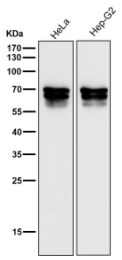
PICALM Antibody / Phosphatidylinositol binding clathrin assembly protein [clone 32P30] (FY12681)

Catalog No.	Formulation	Size
FY12681	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human
Format	Liquid
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	32P30
Purity	Affinity-chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	Q13492
Applications	Western Blot : 1:500-1:2000 Immunohistochemistry : 1:50-1:200 Immunocytochemistry/Immunofluorescence : 1:50-1:200
Limitations	This PICALM antibody is available for research use only.



All lanes use the PICALM antibody at 1:3000 dilution for 1 hour at room temperature. Western blot analysis of PICALM using anti-PICALM antibody. A triplet is observed between ~60 and 71 kDa, consistent with reported isoforms and phosphorylation variants of PICALM that arise from alternative splicing and post-translational modification.

Description

PICALM antibody detects phosphatidylinositol binding clathrin assembly protein, a protein encoded by the PICALM gene. PICALM is a clathrin associated protein that regulates endocytosis by linking clathrin to membranes containing

phosphatidylinositol lipids. It contributes to the formation of clathrin coated vesicles, trafficking of receptors, and synaptic vesicle recycling. PICALM is widely expressed in neuronal, hematopoietic, and epithelial tissues, reflecting its central role in membrane transport and cellular communication.

PICALM antibody is widely applied in neuroscience, immunology, and oncology. In neurons, PICALM participates in synaptic vesicle endocytosis, supporting neurotransmission. In hematopoietic cells, it regulates receptor mediated endocytosis and antigen presentation. Genetic variants in PICALM are strongly associated with Alzheimer disease risk, making it a focus of neurodegenerative research. By detecting PICALM, researchers can investigate how clathrin mediated endocytosis impacts diverse physiological and pathological processes.

Western blotting with PICALM antibody detects protein expression in brain and immune cell lysates. Immunohistochemistry maps distribution in neuronal tissues and lymphoid organs. Immunofluorescence highlights punctate localization at clathrin coated pits and endosomes. These assays allow detailed analysis of PICALM function in vesicular trafficking.

PICALM is also important in oncology. Chromosomal translocations involving PICALM, such as PICALM AF10 fusions, are associated with acute leukemias. These fusions alter transcriptional programs and contribute to leukemogenesis. Detection of PICALM with antibody based methods supports research into oncogenic mechanisms and potential diagnostic strategies. In solid tumors, altered PICALM expression affects endocytosis of growth factor receptors and signaling pathways, influencing tumor progression.

In Alzheimer disease, genome wide association studies have identified PICALM variants as risk factors. Mechanistically, PICALM regulates endocytosis of amyloid precursor protein and clearance of amyloid beta. Altered PICALM expression affects synaptic function and neuronal survival, linking endocytosis defects to neurodegeneration. By applying PICALM antibody, scientists can explore these mechanisms and evaluate therapeutic strategies targeting endocytic pathways.

PICALM also contributes to immune regulation. In antigen presenting cells, it modulates receptor trafficking and signaling. Its role in membrane dynamics extends to viral infections, where viruses exploit clathrin mediated endocytosis for entry. PICALM antibody therefore provides a tool for studying both host defense and viral pathogenesis.

Beyond its cellular functions, PICALM has structural features that enable its roles in trafficking. It contains phosphatidylinositol binding domains and clathrin binding motifs, which link membrane lipids to clathrin coat assembly. It also interacts with adaptor proteins and other regulators of endocytosis. These interactions highlight the versatility of PICALM as a scaffold protein coordinating vesicle formation.

PICALM antibody from NSJ Bioreagents provides dependable specificity for detecting this multifunctional trafficking protein. Its performance across diverse applications supports research in neuroscience, cancer biology, immunology, and translational medicine.

Application Notes

Optimal dilution of the PICALM antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human PICALM was used as the immunogen for the PICALM antibody.

Storage

Store the PICALM antibody at -20oC.