cass CE, Young JD, et al. The ENT family of eukaryotic nucleoside and nucleobase transporters: recent advances in the investigation of structure/function relationships and the identification of novel isoforms. Mol. Membr. Biol. 2001; 18:53-63.

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.

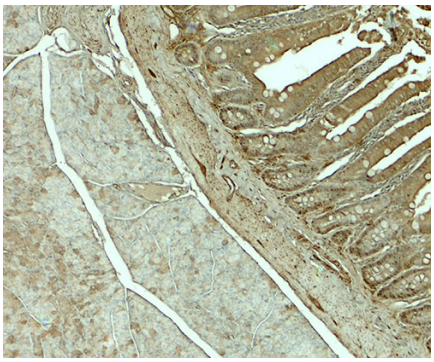
Baldwin SA, Yao SY, Hyde RJ, et al. Functional characterization of novel human and mouse equilibrative nucleoside transporters (hENT3 and mENT3) located in intracellular membranes. J. Biol. Chem. 2005; 280:15880-7.

Priya TP, Philip N, Molho-Pessach V, et al. H syndrome: novel and recurrent mutations in SLC29A3. Br. J. Dermatol. 2010; 162:1132-4.

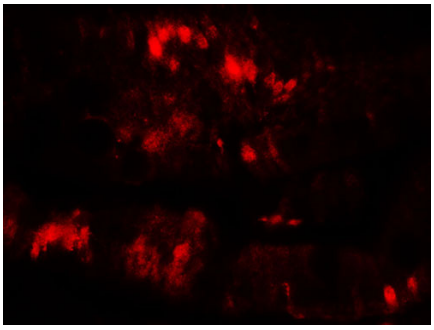
Images



Western blot analysis of SLC29A3 in mouse bladder tissue lysate with SLC29A3 antibody at 1 µg/ml.



Immunohistochemistry of SLC29A3 in rat colon tissue with SLC29A3 antibody at 5 µg/mL.



Immunofluorescence of SLC29A3 in rat colon muscle tissue with SLC29A3 antibody at 20 µg/mL.