## Overview

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<th>Product name</th>
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<td>Anti-VDAC1 / Porin antibody - Mitochondrial Loading Control</td>
<td>Rabbit polyclonal to VDAC1 / Porin - Mitochondrial Loading Control</td>
<td>Rabbit</td>
<td>This antibody detects VDAC1, VDAC2 and VDAC3.</td>
<td>Suitable for: WB, IHC-P, ICC/IF</td>
<td>Reacts with: Mouse, Rat, Chicken, Dog, Human, Zebrafish, Chinese hamster</td>
<td>Synthetic peptide corresponding to Human VDAC1/ Porin aa 150-250. The immunogen sequence is completely conserved between VDAC1, VDAC2 and VDAC3 (Peptide available as ab16131)</td>
<td>This antibody gave a positive control in the following human whole cell lysates: HeLa A431 Jurkat HEK293 This antibody gave a positive control in HeLa (Human epithelial carcinoma cell line) Nuclear This antibody gave a positive control in the following mouse tissue lysates: Heart Kidney Skeletal Muscle Spinal Cord This antibody gave a positive control in the following rat lysates: PC12 Whole Cell Brain Tissue Lysate - normal tissue Kidney Whole Cell Lysate - normal tissue</td>
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## Properties

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<td>Liquid</td>
<td>Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.</td>
<td>Preservative: 0.02% Sodium Azide Constituents: 1% BSA, PBS, pH 7.4</td>
<td>Immunogen affinity purified</td>
<td>Polyclonal</td>
<td>IgG</td>
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## Applications

### Applications

- **Overview**
  - **Product name**: Anti-VDAC1 / Porin antibody - Mitochondrial Loading Control
  - **Description**: Rabbit polyclonal to VDAC1 / Porin - Mitochondrial Loading Control
  - **Host species**: Rabbit
  - **Specificity**: This antibody detects VDAC1, VDAC2 and VDAC3.
  - **Tested applications**: Suitable for: WB, IHC-P, ICC/IF
  - **Species reactivity**: Reacts with: Mouse, Rat, Chicken, Dog, Human, Zebrafish, Chinese hamster
    Predicted to work with: Rabbit, Cow, Pig
  - **Immunogen**: Synthetic peptide corresponding to Human VDAC1/ Porin aa 150-250. The immunogen sequence is completely conserved between VDAC1, VDAC2 and VDAC3 (Peptide available as ab16131)
  - **Positive control**: This antibody gave a positive control in the following human whole cell lysates: HeLa A431 Jurkat HEK293 This antibody gave a positive control in HeLa (Human epithelial carcinoma cell line) Nuclear This antibody gave a positive control in the following mouse tissue lysates: Heart Kidney Skeletal Muscle Spinal Cord This antibody gave a positive control in the following rat lysates: PC12 Whole Cell Brain Tissue Lysate - normal tissue Kidney Whole Cell Lysate - normal tissue

### Form

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### Storage buffer

- Preservative: 0.02% Sodium Azide
- Constituents: 1% BSA, PBS, pH 7.4

### Purity

- Immunogen affinity purified

### Clonality

- Polyclonal

### Isotype

- IgG
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. May participate in the formation of the permeability transition pore complex (PTPC) responsible for the release of mitochondrial products that triggers apoptosis.

Tissue specificity
Heart, liver and skeletal muscle.

Sequence similarities
Belongs to the eukaryotic mitochondrial porin family.

Domain
Consists mainly of a membrane-spanning beta-barrel formed by 19 beta-strands. The helical N-terminus folds back into the pore opening and plays a role in voltage-gated channel activity.

Cellular localization

Our Abpromise guarantee covers the use of ab15895 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

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<th>Application</th>
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<td>WB</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use a concentration of 1 µg/ml. Detects a band of approximately 31 kDa (predicted molecular weight: 31 kDa). Abcam recommends using BSA as the blocking agent.</td>
</tr>
<tr>
<td>IHC-P</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>ICC/IF</td>
<td></td>
<td>Use a concentration of 5 µg/ml.</td>
</tr>
</tbody>
</table>

Target

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

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Cellular localization

Images

Western blot - Anti-VDAC1 / Porin antibody - Mitochondrial Loading Control (ab15895)

All lanes: Anti-VDAC1 / Porin antibody - Mitochondrial Loading Control (ab15895) at 1 µg/ml

Lane 1: Hela Nuclear lysate
Lane 2: Hela cell lysate
Lane 3: A431 cell lysate
Lane 4: Jurkat cell lysate
Lane 5: HEK293 cell lysate
Lane 6: Hela Nuclear lysate with Human VDAC1 / Porin peptide (ab16131) at 1 µg/ml
Lane 7: Hela cell lysate with Human VDAC1 / Porin peptide (ab16131) at 1 µg/ml
Lane 8: A431 cell lysate with Human VDAC1 / Porin peptide (ab16131) at 1 µg/ml
Lane 9: Jurkat cell lysate with Human VDAC1 / Porin peptide (ab16131) at 1 µg/ml
Lane 10: HEK293 cell lysate with Human VDAC1 / Porin peptide (ab16131) at 1 µg/ml

Lysates/proteins at 20 µg per lane.

