10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

PICALM Antibody

Catalog # ASC11041

Product Information

Application	WB, IF, E
Primary Accession	Q13492
Other Accession	NP_009097, 56788366
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	70755
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	PICALM antibody can be used for detection of PICALM by Western blot at 1 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	8301
Other Names	Phosphatidylinositol-binding clathrin assembly protein, Clathrin assembly lymphoid myeloid leukemia protein, PICALM, CALM
Target/Specificity	PICALM;
Reconstitution & Storage	PICALM antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	PICALM Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PICALM
Synonyms	CALM
Function	Cytoplasmic adapter protein that plays a critical role in clathrin-mediated endocytosis which is important in processes such as internalization of cell receptors, synaptic transmission or removal of apoptotic cells. Recruits AP-2 and attaches clathrin triskelions to the cytoplasmic side of plasma membrane leading to clathrin-coated vesicles (CCVs) assembly (PubMed:10436022, PubMed:16262731, PubMed:27574975). Furthermore, regulates clathrin-coated vesicle size and maturation by directly sensing and driving membrane curvature (PubMed:25898166). In addition to binding to clathrin,

	mediates the endocytosis of small R- SNARES (Soluble NSF Attachment Protein REceptors) between plasma membranes and endosomes including VAMP2, VAMP3, VAMP4, VAMP7 or VAMP8 (PubMed:21808019, PubMed:22118466, PubMed:23741335). In turn, PICALM- dependent SNARE endocytosis is required for the formation and maturation of autophagic precursors (PubMed:25241929). Modulates thereby autophagy and the turnover of autophagy substrates such as MAPT/TAU or amyloid precursor protein cleaved C-terminal fragment (APP- CTF) (PubMed:24067654, PubMed:25241929).
Cellular Location	Cell membrane. Membrane, clathrin-coated pit. Golgi apparatus. Cytoplasmic vesicle, clathrin- coated vesicle. Nucleus. Note=Colocalized with clathrin in the Golgi area (PubMed:10436022). Interaction with PIMREG may target PICALM to the nucleus in some cells (PubMed:16491119)
Tissue Location	Expressed in all tissues examined.

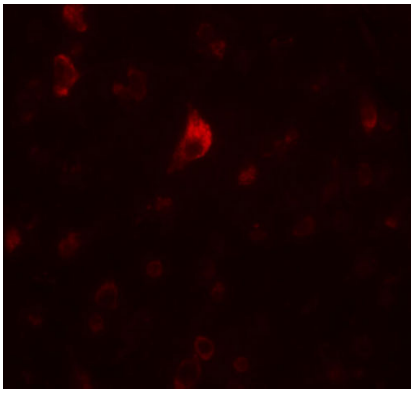
Background

PICALM Antibody: PICALM, also known as the clathrin assembly lymphoid myeloid leukemia (CALM) protein, co-localizes with clathrin at clathrin-coated areas of the plasma membrane and in the Golgi area, and is thought to be an important component of the coated pit internalization machinery. Fusion proteins involving PICALM have been implicated in acute myeloid and T-cell acute lymphoblastic leukemia. PICALM is also expressed in neurons and is present at the synapse where it facilitates the endocytosis of the synaptic vesicle protein VAMP2. Recent studies have identified variants of PICALM associated with Alzheimer's disease and have suggested this protein may play a role in the endocytosis and recycling of the amyloid protein precursor (APP).

References

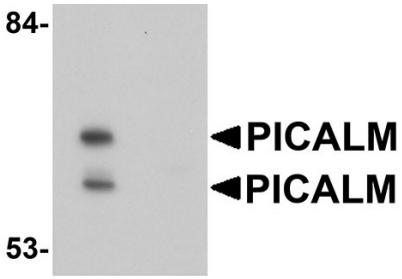
Tebar F, Bohlander SK, and Sorkin A. Clathrin assembly lymphoid myeloid leukemia (CALM) protein: localization in endocytic-coated pits, interactions with clathrin, and the impact of overexpression on clathrin mediated traffic. Mol. Biol. Cell1999; 10:2687-702.
Caudell D and Aplan PD. The role of CALM-AF10 gene fusion in acute leukemia. Leukemia2008; 22:678-85.
Harel A, Wu F, Mattson MP, et al. Evidence for CALM in directing VAMP2 trafficking. Traffic2008; 9:417-29.
Harold D, Abraham R, Hollingworth P, et al. Genome-wide association study identifies variants at CLU and PICALM associated with Alzheimer’s disease. Nat. Genet.2009; 41:1088-93.

Images



Immunofluorescence of PICALM in human brain tissue with PICALM antibody at 20 µg/mL.

Western blot analysis of PICALM in EL4 cell lysate with PICALM antibody at 1 碌g/mL in (A) the absence and (B) the presence of blocking peptide.



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