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SLC5A1 Rabbit pAb

Catalog # AP96450

Product Information

Application	WB
Primary Accession	Q8C3K6
Other Accession	Q8C3K6
Reactivity	Human
Predicted	Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	73449
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from mouse SLC5A1
Epitope Specificity	351-450/665
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the sodium:solute symporter (SSF) (TC 2.A.21) family.
Post-translational modifications	N-glycosylation is not necessary for the cotransporter function.
DISEASE	Congenital glucose/galactose malabsorption (GGM) [MIM:606824]: Intestinal monosaccharide transporter deficiency. It is an autosomal recessive disorder manifesting itself within the first weeks of life. It is characterized by severe diarrhea and dehydration which are usually fatal unless glucose and galactose are eliminated from the diet. Note=The disease is caused by mutations affecting the gene represented in this entry.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a member of the sodium-dependent glucose transporter (SGLT) family. The encoded integral membrane protein is the primary mediator of dietary glucose and galactose uptake from the intestinal lumen. Mutations in this gene have been associated with glucose-galactose malabsorption. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jan 2012]

Additional Information

Gene ID	20537
Other Names	D22S675; NAGT; SGLT-1; SGLT1; SGLT1a; SC5A1_HUMAN; SLC5A1; Na(+)/glucose cotransporter 1; High affinity sodium-glucose cotransporter; Solute carrier family 5 member 1; SC5A1_MOUSE; SC5A1_RAT; solute carrier family 5 (sodium/glucose cotransporter), member 1; sodium/glucose cotransporter 1

Dilution	WB=1:500-2000
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	Slc5a1
Synonyms	Nagt, Sglt1 {ECO:0000250|UniProtKB:P1386
Function	Electrogenic Na(+)-coupled sugar symporter that actively transports D-glucose or D-galactose at the plasma membrane, with a Na(+) to sugar coupling ratio of 2:1. Transporter activity is driven by a transmembrane Na(+) electrochemical gradient set by the Na(+)/K(+) pump (PubMed:22124465, PubMed:28974690). Has a primary role in the transport of dietary monosaccharides from enterocytes to blood. Responsible for the absorption of D-glucose or D-galactose across the apical brush-border membrane of enterocytes, whereas basolateral exit is provided by GLUT2. Additionally, functions as a D-glucose sensor in enteroendocrine cells, triggering the secretion of the incretins GCG and GIP that control food intake and energy homeostasis (PubMed:22124465). Together with SGLT2, functions in reabsorption of D- glucose from glomerular filtrate, playing a nonredundant role in the S3 segment of the proximal tubules (PubMed:22124465). Transports D-glucose into endometrial epithelial cells, controlling glycogen synthesis and nutritional support for the embryo as well as the decidual transformation of endometrium prior to conception (PubMed:28974690). Acts as a water channel enabling passive water transport in response to the osmotic gradient created upon sugar and Na(+) uptake. Has high water conductivity comparable to aquaporins and therefore is expected to play an important role in transepithelial water permeability, especially in the small intestine.
Cellular Location	Apical cell membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:P13866}
Tissue Location	Expressed in enterocytes and enteroendocrine cells of small intestine (at protein level) (PubMed:22124465). Expressed in S3 segments of renal proximal tubules (at protein level) (PubMed:22124465). Expressed in endometrial glandular and epithelial cells (at protein level) (PubMed:28974690)

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