SANTA CRUZ BIOTECHNOLOGY, INC.

VDAC2 (K-16): sc-32059

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

REFERENCES

1. Cozens, A.L., et al. 1989. DNA sequences of two expressed nuclear genes for human mitochondrial ADP/ATP translocase. J. Mol. Biol. 206: 261-280.
2. Li, K., et al. 1989. A human muscle adenine nucleotide translocator gene has four exons, is located on chromosome 4, and is differentially expressed. J. Biol. Chem. 264: 13998-14004.

CHROMOSOMAL LOCATION

Genetic locus: VDAC2 (human) mapping to 10q22.2, VDAC1 (human) mapping to 5q31.1; Vdac2 (mouse) mapping to 14 A3, Vdac1 (mouse) mapping to 11 B1.3.

SOURCE

VDAC2 (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of VDAC2 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-32059 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

VDAC2 (K-16) is recommended for detection of VDAC2 and, to a lesser extent, VDAC1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

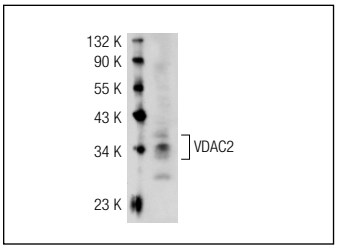
VDAC2 (K-16) is also recommended for detection of VDAC2 and, to a lesser extent, VDAC1 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of VDAC2: 30-32 kDa.

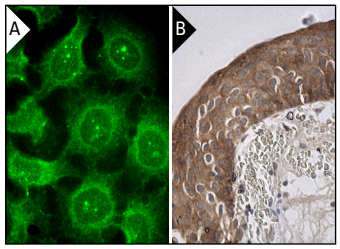
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



VDAC2 (K-16): sc-32059. Western blot analysis of VDAC2 expression in Jurkat whole cell lysate.



VDAC2 (K-16): sc-32059. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Chiara, F., et al. 2008. Hexokinase II detachment from mitochondria triggers apoptosis through the permeability transition pore independent of voltage-dependent anion channels. PLoS ONE 3: e1852.
2. Valis, K., et al. 2008. VDAC2 and aldolase A identified as membrane proteins of K562 cells with increased expression under iron deprivation. Mol. Cell. Biochem. 311: 225-231.
3. Bae, N., et al. 2013. Network of brain protein level changes in glutaminase deficient fetal mice. J. Proteomics 80: 236-249.
4. Tsukahara, T., et al. 2013. PTB-associated splicing factor (PSF) is a PPARγ-binding protein and growth regulator of colon cancer cells. PLoS ONE 8: e58749.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.