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Datasheet for 600-401-882S

VDAC/Porin Antibody

Overview

Description:	Anti-VDAC/Porin (RABBIT) Antibody - 600-401-882S
Item No.:	600-401-882S
Size:	25 µL
Applications:	ELISA, WB
Reactivity:	Human, Mouse, Rat
Host Species:	Rabbit

Product Details

Background:	VDAC/Porin Antibody recognizes VDAC (also known as Voltage-dependent anion-selective channel protein 1, Outer mitochondrial membrane protein porin 1, Plasmalemmal porin, Porin 31HL) which is an outer membrane mitochondrial protein. The VDAC proteins are ~30-33 kDa (some isoforms are larger - see below). The VDAC proteins are thought to form aqueous channels, or pores, through which adenine nucleotides cross the outer mitochondrial membrane. VDACs have been implicated in the formation of the mitochondrial permeability transition pore complex in apoptotic cells. This complex, formed by VDAC, adenine nucleotide translocator (ANT), and cyclophilin D (CypD), is thought to allow the mitochondria to undergo metabolic uncoupling and irreversible morphologic changes that ultimately destroy the mitochondria during apoptosis. VDACs are highly expressed in heart, liver and skeletal muscle, where concentrations of mitochondria are at their highest. This antibody can be used as a loading control with whole cell lysates and total mitochondrial preparations.
Synonyms:	rabbit anti-VDAC/Porin antibody, VDAC-1 Loading Control Antibody, Porin Loading Control Antibody, VDAC-1 Antibody, VDAC1 Antibody, POR1 Antibody, Porin Antibody, Voltage-dependent anion-selective channel protein 1, Outer mitochondrial membrane protein porin 1
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	VDAC1

Reactivity:	Human, Mouse, Rat
Immunogen Type:	Conjugated Peptide
Immunogen:	VDAC/Porin Antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to an internal region near amino acids 175-200 of Human VDAC1/Porin1.
Purity/Specificity:	Anti-VDAC/Porin Antibody is directed against human VDAC1/Porin1 protein. The product was affinity purified from monospecific antiserum by immunoaffinity purification. A BLAST analysis was used to suggest that this antibody would react with VDAC1/Porin1 from a wide range or organisms, including avian, mammalian, aquatic and reptilian sources based on 100% homology for the immunogen sequence. Cross reactivity will occur with all forms of VDACs including VDAC1, VDAC2 (4 isoforms) and VDAC3 (2 isoforms). Such broad reactivity makes this antibody useful as an excellent loading control (mitochondrial).
Relevant Links:	• GeneID - 7416 • NCBI - NP_003365.1 • UniProtKB - P21796

Application Details

Tested Applications:	ELISA, WB
Application Note:	VDAC/Porin Antibody has been tested for use in ELISA and western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band at ~30-33 kDa in size corresponding to VDAC/Porin by western blotting in the appropriate cell lysate or extract.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:10,000 - 1:40,000
IHC:	User Optimized
WB:	1:500 - 1:2,000

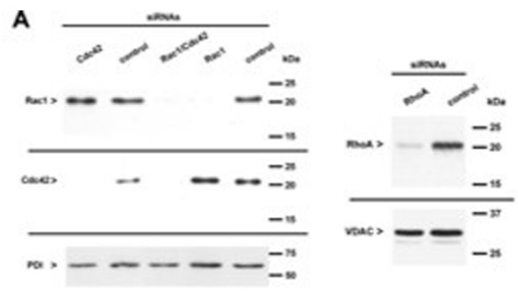
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.0 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

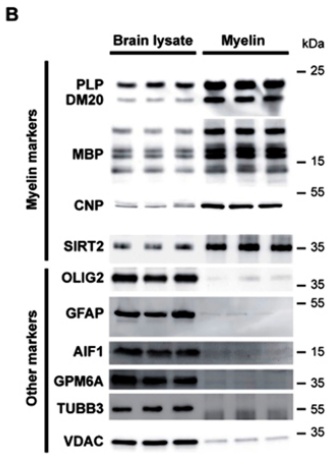
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C or below prior to opening. This vial contains a relatively low volume of reagent (25 µL). To minimize loss of volume dilute 1:10 by adding 225 µL of the buffer stated above directly to the vial. Recap, mix thoroughly and briefly centrifuge to collect the volume at the bottom of the vial. Use this intermediate dilution when calculating final dilutions as recommended below. Store the vial at -20°C or below after dilution. Avoid cycles of freezing and thawing.
Expiration:	Expiration date is one (1) year from date of receipt.

