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Anti-GABARAP Monoclonal Antibody

Catalog # ABO14472

Product Information

Application	WB, IHC, IF, ICC, FC
Primary Accession	O95166
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid
Description	Anti-GABARAP Monoclonal Antibody . Tested in WB, IHC, ICC/IF, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat.

Additional Information

Gene ID	11337
Other Names	Gamma-aminobutyric acid receptor-associated protein, GABA(A) receptor-associated protein, MM46, GABARAP (HGNC:4067), FLC3B
Calculated MW	13918
Application Details	WB 1:500-1:2000 IHC 1:100-1:500 ICC/IF 1:50-1:200 FC 1:50
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: ACHE-7
Immunogen	A synthesized peptide derived from human GABARAP GABARAP is cleaved at its carboxyl terminus, which leads to conjugation by either of the phospholipids phosphatidylethanolamine or phosphatidylserine. This processing converts GABARAP from a type I to a type II membrane bound form involved in autophagosome biogenesis. Processing of GABARAP involves cleavage by Atg4 family members followed by conjugation by the E1 and E2 like enzymes Atg7 and Atg3.
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Protein Information

Name	GABARAP {ECO:0000303|PubMed:34597140, ECO:0000312|HGNC:HGNC:4067}
Function	Ubiquitin-like modifier that plays a role in intracellular transport of GABA(A) receptors and its interaction with the cytoskeleton (PubMed:9892355). Involved in autophagy: while LC3s are involved in elongation of the phagophore membrane, the GABARAP/GATE-16 subfamily is essential for a later stage in autophagosome maturation (PubMed:15169837, PubMed:20562859, PubMed:22948227, PubMed:34597140). Through its interaction with the reticulophagy receptor TEX264, participates in the remodeling of subdomains of the endoplasmic reticulum into autophagosomes upon nutrient stress, which then fuse with lysosomes for endoplasmic reticulum turnover (PubMed:31006538). Participates in selective ER-phagy through interaction with UBAC2, promoting recruitment of UBAC2-associated ER fragments to autophagosomes (PubMed:39284914). In addition to autophagy, also regulates lysosome biogenesis via interaction with FNIP1 (or FNIP2): interaction sequesters the FLCN-FNIP complex and prevents non-canonical mTORC1 signaling cascade activation, leading to activation of transcription factors TFEB and TFE3 (PubMed:39423796, PubMed:34597140). Also required for the local activation of the CUL3(KBTBD6/7) E3 ubiquitin ligase complex, regulating ubiquitination and degradation of TIAM1, a guanyl-nucleotide exchange factor (GEF) that activates RAC1 and downstream signal transduction (PubMed:25684205). Thereby, regulates different biological processes including the organization of the cytoskeleton, cell migration and proliferation (PubMed:25684205). Involved in apoptosis (PubMed:15977068).
Cellular Location	Cytoplasmic vesicle, autophagosome membrane. Endomembrane system {ECO:0000250|UniProtKB:P60517}. Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:P60517}. Golgi apparatus membrane {ECO:0000250|UniProtKB:P60517}. Cytoplasmic vesicle {ECO:0000250|UniProtKB:P60517}. Note=Largely associated with intracellular membrane structures including the Golgi apparatus and postsynaptic cisternae. Colocalizes with microtubules (By similarity) Also localizes to discrete punctae along the ciliary axoneme (By similarity). {ECO:0000250|UniProtKB:P60517, ECO:0000250|UniProtKB:Q9DCD6}
Tissue Location	Heart, brain, placenta, liver, skeletal muscle, kidney and pancreas.

Images

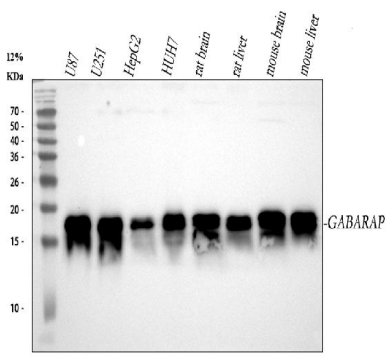


Figure 1. Western blot analysis of GABARAP using anti-GABARAP antibody (M01907).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours.
The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human U87 whole cell lysates,
Lane 2: human U251 whole cell lysates,
Lane 3: human HepG2 whole cell lysates,
Lane 4: human HUH7 whole cell lysates,
Lane 5: rat brain tissue lysates,
Lane 6: rat liver tissue lysates,
Lane 7: mouse brain tissue lysates,
Lane 8: mouse liver tissue lysates.

After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-GABARAP antigen affinity purified monoclonal antibody (Catalog # M01907) at 1:500 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for GABARAP at approximately 18 kDa. The expected band size for GABARAP is at 14 kDa.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.