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

Anti-VDAC1 / PORIN Antibody (clone 2A8)

Mouse Anti Human Monoclonal Antibody
Catalog # ALS17720

Product Information

Application	WB, IHC-P, E
Primary Accession	P21796
Predicted	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2a,k
Clone Names	2A8
Calculated MW	30773

Additional Information

Gene ID	7416
Alias Symbol	VDAC1
Other Names	VDAC1, HVDAC1, Plasmalemmal porin, Porin 31HM, PORIN, PORIN-31-HL, Vdac5, VDAC, Mitochondrial porin, Porin 31HL, VDAC-1
Target/Specificity	Human VDAC1
Reconstitution & Storage	Protein A purified
Precautions	Anti-VDAC1 / PORIN Antibody (clone 2A8) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	VDAC1 (HGNC:12669)
Synonyms	VDAC
Function	Non-selective voltage-gated ion channel that mediates the transport of anions and cations through the mitochondrion outer membrane and plasma membrane (PubMed:10661876, PubMed:11845315, PubMed:18755977, PubMed:30061676, PubMed:8420959). The channel at the outer mitochondrial membrane allows diffusion of small hydrophilic molecules; in the plasma membrane it is involved in cell volume regulation and apoptosis (PubMed:10661876, PubMed:11845315, PubMed:18755977, PubMed:8420959). It adopts an open conformation at low or zero membrane potential and a closed conformation at potentials above 30-40 mV (PubMed:10661876, PubMed:18755977, PubMed:8420959). The open state has a weak anion selectivity whereas the closed state is cation-selective

(PubMed:18755977, PubMed:8420959). Binds various signaling molecules, including the sphingolipid ceramide, the phospholipid phosphatidylcholine, and the sterols cholesterol and oxysterol (PubMed:18755977, PubMed:31015432). In depolarized mitochondria, acts downstream of PRKN and PINK1 to promote mitophagy or prevent apoptosis; polyubiquitination by PRKN promotes mitophagy, while monoubiquitination by PRKN decreases mitochondrial calcium influx which ultimately inhibits apoptosis (PubMed:32047033). May participate in the formation of the permeability transition pore complex (PTPC) responsible for the release of mitochondrial products that triggers apoptosis (PubMed:15033708, PubMed:25296756). May mediate ATP export from cells (PubMed:30061676). Part of a complex composed of HSPA9, ITPR1 and VDAC1 that regulates mitochondrial calcium-dependent apoptosis by facilitating calcium transport from the ER lumen to the mitochondria intermembrane space thus providing calcium for the downstream calcium channel MCU that directly releases it into mitochondria matrix (By similarity). Mediates cytochrome c efflux (PubMed:20230784).

Cellular Location

Mitochondrion outer membrane; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein. Membrane raft; Multi-pass membrane protein. Note=Found in a complex with HSPA9 and VDAC1 at the endoplasmic reticulum- mitochondria contact sites. {ECO:0000250|UniProtKB:Q9Z2L0}

Tissue Location

Expressed in erythrocytes (at protein level) (PubMed:27641616). Expressed in heart, liver and skeletal muscle (PubMed:8420959).

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