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EHD3 Rabbit pAb

Catalog # AP99283

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q9NZN3
Other Accession	Q9NZN3
Reactivity	Mouse
Predicted	Rat, Pig, Human, Rabbit, Dog, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	60887
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human EHD3
Epitope Specificity	11-110/535
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 EF-hand domain.Contains 1 EH domain.
SUBUNIT	Homooligomer, and heterooligomer with EHD1, EHD2 and EHD4. Interacts with PACSIN1 and PACSIN2. Interacts (via EH domain) with MICALL1.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The Eps15 homology (EH) domain-containing protein family consists of four members, EHD1, EHD2, EHD3, and EHD4 (1). The chromosomal locations of the human EHD genes are as follows: EHD1 maps to 11q13, EHD2 maps to 19q13.3, EHD3 maps to 2p21, and EHD4 maps to 15q11.1 (1-3). The encoded proteins of all EHD family members contain multiple conserved regions, which include an amino-terminal nucleotide-binding consensus site, a bipartite nuclear localization signal, and a carboxy-terminal EH protein-binding domain with an EF-hand motif (3,4). EHD1 is ubiquitously expressed with increased expression in testis (2,3). EHD2, EHD3, and EHD4 have more specific expression with EHD2 highly expressed in heart, EHD3 expressed in brain, kidney, liver, placenta, ovary, and heart, and EHD4 expressed in heart, placenta, and pancreas (1,5,6). The EHD proteins may participate in ligand-induced endocytosis (3-5).

Additional Information

Gene ID	30845
Other Names	PAST3; Ehd2; EHD3_HUMAN; EHD3; PAST homolog 3; EHD3_MOUSE; EH domain containing 3
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

EHD3 (HGNC:3244)

Function

ATP- and membrane-binding protein that controls membrane reorganization/tubulation upon ATP hydrolysis (PubMed:25686250). In vitro causes tubulation of endocytic membranes (PubMed:24019528). Binding to phosphatidic acid induces its membrane tubulation activity (By similarity). Plays a role in endocytic transport. Involved in early endosome to recycling endosome compartment (ERC), retrograde early endosome to Golgi, and endosome to plasma membrane (rapid recycling) protein transport. Involved in the regulation of Golgi maintenance and morphology (PubMed:16251358, PubMed:17233914, PubMed:19139087, PubMed:23781025). Involved in the recycling of internalized D1 dopamine receptor (PubMed:21791287). Plays a role in cardiac protein trafficking probably implicating ANK2 (PubMed:20489164). Involved in the ventricular membrane targeting of SLC8A1 and CACNA1C and probably the atrial membrane localization of CACNA1GG and CACNA1H implicated in the regulation of atrial myocyte excitability and cardiac conduction (By similarity). In conjunction with EHD4 may be involved in endocytic trafficking of KDR/VEGFR2 implicated in control of glomerular function (By similarity). Involved in the rapid recycling of integrin beta-3 implicated in cell adhesion maintenance (PubMed:23781025). Involved in the unidirectional retrograde dendritic transport of endocytosed BACE1 and in efficient sorting of BACE1 to axons implicating a function in neuronal APP processing (By similarity). Plays a role in the formation of the ciliary vesicle, an early step in cilium biogenesis; possibly sharing redundant functions with EHD1 (PubMed:25686250).

Cellular Location

Recycling endosome membrane; Peripheral membrane protein; Cytoplasmic side. Cell membrane; Peripheral membrane protein; Cytoplasmic side. Cell projection, cilium membrane; Peripheral membrane protein; Cytoplasmic side. Note=Localizes to the ciliary pocket from where the cilium protrudes (PubMed:25686250) Colocalizes with RAB8A and MYO5B to a cytoplasmic tubular network devoid of RAB11A (By similarity). Colocalizes with ANK2 in myocyte perinuclear region (PubMed:20489164). Colocalizes with BACE1 in tubulovesicular cytoplasmic membranes. Colocalizes with BACE1 and APP amyloid beta proteins in hippocampal mossy fiber terminals (By similarity). {ECO:0000250|UniProtKB:Q9QXY6, ECO:0000269|PubMed:20489164, ECO:0000269|PubMed:25686250}

Tissue Location

Highly expressed in heart and brain and moderately expressed in kidney, liver, and placenta

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.