

MFSD2A Antibody

Catalog # ASC11224

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q5U3U7
Other Accession	NP_001129965 , 55925395
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	59266
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	MFSD2A antibody can be used for detection of MFSD2A by Western blot at 1 - 2 μ g/mL. Antibody can also be used for immunohistochemistry starting at 5 μ g/mL. For immunofluorescence start at 20 μ g/mL.

Additional Information

Gene ID	492810
Other Names	Sodium-dependent lysophosphatidylcholine symporter 1-A, NLS1-A, Sodium-dependent LPC symporter 1-A, Major facilitator superfamily domain-containing protein 2A-A, mfsd2aa, mfsd2a, nls1a
Target/Specificity	mfsd2aa;
Reconstitution & Storage	MFSD2A antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	MFSD2A Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	mfsd2aa
Synonyms	mfsd2a, nls1a
Function	Sodium-dependent lysophosphatidylcholine (LPC) symporter, which plays an essential role for blood-brain barrier formation and function. Specifically expressed in endothelium of the blood-brain barrier of micro-vessels and transports LPC into the brain. Transport of LPC is essential because it constitutes the major mechanism by which docosahexaenoic acid (DHA), an omega-3 fatty acid that is essential for normal brain growth and cognitive

function, enters the brain. Transports LPC carrying long-chain fatty acids such as LPC oleate and LPC palmitate with a minimum acyl chain length of 14 carbons. Does not transport docosahexaenoic acid in unesterified fatty acid.

Cellular Location

Cell membrane {ECO:0000250|UniProtKB:Q9DA75}; Multi-pass membrane protein. Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:Q9DA75}; Multi-pass membrane protein

Tissue Location

Expressed in the developing nervous system.

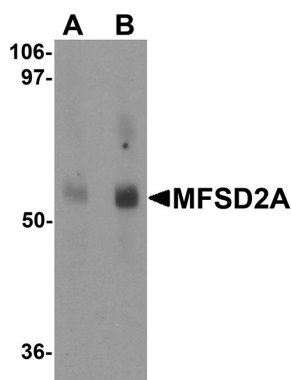
Background

MFSD2A Antibody: Multidrug transporters, such as MFSD2A, are membrane proteins that expel a wide spectrum of cytotoxic compounds from the cell and render cells resistant to multiple drugs. Major Facilitator Superfamily (MFS) members are capable of transporting various substrates such as sugars, polyols, drugs, neurotransmitters, amino acids, peptides, and inorganic anions, although most members are substrate-specific. MFSD2A is a novel lung cancer tumor suppressor gene that regulates cell cycle progression and matrix attachment and has recently been described as the human receptor for syncytin-2, a retrovirus-derived protein mediating fusion of placental trophoblasts. MFSD2A is expressed in many tissues and is highly induced in liver and brown adipose tissue (BAT) during fasting. The activation of the betaAR signaling pathway plays a major role in the induction of MFSD2A expression during adaptive thermogenesis.

References

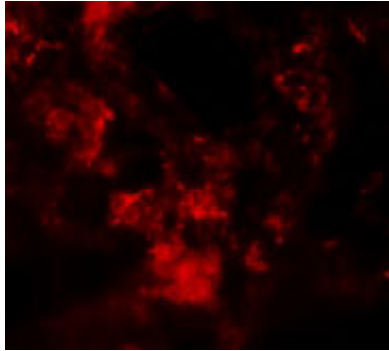
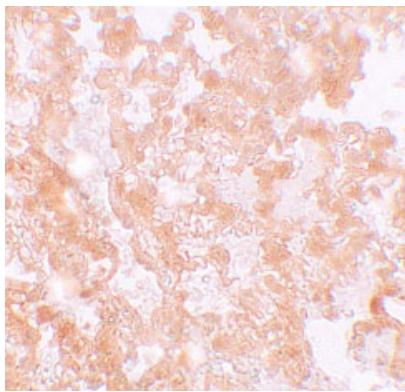
Fluman N and Bibi E. Bacterial multidrug transport through the lens of the major facilitator superfamily. *Biochim. Biophys. Acta*.2009; 1794:738-47.
Law CJ, Maloney PC, and Wang DN. Ins and outs of major facilitator superfamily antiporters. *Annu. Rev. Microbiol.*2008; 62:289-305.
Spinola M, Falvella FS, Colombo F, et al. MFSD2A is a novel lung tumor suppressor gene modulating cell cycle and matrix attachment. *Mol. Cancer*2010;9:62.
Angers M, Uldry M, Kong D, et al. Mfsd2a encodes a novel major facilitator superfamily domain-containing protein highly induced in brown adipose tissue during fasting and adaptive thermogenesis. *Biochem. J.*2008; 416:347-55.

Images



Western blot analysis of MFSD2A in rat lung tissue lysate with MFSD2A antibody at (A) 1 and (B) 2 µg/mL.

Immunohistochemistry of MFSD2A in rat lung tissue with MFSD2A antibody at 5 µg/mL.



Immunofluorescence of MFSD2A in Rat Lung cells with MFSD2A antibody at 20 $\mu\text{g/mL}$.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.