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Myosin VIIa Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP58748

Product Information

Application	IHC-P, IHC-F, IF, E
Primary Accession	Q13402
Reactivity	Rat, Pig, Dog, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	254390
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Myosin VIIa
Epitope Specificity	851-950/2215
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 (Probable). Note=In the photoreceptor cells, mainly localized in the inner and base of outer segments as well as in the synaptic ending region.
SIMILARITY	Contains 2 FERM domains. Contains 5 IQ domains. Contains 1 myosin head-like domain. Contains 2 MyTH4 domains. Contains 1 SH3 domain.
SUBUNIT	Interacts with PLEKHB1 (via PH domain). Might homodimerize in a two headed molecule through the formation of a coiled-coil rod. Binds MYRIP and WHRN.
DISEASE	Defects in MYO7A are the cause of Usher syndrome type 1B (USH1B) [MIM:276900]. USH is a genetically heterogeneous condition characterized by the association of retinitis pigmentosa and sensorineural deafness. Age at onset and differences in auditory and vestibular function distinguish Usher syndrome type 1 (USH1), Usher syndrome type 2 (USH2) and Usher syndrome type 3 (USH3). USH1 is characterized by profound congenital sensorineural deafness, absent vestibular function and prepubertal onset of progressive retinitis pigmentosa leading to blindness. Defects in MYO7A are the cause of deafness autosomal recessive type 2 (DFNB2) [MIM:600060]; also called neurosensory non-syndromic recessive deafness 2 (NSRD2). DFNB2 is a form of sensorineural hearing loss. Sensorineural deafness results from damage to the neural receptors of the inner ear, the nerve pathways to the brain, or the area of the brain that receives sound information. Defects in MYO7A are the cause of deafness autosomal dominant type 11 (DFNA11) [MIM:601317].
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Myosins are actin-based motor molecules with ATPase activity. Unconventional myosins serve in intracellular movements. Their highly divergent tails are presumed to bind to membranous compartments, which would be moved relative to actin filaments. In retina, myosin VIIa may play a role in trafficking of ribbon-synaptic vesicle complexes and renewal of the outer photoreceptors disks. In inner ear, it may maintain the rigidity of stereocilia during the dynamic movements of the bundle.

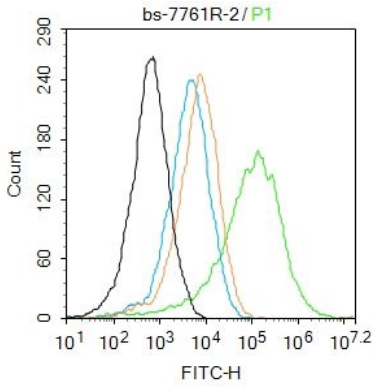
Additional Information

Gene ID	4647
Other Names	Unconventional myosin-VIIa, MYO7A, USH1B
Target/Specificity	Expressed in the pigment epithelium and the photoreceptor cells of the retina. Also found in kidney, liver, testis, cochlea, lymphocytes. Not expressed in brain.
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=2ug/Test,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	MYO7A (HGNC:7606)
Synonyms	USH1B
Function	Myosins are actin-based motor molecules with ATPase activity. Unconventional myosins serve in intracellular movements. Their highly divergent tails bind to membranous compartments, which are then moved relative to actin filaments. In the retina, plays an important role in the renewal of the outer photoreceptor disks. Plays an important role in the distribution and migration of retinal pigment epithelial (RPE) melanosomes and phagosomes, and in the regulation of opsin transport in retinal photoreceptors. In the inner ear, plays an important role in differentiation, morphogenesis and organization of cochlear hair cell bundles. Involved in hair-cell vesicle trafficking of aminoglycosides, which are known to induce ototoxicity (By similarity). Motor protein that is a part of the functional network formed by USH1C, USH1G, CDH23 and MYO7A that mediates mechanotransduction in cochlear hair cells. Required for normal hearing.
Cellular Location	Cytoplasm {ECO:0000250|UniProtKB:P97479}. Cytoplasm, cell cortex {ECO:0000250|UniProtKB:P97479}. Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:P97479}. Synapse. Note=In the photoreceptor cells, mainly localized in the inner and base of outer segments as well as in the synaptic ending region (PubMed:8842737). In retinal pigment epithelial cells colocalizes with a subset of melanosomes, displays predominant localization to stress fiber-like structures and some localization to cytoplasmic puncta (PubMed:19643958, PubMed:27331610). Detected at the tip of cochlear hair cell stereocilia (PubMed:21709241). The complex formed by MYO7A, USH1C and USH1G colocalizes with F-actin (PubMed:21709241).
Tissue Location	Expressed in the pigment epithelium and the photoreceptor cells of the retina. Also found in kidney, liver, testis, cochlea, lymphocytes. Not expressed in brain

Images



Blank control:Mouse kidney.
Primary Antibody (green line): Rabbit Anti-Myosin VIIa antibody (AP58748)
Dilution: 2 µg /10^6 cells;
Isotype Control Antibody (orange line): Rabbit IgG .
Secondary Antibody : Goat anti-rabbit IgG-AF488
Dilution: 1 µg /test.
Protocol
The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 0.1% PBST for 20 min at room temperature. The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.