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# LONP1 Antibody(Center) Blocking peptide

**Synthetic peptide**
**Catalog # BP19551c**

## Specification

### LONP1 Antibody(Center) Blocking peptide - Product Information

Primary Accession P36776

### LONP1 Antibody(Center) Blocking peptide - Additional Information

**Gene ID** 9361

**Other Names**
Lon protease homolog, mitochondrial {ECO:0000255|HAMAP-Rule:MF_03120}, 3421-{ECO:0000255|HAMAP-Rule:MF_03120}, LONHs, Lon protease-like protein {ECO:0000255|HAMAP-Rule:MF_03120}, LONP {ECO:0000255|HAMAP-Rule:MF_03120}, Mitochondrial ATP-dependent protease Lon {ECO:0000255|HAMAP-Rule:MF_03120}, Serine protease 15 {ECO:0000255|HAMAP-Rule:MF_03120}, LONP1 {ECO:0000255|HAMAP-Rule:MF_03120}, PRSS15

**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.

### LONP1 Antibody(Center) Blocking peptide - Protein Information

**Name** LONP1 {ECO:0000255|HAMAP-Rule:MF_03120}

**Synonyms** PRSS15

**Function**
ATP-dependent serine protease that mediates the selective degradation of misfolded, unassembled or oxidatively damaged polypeptides as well as certain short-lived regulatory proteins in the mitochondrial matrix (PubMed:<a href="http://www.uniprot.org/citations/12198491" target="_blank">12198491</a>, PubMed:<a href="http://www.uniprot.org/citations/15870080" target="_blank">15870080</a>, PubMed:<a href="http://www.uniprot.org/citations/8248235" target="_blank">8248235</a>, PubMed:<a href="http://www.uniprot.org/citations/17579211" target="_blank">17579211</a>, PubMed:<a href="http://www.uniprot.org/citations/37327776" target="_blank">37327776</a>). Endogenous substrates include mitochondrial steroidogenic acute regulatory (StAR) protein, DELE1, helicase Twinkle (TWNK) and the large ribosomal subunit protein MRPL32/bL32m (PubMed:<a href="http://www.uniprot.org/citations/17579211" target="_blank">17579211</a>, PubMed:<a

href="http://www.uniprot.org/citations/28377575" target="_blank">28377575</a>, PubMed:<a href="http://www.uniprot.org/citations/37327776" target="_blank">37327776</a>). MRPL32/bL32m is protected from degradation by LONP1 when it is bound to a nucleic acid (RNA), but TWNK is not (PubMed:<a href="http://www.uniprot.org/citations/17579211" target="_blank">17579211</a>, PubMed:<a href="http://www.uniprot.org/citations/28377575" target="_blank">28377575</a>). May also have a chaperone function in the assembly of inner membrane protein complexes (By similarity). Participates in the regulation of mitochondrial gene expression and in the maintenance of the integrity of the mitochondrial genome (PubMed:<a href="http://www.uniprot.org/citations/17420247" target="_blank">17420247</a>). Binds to mitochondrial promoters and RNA in a single-stranded, site-specific, and strand-specific manner (PubMed:<a href="http://www.uniprot.org/citations/17420247" target="_blank">17420247</a>). May regulate mitochondrial DNA replication and/or gene expression using site- specific, single-stranded DNA binding to target the degradation of regulatory proteins binding to adjacent sites in mitochondrial promoters (PubMed:<a href="http://www.uniprot.org/citations/14739292" target="_blank">14739292</a>, PubMed:<a href="http://www.uniprot.org/citations/17420247" target="_blank">17420247</a>).

**Cellular Location**
Mitochondrion matrix {ECO:0000255|HAMAP- Rule:MF_03120, ECO:0000269|PubMed:7961901}

**Tissue Location**
Duodenum, heart, lung and liver, but not thymus.

## LONP1 Antibody(Center) Blocking peptide - Protocols

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

- Blocking Peptides

## LONP1 Antibody(Center) Blocking peptide - Images

## LONP1 Antibody(Center) Blocking peptide - Background

This gene encodes a mitochondrial matrix protein in theLon family of ATP-dependent proteases. A similar E. coli proteinregulates gene expression by targeting specific regulatory proteinsfor degradation. This protein binds a specific sequence in thelight and heavy chain promoters of the mitochondrial genome whichare involved in regulation of DNA replication and transcription.

## LONP1 Antibody(Center) Blocking peptide - References

Hansen, J., et al. Neuroscience 153(2):474-482(2008)Chen, S.H., et al. Nucleic Acids Res. 36(4):1273-1287(2008)Bogenhagen, D.F., et al. J. Biol. Chem. 283(6):3665-3675(2008)Bayot, A., et al. Biochimie 90(2):260-269(2008)Xue, X., et al. Nan Fang Yi Ke Da Xue Xue Bao 27(6):870-874(2007)