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KD-Validated Anti-UBR5 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody

Catalog # AGI1756

Specification

KD-Validated Anti-UBR5 Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	O95071
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 309 kDa , observed , 309 kDa KDa**
Gene Name	**UBR5**
Aliases	**UBR5; Ubiquitin Protein Ligase E3 Component N-Recognin 5; HYD; EDD; KIAA0896; EDD1; DD5; E3 Ubiquitin-Protein Ligase, HECT Domain-Containing 1; HECT-Type E3 Ubiquitin Transferase UBR5; Hyperplastic Discs Protein Homolog; E3 Ubiquitin-Protein Ligase UBR5; Progestin-Induced Protein; E3 Ubiquitin Protein Ligase, HECT Domain Containing, 1; E3 Identified By Differential Display; EC 2.3.2.26; EC 6.3.2; HHYD**
Immunogen	**A synthesized peptide derived from human EDD**

KD-Validated Anti-UBR5 Rabbit Monoclonal Antibody - Additional Information

Gene ID	**51366**

Other Names

E3 ubiquitin-protein ligase UBR5, 2.3.2.26, E3 ubiquitin-protein ligase, HECT domain-containing 1, Hyperplastic discs protein homolog, hHYD, Progestin-induced protein, UBR5

KD-Validated Anti-UBR5 Rabbit Monoclonal Antibody - Protein Information

Name UBR5

Function

E3 ubiquitin-protein ligase involved in different protein quality control pathways in the cytoplasm and nucleus (PubMed:29033132, PubMed:33208877, PubMed:37478846, PubMed:37478862). Mainly acts as a ubiquitin chain elongator that extends pre-ubiquitinated substrates (PubMed:29033132, PubMed:<a href="http://www.uniprot.org/citations/37409633"

target="_blank">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:29033132). 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:29378950). 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:37478846, PubMed:37478862). 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:33208877, PubMed:37478846, PubMed:37478862). Involved in maturation and/or transcriptional regulation of mRNA by mediating polyubiquitination and activation of CDK9 (PubMed:21127351). 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:22884692). Regulates DNA topoisomerase II binding protein (TopBP1) in the DNA damage response (PubMed:11714696). Ubiquitinates acetylated PCK1 (PubMed:21726808). 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:21118991, PubMed:28689657). Promotes disassembly of the mitotic checkpoint complex (MCC) from the APC/C complex by catalyzing ubiquitination of BUB1B, BUB3 and CDC20 (PubMed:35217622). 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

KD-Validated Anti-UBR5 Rabbit Monoclonal Antibody - Protocols

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

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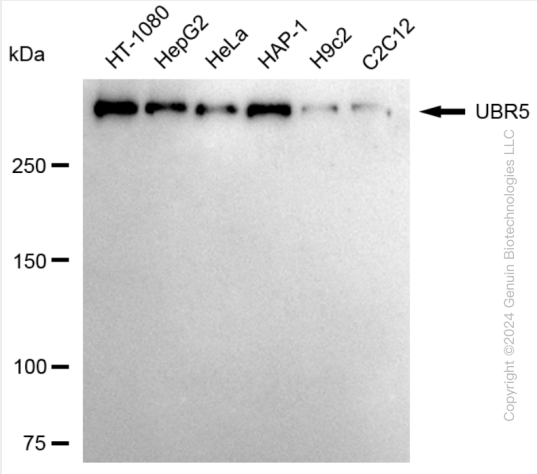
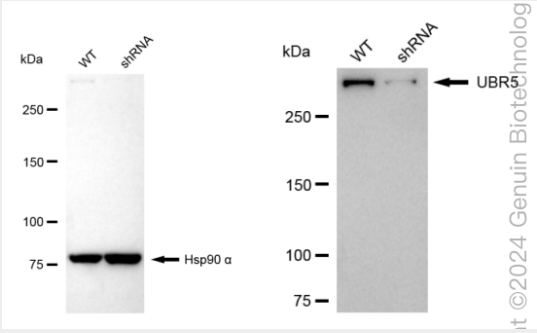
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

KD-Validated Anti-UBR5 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-UBR5 antibody (Cat#AGI1756). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-UBR5 antibody (Cat#AGI1756, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-UBR5 antibody (Cat#AGI1756). UBR5 expression in wild type (WT) and UBR5 shRNA knockdown (KD) HeLa cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-UBR5 antibody (Cat#AGI1756, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.

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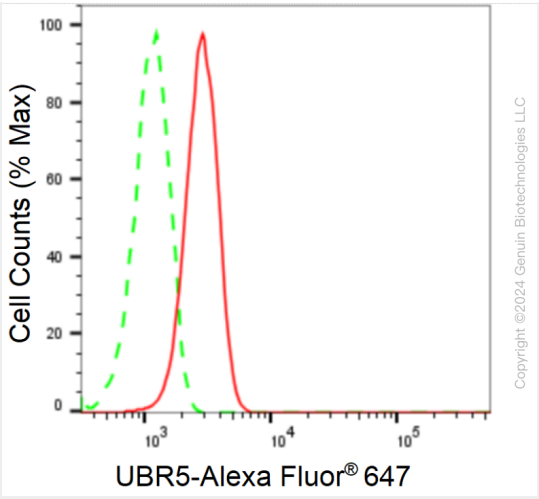
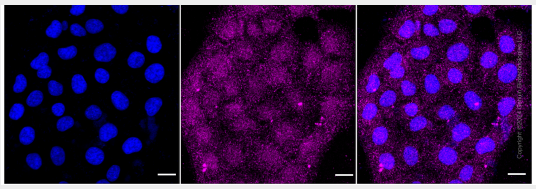


Flow cytometric analysis of UBR5 expression in HT-1080 cells using anti-UBR5 antibody (Cat#AGI1756, 1:2,000). Green, isotype control; red, UBR5.



Immunocytochemical staining of HT-1080 cells with anti-UBR5 antibody (Cat#AGI1756, 1:1,000). Nuclei were stained blue with DAPI; UBR5 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 µm.