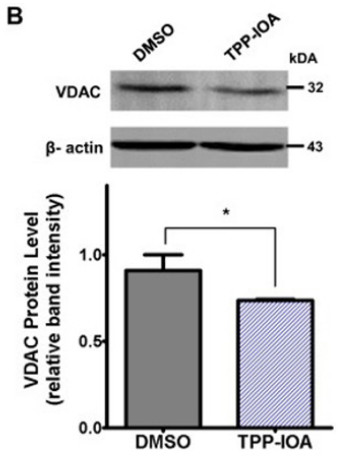
Images



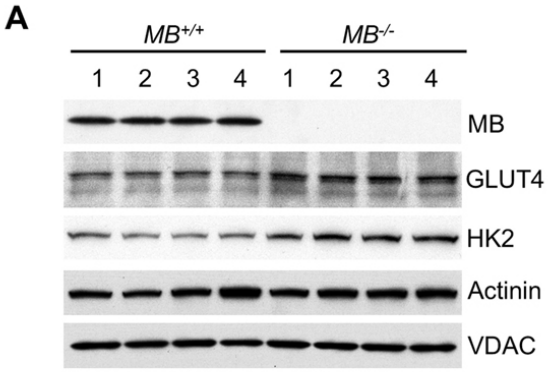
Western Blot
HSV-1 infection of HaCaT cells upon silencing of Rac1, Cdc42, or RhoA. HaCaT cells were transfected with Rac1-siRNA, Cdc42-siRNA, RhoA-siRNA, or nonspecific control siRNAs, followed by infection with HSV-1 (20 PFU/cell) at 72 h posttransfection. (A) Total protein extracts were prepared, and proteins were resolved on SDS-PAGE gels (15%). Expression of the Rho GTPases was analyzed with mouse anti-Rac1, mouse anti-Cdc42, or mouse anti-RhoA antibodies. Staining of PDI or VDAC was used as a loading control. Fig 4. PMID: 19640983



Western Blot
(B) Immunoblot analysis of myelin-enriched fractions and equal amounts of brain lysate to compare the abundance of marker proteins for compact myelin (PLP/DM20, MBP), non-compact myelin (CNP, SIRT2), the oligodendroglial nuclear/cytoplasmic compartment (OLIG2), astrocytes (GFAP), microglia (AIF1/IBA1), neuronal plasma membrane (GPM6A), axonal microtubules (TUBB3/TUJ1), and mitochondria (VDAC). Blot represents three biological replicates (male c57Bl6/N mice, age P75). Note that myelin markers were enriched in purified myelin while markers of other cellular sources were reduced. Fig 1. PMID: 27173133



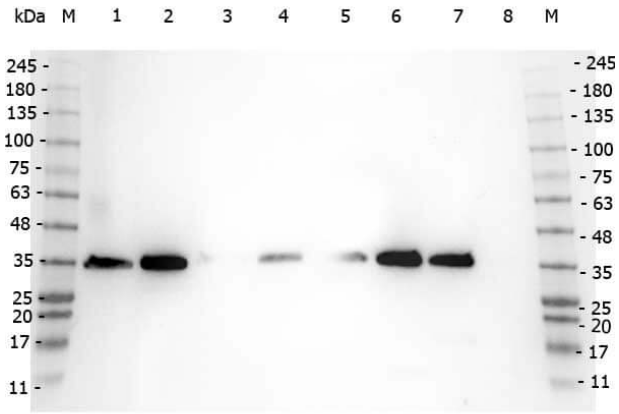
Western Blot
(B) TPP-IOA (1 µM) decreases VDAC protein levels. Top inset depicts representative VDAC (~ 32 kDa) and β-actin (~ 43 kDa) band intensities. In A&B, measurements were made with lysates prepared from SH-SY5Y cells harvested immediately after 3 h of exposure to 0.1% DMSO (Vehicle control) or 1 µM TPP-IOA. Bars represent means + SEM from two or three experimental replicates. * = p-value < 0.05 (Student's t-test). Fig 10. PMID: 27836699



Western Blot
MB ablation alters metabolism in p53172H/H mice. Male mice of the indicated genotypes without evidence of tumor were used for the following experiments. A, Immunoblot of indicated proteins in skeletal muscle of 10 wk old mice. Actinin and VDAC serve as protein loading controls. Fig 1. PMID: 32958587

Western Blot
Western Blot of Rabbit Anti-VDAC/Porin Antibody. Lane 1: rat heart whole cell lysate. Lane 2: none. Load: 35 µg per lane. Primary antibody: VDAC/Porin antibody at 1:1,200 for overnight at 4°C. Secondary antibody: IRDye800™ rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: ~32 kDa corresponding to VDAC/Porin (arrowhead). Other band(s): none.

Western Blot
Western Blot of Rabbit anti-VDAC/Porin antibody. Lane 1: MW ladder. Lane 2: Mouse Heart WCL. Load: 10 µg per lane. Primary antibody: VDAC/Porin antibody at 1:1,000 for overnight at 4°C. Secondary antibody: Peroxidase rabbit secondary antibody (p/n 611-103-122) at 1:40,000 for 30 min at RT. Block: Blocking Buffer for Fluorescent Western Blotting (p/n MB-070) for 30 min at RT. Predicted/Observed size: 32 kDa, 32 kDa for VDAC/Porin.



Western Blot
Western Blot of Rabbit anti-VDAC/Porin antibody. Marker: Opal Pre-stained ladder (p/n MB-210-0500). Lane 1: HEK293 lysate (p/n W09-000-365). Lane 2: HeLa Lysate (p/n W09-000-363). Lane 3: MCF-7 Lysate (p/n W09-000-360). Lane 4: Jurkat Lysate (p/n W09-000-370). Lane 5: A431 Lysate (p/n W09-000-361). Lane 6: LNCaP Lysate (p/n W09-001-GJ9). Lane 7: A-172 Lysate (p/n W09-001-GL5). Lane 8: NIH/3T3 Lysate (p/n W10-000-358). Load: 35 µg per lane. Primary antibody: VDAC/Porin antibody at 1:1,000 for overnight at 4°C. Secondary antibody: Peroxidase rabbit secondary antibody (p/n 611-103-122) at 1:30,000 for 60 min at RT. Blocking Buffer: 1% Casein-TTBS for 30 min at RT. Predicted/Observed size: 31 kDa for VDAC\Porin.

References

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