

VDAC1 Antibody (Center)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6627c**Specification**

VDAC1 Antibody (Center) - Product Information

Application	WB, IHC-P, FC,E
Primary Accession	P21796
Other Accession	O9Z2L0 , O9TT15 , O60932 , P45879
Reactivity	Human
Predicted	Bovine, Mouse, Rabbit, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	30773
Antigen Region	95-124

VDAC1 Antibody (Center) - 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

Target/Specificity

This VDAC1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 95-124 amino acids from the Central region of human VDAC1.

DilutionWB~~1:1000
IHC-P~~1:50~100
FC~~1:10~50**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

VDAC1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

VDAC1 Antibody (Center) - Protein Information

Name VDAC1

Synonyms VDAC

Function 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 (PubMed:[11845315](#), PubMed:[18755977](#), PubMed:[20230784](#), PubMed:[8420959](#)). Binds various signaling molecules, including the sphingolipid ceramide, the phospholipid phosphatidylcholine, and the sterols cholesterol and oxysterol (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](#)). As part of a complex composed by HSPA9, ITPR1 and VDAC1, directly controls calcium uptake into mitochondria (PubMed:[17178908](#)).

Cellular Location

Mitochondrion outer membrane; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein. Membrane raft; Multi-pass membrane protein

Tissue Location

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

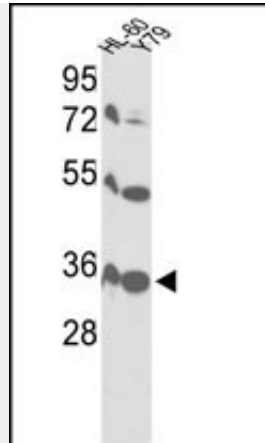
VDAC1 Antibody (Center) - Protocols

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

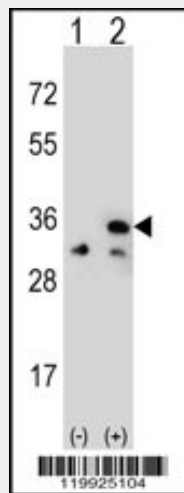
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

VDAC1 Antibody (Center) - Images

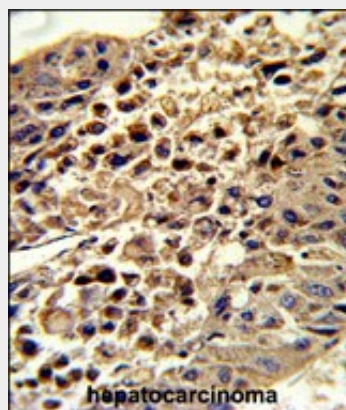




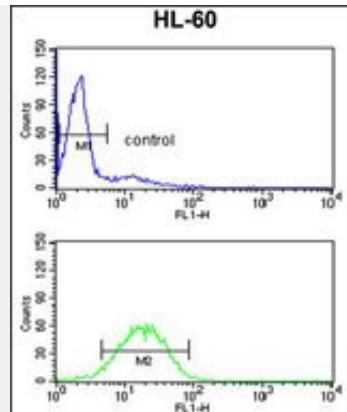
Western blot analysis of VDAC1 Antibody (Center) (Cat. #AP6627c) in HL-60, Y79 cell line lysates (35ug/lane). VDAC1 (arrow) was detected using the purified Pab.



Western blot analysis of VDAC1 (arrow) using rabbit polyclonal VDAC1 Antibody (Center) (Cat. #AP6627c). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the VDAC1 gene.



Formalin-fixed and paraffin-embedded human hepatocarcinoma reacted with VDAC1 Antibody (Center), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



VDAC1 Antibody (Center) (Cat. #AP6627c) flow cytometry analysis of HL-60 cells (bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

VDAC1 Antibody (Center) - Background

VDAC1 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. The protein may participate in the formation of the permeability transition pore complex (PTPC) responsible for the release of mitochondrial products that triggers apoptosis.

VDAC1 Antibody (Center) - References

Shoshan-Barmatz, V., *Biochim. Biophys. Acta* 1787 (5), 421-430 (2009)
Hiller, S., *Science* 321 (5893), 1206-1210 (2008)