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Product Information

SILu™Prot AMBP, Alpha-1 microglycoprotein, human recombinant, expressed in HEK cells
SIL MS Protein Standard, ^{13}C- and ^{15}N-labeled

Catalog Number **MSST0013**
Storage Temperature –20 °C

Synonyms: Alpha-1-microglobulin, Complex-forming glycoprotein heterogeneous in charge

Product Description
SILu™Prot AMBP is a recombinant, stable isotope-labeled human AMBP 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 AMBP in mass spectrometry. SILu™Prot AMBP is a monomer of 204 amino acids (including C-terminal polyhistidine and FLAG® tags), with a calculated molecular mass of 23.4 kDa.

AMBP is synthesized by the liver with approximately half of the circulating protein complexed to IgA.[1] The free form is readily filtered by the glomerulus and reabsorbed by proximal tubule cells.[1] It has been found to be a sensitive biomarker for proximal tubular dysfunction even in the early phase of injury when no histologic damage is observable.[2] In addition, urinary AMBP has been proposed to be a useful marker of tubular dysfunction even in low-gestational-age preterm infants, a population at high risk for AKI (Acute Kidney Injury).[3]

Each vial contains 10–13 μg of SILu™Prot AMBP 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 95% for this protein.

Identity: Confirmed by peptide mapping

Purity: ≥95% (SDS-PAGE)

Heavy amino acid incorporation efficiency: ≥98% (MS)

UniProt: P02760

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

GPVPTPPDNIQVQENFNISRIYGKWYNLAIGSTCPWL
KKIMDRMTVSTLVLGEGATEAEISMTSTRWRKGVCE
ETSGAYEKTDTDGKFLYHKSKWNITMESYVVHTNYD
EYAIFLTKKFSRHHGPTITAKLYGRAPQLRETLLQDFR
VVAQGVGIPEDSIFTMADRGECVPGEQEPEPILIPRV*D*
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. Vaidya, V.S. et al., Biomarkers of Acute Kidney Injury. *Annual Review of Pharmacology and Toxicology*, **48**, 463-493 (2008).
2. Wolf, M.W., and Boldt, J., Kidney specific proteins: markers for detection of renal dysfunction after cardiac surgery? *Clin. Res. Cardiol. Suppl*., **2**, S103–7 (2007).
3. Ojala, R. et al., Tubular proteinuria in pre-term and full-term infants. *Pediatr. Nephrol.,* **21(1)**, 68-73 (2006).

Legal Information

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