

## Product Information

**SILu™Prot PTX3, CLU, Clusterin, Human**Recombinant, Expressed in HEK Cells, SIL MS Protein Standard, <sup>13</sup>C- and <sup>15</sup>N-Labeled**MSST0007**

Storage Temperature -20 °C

Synonyms: Testosterone-repressed prostate message 2 (TRPM-2), Apolipoprotein J

**Product Description**

SILu™Prot CLU is a recombinant, stable isotope-labeled human clusterin which incorporates [<sup>13</sup>C<sub>6</sub>, <sup>15</sup>N<sub>4</sub>]-Arginine and [<sup>13</sup>C<sub>6</sub>, <sup>15</sup>N<sub>2</sub>]-Lysine. Expressed in human 293 cells, it is designed to be used as an internal standard for bioanalysis of clusterin in mass spectrometry. SILu™Prot CLU is a heterodimer of 2 subunits (alpha and beta) consisting of 464 amino acids (including N-terminal polyhistidine and V5 tags), with a calculated molecular mass of 54.6 kDa.

Clusterin is a secreted glycosylated, 80 kDa, disulfide-linked heterodimer of alpha and beta subunits (produced by internal cleavage). Clusterin is expressed in virtually all tissues and found in all human fluids.<sup>1</sup> It is involved in numerous physiological processes important for carcinogenesis and tumor growth, including antiapoptotic cell survival,<sup>2</sup> cell cycle regulation,<sup>3</sup> cell adhesion,<sup>4</sup> tissue remodeling,<sup>5</sup> and lipid transportation.<sup>6</sup> Clusterin also exists as a nuclear protein. The secreted form of clusterin has extracellular chaperone and antiapoptotic activities<sup>7</sup> while the nuclear form acts as a proapoptotic factor.<sup>8</sup>

Each vial contains ≥10 µg of SILu™Prot CLU standard, lyophilized from a solution of phosphate buffered saline. Vial content was determined by the Bradford method using BSA as a calibrator. The correction factor from the Bradford method to amino acid analysis is 70% for this protein.

**Identity**

Confirmed by peptide mapping

**Purity**

≥95% (SDS-PAGE)

**Heavy amino acid incorporation efficiency**

≥98% (MS)

**UniProt**

P10909

**Sequence Information**

QTVSDNELQEMSNQGSKYVNKEIQNAVNGVKQIKTLIEKTNEERKTLLSNLEEAKKKKEDALNETRESETKLKELPGVCNETMMALW  
EECKPCLKQTCMKFYARVCRSGSLVGRQLEEFNLQSSPFYFWMNGDRIDSLENDRQQTHMLDVMQDHFSSRASSIIDELFQDRFF  
TREPQDTYHYLPFSLPHRRPHFFFPKSRIVRSLMPFSPYEPLNFHAMFQPFLMIHEAQQAMDIHFHSPAQHPPTFEFIREGDDDRVC  
REIRHNSTGCLRMKDQCDKCREILSVDCSTNNPSQAKLRRELDLSLQVAERLTRKYNELLKSYQWKMLNTSSLLEQLNEQFNWVSRL  
ANLTQGEDQYYLRVTTVASHTSDSDVPSGVTEVVVKLFSDPITVTVPEVSRKNPKFMETVAEKALQEYRKKHREESDPSRGPFE  
KPIPNPLLGLDSTRTGHHHHHHHHGGQ.

## Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

## Preparation Instructions

Briefly centrifuge the vial before opening. It is recommended to reconstitute the protein in sterile ultrapure water to a final concentration of 100 µg/mL.

## Storage/Stability

Store the lyophilized product at –20 °C. The product is stable for at least 2 years as supplied. After reconstitution, it is recommended to store the protein in working aliquots at –20 °C.

## References

1. Aronow, B.J. et al., Apolipoprotein J expression at fluid-tissue interfaces: potential role in barrier cytoprotection. *Proc. Natl. Acad. Sci. USA.*, 15, 725-729 (1993).
2. Zhang, H. et al., Clusterin inhibits apoptosis by interacting with activated Bax. *Nat. Cell Biol.*, 7, 909-915 (2005).
3. Scaltriti, M. et al., Intracellular clusterin induces G2-M phase arrest and cell death in PC-3 prostate cancer cells. *Cancer Res.*, 64, 6174-82 (2004).
4. Fratelli, M. et al., Role of clusterin in cell adhesion during early phases of programmed cell death in P19 embryonic carcinoma cells. *Biochim. Biophys. Acta*, 1311, 71-76 (1996).
5. Gobé, G.C. et al., Clusterin expression and apoptosis in tissue remodeling associated with renal regeneration. *Kidney Int.*, 47, 411-420 (1995).
6. Gelissen, I.C. et al., Apolipoprotein J (clusterin) induces cholesterol export from macrophage-foam cells: a potential anti-atherogenic function? *Biochem. J.*, 331, 231-237 (1998).
7. Poon, S. et al., Clusterin is an ATP-independent chaperone with very broad substrate specificity that stabilizes stressed proteins in a folding-competent state. *Biochemistry*, 39, 15953-15960 (2000).
8. Moretti, R.M. et al., Molecular mechanisms of the antimetastatic activity of nuclear clusterin in prostate cancer cells. *Int. J. Oncol.*, 39, 225-34 (2011).

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