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SERAC1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP20780a

Product Information

Application	WB, E
Primary Accession	Q96JX3
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB50081
Calculated MW	74147

Additional Information

Gene ID	84947
Other Names	Protein SERAC1, Serine active site-containing protein 1, SERAC1
Target/Specificity	This SERAC1 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 41-64 amino acids from the N-terminal region of human SERAC1.
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	SERAC1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SERAC1
Function	Facilitates the transport of serine from the cytosol to the mitochondria by interacting with and stabilizing Sideroflexin-1 (SFXN1), a mitochondrial serine transporter, playing a fundamental role in the one-carbon cycle responsible for the synthesis of nucleotides needed for mitochondrial DNA replication (PubMed:35235340). Plays an important role in the phosphatidylglycerol (PG) remodeling that is essential for both mitochondrial function and intracellular

	cholesterol trafficking (PubMed:22683713). Specifically involved in the exchange of the sn-1 acyl chain from PG 16:0/18:1(9Z) (also known as 1-hexadecanoyl-2-(9Z-octadecenoyl)-sn-glycero-3-phospho-(1'-sn-glycerol)) to PG 18:0/18:1(9Z) (also known as 1-octadecanoyl-2-(9Z-octadecenoyl)-sn-glycero-3-phospho-(1'-sn-glycerol)), a step needed in the bis(monoacylglycerol)phosphate biosynthetic pathway (PubMed:22683713). May have acyltransferase activity although the mechanism for PG remodeling has not been determined (PubMed:22683713).
Cellular Location	Mitochondrion membrane {ECO:0000250|UniProtKB:Q3U213}; Single-pass membrane protein. Endoplasmic reticulum Mitochondrion. Note=Localizes at the endoplasmic reticulum and at the endoplasmic reticulum-mitochondria interface.
Tissue Location	Widely expressed, with predominant expression in skeletal muscle and brain (PubMed:22683713, PubMed:35235340). In the brain, highest levels are found in the frontal and occipital cortices, cerebellum and hippocampus (PubMed:22683713)

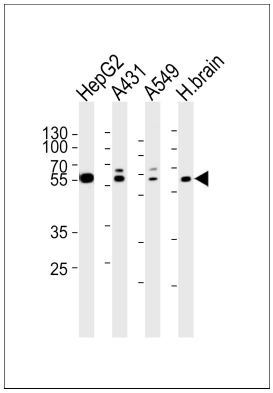
Background

Plays an important role in the phosphatidylglycerol remodeling that is essential for both mitochondrial function and intracellular cholesterol trafficking. May catalyze the remodeling of phosphatidylglycerol and be involved in the transacylation- acylation reaction to produce phosphatidylglycerol-36:1. May be involved in bis(monoacylglycerol)phosphate biosynthetic pathway.

References

Ota T.,et al.Nat. Genet. 36:40-45(2004).
Mungall A.J.,et al.Nature 425:805-811(2003).
Tort F.,et al.Mol. Genet. Metab. 110:73-77(2013).
Wortmann S.B.,et al.Nat. Genet. 44:797-802(2012).

Images



Western blot analysis of lysates from HepG2, A431, A549 cell line and human brain tissue lysate(from left to right), using SERAC1 Antibody (N-term)(Cat. #AP20780a). AP20780a was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysates at 35ug per lane.