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Product Information

SILu™Lite ALB, Albumin, human recombinant, expressed in HEK cells MS Protein Standard

Catalog Number **MSST0012**
Storage Temperature –20 °C

Product Description

SILu™Lite ALB is a recombinant human protein expressed in human 293 cells. It is a monomer of 607 amino acids (including C-terminal polyhistidine and FLAG® tags), with a calculated molecular mass of 68.9 kDa. SILu™Lite ALB is an analytical standard designed to be used as starting material for preparation of calibrators and controls in LC-MS applications.

Albumin is synthesized exclusively by the liver parenchymal cells at a rate of 14 g/day.[1] While it is the most abundant plasma protein (>50%),[1] increased urine albumin concentrations indicate bleedings in the lower urinary tract (ureter, bladder) or infections of the renal pelvis.[2] A small abnormal albumin excretion is known as microalbuminuria and serves as an indicator for temporary overload of the glomerular filtration (fever, excessive sports)[3] or chronic injury of the glomeruli (diabetes).[4]

Each vial contains 50–65 μg of SILu™Lite ALB 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 75% for this protein.

Identity: Confirmed by peptide mapping

Purity: ≥95% (SDS-PAGE)

UniProt: P02768

Sequence Information
The C-terminal polyhistidine and FLAG tags are italicized.

RRDAHKSEVAHRFKDLGEENFKALVLIAFAQYLQQCP
FEDHVKLVNEVTEFAKTCVADESAENCDKSLHTLFGD
KLCTVATLRETYGEMADCCAKQEPERNECFLQHKDD
NPNLPRLVRPEVDVMCTAFHDNEETFLKKYLYEIARR
HPYFYAPELLFFAKRYKAAFTECCQAADKAACLLPKL
DELRDEGKASSAKQRLKCASLQKFGERAFKAWAVAR
LSQRFPKAEFAEVSKLVTDLTKVHTECCHGDLLECAD
DRADLAKYICENQDSISSKLKECCEKPLLEKSHCIAEV
ENDEMPADLPSLAADFVESKDVCKNYAEAKDVFLGM
FLYEYARRHPDYSVVLLLRLAKTYETTLEKCCAAADP
HECYAKVFDEFKPLVEEPQNLIKQNCELFEQLGEYKF
QNALLVRYTKKVPQVSTPTLVEVSRNLGKVGSKCCK
HPEAKRMPCAEDYLSVVLNQLCVLHEKTPVSDRVTK
CCTESLVNRRPCFSALEVDETYVPKEFNAETFTFHAD
ICTLSEKERQIKKQTALVELVKHKPKATKEQLKAVMDD
FAAFVEKCCKADDKETCFAEEGKKLVAASQAALGLD
YKDDDDKGHHHHHHHHGGQ

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. Thomas, L., Clinical Laboratory Diagnostics. 1st ed. Frankfurt: TH-Books Verlagsgesellschaft 652-3 (1998)
2. Ware, L.B. et al., Renal cortical albumin gene induction and urinary albumin excretion in response to acute kidney injury. *Am. J. Physiol. Renal Physiol.,* **300** (3), 628-38 (2011).
3. Lopez-Giacoman, S. et al., Biomarkers in chronic kidney disease, from kidney function to kidney damage. *World J. Nephrol.,* **4** (1), 57-73 (2015).
4. Andersen, S. et al., Glomerular permselectivity in early stages of overt diabetic nephropathy. *Kidney Int.,* **58** (5), 2129–37 (2000).

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