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HRD1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2184e

Product Information

Application	WB, E
Primary Accession	Q86TM6
Other Accession	Q5XHH7, Q6NRL6, Q9DBY1
Reactivity	Human
Predicted	Mouse, Xenopus
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB15288
Calculated MW	67685
Antigen Region	106-138

Additional Information

Gene ID	84447
Other Names	E3 ubiquitin-protein ligase synoviolin, 632-, Synovial apoptosis inhibitor 1, SYVN1, HRD1, KIAA1810
Target/Specificity	This HRD1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 106-138 amino acids from the N-terminal region of human HRD1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	HRD1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SYVN1 {ECO:0000303|PubMed:15489334}
Function	E3 ubiquitin-protein ligase which accepts ubiquitin specifically from endoplasmic reticulum-associated UBC7 E2 ligase and transfers it to

	substrates, promoting their degradation (PubMed:12459480, PubMed:12646171, PubMed:12975321, PubMed:14593114, PubMed:16289116, PubMed:16847254, PubMed:17059562, PubMed:17141218, PubMed:17170702, PubMed:22607976, PubMed:27827840, PubMed:26471130, PubMed:28827405). Component of the endoplasmic reticulum quality control (ERQC) system also called ER-associated degradation (ERAD) involved in ubiquitin-dependent degradation of misfolded endoplasmic reticulum proteins (PubMed:12459480, PubMed:12646171, PubMed:12975321, PubMed:14593114, PubMed:16289116, PubMed:16847254, PubMed:17059562, PubMed:17141218, PubMed:17170702, PubMed:22607976, PubMed:26471130, PubMed:28842558). Also promotes the degradation of normal but naturally short-lived proteins such as SGK. Protects cells from ER stress-induced apoptosis. Protects neurons from apoptosis induced by polyglutamine- expanded huntingtin (HTT) or unfolded GPR37 by promoting their degradation (PubMed:17141218). Sequesters p53/TP53 in the cytoplasm and promotes its degradation, thereby negatively regulating its biological function in transcription, cell cycle regulation and apoptosis (PubMed:17170702). Mediates the ubiquitination and subsequent degradation of cytoplasmic NFE2L1 (By similarity). During the early stage of B cell development, required for degradation of the pre-B cell receptor (pre-BCR) complex, hence supporting further differentiation into mature B cells (By similarity).
Cellular Location	Endoplasmic reticulum membrane; Multi-pass membrane protein
Tissue Location	Ubiquitously expressed, with highest levels in liver and kidney (at protein level). Up-regulated in synovial tissues from patients with rheumatoid arthritis (at protein level)

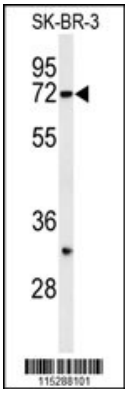
Background

HRD1 encodes a protein involved in endoplasmic reticulum (ER)-associated degradation. The encoded protein removes unfolded proteins, accumulated during ER stress, by retrograde transport to the cytosol from the ER. This protein also uses the ubiquitin-proteasome system for additional degradation of unfolded proteins. This gene and the mitochondrial ribosomal protein L49 gene use in their respective 3' UTRs some of the same genomic sequence.

References

Bernardi, K.M., et al. Mol. Biol. Cell 21(1):140-151(2010) Ballar, P., et al. Int. J. Biochem. Cell Biol. 42(1):167-173(2010) Shmueli, A., et al. Biochem. Biophys. Res. Commun. 390(3):758-762(2009)

Images



Western blot analysis of HRD1 Antibody (N-term) (Cat. #AP2184e) in SK-BR-3 cell line lysates (35ug/lane). HRD1 (arrow) was detected using the purified Pab.

Citations

- Pharmacological activation of ATF6 remodels the proteostasis network to rescue pathogenic GABA receptors
- Anti-Warburg effect by targeting HRD1-PFKP pathway may inhibit breast cancer progression
- Enhanced endoplasmic reticulum entry of tumor antigen is crucial for cross-presentation induced by dendritic cell-targeted vaccination.
- MHC class I molecules are preferentially ubiquitinated on endoplasmic reticulum luminal residues during HRD1 ubiquitin E3 ligase-mediated dislocation.
- TMEM129 is a Derlin-1 associated ERAD E3 ligase essential for virus-induced degradation of MHC-I.
- Grp94 Delivers γ-aminobutyric Acid Type A (GABAA) Receptors to Hrd1-Mediatd Endoplasmic Reticulum-Associated Degradation.
- Proteostasis Regulators Restore Function of Epilepsy-Associated GABAReceptors