3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

SILu™Prot CLU, Clusterin, human recombinant, expressed in HEK cells SIL MS Protein Standard, ^{13}C- and ^{15}N-labeled

Catalog Number **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 [$^{13}C_6$, $^{15}N_4$]-Arginine and [$^{13}C_6$, $^{15}N_2$]-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.[1] It is involved in numerous physiological processes important for carcinogenesis and tumor growth, including antiapoptotic cell survival,[2] cell cycle regulation,[3] cell adhesion,[4] tissue remodeling,[5] and lipid transportation.[6] Clusterin also exists as a nuclear protein. The secreted form of clusterin has extracellular chaperone and antiapoptotic activities[7] while the nuclear form acts as a proapoptotic factor.[8]

Each vial contains 10–13 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
The N-terminal polyhistidine and V5 tags are italicized.

DQTVSDNELQEMSNQGSKYVNKEIQNAVNGVKQIKT
LIEKTNEERKTLLSNLEEAKKKKEDALNETRESETKLK
ELPGVCNETMMALWEECKPCLKQTCMKFYARVCRS
GSGLVGRQLEEFLNQSSPFYFWMNGDRIDSLLENDR
QQTHMLDVMQDHFSRASSIIDELFQDRFFTREPQDTY
HYLPFSLPHRRPHFFFPKSRIVRSLMPFSPYEPLNFH
AMFQPFLEMIHEAQQAMDIHFHSPAFQHPPTEFIREG
DDDRTVCREIRHNSTGCLRMKDQCDKCREILSVDCS
TNNPSQAKLRRELDESLQVAERLTRKYNELLKSYQW
KMLNTSSLLEQLNEQFNWVSRLANLTQGEDQYYLRV
TTVASHTSDSDVPSGVTEVVVKLFDSDPITVTVPVEV
SRKNPKFMETVAEKALQEYRKKHREE*SDPSRGPFEG*
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

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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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Legal Information

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