PRODUCT INFORMATION

GABARAPL1 (human recombinant)

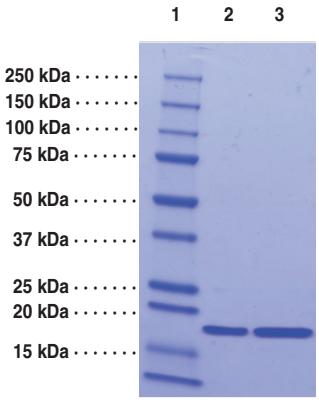
Item No. 25912

Overview and Properties

Synonyms:	γ-Aminobutyric Acid Receptor-associated Protein-like 1, $GABA_A$ Receptor-associated Protein-like 1, Gabarapl1/Atg8
Source:	Recombinant N-terminal histidine-tagged GABARAPL1 purified from *E. coli*
Amino Acids:	2-117
Uniprot No.:	Q9H0R8
Molecular Weight:	16.14 kDa
Storage:	-80°C (as supplied)
Stability:	≥2 years
Purity:	***batch specific*** (≥98% estimated by SDS-PAGE)
Supplied in:	50 mM HEPES, pH 8.0, with 150 mM sodium chloride and 10% glycerol
Protein Concentration:	***batch specific***

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: GABARAPL1 (2 µg)
Lane 3: GABARAPL1 (4 µg)

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION

Description

$GABA_A$ receptor-associated protein-like 1 (GABARAPL1) is a protein encoded by the *GABARAPL1* gene in humans and is a member of the GABARAP family of proteins.[1] It contains a ubiquitin-like core of β-sheets and α-helices, with two additional α-helices at the N-terminus.[2] The *GABARAPL1* gene is expressed in a variety of tissues, including the brain, heart, liver, kidney, and placenta, among others, and the protein is highly expressed in the brain and the lungs.[1] GABARAPL1 interacts with tubulin and the γ_2 subunit of the $GABA_A$ receptor and promotes tubulin polymerization and microtubule formation.[1] It also interacts with the κ-opioid receptor to increase receptor expression in the plasma membrane. GABARAPL1 is involved in autophagy where it interacts with the autophagy cargo adaptor proteins p62 and NBR1 to facilitate degradation of ubiquitinated protein aggregates.[1,3] The *GABARAPL1* gene contains potential estrogen regulatory elements, and *GABARAPL1* expression is higher in breast adenocarcinoma tumors from lymph node-positive patients that had a lower risk of metastasis. However, *GABARAPL1* expression is upregulated in patient-derived triple negative breast cancer (TNBC) tissue and inhibition of its activity in an MDA-MB-231 mouse xenograft model suppresses cell proliferation, tumorigenesis, and metastasis.[4]

References

1. Le Grand, J.N., Chakrama, F.Z., Seguin-Py, S., *et al.* GABARAPL1 (GEC1): Original or copycat? *Autophagy* **7(10)**, 1098-1107 (2011).
2. Rozenknop, A., Rogov, V.V., Rogova, N.Y., *et al.* Characterization of the interaction of GABARAPL-1 with the LIR motif of NBR1. *J. Mol. Biol.* **410(3)**, 477-487 (2011).
3. Pankiv, S., Clausen, T.H., Lamark, T., *et al.* p62/SQSTM1 binds directly to Atg8/LC3 to facilitate degradation of ubiquitinated protein aggregates by autophagy. *J. Biol. Chem.* **282(33)**, 24131-24145 (2007).
4. Ran, L., Hong, T., Xiao, X., *et al.* GABARAPL1 acts as a potential marker and promotes tumor proliferation and metastasis in triple negative breast cancer. *Oncotarget* **8(43)**, 74519-74526 (2017).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM