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AP2M1 Rabbit pAb

Catalog # AP97662

Product Information

Application	IHC-P, IHC-F, IF, E
Primary Accession	Q96CW1
Other Accession	Q96CW1
Predicted	Rat, Human, Mouse, Rabbit, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	49655
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human AP2M1
Epitope Specificity	201-300/435
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the adaptor complexes medium subunit family. Contains 1 MHD (mu homology) domain.
SUBUNIT	Adaptor protein complex 2 (AP-2) is a heterotetramer composed of two large adaptins (alpha-type subunit AP2A1 or AP2A2 and beta-type subunit AP2B1), a medium adaptin (mu-type subunit AP2M1) and a small adaptin (sigma-type subunit AP2S1). Interacts with ATP6V1H and MEGF10. Interacts with EGFR. Interacts with F2R. Interacts with PIP5K1C; tyrosine phosphorylation of PIP5K1C weakens the interaction (By similarity). Interacts with KIAA0319; required for clathrin-mediated endocytosis of KIAA0319. Interacts with DVL2 (via DEP domain) (By similarity).
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Adaptins are heterotetrameric subunits of adaptors, which are complexes involved in the formation of Clathrin-coated pits for vesicle-mediated endocytosis. Clathrin and its associated heterotetrameric protein complexes make up the main protein components of the coat surrounding the cytoplasmic face of coated vesicles. The Adaptin family, comprising a, b, and g classes, is also responsible for the transport of ligand-receptor complexes from plasma membranes and the trans-Golgi network to lysosomes. Two main types of adaptor proteins (APs), AP-1 and AP-2, are found in Clathrin-coated structures located at the Golgi complex and the plasma membrane of mammalian cells, respectively. Adaptor protein complex 2 (AP-2) is composed of two large Adaptins (a1A/AP2A1 and b1/AP2B1), a medium Adaptin (m2/AP-2m1) and a small Adaptin (s2 long/AP2S1). AP-2m1, a 435 amino acid protein, links Clathrin to receptors in coated vesicles.

Additional Information

Gene ID	1173

Other Names	AP50; CLAPM1; MRD60; mu2; AP2M1_HUMAN; AP2M1; AP-2 mu chain; Adaptin-mu2; Adaptor protein complex AP-2 subunit mu; Adaptor-related protein complex 2 subunit mu; Clathrin assembly protein complex 2 mu medium chain; Clathrin coat assembly protein AP50; Clathrin coat-associated protein AP50; HA2 50 kDa subunit; Plasma membrane adaptor AP-2 50 kDa protein; KIAA0109; AP2M1_MOUSE; Mu2-adaptin; AP2M1_RAT; adaptor related protein complex 2 subunit mu 1; adaptor related protein complex 2 mu 1 subunit; clathrin-associated/assembly/adaptor protein, medium 1; plasma membrane adaptor AP-2 50kDA protein; clathrin coat adaptor protein AP50; clathrin adaptor complex AP2, mu subunit; clathrin assembly protein complex 2 medium chain; AP-2 mu 2 chain
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=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	AP2M1 (HGNC:564)
Synonyms	CLAPM1, KIAA0109
Function	Component of the adaptor protein complex 2 (AP-2) (PubMed: 12694563, PubMed:12952941, PubMed:14745134, PubMed:14985334, PubMed:15473838, PubMed:31104773). Adaptor protein complexes function in protein transport via transport vesicles in different membrane traffic pathways (PubMed:12694563, PubMed:12952941, PubMed:14745134, PubMed:14985334, PubMed:15473838, PubMed:31104773). Adaptor protein complexes are vesicle coat components and appear to be involved in cargo selection and vesicle formation (PubMed:12694563, PubMed:12952941, PubMed:14745134, PubMed:14985334, PubMed:15473838, PubMed:31104773). AP-2 is involved in clathrin-dependent endocytosis in which cargo proteins are incorporated into vesicles surrounded by clathrin (clathrin-coated vesicles, CCVs) which are destined for fusion with the early endosome (PubMed:12694563, PubMed:12952941, PubMed:14745134, PubMed:14985334, PubMed:15473838, PubMed:31104773). The clathrin lattice serves as a mechanical scaffold but is itself unable to bind directly to membrane components (PubMed:12694563, PubMed:12952941, PubMed:14745134, PubMed:14985334, PubMed:15473838, PubMed:31104773). Clathrin-associated adaptor protein (AP) complexes which can bind directly to both the clathrin lattice and to the lipid and protein components of membranes are considered to be the major clathrin adaptors contributing the CCV formation (PubMed:12694563, PubMed:12952941, PubMed:14745134, PubMed:14985334, PubMed:15473838, PubMed:31104773). AP-2 also serves as a cargo receptor to selectively sort the membrane proteins involved in receptor-mediated endocytosis (PubMed:16581796). AP-2 seems to play a role in the recycling of synaptic vesicle membranes from the presynaptic surface (PubMed:12694563, PubMed:12952941, PubMed:14745134, PubMed:14985334, PubMed:15473838, PubMed:31104773). AP-2 recognizes Y-X-X-[FILMV] (Y-X-X-Phi) and [ED]-X-X-X-L-[LI] endocytosis signal motifs within the cytosolic tails of transmembrane cargo molecules (By similarity). AP-2 may also play a role in maintaining normal post-endocytic trafficking through the ARF6-regulated, non-clathrin pathway (PubMed:19033387). During long-term potentiation in hippocampal neurons, AP-2 is responsible for the endocytosis of ADAM10

	(PubMed:23676497). The AP-2 mu subunit binds to transmembrane cargo proteins; it recognizes the Y- X-X-Phi motifs (By similarity). The surface region interacting with to the Y-X-X-Phi motif is inaccessible in cytosolic AP-2, but becomes accessible through a conformational change following phosphorylation of AP-2 mu subunit at Thr-156 in membrane-associated AP-2 (PubMed:11877457). The membrane-specific phosphorylation event appears to involve assembled clathrin which activates the AP-2 mu kinase AAK1 (PubMed:11877457). Plays a role in endocytosis of frizzled family members upon Wnt signaling (By similarity).
Cellular Location	Cell membrane. Membrane, coated pit; Peripheral membrane protein; Cytoplasmic side. Note=AP-2 appears to be excluded from internalizing CCVs and to disengage from sites of endocytosis seconds before internalization of the nascent CCV {ECO:0000250|UniProtKB:P84091}
Tissue Location	Expressed in the brain (at protein level).

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