

VDAC1 / PORIN Antibody
Rabbit Polyclonal Antibody
Catalog # ALS17058**Specification**

VDAC1 / PORIN Antibody - Product Information

Application	IHC, WB
Primary Accession	P21796
Other Accession	7416
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	30773

VDAC1 / PORIN Antibody - Additional Information**Gene ID** 7416**Other Names**

VDAC1, HVDAC1, Plasmalemmal porin, Porin 31HM, PORIN, PORIN-31-HL, Vdac5, VDAC, Mitochondrial porin, Porin 31HL, VDAC-1

Target/Specificity

VDAC1 antibody detects endogenous levels of VDAC1 protein. Not tested with other proteins.

Reconstitution & Storage

PBS, pH 7.4, 0.02% sodium azide. Store at -20°C for up to one year.

Precautions

VDAC1 / PORIN Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

VDAC1 / PORIN Antibody - 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](http://www.uniprot.org/citations/10661876), PubMed:[11845315](http://www.uniprot.org/citations/11845315), PubMed:[18755977](http://www.uniprot.org/citations/18755977), PubMed:[30061676](http://www.uniprot.org/citations/30061676), PubMed:[8420959](http://www.uniprot.org/citations/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

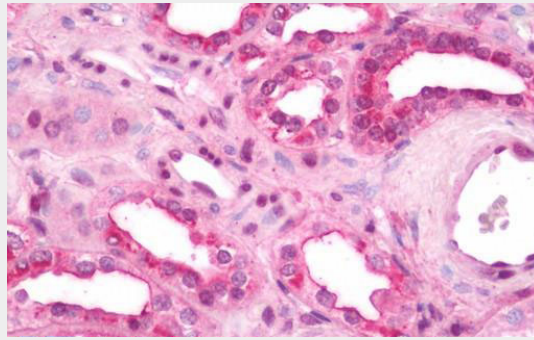
Expressed in erythrocytes (at protein level) (PubMed:27641616). Expressed in heart, liver and skeletal muscle (PubMed:8420959).

VDAC1 / PORIN Antibody - 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](#)

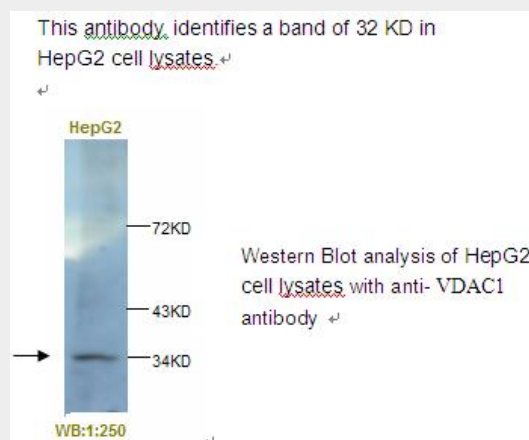
VDAC1 / PORIN Antibody - Images



Human Kidney: Formalin-Fixed, Paraffin-Embedded (FFPE)



Human Heart: Formalin-Fixed, Paraffin-Embedded (FFPE)



western blot analysis of hepg2 cell lysates with anti-VDAC1 antibody

VDAC1 / PORIN Antibody - 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 - 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).