

# VDAC3 (K-12): sc-79341



The Power to Question

## BACKGROUND

Adenine nucleotide translocator (ANT) and the voltage-dependent anion-selective channel proteins 1, 2 and 3 (VDAC1, VDAC2 and VDAC3) are components of the permeability transition pore complex (PTPC) of the mitochondrial inner or outer membranes. Formation of PTPCs, the subsequent dissipation of mitochondrial inner membrane potential and release of cytochrome c through the outer mitochondrial membrane are critical events in the early stages of apoptosis. Bax, a proapoptotic protein, has been shown to act upon ANT to induce the dissipation of mitochondrial inner membrane potential.

## REFERENCES

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- Blachly-Dyson, E., et al. 1993. Cloning and functional expression in yeast of two human isoforms of the outer mitochondrial membrane channel, the voltage-dependent anion channel. *J. Biol. Chem.* 268: 1835-1841.
- Zamzami, N., et al. 1996. Mitochondrial control of nuclear apoptosis. *J. Exp. Med.* 183: 1533-1544.
- Green, D.R., et al. 1998. Mitochondria and apoptosis. *Science* 281: 1309-1312.
- Marzo, I., et al. 1998. Bax and adenine nucleotide translocator cooperate in the mitochondrial control of apoptosis. *Science* 281: 2027-2031.
- Kumarswamy, R. and Chandna, S. 2009. Putative partners in Bax mediated cytochrome c release: ANT, CypD, VDAC or none of them? *Mitochondrion.* 9: 1-8.
- Qin, G., Meng, X., Wang, Q. and Tian, S. 2009. Oxidative damage of mitochondrial proteins contributes to fruit senescence: A redox proteomics analysis. *J. Proteome Res.* 8: 2449-2462.
- Halestrap, A.P. 2009. What is the mitochondrial permeability transition pore? *J. Mol. Cell. Cardiol.* 46: 821-831.

## CHROMOSOMAL LOCATION

Genetic locus: VDAC3 (human) mapping to 8p11.21; Vdac3 (mouse) mapping to 8 A2.

## SOURCE

VDAC3 (K-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of VDAC3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-79341 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

VDAC3 (K-12) is recommended for detection of VDAC3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

VDAC3 (K-12) is also recommended for detection of VDAC3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for VDAC3 siRNA (h): sc-42359, VDAC3 siRNA (m): sc-42360, VDAC3 shRNA Plasmid (h): sc-42359-SH, VDAC3 shRNA Plasmid (m): sc-42360-SH, VDAC3 shRNA (h) Lentiviral Particles: sc-42359-V and VDAC3 shRNA (m) Lentiviral Particles: sc-42360-V.

Molecular Weight of VDAC3: 31 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

- Zhou, R., et al. 2011. A role for mitochondria in NLRP3 inflammasome activation. *Nature* 469: 221-225.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.