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SLC29A1 Antibody

Catalog # ASC11903

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q99808
Other Accession	NP_004946, 4826716
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	50219
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	SLC29A1 antibody can be used for detection of SLC29A1 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	2030
Other Names	Equilibrative nucleoside transporter 1, Equilibrative nitrobenzylmercaptopurine riboside-sensitive nucleoside transporter, Equilibrative NBMPR-sensitive nucleoside transporter, Nucleoside transporter, es-type, Solute carrier family 29 member 1, SLC29A1, ENT1
Target/Specificity	SLC29A1; SLC29A1 antibody is human specific. SLC29A1 antibody is predicted to not cross-react with other SLC29 proteins.
Reconstitution & Storage	SLC29A1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	SLC29A1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SLC29A1 (HGNC:11003)
Synonyms	ENT1
Function	Uniporter involved in the facilitative transport of nucleosides and nucleobases, and contributes to maintaining their cellular homeostasis (PubMed:10722669, PubMed:10755314, PubMed:12527552, PubMed:14759222, PubMed:15037197, PubMed:17379602, PubMed:21795683, PubMed:26406980, PubMed:27995448, PubMed:35790189, PubMed:8986748). Functions as a Na(+)-independent

	transporter (PubMed:8986748). Involved in the transport of nucleosides such as adenosine, guanosine, inosine, uridine, thymidine and cytidine (PubMed:10722669, PubMed:10755314, PubMed:12527552, PubMed:14759222, PubMed:15037197, PubMed:17379602, PubMed:26406980, PubMed:8986748). Also transports purine nucleobases (hypoxanthine, adenine, guanine) and pyrimidine nucleobases (thymine, uracil) (PubMed:21795683, PubMed:27995448). Mediates basolateral nucleoside uptake into Sertoli cells, thereby regulating the transport of nucleosides in testis across the blood-testis barrier (By similarity). Regulates inosine levels in brown adipocytes tissues (BAT) and extracellular inosine levels, which controls BAT-dependent energy expenditure (PubMed:35790189).
Cellular Location	Basolateral cell membrane; Multi-pass membrane protein. Apical cell membrane; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein. Note=Localized to the basolateral membrane of Sertoli cells (PubMed:23639800). Localized to the cell membrane of erythrocytes (PubMed:11584005, PubMed:23219802).
Tissue Location	Expressed in testis at the blood-testis barrier (at protein level) (PubMed:23639800). Detected in erythrocytes (at protein level) (PubMed:11584005, PubMed:23219802). Expressed at relatively high levels in cerebral cortex, particularly the frontal and parietal lobes, and the thalamus and basal ganglia (at protein level) (PubMed:11311901). In the midbrain expressed at moderate levels, whereas in the other areas of the brainstem, namely medulla and pons, cerebellum and the hippocampus expressed at lower amounts when compared to the other brain regions (at protein level) (PubMed:11311901) Expressed in Langerhans cells and lymphocytes in the pancreas (at protein level) (PubMed:15501974). Expressed in kidney, in polarized renal epithelial cells (PubMed:12527552). Expressed in adipose tissues (PubMed:35790189). Expressed in placenta (PubMed:8986748). Expressed in small intestine (PubMed:10755314).

Background

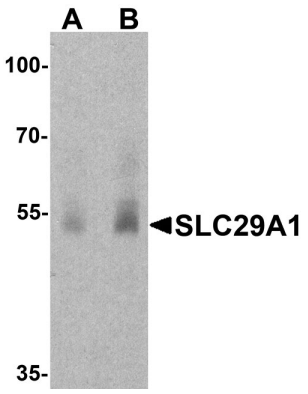
SLC29A1 is a member of the equilibrative nucleoside transporter family which plays a key role in nucleoside and nucleobase uptake for salvage pathways of nucleotide synthesis (1,2). SLC29A1 is a transmembrane glycoprotein that localizes to the plasma and mitochondrial membranes and mediates the cellular uptake of nucleosides from the surrounding medium (3). As a nucleoside transporter, SLC29A1 plays an important role in the uptake of nucleoside-based anti-cancer drugs; polymorphisms of point mutations in the gene encoding this protein may affect the efficacy of these drugs (4).

References

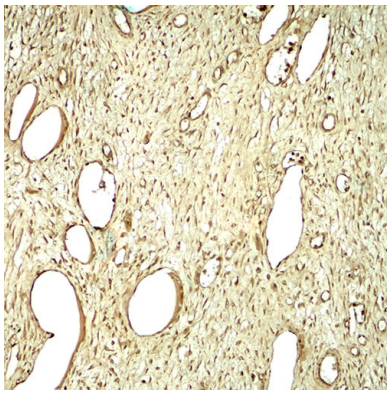
Griffiths M, Beaumont N, Yao SY, et al. Cloning of a human nucleoside transporter implicated in the cellular uptake of adenosine and chemotherapeutic drugs. Nat. Med. 1997; 3:89-93.
Young JD, Yao SY, Baldwin JM, et al. The human concentrative and equilibrative nucleoside transporter families, SLC28 and SLC29. Mol. Aspects. Med. 34:529-47.
Mangravite LM, Xiao G, and Giacomini KM. Localization of human equilibrative nucleoside transporters, hENT1 and hENT2, in renal epithelial cells. Am. J. Physiol. Renal Physiol. 284:F902-10.
Zimmerman EI, Huang M, Leisewitz AV, et al. Identification of a novel point mutation in ENT1 that confers resistance to Ara-C in human T cell leukemia CCRF-CEM cells. FEBS Lett. 2009; 583:425-9.

Images

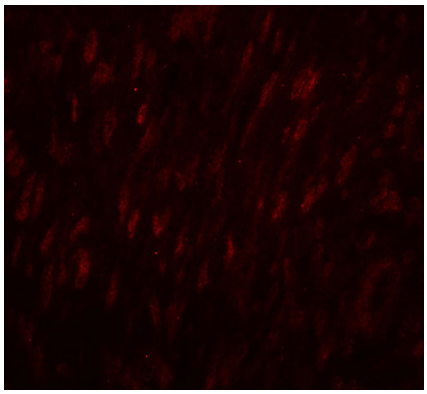
Western blot analysis of SLC29A1 in human ovary tissue



lysate with SLC29A1 antibody at (A) 1 and (B) 2 µg/ml.



Immunohistochemistry of SLC29A1 in human ovary tissue with SLC29A1 antibody at 5 µg/mL.



Immunofluorescence of SLC29A1 in human ovary tissue with SLC29A1 antibody at 20 µg/mL.