

ANT2/3 (D-15): sc-70205

BACKGROUND

ANT2 (adenine nucleotide translocator 2), also known as SLC25A5 (solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 5), T2, T3, 2F1 or AAC2, is a 298 amino acid multi-pass membrane protein that localizes to the inner mitochondrial membrane and contains 3 solcar repeats. Existing as one of the most abundant mitochondrial proteins, ANT2 functions as a homodimer that facilitates the exchange of ADP and ATP between the mitochondrion and the cytosol, thus linking the compartment of ATP production (within the mitochondrion) to the areas of ATP utilization (within the cytosol). Suppression of ANT2 in breast cancer cells results in apoptosis and tumor growth inhibition, suggesting that ANT2 may be involved in carcinogenesis. ANT3 (adenine nucleotide translocator 2) is a 298 amino acid mitochondrial protein that functions in a similar manner to ANT2 but, unlike ANT2, may also play a role in the formation of the permeability transition pore complex (PTPC), a structure that is important for the regulation of apoptosis.

REFERENCES

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- De Marcos Lousa, C., et al. 2002. The human mitochondrial ADP/ATP carriers: kinetic properties and biogenesis of wild-type and mutant proteins in the yeast *S. cerevisiae*. *Biochemistry* 41: 14412-14420.
- Luciakova, K., et al. 2003. Repression of the human adenine nucleotide translocase-2 gene in growth-arrested human diploid cells: the role of nuclear factor-1. *J. Biol. Chem.* 278: 30624-30633.
- Deniaud, A., et al. 2004. Mitochondrial membrane permeabilization by HIV-1 vpr. *Mitochondrion* 4: 223-233.
- Palmieri, F. 2004. The mitochondrial transporter family (SLC25): physiological and pathological implications. *Pflugers Arch.* 447: 689-709.
- Chevrollier, A., et al. 2005. ANT2 expression under hypoxic conditions produces opposite cell-cycle behavior in 143B and Hep G2 cancer cells. *Mol. Carcinog.* 42: 1-8.
- Luciakova, K., et al. 2008. Growth-dependent repression of human adenine nucleotide translocator-2 (ANT2) transcription: evidence for the participation of Smad and Sp family proteins in the NF1-dependent repressor complex. *Biochem. J.* 412: 123-130.

CHROMOSOMAL LOCATION

Genetic locus: SLC25A5 (human) mapping to Xq24, SLC25A6 (human) mapping to Xp22.33/Yp11.32; Slc25a5 (mouse) mapping to X A3.3.

SOURCE

ANT2/3 (D-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ANT2 of human origin.

RESEARCH USE

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

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-70205 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ANT2/3 (D-15) is recommended for detection of ANT2 of mouse, rat and human origin, and ANT3 of 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).

ANT2/3 (D-15) is also recommended for detection of ANT2 and ANT3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for ANT2 siRNA (m): sc-72506, ANT2 shRNA Plasmid (m): sc-72506-SH and ANT2 shRNA (m) Lentiviral Particles: sc-72506-V.

Molecular Weight of ANT2/3: 33 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

- Lai, C.C., et al. 2005. Productive interaction between transmembrane mutants of the bovine papillomavirus E5 protein and the platelet-derived growth factor β receptor. *J. Virol.* 79: 1924-1929.

STORAGE

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


 MONOS
 Satisfaction
 Guaranteed

Try **ANT3 (2A9): sc-293434**, our highly recommended monoclonal alternative to ANT2/3 (D-15).