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

FLVC2 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP9680b

Specification

FLVC2 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession Q9UPI3

FLVC2 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 55640

Other Names
Feline leukemia virus subgroup C receptor-related protein 2, Calcium-chelate transporter, CCT, FLVCR2, C14orf58

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

FLVC2 Antibody (C-term) Blocking Peptide - 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). 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).

FLVC2 Antibody (C-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

FLVC2 Antibody (C-term) Blocking Peptide - Images

FLVC2 Antibody (C-term) Blocking Peptide - 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.

FLVC2 Antibody (C-term) Blocking Peptide - 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)