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ARTS Antibody

Catalog # ASC10168

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	O43236
Other Accession	AAG45673, 12024871
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	112439
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	ARTS antibody can be used for detection of ARTS by Western blot at 2 g/mL. A band at 32 kDa can be detected. Antibody can also be used for immunohistochemistry starting at 2 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	5414
Other Names	ARTS Antibody: H5, ARTS, MART, SEP4, CE5B3, PNUTL2, hucep-7, BRADEION, hCDCREL-2, Septin-4, Apoptosis-related protein in the TGF-beta signaling pathway, septin 4
Target/Specificity	SEPT4;
Reconstitution & Storage	ARTS antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	ARTS Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SEPTIN4 (HGNC:9165)
Function	Filament-forming cytoskeletal GTPase (Probable). Pro- apoptotic protein involved in LGR5-positive intestinal stem cell and Paneth cell expansion in the intestines, via its interaction with XIAP (By similarity). May also play a role in the regulation of cell fate in the intestine (By similarity). Positive regulator of apoptosis involved in hematopoietic stem cell homeostasis; via its interaction with XIAP (By similarity). Negative regulator of repair and hair follicle regeneration in response to injury, due to inhibition of hair follicle stem cell

	proliferation, potentially via its interaction with XIAP (By similarity). Plays an important role in male fertility and sperm motility (PubMed:36135717). During spermiogenesis, essential for the establishment of the annulus (a fibrous ring structure connecting the midpiece and the principal piece of the sperm flagellum) which is a requisite for the structural and mechanical integrity of the sperm (PubMed:36135717). Involved in the migration of cortical neurons and the formation of neuron leading processes during embryonic development (By similarity). Required for dopaminergic metabolism in presynaptic autoreceptors; potentially via activity as a presynaptic scaffold protein (By similarity).
Cellular Location	Cytoplasm {ECO:0000250|UniProtKB:P28661}. Cell projection, cilium, flagellum. Cytoplasmic vesicle, secretory vesicle. Cell projection, axon {ECO:0000250|UniProtKB:P28661}. Cell projection, dendrite {ECO:0000250|UniProtKB:P28661}. Perikaryon {ECO:0000250|UniProtKB:P28661}. Synapse Note=In platelets, found in areas surrounding alpha-granules (PubMed:15116257). Found in the sperm annulus, a fibrous ring structure connecting the midpiece and the principal piece of the sperm flagellum (PubMed:25588830, PubMed:36135717). Expressed and colocalized with SLC6A3 and SNCA in axon terminals, especially at the varicosities (By similarity). {ECO:0000250|UniProtKB:P28661, ECO:0000269|PubMed:15116257, ECO:0000269|PubMed:25588830, ECO:0000269|PubMed:36135717}
Tissue Location	Widely expressed in adult and fetal tissues with highest expression in adult brain (at protein level), heart, liver and adrenal gland and fetal heart, kidney, liver and lung. Expressed in presynaptic terminals of dopaminergic neurons projecting from the substantia nigra pars compacta to the striatum (at protein level) (PubMed:17296554). Expressed in axonal varicosities in dopaminergic nerve terminals (at protein level) (PubMed:17296554). Expressed in the putamen and in the adjacent cerebral cortex (at protein level) (PubMed:17296554). Expressed in colonic crypts (at protein level) (PubMed:30389919). Expressed in platelets. Expressed in spermatozoa (at protein level) (PubMed:36135717).

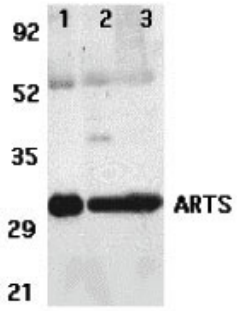
Background

ARTS Antibody: Apoptosis is related to many diseases and development. Mitochondrial proteins, such as cytochrome c, Apaf-1, and AIF play important role in apoptosis. A novel mitochondrial septin-like protein was identified recently and designated ARTS for apoptosis related protein in TGF-beta signaling pathway. ARTS that is encoded by the human septin H5/PNUTL2/CDCrel2b gene is located to mitochondria and translocates to the nucleus when apoptosis occurs. ARTS is expressed in many tissues. It enhances cell death induced by TGF-beta and, to a lesser extent, by other apoptotic agents, such as TNF-α and Fas ligand.

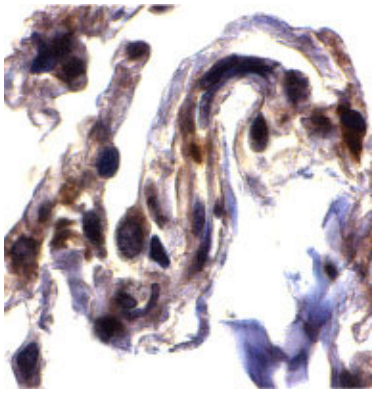
References

Larisch S, Yi Y, Lotan R, Kerner H, et al. A novel mitochondrial septin-like protein, ARTS, mediates apoptosis dependent on its P-loop motif. Nat Cell Biol 2000;2(12):915-21
Depraetere V. The ARTS of apoptosis. Nat Cell Biol. 2000;2(12):E219.
Paavola,P., Horelli-Kuitunen,N., Palotie,A. and Peltonen,L. Characterization of a novel gene, PNUTL2, on human chromosome 17q22-q23 and its exclusion as the Meckel syndrome gene. Genomics 1999;55 (1):122-125
Zieger,B., Tran,H., Hainmann, I. , Wunderle,D., Zgaga-Griesz,A., Blaser,S. and Ware,J. Characterization and expression analysis of two human septin genes, PNUTL1 and PNUTL2. Gene 2000;261(2):197-203

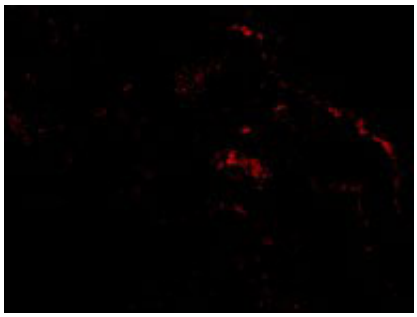
Images



Western blot analysis of ARTS expression in human lung (lane 1), spleen (lane 2), and kidney (lane 3) tissue lysates with ARTS antibody at 2 µg /ml.



Immunohistochemistry of ARTS in human lung tissue with ARTS antibody at 2 µg/mL.



Immunofluorescence of ARTS in Human Lung cells with ARTS antibody at 20 µg/mL.

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