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HERPUD1 Antibody

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: WB	Reactivity: H M R Mk	Sensitivity: Endogenous	MW (kDa): 54	Source: Rabbit	UniProt ID: #Q15011	Entrez-Gene Id: 9709
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Product Usage
Information

Application

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

HERPUD1 Antibody recognizes endogenous levels of total HERPUD1 protein. This antibody also cross-reacts with unidentified proteins of 30 kDa and 48 kDa. This antibody does not cross-react with HERPUD2 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human HERPUD1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

The homocysteine-responsive, ER-resident ubiquitin-like domain member 1 protein (HERPUD1) is an ER membrane protein and putative component of the ER-membrane-associated protein degradation (ERAD) pathway (1). HERPUD1 is a transmembrane protein with both amino- and carboxy-termini exposed to the cytoplasm. The amino-terminal HERPUD1 region contains an ubiquitin-like (UBL) domain (1). Increased expression of HERPUD1 protein following ER stress and its association with ERAD component proteins suggests that HERPUD1 may play an integral role in ERAD pathway function (1). Research studies demonstrate that HERPUD1 associates with components of the ERAD machinery, such as the E3 ubiquitin ligase HRD1, which enhances HRD1-mediated ubiquitination and proteasomal degradation of potentially toxic ERAD substrates (2-4). The HERPUD1 protein may act as a molecular adaptor for the recruitment of ERAD machinery and the amino-terminal UBL domain may important for this function (3,4). The loss of HERPUD1 expression renders cells more susceptible to ER stress and apoptosis (5,6).

Background References

1. Kokame, K. et al. (2000) *J Biol Chem* 275, 32846-53.
2. Schulze, A. et al. (2005) *J Mol Biol* 354, 1021-7.
3. Kny, M. et al. (2011) *J Biol Chem* 286, 5151-6.
4. Leitman, J. et al. (2014) *Mol Biol Cell* 25, 1050-60.
5. Hori, O. et al. (2004) *Genes Cells* 9, 457-69.
6. Chan, S.L. et al. (2004) *J Biol Chem* 279, 28733-43.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting

Cross-Reactivity Key

H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster
X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse
GP: Guinea Pig Rab: rabbit All: all species expected

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