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UBR5 Rabbit pAb

Catalog # AP100186

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	O95071
Other Accession	O95071
Reactivity	Mouse
Predicted	Rat, Pig, Human, Chicken, Dog, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	309352
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human EDD
Epitope Specificity	11-120/2799
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 1 HECT (E6AP-type E3 ubiquitin-protein ligase) domain. Contains 1 PABC domain. Contains 1 UBR-type zinc finger.
SUBUNIT	Binds TOPBP1. Associates with CDK9 and TFIIS/TCEA1 and forms a transcription regulatory complex made of CDK9, RNAP II, UBR5 and TFIIS/TCEA1 that can stimulate target gene transcription (e.g. gamma fibrinogen/FGG) by recruiting their promoters. Associates with the E3 ligase complex containing DYRK2, EDD/UBR5, DDB1 and VPRBP proteins (EDVP complex). Interacts directly with DYRK2.
Post-translational modifications	Phosphorylated upon DNA damage, probably by ATM or ATR.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	EDD is a progestin-regulated gene that was isolated from T-47D human breast cancer cells. Based on sequence homology, EDD appears to be a human homolog of the Drosophila hyperplastic discs (hyd) gene, a tumor suppressor gene that is required for control of imaginal disc growth. EDD contains a HECT domain in the carboxy terminus. HECT domain-containing proteins function as ubiquitin-protein ligases, or E3 enzymes. EDD has been shown to bind to ubiquitin, and like other HECT family proteins, may function as an E3 ubiquitin-protein ligase.

Additional Information

Gene ID	51366
Other Names	DD5; EDD; EDD1; HYD; Rat100; UBR5_HUMAN; UBR5; E3 ubiquitin-protein ligase, HECT domain-containing 1; Hyperplastic discs protein homolog (hHYD); Progestin-induced protein; 2.3.2.26; KIAA0896; UBR5_MOUSE; Hyperplastic discs protein homolog; UBR5_RAT; 100 kDa protein; HECT-type E3 ubiquitin

transferase UBR5; ubiquitin protein ligase E3 component n-recognin 5; E3 ubiquitin protein ligase, HECT domain containing, 1

Dilution IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500

Storage Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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: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

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.