

**VDAC/Porin Antibody**  
**Rabbit Polyclonal Antibody**  
**Catalog # ABV10440**

**Specification**

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**VDAC/Porin Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">P21796</a>
Reactivity	Human, Mouse, Rat, Rabbit, Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	30773

**VDAC/Porin Antibody - Additional Information**

**Gene ID** 7416

**Positive Control**

**Western Blot:** 3T3 cell lysate. **IHC:** Liver tissue

**Application & Usage**

**Western blotting (0.5-4 µg/ml) and Immunohistochemistry (2.5 µg/ml). However, the optimal concentrations should be determined individually. The antibody recognizes ~31 kDa VDAC/Porin from samples of human, mouse, rat, bovine, pig, and rabbit origins.**

**Other Names**

VDAC1, VDAC-1 , MGC111064 , hVDAC1, Porin

**Target/Specificity**

VDAC/Porin

**Antibody Form**

Liquid

**Appearance**

Colorless liquid

**Formulation**

100 µg (0.5 mg/ml) affinity purified rabbit anti-VDAC/Porin polyclonal antibody in phosphate-buffered saline (PBS) containing 30% glycerol, 0.5% BSA, and 0.01% thimerosal.

**Handling**

The antibody solution should be gently mixed before use.

**Reconstitution & Storage**

-20 °C

**Background Descriptions**

## Precautions

VDAC/Porin Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## VDAC/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](http://www.uniprot.org/citations/10661876), PubMed:[11845315](http://www.uniprot.org/citations/11845315), PubMed:[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

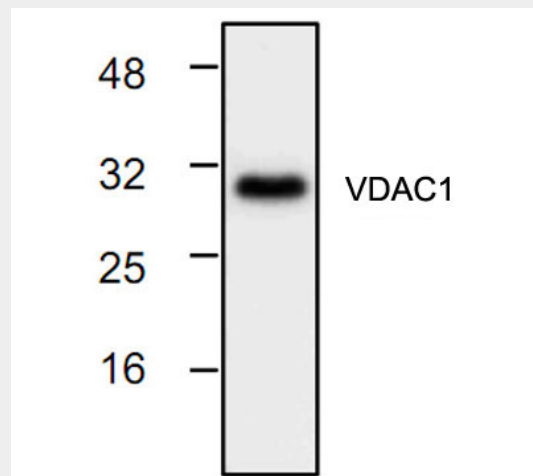
Expressed in erythrocytes (at protein level) (PubMed:27641616). Expressed in heart, liver and skeletal muscle (PubMed:8420959).

#### VDAC/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](#)

#### VDAC/Porin Antibody - Images



Western blot analysis of VDAC/Porin with 3T3 cell lysate.

#### VDAC/Porin Antibody - Background

The Voltage-Dependent Anion Channel (VDAC or mitochondrial Porin) is an outer membrane mitochondrial protein. The VDAC protein is thought to form the major pores through which adenine nucleotides are transferred through the outer mitochondrial membrane. VDAC has also been implicated in the formation of the mitochondrial permeability transition pore complex in apoptotic cells. This complex, formed by VDAC, ANT, and CypD is thought to allow the mitochondria to undergo metabolic uncoupling and irreversible morphologic changes that ultimately destroy the mitochondria during apoptosis.