

VDAC1 (K-20): sc-32064

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. 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.
2. 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.
3. 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.
4. Zamzami, N., et al. 1996. Mitochondrial control of nuclear apoptosis. *J. Exp. Med.* 183: 1533-1544.

SOURCE

VDAC1 (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of VDAC1 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-32064 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

VDAC1 (K-20) is recommended for detection of VDAC1 and, to a lesser extent, VDAC2 and VDAC3 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).

VDAC1 (K-20) is also recommended for detection of VDAC1 and, to a lesser extent, VDAC2 and VDAC3 in additional species, including equine, canine, bovine, porcine and avian.

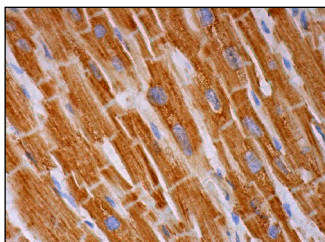
Molecular Weight of VDAC1: 30-35 kDa.

Positive Controls: rat heart extract: sc-2393 or HL-60 whole cell lysate: sc-2209.

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



VDAC1 (K-20): sc-32064. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Li, T.M., et al. 2011. The novel benzimidazole derivative, MPTB, induces cell apoptosis in human chondrosarcoma cells. *Mol. Carcinog.* 50: 791-803.

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 or our catalog for detailed protocols and support products.



Try **VDAC1 (B-6): sc-390996**, our highly recommended monoclonal alternative to VDAC1 (K-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **VDAC1 (B-6): sc-390996**.