

## Product Specification Sheet

**Product:** IgG fraction of Anti-Hub1 (Human) (Rabbit)

**Code:** 200-401-442 **Lot #:** 13036 **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. Hub1 ("Homologous to Ubiquitin") may function as a modifier (see figure 2) but its role is unclear because it lacks the double glycine motif characteristic for ubiquitin and ubiquitin-like modifiers. Recently cell polarity factors Sph1 and Hbt1 have been identified as *in vivo* targets of Hub1 conjugation. HUB1 has close homologs in other species including humans. The human homologs is called Ubl5.

**Application Note(s):** This purified polyclonal antibody reacts with yeast Hub1 by western blot and ELISA. Although not tested, this antibody is likely functional in immunohistochemistry and immuno-precipitation. This antibody using the specified conditions may recognize other prominent intrinsic bands (UBLs or conjugates). Other intrinsic bands are readily detectable at lower dilutions.

**Recommended Dilution(s):** For immunoblotting a 1:500 dilution is recommended. A 9.7 kDa band corresponding to yeast Hub1 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.

**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 Hub1 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>)  
Structure by Ramelot, et al (<http://www.biochem.ucl.ac.uk/bsm/pdbsum/1m94/main.html>)

**Reference(s):**

Dittmar G, Wilkinson, CRM, Jedrzejewski, PT, and Finley D. (2002) Role of a ubiquitin-like protein modification in polarized morphogenesis. *Science* **295**, 2442-2446.  
McNally T et al (2003) Structural analysis of UBL5, a novel ubiquitin-like modifier. *Protein Sci.* **12**(7):1562-6.  
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.