10320 Camino Santa Fe, Suite G
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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	Q9Z2L0, Q9TT15, Q60932, 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.

Dilution
WB~~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

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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).

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 Cytomety
- Cell Culture

VDAC1 Antibody (Center) - Images

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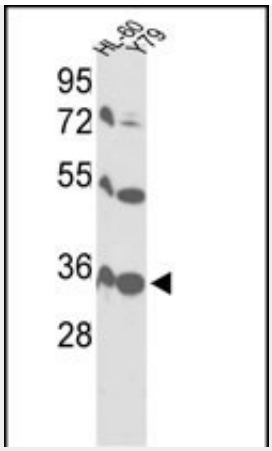
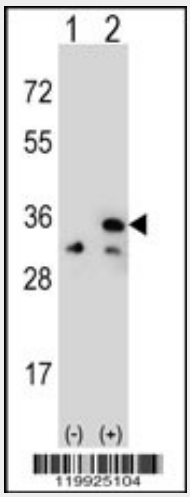
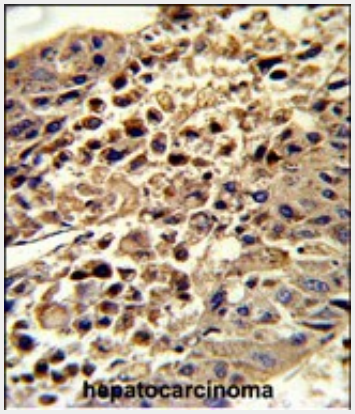


Western blot analysis of VDAC1 Antibody (Center) (Cat. #AP6627c) in HL-60, Y79 cell line lysates (35ug/lane). VDAC1 (arrow) was detected using the purified Pab.



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.

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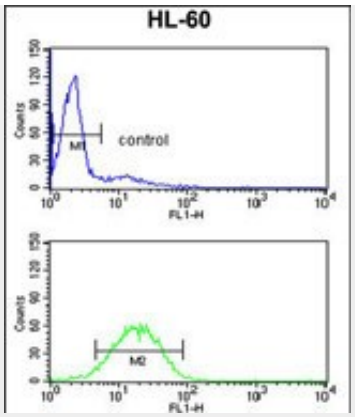

VDAC1 Antibody (Center) (Cat. #AP6627c) flow cytometry analysis of HL-60 cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

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)