Secondary
All lanes: Goat Anti-Rabbit IgG H&L (HRP) (ab6721) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

**Predicted band size:** 31 kDa
**Observed band size:** 31 kDa

Image courtesy of Human Protein Atlas

Paraffin embedded sections of human kidney were incubated with ab15895 (1/600 dilution) at room temperature for 30 mins. Antigen retrieval was performed by heat induction in citrate buffer pH 6. ab15895 was also tested in a tissue microarray (TMA) containing a wide range of normal and cancer tissues as well as a cell microarray consisting of a range of commonly used, well characterised human cell lines. Further images can be found at www.proteinatlas.org
Immunocytochemistry/Immunofluorescence - Anti-VDAC1/Porin antibody - Mitochondrial Loading Control (ab15895)

ICC/IF image of ab15895 stained human HeLa cells. The cells were methanol fixed (5 min) and incubated with the antibody (ab15895, 5µg/ml) for 1h at room temperature. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Image-iT™FX Signal Enhancer was used as the primary blocking agent, 5% BSA (TBS-T) was used for all other blocking steps. DAPI was used to stain the cell nuclei (blue). Alexa Fluor® 594 phalloidin was used to label F-actin (red).

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-VDAC1/Porin antibody - Mitochondrial Loading Control (ab15895)

Image courtesy of Carl Hobbs by Abreview

ab15895 staining VDAC1/Porin in Human Testis tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 2% BSA for 10 minutes at 21°C; antigen retrieval was by heat mediation in citric acid. Samples were incubated with primary antibody (1/50 in TBS/BSA/azide buffer) for 16 hours at 21°C. A Biotin-conjugated Goat anti-rabbit IgG polyclonal (1/300) was used as the secondary antibody.

Western blot - Anti-VDAC1/Porin antibody - Mitochondrial Loading Control (ab15895)

All lanes: Anti-VDAC1/Porin antibody - Mitochondrial Loading Control (ab15895) at 1 µg/ml

Lane 1: Heart (Mouse) Tissue Lysate
Lane 2: Kidney (Mouse) Tissue Lysate
Lane 3: Mouse skeletal muscle tissue lysate - total protein (ab29711)
Lane 4: Spinal Cord (Mouse) Tissue Lysate
Lane 5: PC12 (Rat adrenal pheochromocytoma cell line) Whole Cell Lysate
Lane 6: Brain (Rat) Tissue Lysate - normal tissue
Lane 7: Kidney (Rat) Whole Cell Lysate - normal tissue (ab29480)

Lysates/proteins at 10 µg per lane.
**Secondary**

**All lanes:** IRDye 680 Conjugated Goat Anti-Rabbit IgG (H+L) at 1/10000 dilution

Performed under reducing conditions.

**Predicted band size:** 31 kDa  
**Observed band size:** 31 kDa

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**Western blot - Anti-VDAC1 / Porin antibody - Mitochondrial Loading Control (ab15895)**

ab15895 staining mouse heart tissue section by IHC-P. Sections were PFA fixed and subjected to heat mediated antigen retrieval in citrate buffer (pH 6) prior to blocking in 10% serum for 10 minutes at 25°C. The primary antibody was diluted 1/600 and incubated with the sample for 1 hour at 25°C. A biotinylated goat anti-rabbit antibody diluted 1/400 was used as the secondary.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-VDAC1 / Porin antibody - Mitochondrial Loading Control (ab15895)

Image courtesy of Dr Markus Kipp by Abreview.

ab15895 staining VDAC1 / Porin in human cerebellum tissue by Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections).

Tissue was fixed in paraformaldehyde and a heat mediated antigen retrieval step was performed using citrate buffer pH 6.0. Samples were then incubated with ab15895 at a 1/1000 dilution for 12 hours at 4°C. The secondary used was an undiluted HRP conjugated anti-rabbit polyclonal. Note: The big cells are purkinje cells of the cerebellum, (no nuclear staining).

Western blot image using the Optiblot Reducing Electrophoresis Kit - 10 x 10 cm (4-20%) (ab119220) with the Prism Ultra Protein Ladder (ab116028) 5µl used. We recommend using our ECL substrate kit (ab65623) .

20µg of Lysate per lane and detection using ab15895 diluted to 1µg/ml.

Lane 1: HeLa cell lysate
Lane 2: Jurkat cell lysate
Lane 3: A431 cell lysate
Lane 4: HEK293 cell lysate
Lane 5: HepG2 cell lysate.

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