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ATP13A2 Rabbit pAb

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Catalog # AP54602

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q9NQ11
Reactivity	Rat
Predicted	Human, Mouse, Pig, Horse, Rabbit
Host	Rabbit
Clonality	Polyclonal
Calculated MW	128794
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human ATP13A2
Epitope Specificity	1001-1080/1180
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Membrane; Multi-pass membrane protein (By similarity). Lysosome.
SIMILARITY	Belongs to the cation transport ATPase (P-type) (TC 3.A.3) family. Type V subfamily.
DISEASE	Defects in ATP13A2 are the cause of Kufor-Rakeb syndrome (KRS) [MIM:606693]; also known as Parkinson disease type 9 (PARK9). KRS is a rare hereditary disease with juvenile onset. In addition to typical signs of Parkinson disease, affected individuals show symptoms of more widespread neurodegeneration, including dementia.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	ATP13A2 is a 1,180 amino acid multi-pass membrane protein that belongs to the P5 subfamily of ATPases which play an important role in the transportation of inorganic cations. Expressed as multiple alternative spliced isoforms, ATP13A2 functions to catalyze the conversion of ATP to ADP and a free phosphate, thereby participating in the active transport of ions across cellular membranes. Defects in the gene encoding ATP13A2 are the cause of Kufor-Rakeb syndrome (KRS), a rare hereditary type of Parkinson's disease that exhibits juvenile onset and is characterized by neurodegeneration and dementia. The ATP13A2 gene maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome.

Additional Information

Gene ID	23400
Other Names	Polyamine-transporting ATPase 13A2, 7.6.2.-, ATP13A2 (HGNC:30213)

Target/Specificity	Expressed in brain; protein levels are markedly increased in brain from subjects with Parkinson disease and subjects with dementia with Lewy bodies. Detected in pyramidal neurons located throughout the cingulate cortex (at protein level). In the substantia nigra, it is found in neuromelanin-positive dopaminergic neurons (at protein level).
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	ATP13A2 (HGNC:30213)
Function	ATPase which acts as a lysosomal polyamine exporter with high affinity for spermine (PubMed:31996848). Also stimulates cellular uptake of polyamines and protects against polyamine toxicity (PubMed:31996848). Plays a role in intracellular cation homeostasis and the maintenance of neuronal integrity (PubMed:22186024). Contributes to cellular zinc homeostasis (PubMed:24603074). Confers cellular protection against Mn(2+) and Zn(2+) toxicity and mitochondrial stress (PubMed:26134396). Required for proper lysosomal and mitochondrial maintenance (PubMed:22296644, PubMed:28137957). Regulates the autophagy-lysosome pathway through the control of SYT11 expression at both transcriptional and post-translational levels (PubMed:27278822). Facilitates recruitment of deacetylase HDAC6 to lysosomes to deacetylate CTTN, leading to actin polymerization, promotion of autophagosome-lysosome fusion and completion of autophagy (PubMed:30538141). Promotes secretion of exosomes as well as secretion of SCNA via exosomes (PubMed:24603074, PubMed:25392495). Plays a role in lipid homeostasis (PubMed:31132336).
Cellular Location	Lysosome membrane; Multi-pass membrane protein. Late endosome membrane; Multi-pass membrane protein. Endosome, multivesicular body membrane; Multi-pass membrane protein. Cytoplasmic vesicle, autophagosome membrane; Multi-pass membrane protein
Tissue Location	Expressed in brain; protein levels are markedly increased in brain from subjects with Parkinson disease and subjects with dementia with Lewy bodies. Detected in pyramidal neurons located throughout the cingulate cortex (at protein level). In the substantia nigra, it is found in neuromelanin-positive dopaminergic neurons (at protein level).

Background

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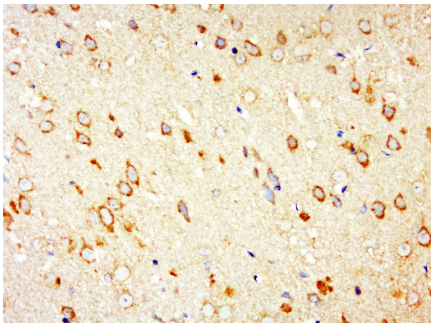
Images



Paraformaldehyde-fixed, paraffin embedded (rat brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (ATP13A2) Polyclonal Antibody, Unconjugated (AP54602) at 1:400 overnight at 4°C, followed by a conjugated secondary (sp-0023) for 20 minutes and DAB staining.