

VDAC1 Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6627A

Specification

VDAC1 Antibody (N-term) - Product Information

Application	WB, IHC-P, FC,E
Primary Accession	P21796
Other Accession	O9Z2L0 , O9TT15 , O9MZ16 , O60932 , P45879
Reactivity	Human, Mouse
Predicted	Bovine, Pig, Rabbit, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	1-30

VDAC1 Antibody (N-term) - 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 1-30 amino acids from the N-terminal 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 purified through a protein A column, followed by peptide affinity purification.

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 (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

VDAC1 Antibody (N-term) - 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

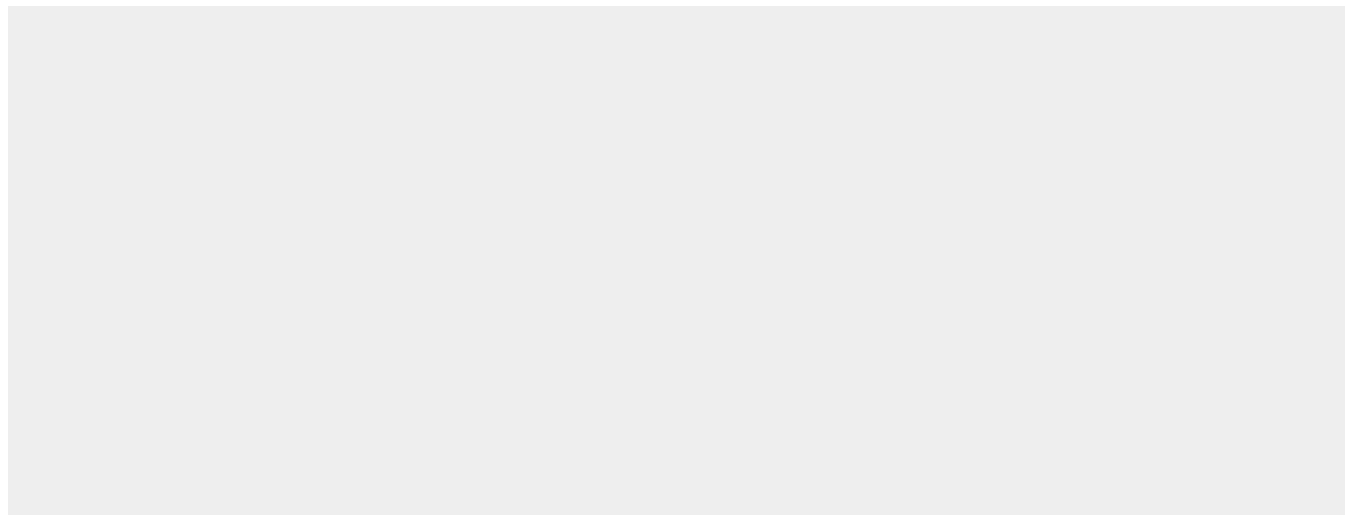
Expressed in erythrocytes (at protein level) (PubMed:27641616). Expressed in heart, liver and skeletal muscle (PubMed:8420959).

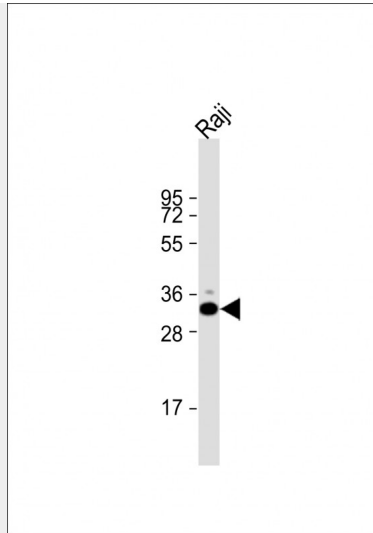
VDAC1 Antibody (N-term) - Protocols

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

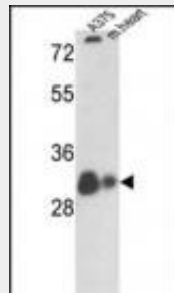
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

VDAC1 Antibody (N-term) - Images

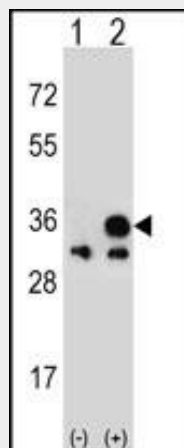




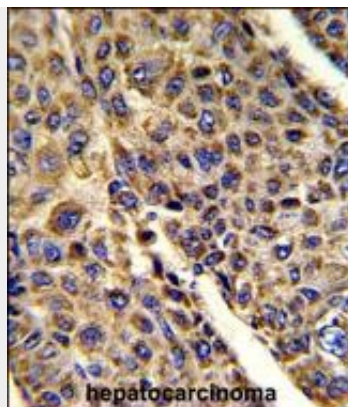
Anti-VDAC1 Antibody (N-term) at 1:8000 dilution + Raji whole cell lysate Lysates/proteins at 20 μ g per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 31 kDa Blocking/Dilution buffer: 5% NFDN/TBST.



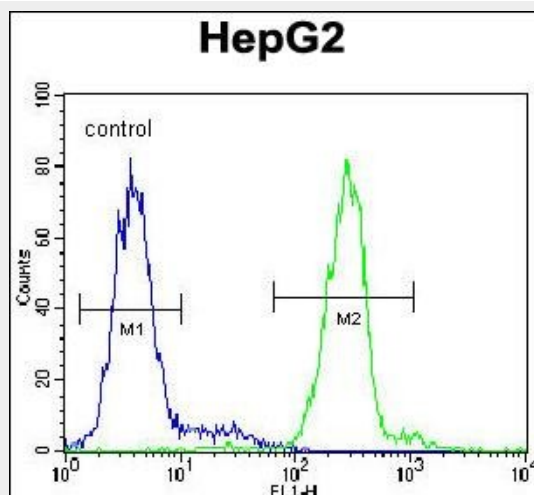
Western blot analysis of VDAC1 Antibody (N-term) (Cat. #AP6627a) in A375 cell line and mouse heart tissue lysates (35ug/lane). VDAC1 (arrow) was detected using the purified Pab.



Western blot analysis of VDAC1 (arrow) using rabbit polyclonal VDAC1 Antibody (N-term) (Cat. #AP6627a). 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 (N-term), 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 (N-term) (Cat. #AP6627a) flow cytometric analysis of HepG2 cells (right histogram) compared to a negative control cell (left histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

VDAC1 Antibody (N-term) - 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 (N-term) - References

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

VDAC1 Antibody (N-term) - Citations

- [Abnormal alpha-synuclein reduces nigral voltage-dependent anion channel 1 in sporadic and experimental Parkinson's disease.](#)