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Rabbit Polyclonal Adenine Nucleotide Translocator 2 antibody

Catalog Number: ANT2-201AP

Lot Number:

General Information

Product	Adenine Nucleotide Translocator 2 Antibody
Description	Affinity Purified ADP/ATP Translocase 2 Antibody
Accession #	Uniprot: O43707 NCBI: NP_004915
Verified Applications	CM, ELISA, ICC/IF, IHC, IP, WB
Species Cross Reactivity	Human, Mouse, Rat
Host	Rabbit
Immunogen	Synthetic peptide taken within amino acid region 150-200 on human ADP/ATP translocase 2.
	Sequence: AER EFR GLG DCL VKI YKS DGI KGL YQG FNV SVQ GII IYR AAY FGI YDT AK
Alternative Nomenclature	2F1 antibody, AAC2 antibody, Adenine nucleotide translocator 2 antibody, ADP antibody, ADP ATP carrier protein 2 antibody, ATP carrier protein 2 antibody, fibroblast isoform antibody, SLC25A5 antibody, T2 antibody, T3 antibody

Physical Properties

Quantity	100 µg
Volume	200 µl
Form	Affinity Purified Immunoglobulins
Immunoglobulin & Concentration	0.62 mg/ml IgG in antibody stabilization buffer
Storage	Store at -20°C for long term storage.

Recommended Dilutions

Confocal Microscopy	1:100
DOT Blot	1:10,000
ELISA	1:10,000
Immunocytochemistry	1:100
Immunofluorescence	1:100
Immunohistochemistry	1:100
Immunoprecipitation	1:200
Western Blot	1:500. Molecular weight: 33-36 kDa.

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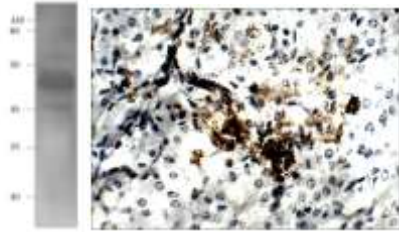
Related Products

BIOTIN-Conjugated
FITC-Conjugated
Antigenic Blocking Peptide
Western Blot Positive Control

Catalog

ANT2-BIOTIN
ANT2-FITC
P-ANT2
PC-ANT2

Application Verification:



WB of ANT2-201AP with rat muscle on 14% SDS gel. 1:250 antibody dilution in DiluOBuffer for 1 hour at room temperature. Apparent MW is 36 kDa.

Rat Kidney- Adenine Nucleotide Translocator 2 Primary Antibody: ANT2-201AP; 1:100 dilution with IHC blocking buffer. DAB (brown) staining and Hematoxylin QS (blue) counterstain. 40X magnification on Leica DM4000B.

Dilutions are for reference only. Applications not listed above are not necessarily precluded from working with this antibody. Investigators intending to use an application that has not been verified can request a complimentary sample.

Overview:

Human Adenine Nucleotide Translocator (ANT) presents four isoforms (ANT1-ANT4), each with a specific expression depending on the nature of the tissue, cell type, developmental stage and status of cell proliferation. ANT1 is specific to muscle and brain tissues, ANT2 occurs mainly in proliferative, undifferentiated cells, ANT3 is ubiquitous, and ANT4 is found in germ cells. ANT2 is a homodimer and a component of the MMXD complex, which includes CIAO1, ERCC2, FAM96B, MMS19 and SLC25A5. ANT2, also known as solute carrier family 25 mitochondrial carrier member 5 (SLC25A5), is a 298 amino acid multi-pass membrane protein that localizes to the inner mitochondrial membrane and contains three solcar repeats. 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). ANT2 expression in undifferentiated, proliferating cells correlates with the rate of glycolytic metabolism and is an indicator of carcinogenesis (2). Suppression of ANT2/SLC25A5 expression by specific RNA interference in human breast cancer cells promotes apoptosis and inhibits tumor cell growth which suggest a cytoprotective role of ANT2/SLC25A5 (1, 3). ANT2 functions differently in metabolic and apoptotic pathways and is implicated in the function of the permeability transition pore complex (PTPC), which regulates the release of mitochondrial products that induce apoptosis (1).

As part of the mitotic spindle-associated MMXD complex, ANT2 plays a role in chromosome segregation, and it is also known to interact with HIV-1 Vpr protein. ANT2 functions in a similar manner to ANT3 but, unlike ANT3, it also plays a role in the formation of the permeability transition pore complex (PTPC), a structure that is important for the regulation of apoptosis. The expression of ANT2 is linked to and is an important indicator of carcinogenesis. Since the expression of ANT2 is closely linked to the rate of glycolytic metabolism and to the mitochondrial bioenergetics of tumors, it should be taken into account for individualizing cancer treatments and for the development of anticancer strategies (2). The human genome contains several non-transcribed pseudogenes of this gene. The role of ANT2 as an endogenous inhibitor of MMP (Mitochondrial membrane permeabilization) suggests that its selective inhibition could constitute a promising strategy of chemosensitization (4).

ANT2-selective antibodies were generated against a peptide taken from mouse and human ANT2 protein. The ANT2-selective antibodies are affinity purified on an immobilized antigen based affinity matrix and the isolated antibodies were then stabilized in antibody stabilization buffer for long-term storage. The ANT2-selective antibodies are fully characterized for applications in western blot and ELISA at the recommended dilutions. Antigenic blocking peptides (P-ANT2) and western blot positive control (PC-ANT2) in ready to use SDS-sample buffer are available. Primary antibody ANT2-201AP labels a ~36 kDa protein in PC-ANT2 samples and several other tissues. Antibodies can be conjugated to fluorophores and other secondary enzymes upon request at nominal cost. For a complete listing of all antibodies and lab services, please visit <http://fabgennix.com>.

References:

1. Brenner C1, Subramaniam K, Pertuiset C, Pervaiz S. Adenine nucleotide translocase family: four isoforms for apoptosis modulation in cancer. *Oncogene*. 2011 Feb 24; 30(8):883-95. Doi: 10.1038/onc.2010.501. Epub 2010 Nov 15.
2. Chevrollier A1, Loiseau D, Reynier P, Stepien G. Adenine nucleotide translocase 2 is a key mitochondrial protein in cancer metabolism. *Biochim Biophys Acta*. 2011 Jun; 1807(6):562-7. Doi: 10.1016/j.bbabi.2010.10.008. Epub 2010 Oct 13.
3. Jang JY1, Choi Y, Jeon YK, Kim CW. Suppression of adenine nucleotide translocase-2 by vector-based siRNA in human breast cancer cells induces apoptosis and inhibits tumor growth in vitro and in vivo. *Breast Cancer Res*. 2008;10(1):R11. doi: 10.1186/bcr1857. Epub 2008 Feb 12.
4. Le Bras M1, Borgne-Sanchez A, Touat Z, El Dein OS, Deniaud A, Maillier E, Lecellier G, Rebouillat D, Lemaire C, Kroemer G, Jacotot E, Brenner C. Chemosensitization by knockdown of adenine nucleotide translocase-2. *Cancer Res*. 2006 Sep 15;66(18):9143-52.

* For users who may require large amounts of the products listed above, please inquire about bulk material discounts.

This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.