

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
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

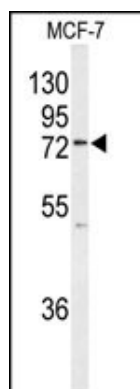
Ubiquitously expressed, with a high expression in liver (at protein level) (PubMed:20018847). Low expression in several invasive hepatocellular carcinomas, such Hep-G2, Hep 3B2.1-7, HLE and PLC (PubMed:20018847).

References

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Olsen, J.V., et al. Cell 127(3):635-648(2006)
Beausoleil, S.A., et al. Proc. Natl. Acad. Sci. U.S.A. 101(33):12130-12135(2004)
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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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