Product Specification Sheet

Product: IgG fraction of Anti-APG12 (Yeast) (Rabbit)

Code: 200-401-437 **Lot #:** 13032 **Size:** 500 g

Antibody Concentration: 5.0 mg/ml (by UV absorbance at 280 nm)

Buffer: 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2

Stabilizer: None **Preservative:** 0.01% (w/v) Sodium Azide

Storage Conditions: Store vial at 4° C prior to restoration. Restore with 0.1 ml of deionized water (or equivalent). For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use. Expiration date is one (1) year from date of restoration.

Background Information: Ubiquitin-like proteins fall into two classes: the first class, ubiquitin-like modifiers (UBLs) function as modifiers in a manner analogous to that of ubiquitin. Examples of UBLs are SUMO, Rub1 (also called Nedd8), Apg8 and Apg12. Proteins of the second class include parkin, RAD23 and DSK2, are designated ubiquitin-domain proteins (UDPs). These proteins contain domains that are related to ubiquitin but are otherwise unrelated to each other. In contrast to UBLs, UDPs are not conjugated to other proteins. In yeast, autophagy, the delivery of cytoplasmic components to the lysosome/vacuole for degradation, requires a ubiquitin-like protein conjugation system, in which Apg12 is covalently bound to Apg12-Apg5 and Apg16.

Application Note(s): This purified polyclonal antibody reacts with yeast APG12 by western blot and ELISA. Although not tested, this antibody is likely functional in immunohistochemistry and immunoprecipitation. This antibody using the specified conditions may recognize other prominent intrinsic bands (UBLs or their conjugates). Other intrinsic bands are readily detectable in yeast lysates at lower antibody dilutions.

Recommended Dilution(s): For immunoblotting a 1:2,000 dilution is recommended. A 22.1 kDa band corresponding to yeast APG12 is detected. Most yeast cell lysates can be used as a positive control without induction or stimulation. For ELISA a 1:1,000 to 1:5,000 dilution is recommended. Researchers should determine optimal titers for other applications.

Immunogen: This purified antibody was prepared from rabbit serum after repeated immunizations with recombinant yeast APG12 protein.

Related Link(s):UBL protein-protein interactions in *S.cerevisiae*.
(http://depts.washington.edu/sfields/yplm/data/Nature.html)
Human chromosomal location of APG12 (http://genecards.bcgsc.ca/cgi-bin/carddisp?APG12L)

Reference(s):
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conjugate. *J.Cell Science* **11**6, 1679-1688.
Suzuki K, Kirisako T, Kamada Y, Mizushima N, Noda T, Ohsumi . (2001) The pre-autophagosomal structure organized by concerted
functions of APG genes is essential for autophagosome formation. *EMBO J* **;2**0:5971-5981.
Mizushima N, Sugita H, Yoshimori T, Ohsumi Y. (1998) A new protein conjugation system in human. The counterpart of the yeast Apg12p
conjugation system essential for autophagy. *J Biol Che*m; **27**3:33889-33892.
Liakopoulos D et al. (1998). A novel protein modification pathway related to the ubiquitin syste*m. EMBO J.* 15;**17**(8):2208-14.
Jentsch S, Pyrowolakis G. (2000) Ubiquitin and its kin: how close are the family ties? *Trends Cell Bio*l. **1**0(8):335-42.

Note: This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information.