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[Marker Primary Antibody]

Rabbit Anti-alpha Adaptin/FITC Conjugated antibody

Catalog Number: SL1228R-FITC

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Anti-alpha Adaptin/FITC
Immunogen:	KLH conjugated synthetic peptide derived from human alpha Adaptin
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Applications:	IF=1:50-200 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Mouse,Rat(predicted:Human,Cow,Horse,Rabbit)
Background:	background: 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. **Function:** Component of the adaptor protein complex 2 (AP-2). Adaptor protein complexes function in protein transport via transport vesicles in

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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. 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.
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.
Subcellular 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.
Similarity: Belongs to the adaptor complexes large subunit family.
Database links:
Entrez Gene: 515216 Cow
Entrez Gene: 784636 Cow
Entrez Gene: 160 Human
Entrez Gene: 161 Human

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	Entrez Gene: 11771 Mouse **Entrez Gene:** 11772 Mouse **Entrez Gene:** 308578 Rat **Entrez Gene:** 81637 Rat Omim: 601026 Human Omim: 607242 Human **SwissProt:** Q0VCK5 Cow **SwissProt:** O94973 Human **SwissProt:** O95782 Human **SwissProt:** P17426 Mouse **SwissProt:** P17427 Mouse **SwissProt:** P18484 Rat **Unigene:** 2041 Cow **Unigene:** 19121 Human **Unigene:** 6877 Mouse **Unigene:** 34928 Rat Important **Note:** This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. adaptin αa protein involved in clathrin-coated vesicle assembly, which interacts with the cytoplasmic domain of receptors during clathrin-coated vesicle assembly and plays an adaptor role.