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Anti-VDAC1/Porin Rabbit Monoclonal Antibody

Catalog # ABO13634

Product Information

Application	WB, IHC, IF, ICC
Primary Accession	P21796
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid
Description	Anti-VDAC1/Porin Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF applications. This antibody reacts with Human, Mouse, Rat.

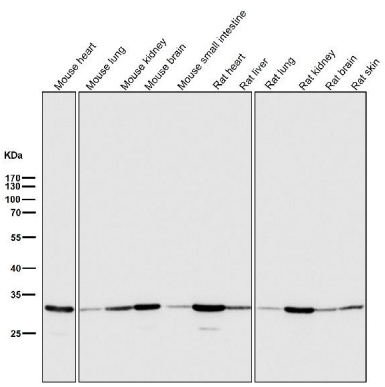
Additional Information

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
Calculated MW	30773
Application Details	WB 1:500-1:2000 IHC 1:50-1:200 ICC/IF 1:50-1:200
Subcellular Localization	Mitochondrion outer membrane. Cell membrane.
Tissue Specificity	Heart, liver and skeletal muscle.
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: DBA-22
Immunogen	A synthesized peptide derived from human VDAC1
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

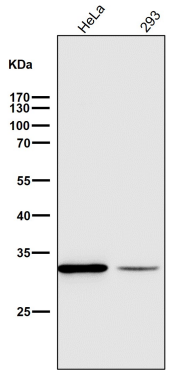
Protein Information

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, PubMed:11845315, PubMed:18755977, PubMed:30061676, PubMed: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).

Images



All lanes use the Antibody at 1:2W dilution for 1 hour at room temperature.



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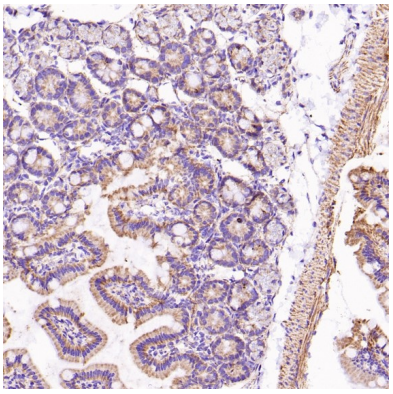
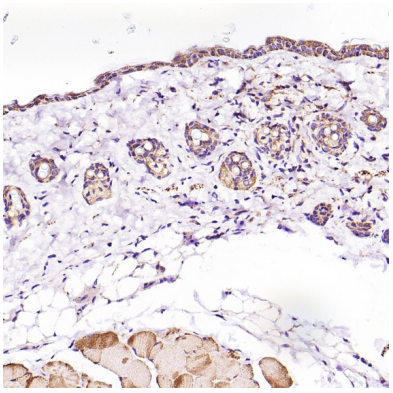
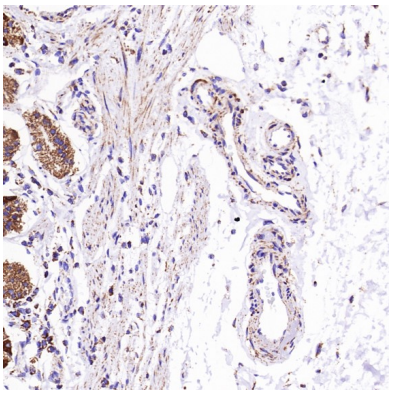


Immunohistochemical analysis of paraffin-embedded Mouse intestine, using the Antibody at 1:1000 dilution.

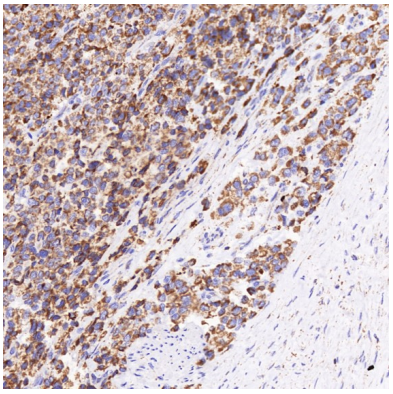


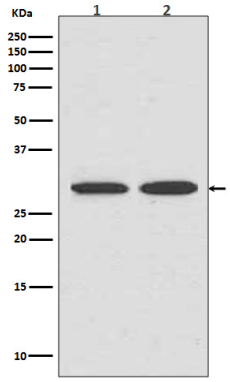
Immunohistochemical analysis of paraffin-embedded Mouse skin, using the Antibody at 1:1000 dilution.



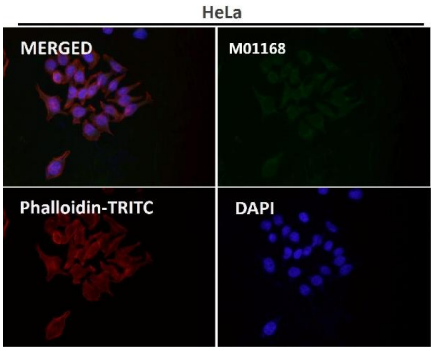
Immunohistochemical analysis of paraffin-embedded Human stomach, using the Antibody at 1:2000 dilution.

Immunohistochemical analysis of paraffin-embedded Human prostate cancer, using the Antibody at 1:2000 dilution.





Western blot analysis of VDAC1 expression in (1) HepG2 cell lysate; (2) Jurkat cell lysate.



Immunofluorescent analysis using the Antibody at 1:50 dilution.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.