

VDAC1 / PORIN Antibody (C-Terminus)
Rabbit Polyclonal Antibody
Catalog # ALS15225

Specification

VDAC1 / PORIN Antibody (C-Terminus) - Product Information

Application	WB, IHC-P
Primary Accession	P21796
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	31kDa KDa
Dilution	WB~~1:1000 IHC-P~~N/A

VDAC1 / PORIN Antibody (C-Terminus) - Additional Information

Gene ID 7416

Other Names

Voltage-dependent anion-selective channel protein 1, VDAC-1, hVDAC1, Outer mitochondrial membrane protein porin 1, Plasmalemmal porin, Porin 31HL, Porin 31HM, VDAC1, VDAC

Reconstitution & Storage

Long term: -20°C; Short term: -20°C

Precautions

VDAC1 / PORIN Antibody (C-Terminus) is for research use only and not for use in diagnostic or therapeutic procedures.

VDAC1 / PORIN Antibody (C-Terminus) - 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:30061676, PubMed:8420959).

[18755977](http://www.uniprot.org/citations/18755977) PubMed: [8420959](http://www.uniprot.org/citations/8420959)). It adopts an open conformation at low or zero membrane potential and a closed conformation at potentials above 30-40 mV (PubMed: [10661876](http://www.uniprot.org/citations/10661876) PubMed: [18755977](http://www.uniprot.org/citations/18755977) PubMed: [8420959](http://www.uniprot.org/citations/8420959)). The open state has a weak anion selectivity whereas the closed state is cation-selective (PubMed: [18755977](http://www.uniprot.org/citations/18755977) PubMed: [8420959](http://www.uniprot.org/citations/8420959)). Binds various signaling molecules, including the sphingolipid ceramide, the phospholipid phosphatidylcholine, and the sterols cholesterol and oxysterol (PubMed: [18755977](http://www.uniprot.org/citations/18755977) PubMed: [31015432](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/15033708) PubMed: [25296756](http://www.uniprot.org/citations/25296756)). May mediate ATP export from cells (PubMed: [30061676](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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).

Volume

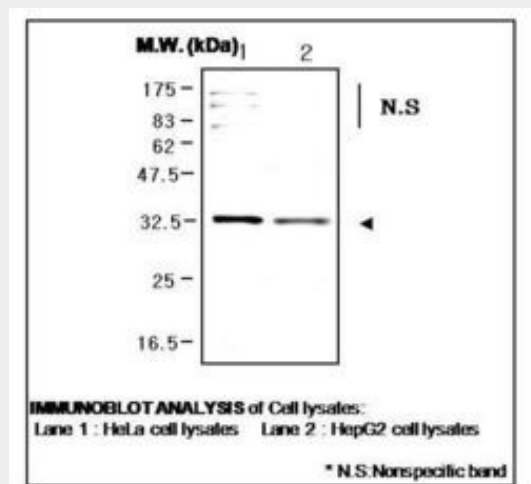
50 µl

VDAC1 / PORIN Antibody (C-Terminus) - Protocols

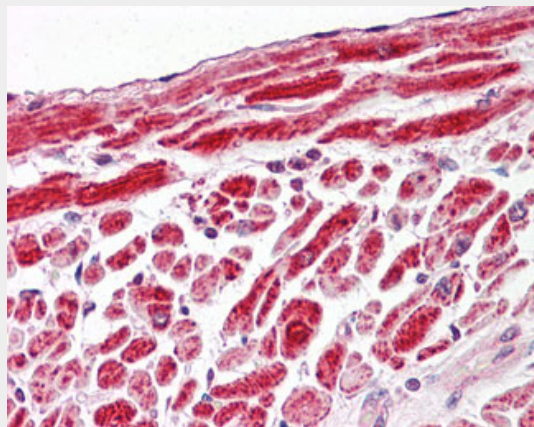
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

VDAC1 / PORIN Antibody (C-Terminus) - Images



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Anti-PORIN / VDAC-1 antibody IHC of human heart.

VDAC1 / PORIN Antibody (C-Terminus) - Background

Forms a channel through the mitochondrial outer membrane and also the plasma membrane. 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. It adopts an open conformation at low or zero membrane potential and a closed conformation at potentials above 30-40 mV. The open state has a weak anion selectivity whereas the closed state is cation-selective. May participate in the formation of the permeability transition pore complex (PTPC) responsible for the release of mitochondrial products that triggers apoptosis.

VDAC1 / PORIN Antibody (C-Terminus) - References

- Blachly-Dyson E., et al. J. Biol. Chem. 268:1835-1841(1993).
- Blachly-Dyson E., et al. Biophys. J. 59:216A-216A(1991).
- Decker W.K., et al. Mamm. Genome 10:1041-1042(1999).
- Messina A., et al. Biochem. Biophys. Res. Commun. 270:787-792(2000).
- Ota T., et al. Nat. Genet. 36:40-45(2004).