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AHCYL1 antibody - N-terminal region

Rabbit Polyclonal Antibody
Catalog # AI10470

Product Information

Application	WB
Primary Accession	O43865
Other Accession	NM_006621, NP_006612
Reactivity	Human, Mouse, Rat, Pig, Bovine
Predicted	Rat, Chicken, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	58951

Additional Information

Gene ID	10768
Alias Symbol	DCAL, IRBIT, PRO0233, XPVKONA
Other Names	Putative adenosylhomocysteinase 2, AdoHcyase 2, 3.3.1.1, DC-expressed AHCY-like molecule, IP(3)Rs binding protein released with IP(3), IRBIT, S-adenosyl-L-homocysteine hydrolase 2, S-adenosylhomocysteine hydrolase-like protein 1, AHCYL1, DCAL, XPVKONA
Format	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.
Reconstitution & Storage	Add 50 ul of distilled water. Final anti-AHCYL1 antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.
Precautions	AHCYL1 antibody - N-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	AHCYL1 (HGNC:344)
Function	Multifaceted cellular regulator which coordinates several essential cellular functions including regulation of epithelial HCO3(-) and fluid secretion, mRNA processing and DNA replication. Regulates ITPR1 sensitivity to inositol 1,4,5-trisphosphate, competing for the common binding site and acting as endogenous 'pseudoligand' whose inhibitory activity can be modulated by its phosphorylation status. Promotes the formation of contact points between the endoplasmic reticulum (ER) and mitochondria, facilitating transfer of Ca(2+) from the ER to mitochondria (PubMed:27995898). Under normal

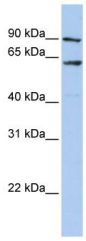
	cellular conditions, functions cooperatively with BCL2L10 to limit ITPR1-mediated Ca(2+) release but, under apoptotic stress conditions, dephosphorylated which promotes dissociation of both AHCYL1 and BCL2L10 from mitochondria-associated endoplasmic reticulum membranes, inhibits BCL2L10 interaction with ITPR1 and leads to increased Ca(2+) transfer to mitochondria which promotes apoptosis (PubMed:27995898). In the pancreatic and salivary ducts, at resting state, attenuates inositol 1,4,5-trisphosphate-induced calcium release by interacting with ITPR1 (PubMed:16793548). When extracellular stimuli induce ITPR1 phosphorylation or inositol 1,4,5-trisphosphate production, dissociates from ITPR1 to interact with CFTR and SLC26A6, mediating their synergistic activation by calcium and cAMP that stimulates the epithelial secretion of electrolytes and fluid (By similarity). Also activates basolateral SLC4A4 isoform 1 to coordinate fluid and HCO3(-) secretion (PubMed:16769890). Inhibits the effect of STK39 on SLC4A4 and CFTR by recruiting PP1 phosphatase which activates SLC4A4, SLC26A6 and CFTR through dephosphorylation (By similarity). Mediates the induction of SLC9A3 surface expression produced by Angiotensin-2 (PubMed:20584908). Depending on the cell type, activates SLC9A3 in response to calcium or reverses SLC9A3R2-dependent calcium inhibition (PubMed:18829453). May modulate the polyadenylation state of specific mRNAs, both by controlling the subcellular location of FIP1L1 and by inhibiting PAPOLA activity, in response to a stimulus that alters its phosphorylation state (PubMed:19224921). Acts as a (dATP)-dependent inhibitor of ribonucleotide reductase large subunit RRM1, controlling the endogenous dNTP pool and ensuring normal cell cycle progression (PubMed:25237103). In vitro does not exhibit any S-adenosyl-L-homocysteine hydrolase activity (By similarity). Functions as a SAH (S-adenosyl-L-homocysteine) sensor that inhibits autophagy through an MTORC1-independent mechanism. Upon SAH binding, interacts with the catalytic domain of PIK3C3, inhibiting its lipid kinase activity and reducing production of phosphatidylinositol-3-phosphate (PtdIns3P), thereby blocking autophagosome formation (PubMed:33993848).
Cellular Location	Endoplasmic reticulum. Cytoplasm, cytosol. Apical cell membrane {ECO:0000250|UniProtKB:B5DFN2}; Peripheral membrane protein. Microsome {ECO:0000250|UniProtKB:Q80SW1} Note=Associates with membranes when phosphorylated, probably through interaction with ITPR1 (By similarity). Localizes to mitochondria- associated endoplasmic reticulum membranes (MAMs) (PubMed:27995898) Localization to MAMs is greatly reduced under apoptotic stress conditions (PubMed:27995898). {ECO:0000250|UniProtKB:Q80SW1, ECO:0000269|PubMed:27995898}
Tissue Location	Expressed in dendritic cells.

References

Cooper,B.J., (2006) J. Biol. Chem. 281 (32), 22471-22484 Reconstitution and Storage:For short term use, store at 2-8C up to 1 week. For long term storage, store at -20C in small aliquots to prevent freeze-thaw cycles.

Images

WB Suggested Anti-AHCYL1 Antibody Titration: .2-1 ug/ml
ELISA Titer: 1:15625
Positive Control: Human Placenta



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