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Ubiquilin1 (PLIC1) Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2179a

Product Information

Application	IHC-P, WB, E
Primary Accession	Q9UMX0
Other Accession	Q9JJP9, Q8R317
Reactivity	Human, Mouse
Predicted	Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	62519
Antigen Region	19-49

Additional Information

Gene ID	29979
Other Names	Ubiquilin-1, Protein linking IAP with cytoskeleton 1, PLIC-1, hPLIC-1, UBQLN1, DA41, PLIC1
Target/Specificity	This Ubiquilin1 (PLIC1) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 19-49 amino acids from the N-terminal region of human Ubiquilin1 (PLIC1).
Dilution	IHC-P~~1:100~500 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Ubiquilin1 (PLIC1) Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	UBQLN1
Synonyms	DA41, PLIC1
Function	Plays an important role in the regulation of different protein degradation

	mechanisms and pathways including ubiquitin- proteasome system (UPS), autophagy and endoplasmic reticulum-associated protein degradation (ERAD) pathway. Mediates the proteasomal targeting of misfolded or accumulated proteins for degradation by binding (via UBA domain) to their polyubiquitin chains and by interacting (via ubiquitin-like domain) with the subunits of the proteasome (PubMed:15147878). Plays a role in the ERAD pathway via its interaction with ER-localized proteins UBXN4, VCP and HERPUD1 and may form a link between the polyubiquitinated ERAD substrates and the proteasome (PubMed:18307982, PubMed:19822669). Involved in the regulation of macroautophagy and autophagosome formation; required for maturation of autophagy-related protein LC3 from the cytosolic form LC3-I to the membrane-bound form LC3-II and may assist in the maturation of autophagosomes to autolysosomes by mediating autophagosome-lysosome fusion (PubMed:19148225, PubMed:20529957, PubMed:23459205). Negatively regulates the TICAM1/TRIF-dependent toll-like receptor signaling pathway by decreasing the abundance of TICAM1 via the autophagic pathway (PubMed:21695056). Promotes the ubiquitination and lysosomal degradation of ORAI1, consequently down-regulating the ORAI1-mediated Ca2+ mobilization (PubMed:23307288). Suppresses the maturation and proteasomal degradation of amyloid beta A4 protein (A4) by stimulating the lysine 63 (K63)-linked polyubiquitination. Delays the maturation of A4 by sequestering it in the Golgi apparatus and preventing its transport to the cell surface for subsequent processing (By similarity). Ubiquitinates BCL2L10 and thereby stabilizes protein abundance (PubMed:22233804).
Cellular Location	Cytoplasm. Nucleus Endoplasmic reticulum. Cytoplasmic vesicle, autophagosome. Cell membrane Note=Detected in neuronal processes and at synapses (By similarity) Recruited to the ER during ER-associated protein degradation (ERAD) (PubMed:19822669). Isoform 1 and isoform 3 colocalize with PSEN1 in the cell membrane and in cytoplasmic juxtanuclear structures called aggresomes (PubMed:21143716). Colocalizes with ORAI1 and TICAM1 in the autophagosome (PubMed:21695056, PubMed:23307288). Colocalizes with EPS15 and HGS in ubiquitin-rich cytoplasmic aggregates that are not endocytic compartments and with EPS15 also in aggresomes (PubMed:16159959). {ECO:0000250|UniProtKB:Q9JJP9, ECO:0000269|PubMed:16159959, ECO:0000269|PubMed:19822669, ECO:0000269|PubMed:21143716, ECO:0000269|PubMed:21695056, ECO:0000269|PubMed:23307288}
Tissue Location	Brain (at protein level) (PubMed:18953672). Ubiquitous. Highly expressed throughout the brain; detected in neurons and in neuropathological lesions, such as neurofibrillary tangles and Lewy bodies. Highly expressed in heart, placenta, pancreas, lung, liver, skeletal muscle and kidney.

Background

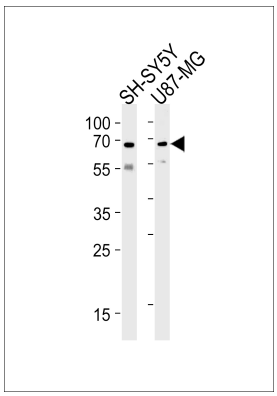
PLIC1 is an ubiquitin-like protein (ubiquilin) that shares high degree of similarity with related products in yeast, rat and frog. Ubiquilins contain a N-terminal ubiquitin-like domain and a C-terminal ubiquitin-associated domain. They physically associate with both proteasomes and ubiquitin ligases, and thus are thought to functionally link the ubiquitination machinery to the proteasome to affect in vivo protein degradation. This ubiquilin has also been shown to modulate accumulation of presenilin proteins, and is found in lesions associated with Alzheimer's and Parkinson's disease.

References

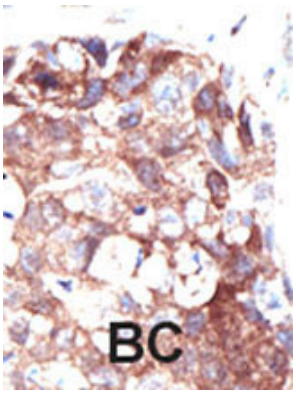
Gao, L., et al., J. Virol. 77(7):4149-4159 (2003).
Kleijnen, M.F., et al., Mol. Cell 6(2):409-419 (2000).
Mah, A.L., et al., J. Cell Biol. 151(4):847-862 (2000).

Hanaoka, E., et al., J. Hum. Genet. 45(3):188-191 (2000).

Images



PLIC1 Antibody (P34) (Cat. #AP2179a) western blot analysis in SH-SY5Y,U87-MG cell line lysates (35ug/lane).This demonstrates the PLIC1 antibody detected the PLIC1 protein (arrow).



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Citations

- Activation of CD47 receptors causes proliferation of human astrocytoma but not normal astrocytes via an Akt-dependent pathway.