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Optineurin Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP55234

Product Information

Application	WB, IHC-P, IHC-F, IF, ICC, E
Primary Accession	Q96CV9
Reactivity	Rat, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	65922
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Optineurin
Epitope Specificity	341-440/577
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 > perinuclear region. Golgi apparatus. Golgi apparatus > trans-Golgi network. Found in the perinuclear region and associates with the Golgi apparatus. Colocalizes with MYO6 and RAB8 at the Golgi complex and in vesicular structures close to the plasma membrane.
Post-translational modifications	Phosphorylated. Phosphorylation is induced by phorbol esters and decreases its half-time.
DISEASE	Defects in OPTN are the cause of primary open angle glaucoma type 1E (GLC1E) [MIM:137760]. Primary open angle glaucoma (POAG) is characterized by a specific pattern of optic nerve and visual field defects. The angle of the anterior chamber of the eye is open, and usually the intraocular pressure is increased. The disease is asymptomatic until the late stages, by which time significant and irreversible optic nerve damage has already taken place. Defects in OPTN are a cause of susceptibility to normal pressure glaucoma (NPG) [MIM:606657]. Defects in OPTN are the cause of amyotrophic lateral sclerosis type 12 (ALS12) [MIM:613435]. It 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% of the cases.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes the coiled-coil containing protein optineurin. Optineurin may play a role in normal-tension glaucoma and adult-onset primary open angle glaucoma. Optineurin interacts with adenovirus E3-14.7K protein and may utilize tumor necrosis factor-alpha or Fas-ligand pathways to mediate apoptosis, inflammation or vasoconstriction. Optineurin may also function in cellular morphogenesis and membrane trafficking, vesicle trafficking, and transcription activation through its interactions with the RAB8, huntingtin, and transcription factor IIIA proteins. Alternative splicing results in multiple

transcript variants encoding the same protein. [provided by RefSeq, Jul 2008]

Additional Information

Gene ID	10133
Other Names	Optineurin, E3-14.7K-interacting protein, FIP-2, Huntingtin yeast partner L, Huntingtin-interacting protein 7, HIP-7, Huntingtin-interacting protein L, NEMO-related protein, Optic neuropathy-inducing protein, Transcription factor IIIA-interacting protein, TFIIIA-IntP, OPTN, FIP2, GLC1E, HIP7, HYPL, NRP
Target/Specificity	Present in acqueous humor of the eye (at protein level). Highly expressed in trabecular meshwork. Expressed nonpigmented ciliary epithelium, retina, brain, adrenal cortex, fetus, lymphocyte, fibroblast, skeletal muscle, heart, liver, brain and placenta.
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
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.

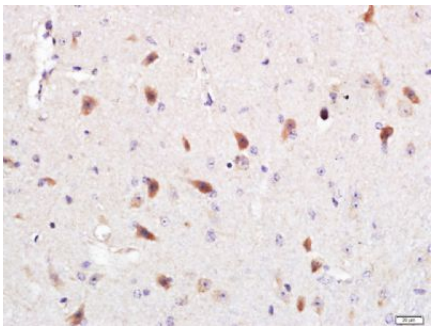
Protein Information

Name	OPTN
Function	Plays an important role in the maintenance of the Golgi complex, in membrane trafficking, in exocytosis, through its interaction with myosin VI and Rab8 (PubMed:27534431). Links myosin VI to the Golgi complex and plays an important role in Golgi ribbon formation (PubMed:27534431). Plays a role in the activation of innate immune response during viral infection. Mechanistically, recruits TBK1 at the Golgi apparatus, promoting its trans-phosphorylation after RLR or TLR3 stimulation (PubMed:27538435). In turn, activated TBK1 phosphorylates its downstream partner IRF3 to produce IFN-beta/IFNB1. Plays a neuroprotective role in the eye and optic nerve. May act by regulating membrane trafficking and cellular morphogenesis via a complex that contains Rab8 and huntingtin (HD). Mediates the interaction of Rab8 with the probable GTPase-activating protein TBC1D17 during Rab8-mediated endocytic trafficking, such as that of transferrin receptor (TFRC/TfR); regulates Rab8 recruitment to tubules emanating from the endocytic recycling compartment (PubMed:22854040). Autophagy receptor that interacts directly with both the cargo to become degraded and an autophagy modifier of the MAP1 LC3 family; targets ubiquitin- coated bacteria (xenophagy), such as cytoplasmic Salmonella enterica, and appears to function in the same pathway as SQSTM1 and CALCOCO2/NDP52.
Cellular Location	Cytoplasm, perinuclear region. Golgi apparatus. Golgi apparatus, trans-Golgi network Cytoplasmic vesicle, autophagosome. Cytoplasmic vesicle. Recycling endosome. Note=Found in the perinuclear region and associates with the Golgi apparatus (PubMed:27534431) Colocalizes with MYO6 and RAB8 at the Golgi complex and in vesicular structures close to the plasma membrane. Localizes to LC3-positive cytoplasmic vesicles upon induction of autophagy

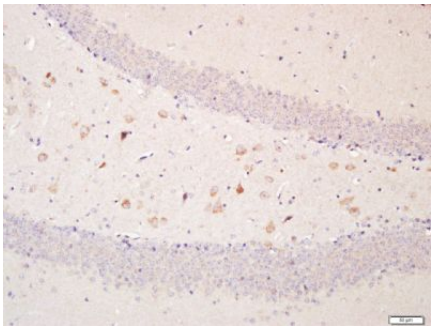
Tissue Location

Present in aqueous humor of the eye (at protein level). Expressed in the trabecular meshwork (at protein level) (PubMed:11834836, PubMed:12379221, PubMed:12646749). Expressed in nonpigmented ciliary epithelium (at protein level) (PubMed:11834836) Expressed at high levels in skeletal muscle, also detected in heart, brain, pancreas, kidney, placenta and liver (PubMed:9488477). Expressed in dermal fibroblasts (at protein level) (PubMed:11834836)

Images



Paraformaldehyde-fixed, paraffin embedded (mouse 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 (Optineurin) Polyclonal Antibody, Unconjugated (AP55234) at 1:400 overnight at 4°C, followed by a conjugated secondary (sp-0023) for 20 minutes and DAB staining.



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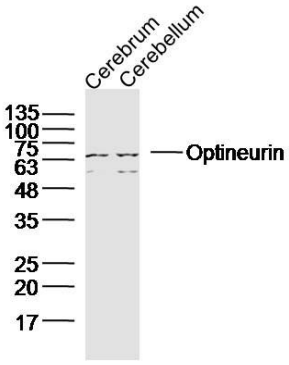

Sample:
Cerebrum (Mouse) Lysate at 40 ug
Cerebellum (Mouse) Lysate at 40 ug
Primary: Anti-Optineurin(AP55234)at 1/300 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 66kD
Observed band size: 66kD