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K0776 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9677c

Product Information

Application	WB, E
Primary Accession	O94874
Other Accession	B2GV24
Reactivity	Human, Rat, Mouse
Predicted	Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB24469
Calculated MW	89595
Antigen Region	426-455

Additional Information

Gene ID	23376
Other Names	E3 UFM1-protein ligase 1, 632-, LZAP-binding protein, UFL1, KIAA0776, NLBP
Target/Specificity	This K0776 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 426-455 amino acids from the Central region of human K0776.
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 purified through a protein A column, followed by peptide affinity purification.
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	K0776 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	UFL1 {ECO:0000303|PubMed:30354401, ECO:0000312|HGNC:HGNC:23039}
Function	E3 protein ligase that mediates ufmylation, the covalent attachment of the ubiquitin-like modifier UFM1 to lysine residues on target proteins, and which plays a key role in various processes, such as ribosome recycling, response to

DNA damage, interferon response or reticulophagy (also called ER-phagy) (PubMed:20018847, PubMed:20164180, PubMed:20228063, PubMed:25219498, PubMed:27351204, PubMed:30626644, PubMed:30783677, PubMed:32160526, PubMed:32807901, PubMed:35394863, PubMed:36121123, PubMed:36543799, PubMed:36893266, PubMed:37036982, PubMed:37311461, PubMed:37595036, PubMed:37795761, PubMed:38377992, PubMed:38383785, PubMed:38383789). Catalyzes ufmylation of many protein, such as CD274/PD-L1, CDK5RAP3, CYB5R3, DDRGK1, EIF6, histone H4, MRE11, P4HB, PDCD1/PD-1, TRIP4, RPN1, RPS20/uS10, RPL10/uL16, RPL26/uL24, SYVN1/HRD1 and TP53/p53 (PubMed:20018847, PubMed:20531390, PubMed:25219498, PubMed:30783677, PubMed:30886146, PubMed:32160526, PubMed:35753586, PubMed:36543799, PubMed:36893266, PubMed:37036982, PubMed:37595036, PubMed:37795761, PubMed:38383785, PubMed:38383789). As part of the UREL complex, plays a key role in ribosome recycling by catalyzing mono-ufmylation of RPL26/uL24 subunit of the 60S ribosome (PubMed:38383785, PubMed:38383789). Ufmylation of RPL26/uL24 occurs on free 60S ribosomes following ribosome dissociation: it weakens the junction between post-termination 60S subunits and SEC61 translocons, promoting release and recycling of the large ribosomal subunit from the endoplasmic reticulum membrane (PubMed:38383785, PubMed:38383789). Ufmylation of RPL26/uL24 and subsequent 60S ribosome recycling either take place after normal termination of translation or after ribosome stalling during cotranslational translocation at the endoplasmic reticulum (PubMed:37036982, PubMed:37595036, PubMed:38383785, PubMed:38383789). Involved in reticulophagy in response to endoplasmic reticulum stress by mediating ufmylation of proteins such as CYB5R3 and RPN1, thereby promoting lysosomal degradation of ufmylated proteins (PubMed:23152784, PubMed:32160526, PubMed:36543799). Ufmylation in response to endoplasmic reticulum stress is essential for processes such as hematopoiesis, blood vessel morphogenesis or inflammatory response (PubMed:32050156). Mediates ufmylation of DDRGK1 and CDK5RAP3; the role of these modifications is however unclear: as both DDRGK1 and CDK5RAP3 act as substrate adapters for ufmylation, it is uncertain whether ufmylation of these proteins is, a collateral effect or is required for ufmylation (PubMed:20018847, PubMed:20531390). Acts as a negative regulator of T-cell activation by mediating ufmylation and stabilization of PDCD1/PD-1 (PubMed:38377992). Also involved in the response to DNA damage: recruited to double-strand break sites following DNA damage and mediates monoufmylation of histone H4 and ufmylation of MRE11 (PubMed:30783677, PubMed:30886146). Mediates ufmylation of TP53/p53, promoting its stability (PubMed:32807901). Catalyzes ufmylation of TRIP4, thereby playing a role in nuclear receptor-mediated transcription (PubMed:25219498). Required for hematopoietic stem cell function and hematopoiesis (By similarity).

Cellular Location

Endoplasmic reticulum membrane. Cytoplasm, cytosol. Nucleus. Chromosome. Note=Recruited to double-strand breaks by the MRE11-RAD50-NBN (MRN) complex following DNA damage

Tissue Location

Ubiquitously expressed, with a high expression in liver (at protein level) (PubMed:20018847). Low expression in several invasive hepatocellular carcinomas, such Hep-G2, Hep 3B2.1-7, HLE and PLC (PubMed:20018847).

References

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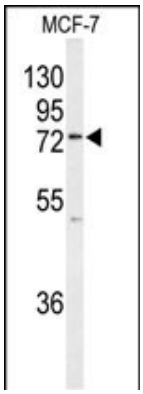
Images



Western blot analysis of K0776 Antibody (Center) (Cat. #AP9677c) in MCF-7 cell line lysates (35ug/lane). K0776 (arrow) was detected using the purified Pab.

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