

FIG4 Rabbit pAb

Catalog # AP97816

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q92562
Other Accession	Q92562
Reactivity	Rat
Predicted	Pig, Human, Mouse, Monkey, Chicken, Dog, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	103635
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human FIG4
Epitope Specificity	1-100/907
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 1 SAC domain.
DISEASE	Defects in FIG4 are the cause of Charcot-Marie-Tooth disease type 4J (CMT4J) [MIM:611228]. CMT4J is a recessive demyelinating, severe form of Charcot-Marie-Tooth disease, the most common inherited disorder of the peripheral nervous system. Charcot-Marie-Tooth disease is classified in two main groups on the basis of electrophysiologic properties and histopathology: primary peripheral demyelinating neuropathies characterized by severely reduced motor nerve conduction velocities (NCVs) (less than 38m/s) and segmental demyelination and remyelination, and primary peripheral axonal neuropathies characterized by normal or mildly reduced NCVs and chronic axonal degeneration and regeneration on nerve biopsy. Defects in FIG4 are the cause of amyotrophic lateral sclerosis type 11 (ALS11) [MIM:612577]. ALS is a neurodegenerative disorder affecting upper motor neurons in the brain and lower motor neurons in the brain stem and spinal cord, resulting in fatal paralysis. Sensory abnormalities are absent. Death usually occurs within 2 to 5 years. The etiology of amyotrophic lateral sclerosis is likely to be multifactorial, involving both genetic and environmental factors. The disease is inherited in 5-10%.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The protein encoded by this gene belongs to the SAC domain-containing protein gene family. The SAC domain, approximately 400 amino acids in length and consisting of seven conserved motifs, has been shown to possess phosphoinositide phosphatase activity. The yeast homolog, Sac1p, is involved in the regulation of various phosphoinositides, and affects diverse cellular functions such as actin cytoskeleton organization, Golgi function, and maintenance of vacuole morphology. Membrane-bound phosphoinositides function as signaling molecules and play a key role in vesicle trafficking in eukaryotic cells. Mutations in this gene have been associated with Charcot-Marie-Tooth disease, type 4J. [provided by RefSeq, Jul 2008]

Additional Information

Gene ID	9896
Other Names	ALS11; BOP; BTOP; CMT4J; KIAA0274; SAC3; YVS; dj249I4.1; A530089I17Rik; RGD1311375; FIG4_HUMAN; FIG4; Phosphatidylinositol 3, 5-bisphosphate 5-phosphatase; SAC domain-containing protein 3; Serine-protein phosphatase FIG4; 3.1.3.-; 3.1.3.36; 3.1.3.86; FIG4_MOUSE; FIG4 phosphoinositide 5-phosphatase; FIG4 homolog (S. cerevisiae); FIG4 homolog, SAC1 lipid phosphatase domain containing (S. cerevisiae)
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	FIG4 (HGNC:16873)
Function	Dual specificity phosphatase component of the PI(3,5)P2 regulatory complex which regulates both the synthesis and turnover of phosphatidylinositol 3,5-bisphosphate (PtdIns(3,5)P2) (PubMed: 17556371 , PubMed: 33098764). Catalyzes the dephosphorylation of phosphatidylinositol 3,5-bisphosphate (PtdIns(3,5)P2) to form phosphatidylinositol 3-phosphate (PubMed: 33098764). Has serine-protein phosphatase activity acting on PIKfyve to stimulate its lipid kinase activity, its catalytically activity being required for maximal PI(3,5)P2 production (PubMed: 33098764). In vitro, hydrolyzes all three D5-phosphorylated polyphosphoinositide and although displaying preferences for PtdIns(3,5)P2, it is capable of hydrolyzing PtdIns(3,4,5)P3 and PtdIns(4,5)P2, at least in vitro (PubMed: 17556371).
Cellular Location	Endosome membrane. Note=Localization requires VAC14 and PIKFYVE

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