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K0776 Antibody (Center) Blocking Peptide

Synthetic peptide
Catalog # BP9677c

Specification

K0776 Antibody (Center) Blocking Peptide - Product Information

Primary Accession O94874

K0776 Antibody (Center) Blocking Peptide - Additional Information

Gene ID 23376

Other Names
E3 UFM1-protein ligase 1, 632-, LZAP-binding protein, UFL1, KIAA0776, NLBP

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

K0776 Antibody (Center) Blocking Peptide - 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:<a href="http://www.uniprot.org/citations/37311461"

target="_blank">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).

K0776 Antibody (Center) Blocking Peptide - Protocols

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

- Blocking Peptides

K0776 Antibody (Center) Blocking Peptide - Images

K0776 Antibody (Center) Blocking Peptide - References

Kwon, J., et al. J. Biol. Chem. 285(16):12232-12240(2010)Ewing, R.M., et al. Mol. Syst. Biol. 3, 89 (2007) :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)Beausoleil, S.A., et al. Proc. Natl. Acad. Sci. U.S.A. 101(33):12130-12135(2004) Mungall, A.J., et al. Nature 425(6960):805-811(2003)