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

FLVC2 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9680b

Product Information

Application	WB, E
Primary Accession	Q9UPI3
Reactivity	Human
Predicted	Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB24475
Calculated MW	57241
Antigen Region	478-507

Additional Information

Gene ID	55640
Other Names	Feline leukemia virus subgroup C receptor-related protein 2, Calcium-chelate transporter, CCT, FLVCR2, C14orf58
Target/Specificity	This FLVC2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 478-507 amino acids from the C-terminal region of human FLVC2.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	FLVC2 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	FLVCR2 {ECO:0000303|PubMed:20823265, ECO:0000312|HGNC:HGNC:20105}
Function	Choline uniporter that specifically mediates choline uptake at the blood-brain-barrier (PubMed:38302740, PubMed:38778100,

	PubMed:40972734). Responsible for the majority of choline uptake across the blood-brain-barrier from the circulation into the brain (By similarity). Choline, a nutrient critical for brain development, is a precursor of phosphatidylcholine, as well as betaine (By similarity). Also mediates transport of ethanolamine (PubMed:38778100). Choline and ethanolamine transport is not coupled with proton transport and is exclusively driven by the choline gradient across the plasma membrane (PubMed:38778100). However, the presence of an inwardly directed proton gradient enhances choline uptake (By similarity). Also acts as a heme b transporter (PubMed:20823265, PubMed:32973183). Required to regulate mitochondrial respiration processes, ATP synthesis and thermogenesis (PubMed:32973183). At low heme levels, interacts with components of electron transfer chain (ETC) complexes and ATP2A2, leading to ubiquitin-mediated degradation of ATP2A2 and inhibition of thermogenesis (PubMed:32973183). Upon heme binding, dissociates from ETC complexes to allow switching from mitochondrial ATP synthesis to thermogenesis (PubMed:32973183).
Cellular Location	Cell membrane; Multi-pass membrane protein. Mitochondrion membrane; Multi-pass membrane protein. Endoplasmic reticulum membrane; Multi-pass membrane protein. Note=Present on both luminal (blood-facing) and abluminal (brain-facing) sides of brain endothelial cell plasma membranes, with higher luminal membrane expression (By similarity) Also localizes in mitochondria where it interacts with components of the electron transfer complexes III, IV and V (PubMed:32973183) Colocalizes with ATP2A2 at the mitochondrial-ER contact junction (PubMed:32973183). {ECO:0000250|UniProtKB:Q91X85, ECO:0000269|PubMed:32973183}
Tissue Location	Expressed in non-hematopoietic tissues, with relative abundant expression in brain, placenta, lung, liver and kidney (PubMed:20823265). Also expressed in hematopoietic tissues (fetal liver, spleen, lymph node, thymus, leukocytes and bone marrow) (PubMed:20823265). Found in acidophil cells of the pituitary that secrete growth hormone and prolactin (at protein level) (PubMed:14729055).

Background

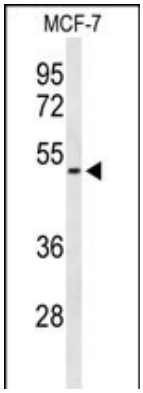
The FLVCR2 gene encodes a transmembrane protein that belongs to the major facilitator superfamily of secondary carriers that transport small solutes in response to chemiosmotic ion gradients, such as calcium.

References

Meyer, E., et al. Am. J. Hum. Genet. 86(3):471-478(2010)
Brown, J.K., et al. J. Virol. 80(4):1742-1751(2006)
Brasier, G., et al. Exp. Cell Res. 293(1):31-42(2004)
Heilig, R., et al. Nature 421(6923):601-607(2003)

Images

Western blot analysis of FLVC2 Antibody (C-term) (Cat. #AP9680b) in MCF-7 cell line lysates (35ug/lane). FLVC2 (arrow) was detected using the purified Pab.



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