

**UBR5 Antibody**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP51600****Specification**

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**UBR5 Antibody - Product Information**

Application	WB, IHC-P, E
Primary Accession	<a href="#">O95071</a>
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	309 KDa

**UBR5 Antibody - Additional Information****Gene ID** 51366**Other Names**

E3 ubiquitin-protein ligase UBR5, 632-, E3 ubiquitin-protein ligase, HECT domain-containing 1, Hyperplastic discs protein homolog, hHYD, Progesterin-induced protein, UBR5, EDD, EDD1, HYD, KIAA0896

**Dilution**

WB~~1:1000  
IHC-P~~N/A  
E~~N/A

**Format**

0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%

**Storage**

Store at -20 °C. Stable for 12 months from date of receipt

**UBR5 Antibody - Protein Information****Name** UBR5**Function**

E3 ubiquitin-protein ligase involved in different protein quality control pathways in the cytoplasm and nucleus (PubMed: [29033132](http://www.uniprot.org/citations/29033132), PubMed: [33208877](http://www.uniprot.org/citations/33208877), PubMed: [37478846](http://www.uniprot.org/citations/37478846), PubMed: [37478862](http://www.uniprot.org/citations/37478862)). Mainly acts as a ubiquitin chain elongator that extends pre-ubiquitinated substrates (PubMed: [29033132](http://www.uniprot.org/citations/29033132), PubMed: [37409633](http://www.uniprot.org/citations/37409633)). Component of the N-end rule pathway: ubiquitinates proteins bearing specific N-terminal residues that are destabilizing according to the N-end rule, leading to

their degradation (By similarity). Recognizes type-1 N-degrons, containing positively charged amino acids (Arg, Lys and His) (By similarity). Together with UBR4, part of a cytoplasm protein quality control pathway that prevents protein aggregation by catalyzing assembly of heterotypic 'Lys-11'-'Lys-48'-linked branched ubiquitin chains on aggregated proteins, leading to substrate recognition by the segregase p97/VCP and degradation by the proteasome: UBR5 is probably branching multiple 'Lys-48'-linked chains of substrates initially modified with mixed conjugates by UBR4 (PubMed:<a href="http://www.uniprot.org/citations/29033132" target="\_blank">29033132</a>). Together with ITCH, catalyzes 'Lys-48'-'Lys-63'-branched ubiquitination of TXNIP, leading to its degradation: UBR5 mediates branching of 'Lys-48'-linked chains of substrates initially modified with 'Lys-63'-linked conjugates by ITCH (PubMed:<a href="http://www.uniprot.org/citations/29378950" target="\_blank">29378950</a>). Catalytic component of a nuclear protein quality control pathway that mediates ubiquitination and degradation of unpaired transcription factors (i.e. transcription factors that are not assembled into functional multiprotein complexes): specifically recognizes and binds degrons that are not accessible when transcription regulators are associated with their coactivators (PubMed:<a href="http://www.uniprot.org/citations/37478846" target="\_blank">37478846</a>, PubMed:<a href="http://www.uniprot.org/citations/37478862" target="\_blank">37478862</a>). Ubiquitinates various unpaired transcription regulator (MYC, SUPT4H1, SUPT5H, CDC20 and MCRS1), as well as ligand-bound nuclear receptors (ESR1, NR1H3, NR3C1, PGR, RARA, RXRA AND VDR) that are not associated with their nuclear receptor coactivators (NCOAs) (PubMed:<a href="http://www.uniprot.org/citations/33208877" target="\_blank">33208877</a>, PubMed:<a href="http://www.uniprot.org/citations/37478846" target="\_blank">37478846</a>, PubMed:<a href="http://www.uniprot.org/citations/37478862" target="\_blank">37478862</a>). Involved in maturation and/or transcriptional regulation of mRNA by mediating polyubiquitination and activation of CDK9 (PubMed:<a href="http://www.uniprot.org/citations/21127351" target="\_blank">21127351</a>). Also acts as a regulator of DNA damage response by acting as a suppressor of RNF168, an E3 ubiquitin-protein ligase that promotes accumulation of 'Lys-63'-linked histone H2A and H2AX at DNA damage sites, thereby acting as a guard against excessive spreading of ubiquitinated chromatin at damaged chromosomes (PubMed:<a href="http://www.uniprot.org/citations/22884692" target="\_blank">22884692</a>). Regulates DNA topoisomerase II binding protein (TopBP1) in the DNA damage response (PubMed:<a href="http://www.uniprot.org/citations/11714696" target="\_blank">11714696</a>). Ubiquitinates acetylated PCK1 (PubMed:<a href="http://www.uniprot.org/citations/21726808" target="\_blank">21726808</a>). Acts as a positive regulator of the canonical Wnt signaling pathway by mediating (1) ubiquitination and stabilization of CTNNB1, and (2) 'Lys-48'-linked ubiquitination and degradation of TLE3 (PubMed:<a href="http://www.uniprot.org/citations/21118991" target="\_blank">21118991</a>, PubMed:<a href="http://www.uniprot.org/citations/28689657" target="\_blank">28689657</a>). Promotes disassembly of the mitotic checkpoint complex (MCC) from the APC/C complex by catalyzing ubiquitination of BUB1B, BUB3 and CDC20 (PubMed:<a href="http://www.uniprot.org/citations/35217622" target="\_blank">35217622</a>). Plays an essential role in extraembryonic development (By similarity). Required for the maintenance of skeletal tissue homeostasis by acting as an inhibitor of hedgehog (HH) signaling (By similarity).

#### **Cellular Location**

Nucleus. Cytoplasm

#### **Tissue Location**

Widely expressed. Most abundant in testis and expressed at high levels in brain, pituitary and kidney

#### **UBR5 Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)

- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **UBR5 Antibody - Images**

#### **UBR5 Antibody - Background**

E3 ubiquitin-protein ligase which is a component of the N-end rule pathway. Recognizes and binds to proteins bearing specific N-terminal residues that are destabilizing according to the N-end rule, leading to their ubiquitination and subsequent degradation (By similarity). Involved in maturation and/or transcriptional regulation of mRNA by activating CDK9 by polyubiquitination. May play a role in control of cell cycle progression. May have tumor suppressor function. Regulates DNA topoisomerase II binding protein (TopBP1) in the DNA damage response. Plays an essential role in extraembryonic development. Ubiquitinates acetylated PCK1. Also acts as a regulator of DNA damage response by acting as a suppressor of RNF168, an E3 ubiquitin-protein ligase that promotes accumulation of 'Lys-63'- linked histone H2A and H2AX at DNA damage sites, thereby acting as a guard against excessive spreading of ubiquitinated chromatin at damaged chromosomes.

#### **UBR5 Antibody - References**

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Honda Y.,et al.J. Biol. Chem. 277:3599-3605(2002).  
Nagase T.,et al.DNA Res. 5:355-364(1998).  
Nakajima D.,et al.DNA Res. 9:99-106(2002).  
Ohara O.,et al.Submitted (AUG-2005) to the EMBL/GenBank/DDBJ databases.