

# VDAC1 (B-6): sc-390996

## BACKGROUND

Adenine nucleotide translocator (ANT) and the voltage-dependent anion-selective channel proteins 1 and 2 (VDAC1 and VDAC2) are components of the permeability transition pore complex (PTPC) of the mitochondrial inner and outer membranes, respectively. 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.

## CHROMOSOMAL LOCATION

Genetic locus: VDAC1 (human) mapping to 5q31.1; Vdac1 (mouse) mapping to 11 B1.3.

## SOURCE

VDAC1 (B-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 118-157 within an internal region of VDAC1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

VDAC1 (B-6) is available conjugated to agarose (sc-390996 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390996 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390996 PE), fluorescein (sc-390996 FITC), Alexa Fluor® 488 (sc-390996 AF488), Alexa Fluor® 546 (sc-390996 AF546), Alexa Fluor® 594 (sc-390996 AF594) or Alexa Fluor® 647 (sc-390996 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390996 AF680) or Alexa Fluor® 790 (sc-390996 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390996 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

VDAC1 (B-6) is recommended for detection of VDAC1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

VDAC1 (B-6) is also recommended for detection of VDAC1 in additional species, including avian.

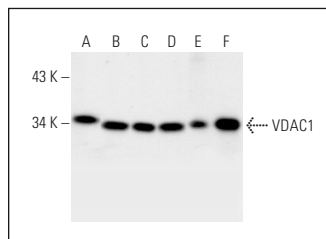
Suitable for use as control antibody for VDAC1 siRNA (h): sc-42355, VDAC1 siRNA (m): sc-42356, VDAC1 shRNA Plasmid (h): sc-42355-SH, VDAC1 shRNA Plasmid (m): sc-42356-SH, VDAC1 shRNA (h) Lentiviral Particles: sc-42355-V and VDAC1 shRNA (m) Lentiviral Particles: sc-42356-V.

Molecular Weight of VDAC1: 30-35 kDa.

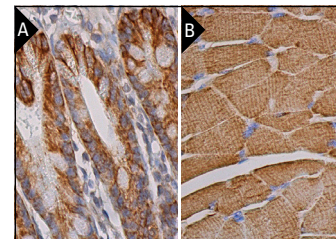
## STORAGE

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

## DATA



VDAC1 (B-6): sc-390996. Western blot analysis of VDAC1 expression in HL-60 (A), Jurkat (B), HeLa (C) and A-431 (D) whole cell lysates and rat heart (E) and human heart (F) tissue extracts.



VDAC1 (B-6): sc-390996. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic and membrane staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes (B).

## SELECT PRODUCT CITATIONS

- Wei, L., et al. 2013. Oroxylin A induces dissociation of hexokinase II from the mitochondria and inhibits glycolysis by SIRT3-mediated deacetylation of cyclophilin D in breast carcinoma. *Cell Death Dis.* 4: e601.
- Suliman, H.B., et al. 2016. Heme oxygenase-1/carbon monoxide system and embryonic stem cell differentiation and maturation into cardiomyocytes. *Antioxid. Redox Signal.* 24: 345-360.
- Wang, W., et al. 2017. TRIM37, a novel E3 ligase for PEX5-mediated peroxisomal matrix protein import. *J. Cell Biol.* 216: 2843-2858.
- Marginadas-Freixa, I., et al. 2018. Human erythrocytes release ATP by a novel pathway involving VDAC oligomerization independent of pannexin-1. *Sci. Rep.* 8: 11384.
- Amrollahi, P., et al. 2019. Ultra-sensitive automated profiling of EpCAM expression on tumor-derived extracellular vesicles. *Front. Genet.* 10: 1273.
- Chávez, E., et al. 2020. Interaction of agaric acid with the adenine nucleotide translocase induces mitochondrial oxidative stress. *Biochem. Res. Int.* 2020: 5253108.
- Carpio, M.A., et al. 2021. BOK controls apoptosis by Ca<sup>2+</sup> transfer through ER-mitochondrial contact sites. *Cell Rep.* 34: 108827.
- Bachmann, M., et al. 2022. Pharmacological targeting of the mitochondrial calcium-dependent potassium channel KCa3.1 triggers cell death and reduces tumor growth and metastasis *in vivo*. *Cell Death Dis.* 13: 1055.
- van Beek, S.M.M., et al. 2023. Effect of β2-agonist treatment on Insulin-stimulated peripheral glucose disposal in healthy men in a randomised placebo-controlled trial. *Nat. Commun.* 14: 173.

## RESEARCH USE

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

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA