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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 (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 reticulophagy (also called ER-phagy) induced in response to endoplasmic reticulum stress (PubMed:20018847, PubMed:20164180, PubMed:20228063, PubMed:25219498, PubMed:32160526, PubMed:37311461). In response to endoplasmic reticulum stress, recruited to the endoplasmic reticulum membrane by DDRGK1, and mediates ufmylation of proteins such as RPN1 and RPL26/uL24, thereby promoting reticulophagy of endoplasmic reticulum sheets (PubMed:32160526). Ufmylation-dependent reticulophagy inhibits the unfolded protein response (UPR) via ERN1/IRE1-alpha (PubMed:23152784, PubMed:32160526). Ufmylation in response to endoplasmic reticulum stress is essential for processes such as hematopoiesis, blood vessel morphogenesis or inflammatory

response (PubMed:32050156). Regulates inflammation in response to endoplasmic reticulum stress by promoting reticulophagy, leading to inhibit the activity of the NF-kappa-B transcription factor (By similarity). 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:20531390, PubMed:20018847). Catalyzes ufmylation of various subunits of the ribosomal complex or associated components, such as RPS3/uS3, RPS20/uS10, RPL10/uL16, RPL26/uL24 and EIF6 (By similarity). Anchors CDK5RAP3 in the cytoplasm, preventing its translocation to the nucleus which allows expression of the CCND1 cyclin and progression of cells through the G1/S transition (PubMed:20531390). Also involved in the response to DNA damage: recruited to double-strand break sites following DNA damage and mediates monoufmylation of histone H4 (PubMed:30886146). 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). Required for cardiac homeostasis (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)