

Product Specification Sheet

Product: IgG fraction of Anti-URM1 (Yeast) (Rabbit)

Code: 200-401-443

Lot #: 13037

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. Urm1 is a newly identified ubiquitin related modifier. Urm 1 is a 99-amino acid protein terminated with glycine-glycine. Target proteins are conjugated to Urm1 via its C-terminal glycine. Initially Urm1 forms a thioester with a novel E1-like protein, Uba4.

Application Note(s): This purified polyclonal antibody reacts with yeast Urm1 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 1:1,000 dilution is recommended. A 12 kDa band corresponding to yeast Urm1 is detected. Most yeast cell lysates can be used as a positive control without induction or stimulation. For ELISA a 1:2,000 to 1:10,000 dilution is recommended. Researchers should determine optimal titers for other applications.

Purity and Specificity: This product is an IgG fraction antibody purified from monospecific antiserum by a multi-step process which includes delipidation, salt fractionation and ion exchange chromatography followed by extensive dialysis against the buffer stated above. Assay by immunoelectrophoresis resulted in a single precipitin arc against anti-Rabbit Serum.

Immunogen: This purified antibody was prepared from rabbit serum after repeated immunizations with recombinant yeast Urm1 protein.

Related Link(s):

UBL [protein-protein interactions](http://depts.washington.edu/sfields/yplm/data/Nature.html) in *S.cerevisiae*. (<http://depts.washington.edu/sfields/yplm/data/Nature.html>)
NCBI BLAST Sequence for Urm1
(<http://www.plantgdb.org/AtGDB/prj/ZSB03PP/novel/CLS9385.pps.blc.html>)

Reference(s):

Furukawa, K. et al. (2000) A Protein Conjugation System in Yeast with Homology to Biosynthetic Enzyme Reaction of Prokaryotes *J BiolChem* **275**: 11, 7462-7465.
Hochstrasser, M. (2000) Evolution and function of ubiquitin-like protein-conjugation systems. *Nature Cell Biology* 2:8, E153 - E157.

Ohsumi Y. (2001) Molecular dissection of autophagy: two ubiquitin-like systems. *Nat Rev Mol Cell Biol.* 2(3):211-6.
Liakopoulos D et al. (1998). A novel protein modification pathway related to the ubiquitin system. *EMBO J.* 15;17(8):2208-14.
Jentsch S, Pyrowolakis G. (2000) Ubiquitin and its kin: how close are the family ties? *Trends Cell Biol.* 10(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.