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KIF1A Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP54465

Product Information

Application	IHC-P, IHC-F, IF, ICC, E
Primary Accession	Q12756
Reactivity	Rat, Pig, Dog, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	191064
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human KIF1A
Epitope Specificity	1-100/1690
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	Cytoplasm, cytoskeleton. Note=Expressed in distal regions of neurites.
SIMILARITY	Belongs to the kinesin-like protein family. Unc-104 subfamily.Contains 1 FHA domain.Contains 1 kinesin-motor domain.Contains 1 PH domain.
SUBUNIT	Monomer. Interacts with PPFIA1 and PPFIA4 (By similarity).
DISEASE	Spastic paraplegia 30, autosomal recessive (SPG30) [MIM:610357]: A form of spastic paraplegia, a neurodegenerative disorder characterized by a slow, gradual, progressive weakness and spasticity of the lower limbs. Rate of progression and the severity of symptoms are quite variable. Initial symptoms may include difficulty with balance, weakness and stiffness in the legs, muscle spasms, and dragging the toes when walking. In some forms of the disorder, bladder symptoms (such as incontinence) may appear, or the weakness and stiffness may spread to other parts of the body. SPG30 is characterized by onset in the first or second decades of unsteady spastic gait and hyperreflexia of the lower limbs. Note=The disease is caused by mutations affecting the gene represented in this entry.Hereditary sensory neuropathy 2C (HSN2C) [MIM:614213]: A neurodegenerative disorder characterized by onset in the first decade of progressive distal sensory loss leading to ulceration and amputation of the fingers and toes. Affected individuals also develop distal muscle weakness, primarily affecting the lower limbs. Note=The disease is caused by mutations affecting the gene represented in this entry.Mental retardation, autosomal dominant 9 (MRD9) [MIM:614255]: A disorder characterized by significantly below average general intellectual functioning associated with impairments in adaptative behavior and manifested during the developmental period. Note=The disease is caused by mutations affecting the gene represented in this entry.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The kinesins constitute a large family of microtubule-dependent motor proteins, which are responsible for the distribution of numerous organelles, vesicles and macromolecular complexes throughout the cell. Individual kinesin members play crucial roles in cell division, intracellular transport and

membrane trafficking events including endocytosis and transcytosis. KIF1C is a member of the KIF1/Unc104 family of kinesin-like proteins, which are involved in the transport of mitochondria or synaptic vesicles in axons. The human KIF1A gene encodes a neuron-specific motor protein that delivers synaptic vesicle precursors to nerve terminals. KIF1A is a monomeric, globular molecule and has rapid anterograde motor activity (1.2 microns/s). KIF1A-mediated axonal transport plays a critical role in viability, maintenance and function of neurons, particularly mature neurons. KIF1A is associated with organelles that contain synaptic vesicle proteins such as synaptotagmin, synaptophysin and Rab 3A.

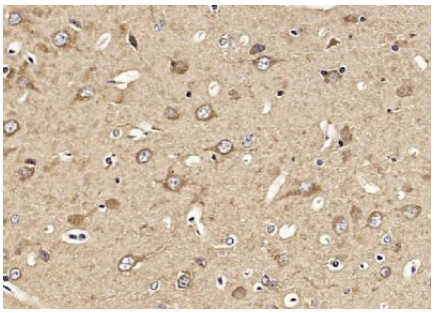
Additional Information

Gene ID	547
Other Names	Kinesin-like protein KIF1A, Axonal transporter of synaptic vesicles, Microtubule-based motor KIF1A, Unc-104- and KIF1A-related protein, hUnc-104, KIF1A, ATSV, C2orf20
Target/Specificity	Expressed in neurons.
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100-500,IF=1:100-500,ELISA=1:5000-10000
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	KIF1A
Synonyms	ATSV, C2orf20
Function	Kinesin motor with a plus-end-directed microtubule motor activity (By similarity). It is required for anterograde axonal transport of synaptic vesicle precursors (PubMed:33880452). Also required for neuronal dense core vesicles (DCVs) transport to the dendritic spines and axons. The interaction calcium-dependent with CALM1 increases vesicle motility and interaction with the scaffolding proteins PPFIA2 and TANC2 recruits DCVs to synaptic sites.
Cellular Location	Cytoplasm, cytoskeleton. Cell projection, neuron projection. Cell projection, axon {ECO:0000250|UniProtKB:P33173}. Cytoplasm, perinuclear region {ECO:0000250|UniProtKB:P33173}. Synapse {ECO:0000250|UniProtKB:P33173} Cytoplasmic vesicle, secretory vesicle, neuronal dense core vesicle membrane {ECO:0000250|UniProtKB:F1M4A4}; Peripheral membrane protein {ECO:0000250|UniProtKB:F1M4A4}; Cytoplasmic side {ECO:0000250|UniProtKB:F1M4A4}. Note=Within neuronal cells concentrated in the axon, with smaller amounts in the perinuclear and synaptic regions (By similarity). Accumulates at the distal tip of growing neurites. {ECO:0000250|UniProtKB:P33173, ECO:0000269|PubMed:25265257, ECO:0000269|PubMed:33880452}
Tissue Location	Expressed in neurons.

Images



Paraformaldehyde-fixed, paraffin embedded (mouse brain); Antigen retrieval by microwave in sodium citrate buffer (pH6.0) ; Block endogenous peroxidase by 3% hydrogen peroxide for 30 minutes; Blocking buffer (3% BSA) at RT for 30min; Antibody incubation with (KIF1A) Polyclonal Antibody, Unconjugated (AP54465) at 1:400 overnight at 4℃, followed by conjugation to the secondary antibody (labeled with HRP)and DAB staining.