

## Lon Protease Protein, E. coli (His)

Cat. No.:	HY-P74772
Synonyms:	ATP-dependent protease La; lon; capR; deg; lopA; muc
Species:	E.coli
Source:	E. coli
Accession:	P0A9M0 (M1-K784)
Gene ID:	61752336
Molecular Weight:	Approximately 88 kDa

### PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 $\mu$ m filtered solution of PBS, 10% Glycerol, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/ $\mu$ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 $\mu$ g/mL in ddH <sub>2</sub> O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

#### Background

Lon Protease, an ATP-dependent serine protease, serves as a crucial mediator in the selective degradation of mutant and aberrant proteins, as well as certain short-lived regulatory proteins, including specific antitoxins. Essential for cellular homeostasis, Lon Protease plays a pivotal role in ensuring survival under conditions of DNA damage and stress-induced developmental changes. Operating processively, this protease degrades polypeptides to generate small peptide fragments typically ranging from 5 to 10 amino acids in length. Additionally, Lon Protease exhibits a DNA-binding capacity in a double-stranded, site-specific manner. Among its endogenous substrates are regulatory proteins like RcsA, SulA, SoxS, UmuD, and various type II antitoxins such as CcdA, HipB, and MazE. Notably, Lon Protease, when overproduced, selectively impedes translation through distinct pathways, including the YoeB-YefM toxin-antitoxin system.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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