

**MATERIAL DATA SHEET****pro-GABARAPL1, human recombinant****Cat. # UL-400**

Pro- $\gamma$ -Aminobutyric Acid Receptor-associated Protein-like 1 (GABARAPL1) is a 117 amino acid (aa) protein with a predicted molecular weight of 14 kDa. It is a member of the GABARAP subfamily of the Autophagy-related 8 (Atg8) family of proteins. GABARAPL1 has 100% aa sequence identity with its mouse and rat orthologs and is orthologous to yeast Atg8. Atg8 family members show structural similarity with Ubiquitin, but lack aa sequence similarity. GABARAPL1 was first described as the human ortholog of the guinea pig *gec1* gene product, and is now known for its role in autophagy. Mature GABARAPL1 (in which Lys 117 has been cleaved off by the ATG4B processing enzyme) covalently attaches to phosphatidylethanolamine (PE) in the phagophore (autophagosome precursor) membrane using a Ubiquitin-like conjugation system that includes Ubiquitin-activating (E1)-, Ubiquitin-conjugating (E2)-, and Ubiquitin Ligase (E3)-like enzymes. GABARAPL1 is involved in the late stages of autophagosome maturation, and may also be involved in cargo recruitment to autophagosomes. This recombinant protein is untagged.

**Product Information**

<b>Quantity:</b>	500 $\mu$ g
<b>Stock:</b>	X mg/ml (X $\mu$ M) in 50 mM Hepes, pH 7.5
<b>MW:</b>	14 kDa
<b>Purity:</b>	> 95% by SDS-PAGE

**Use & Storage**

<b>Use:</b>	pro-GABARAPL1 is the immature form of the protein that includes Lys 117. This form is not competent for <i>in vitro</i> conjugation reactions as supplied. This protein may be used as a negative control for conjugation reactions, or as a substrate for the processing enzyme ATG4B.
<b>Storage:</b>	Store at -80°C. Avoid multiple freeze/thaw cycles.

**Literature**

<b>References:</b>	Le Grand, J.N. <i>et al.</i> (2011) <u>Autophagy</u> <b>7</b> :1098 Shpilka, T. <i>et al.</i> (2011) <u>Genome Biol.</u> <b>12</b> :226. Vernier-Magnin, S. <i>et al.</i> (2001) <u>Biochem. Biophys. Res. Com.</u> <b>284</b> :118. Weidberg, H. <i>et al.</i> (2010) <u>EMBO J.</u> <b>29</b> :1792. Weidberg, H. <i>et al.</i> (2011) <u>Ann. Rev. Biochem.</u> <b>80</b> :125.
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