

ANT1 (E-7): sc-518268

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. ANT1 has a role in the maintenance of mitochondrial DNA by catalyzing the exchange of ADP and ATP across the mitochondrial inner membrane.

REFERENCES

1. Houldsworth, J., et al. 1988. Two distinct genes for ADP/ATP translocase are expressed at the mRNA level in adult human liver. *Proc. Natl. Acad. Sci. U.S.A* 85: 377-381.
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. 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.
4. 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.
5. Zamzami, N., et al. 1996. Mitochondrial control of nuclear apoptosis. *J. Exp. Med.* 183: 1533-1544.
6. Green, D.R., et al. 1998. Mitochondria and apoptosis. *Science* 281: 1309-1312.

CHROMOSOMAL LOCATION

Genetic locus: SLC25A4 (human) mapping to 4q35.1.

SOURCE

ANT1 (E-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 254-281 of ANT1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ANT1 (E-7) is available conjugated to agarose (sc-518268 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518268 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518268 PE), fluorescein (sc-518268 FITC), Alexa Fluor® 488 (sc-518268 AF488), Alexa Fluor® 546 (sc-518268 AF546), Alexa Fluor® 594 (sc-518268 AF594) or Alexa Fluor® 647 (sc-518268 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518268 AF680) or Alexa Fluor® 790 (sc-518268 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

ANT1 (E-7) is recommended for detection of ANT1 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ANT1 siRNA (h): sc-42353, ANT1 shRNA Plasmid (h): sc-42353-SH and ANT1 shRNA (h) Lentiviral Particles: sc-42353-V.

Molecular Weight of PYGB: 33 kDa.

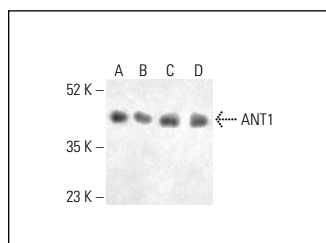
Positive Controls: Hep G2 cell lysate: sc-2227, HEK293 whole cell lysate: sc-45136 or SW480 cell lysate: sc-2219.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ANT1 (E-7): sc-518268. Western blot analysis of ANT1 expression in Hep G2 (A), OVCA-3 (B), SW480 (C) and HEK293 (D) whole cell lysates. Detection reagent used: m-IgG₁ BP-HRP: sc-525408.

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 for detailed protocols and support products.