Data Sheet (Cat.No.TMPY-03268)

TargetMol

GABARAPL1 Protein, Human, Recombinant (His)

General Information

Synonyms:	GEC1;APG8-LIKE;APG8L;ATG8;ATG8B;ATG8L;GABA(A) receptor-associated protein like 1
Protein Construction:	A DNA sequence encoding the human GABARAPL1 (Q9H0R8) (Met1-Lys117) was expressed with a polyhistide tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	E. coli
Accession:	Q9H0R8
Molecular Weight:	15.9 kDa (predicted); 20-22 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

ATG8, also known as GABARAPL1, is a ubiquitin-like protein that has a crystal structure. ATG8 consists of a 5-stranded β-sheet, which is enclosed by two α-helices at one side and one α-helix at the other side and exhibits a conserved GABARAP domain. It functions in the formation of autophagosomal membranes. The transient conjugation of ATG8 to the autophagosomal membrane through a ubiquitin-like conjugation system is essential for autophagy in eukaryotes. Autophagy is induced upon nutrient depletion or rapamycin treatment and leads to

the response of more than 30 autophagy-related (ATG) genes known so far, including ATG8.

Reference

Ohsumi Y,et al. (2004) The crystal structure of microtubule-associated protein light chain 3, a mammalian homologue of Saccharomyces cerevisiae Atg8. Genes Cells. 9(7):611-8.
Geng J,et al. (2008) The Atg8 and Atg12 ubiquitin-like conjugation systems in macroautophagy. 'Protein modifications: beyond the usual suspects' review series. EMBO Rep. 9(9):859-644.
Suzuki NN,et al. (2005) The crystal structure of plant ATG12 and its biological implication in autophagy. Autophagy. 1(2):119-126.