ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

S. cerevisiae (strain ATCC 204508 / S288c) (Baker's yeast) Ubiquitin-like protein (ATG12- phospho) Antibodies

□ Cat. # AB-23003-A	Rabbit Anti-Baker's yeast ATG12 (ATG12- phosphor S125, S127, and S129) IgG (aff pure)	**SIZE**: 100 ul
□ Cat. # AB-23003-P	Baker's yeast ATG12 (ATG12- phosphor S125, S127, and S129) peptide	**SIZE**: 100 ug
□ Cat. # AB-23003-CP	Baker's yeast ATG12 (non-phosphor) control peptide	**SIZE**: 100 ug

Autophagy is a highly conserved cellular process that leads to the degradation of cytoplasmic contents and organelles. Cellular material is sequestered into the autophagosome, a unique double-membrane enclosed compartment, and transported to the vacuole/lysosome for degradation. Eighteen different essential autophagy-related (ATG) genes have been identified: ATG1 to ATG10, ATG12 to ATG14, ATG16 to ATG18, ATG29, and ATG31. During autophagosome formation, Atg12 is activated by the ubiquitin-E1–like molecule Atg7. Activated Atg12 is then transferred to the E2-like molecule Atg10 and conjugated to Atg5, after which the Atg5–Atg12 conjugate forms a large complex with Atg16.

Protein Function Ubiquitin-like protein involved in cytoplasm to vacuole transport (Cvt), autophagy vesicles formation, mitophagy, and nucleophagy. Conjugation with ATG5 through an ubiquitin-like conjugating system involving also ATG7 as an E1-like activating enzyme and ATG10 as an E2-like conjugating enzyme, is essential for its function. The ATG12-ATG5 conjugate acts as an E3-like enzyme which is required for lipidation of ATG8 and ATG8 association to the vesicle membranes. ATG12-ATG5 rearranges the ATG3 catalytic center and enhances its E2 activity.
Subcellular Location Preautophagosomal structure membrane; Peripheral membrane protein.
Protein name Ubiquitin-like protein ATG12
Gene name ATG12
Synonyms APG12
Similarity Belongs to the ATG12 family.

Source of Antigen and Antibodies

Antigen	14-aa peptides of Baker's yeast Ubiquitin-like protein (ATG12); (protein accession # P38316) (**designated control ATG12-phosphor peptide AB-23003-P)** conjugated to KLH; Epitope location, internal and non-phosphor control peptide designated as AB-23003-CP.
Ab Host/type	Rabbit, polyclonal Aff pure IgG (**cat # AB-23003-A**) purified over the antigen column
2-ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG
□ 100 ug/100ul □ solution □ lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
□ 100 ug/100 ul □ solution □ lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage
Short-term: unopened, undiluted liquid vials at 20°C and powder at 4°C or -20°C..

Long-term: at –20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20°C or below.

Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique).

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: not tested. We recommend the use of affinity pure antibody at 2-20 ug/ml.

Specificity & Cross-reactivity

AB-23003-P is phosphorylated at S125, S127, and S129. The control immunogenic phosphor peptide AB-23003-P and non-phospho peptide AB-23003-CP are available to confirm the specificity of antibodies. The control peptides, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity.

General References: Mizushima N., (1998). Nature 395:395-398. Hu Y., (2007). Genome Res. 17:536-543. Tsukada M., (1993). FEBS Lett. 333:169-174. Ohusmi Y., (2010). MOLECULAR AND CELLULAR BIOLOGY, 30:4. 1049–1058. He YQ., (2010). J Immunol. 1001822

**This product is for In vitro research use only.*

Related materials available from ADI

Antibodies:

ReadyBlot **Kidney Protein Explorer**-Study distribution of protein in various regions of the mouse/rat kidney using the pre-made protein blots; Western blot recycling kit-Use the same blot for WNK1-4.

AB-23003-A-P 130807VP

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