10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

LONP1 Antibody(Center)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP19551c

Specification

LONP1 Antibody(Center) - Product Information

Application	**WB,E**
Primary Accession	P36776
Other Accession	Q924S5, Q8CGK3, Q59HJ6, NP_004784.2
Reactivity	**Human, Mouse**
Predicted	**Bovine, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**106489**
Antigen Region	**389-418**

LONP1 Antibody(Center) - 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

Target/Specificity
This LONP1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 389-418 amino acids from the Central region of human LONP1.

Dilution
WB~~1:2000

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
LONP1 Antibody(Center) is for research use only and not for use in diagnostic or therapeutic procedures.

LONP1 Antibody(Center) - 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:12198491, PubMed:15870080, PubMed:8248235, PubMed:17579211, PubMed:37327776). Endogenous substrates include mitochondrial steroidogenic acute regulatory (StAR) protein, DELE1, helicase Twinkle (TWNK) and the large ribosomal subunit protein MRPL32/bL32m (PubMed:17579211, PubMed:28377575, PubMed:37327776). MRPL32/bL32m is protected from degradation by LONP1 when it is bound to a nucleic acid (RNA), but TWNK is not (PubMed:17579211, PubMed:28377575). 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:17420247). Binds to mitochondrial promoters and RNA in a single-stranded, site-specific, and strand-specific manner (PubMed:17420247). 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:14739292, PubMed:17420247).

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

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

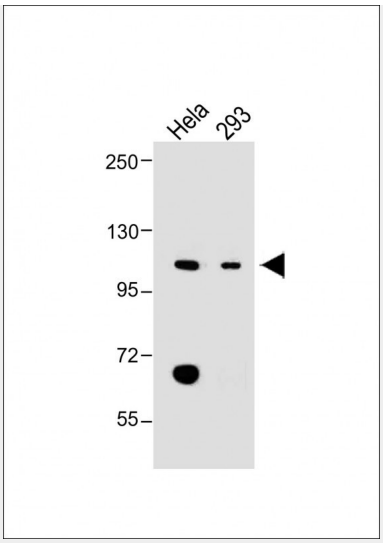
LONP1 Antibody(Center) - Protocols

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

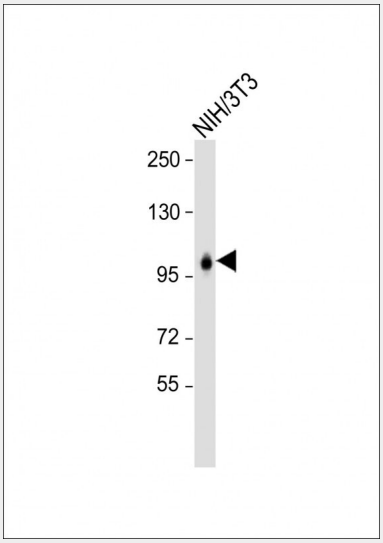
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

LONP1 Antibody(Center) - Images

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All lanes : Anti-LONP1 Antibody(Center) at 1:2000 dilution Lane 1: Hela whole cell lysate Lane 2: 293 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 106 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Anti-LONP1 Antibody(Center) at 1:2000 dilution + NIH/3T3 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 106 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

LONP1 Antibody(Center) - Background

This gene encodes a mitochondrial matrix protein in the Lon family of ATP-dependent proteases. A similar E. coli protein regulates gene expression by targeting specific regulatory proteins for degradation. This protein binds a specific sequence in the light and heavy chain promoters of the mitochondrial genome which are involved in regulation of DNA replication and transcription.

LONP1 Antibody(Center) - 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)

LONP1 Antibody(Center) - Citations

- ALKBH7 mediates necrosis via rewiring of glyoxal metabolism