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alpha Adaptin Rabbit pAb

Catalog # AP99948

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	O94973
Other Accession	O94973
Reactivity	Rat, Mouse
Predicted	Human, Rabbit, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	103960
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human alpha Adaptin
Epitope Specificity	21-150/939
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 large subunit family.
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). Binds EPN1, EPS15, AMPH, SNAP91 and BIN1. Interacts with HIP1. Interacts with DGKD isoform 2. Interacts with DENND1A, DENND1B and DENND1C. Interacts with FCHO1 and DAB2.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Clathrin-mediated endocytosis is the pathway by which many receptors for nutrients and hormones are internalized to be recycled or down-regulated. During formation of clathrin coated membranes, clathrin co-assembles with heterotetrameric molecules known as assembly polypeptides (APs) or adaptors which form a layer of protein coat between the clathrin lattice and the membrane. There are two characterized adaptors AP1 and AP2. AP1 is associated with clathrin coated vesicles at the trans-Golgi network and AP2 is associated with the endocytic clathrin coated vesicles at the plasma membrane and has been shown to specifically interact with Shc and EGF receptor. AP2 is composed of four subunits, two separate 100 kDa gene products with similar domain structures (alpha and beta adaptin) and a 50 and 17 kDa subunit. There are two alpha-adaptin genes, alpha A and alpha C which have a tissue specific pattern of expression.

Additional Information

Gene ID	161
Other Names	ADTAA; AP2-ALPHA; CLAPA1; ADTAB; CLAPA2; HIP-9; HIP9; HYPJ; 2410074K14Rik; L25; AP2A2_BOVIN; AP2A2; 100 kDa coated vesicle protein C;

	Adaptor protein complex AP-2 subunit alpha-2; Adaptor-related protein complex 2 subunit alpha-2; Alpha-adaptin C; Alpha2-adaptin; Clathrin assembly protein complex 2 alpha-C large chain; Plasma membrane adaptor HA2/AP2 adaptin alpha C subunit; AP2A2_HUMAN; Huntingtin yeast partner J; Huntingtin-interacting protein 9 (HIP-9); Huntingtin-interacting protein J; KIAA0899; AP2A1_HUMAN; AP2A1; 100 kDa coated vesicle protein A; Adaptor protein complex AP-2 subunit alpha-1; Adaptor-related protein complex 2 subunit alpha-1; Alpha-adaptin A; Alpha1-adaptin; Clathrin assembly protein complex 2 alpha-A large chain; Plasma membrane adaptor HA2/AP2 adaptin alpha A subunit; AP2A1_MOUSE; AP2A2_MOUSE; AP2A2_RAT; adaptor related protein complex 2 subunit alpha 2; adaptor related protein complex 2 alpha 2 subunit; Huntingtin interacting protein J; adaptin, alpha B; clathrin-associated/assembly/adaptor protein, large, alpha 2
Dilution	WB=1:500-2000,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	AP2A2
Synonyms	ADTAB, CLAPA2, HIP9, HYPJ, KIAA0899
Function	Component of the adaptor protein complex 2 (AP-2). Adaptor protein complexes function in protein transport via transport vesicles in different membrane traffic pathways. Adaptor protein complexes are vesicle coat components and appear to be involved in cargo selection and vesicle formation. 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. The clathrin lattice serves as a mechanical scaffold but is itself unable to bind directly to membrane components. 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. AP-2 also serves as a cargo receptor to selectively sort the membrane proteins involved in receptor-mediated endocytosis. AP-2 seems to play a role in the recycling of synaptic vesicle membranes from the presynaptic surface. 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. AP-2 may also play a role in maintaining normal post-endocytic trafficking through the ARF6-regulated, non- clathrin pathway. During long-term potentiation in hippocampal neurons, AP-2 is responsible for the endocytosis of ADAM10 (PubMed:23676497). The AP-2 alpha subunit binds polyphosphoinositide-containing lipids, positioning AP-2 on the membrane. The AP-2 alpha subunit acts via its C-terminal appendage domain as a scaffolding platform for endocytic accessory proteins. The AP-2 alpha and AP-2 sigma subunits are thought to contribute to the recognition of the [ED]-X-X-X-L-[LI] motif (By similarity).
Cellular Location	Cell membrane {ECO:0000250|UniProtKB:P17427}; Peripheral membrane protein {ECO:0000250|UniProtKB:P17427}; Cytoplasmic side {ECO:0000250|UniProtKB:P17427}. Membrane, coated pit {ECO:0000250|UniProtKB:P17427}; Peripheral membrane protein {ECO:0000250|UniProtKB:P17427}; Cytoplasmic side

{ECO:0000250|UniProtKB:P17427}. 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:P17427}

Tissue Location Expressed in the brain (at protein level).

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