

Product Information

SILu™Mab - Stable Isotope Labeled Universal Monoclonal Antibody Standard

recombinant, expressed in CHO cells

Catalog Number **MSQC3**
Storage Temperature -20°C

Product Description

SILu™Mab is a recombinant, stable isotope-labeled, human monoclonal antibody which incorporates [$^{13}\text{C}_6$, $^{15}\text{N}_4$]-Arginine and [$^{13}\text{C}_6$, $^{15}\text{N}_2$]-Lysine. Expressed in CHO cells, SILuMab is designed to be used as a universal internal standard for bioanalysis of monoclonal antibodies as well as Fc-fusion therapeutics in animal pharmacokinetics (PK) studies.^{1,2} Because of overlap with common sequences in the Fc region with candidate antibodies, SILuMab provides universal utility, and thus eliminates the need to produce candidate-specific internal standards.

SILuMab is an IgG1 antibody with lambda light chain, but contains peptide sequences common to other IgG isotypes. Recommended surrogate peptide sequences are indicated in Table 1. Suggested MRM parameters are available for download in several formats on the product display page at www.sigmaaldrich.com.

The peptide sequences have been evaluated by *in silico* comparison to protein sequences of commonly used pre-clinical animal species, including rat, mouse, dog, and cynomolgus and rhesus monkeys. The resulting sequence matches are annotated in Table 1. Peptides DTLMISR, NQVSLTCLVK, and AGVETTPSK are not recommended for use with rhesus and cynomolgus monkeys.

Each vial of SILuMab contains 100 μg of labeled antibody lyophilized from a solution of phosphate buffered saline. Vial content was determined by measuring A_{280} and using an extinction coefficient ($E^{0.1\%}$) of 1.4.

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.

Sequence Information

SILuMab Heavy Chain:

EVQLVESGGGLVQPGGSLRLSCVASGFTLNNDYDMH
WVRQGIGKGLEWVSKIGTAGDRYYAGSVKGRFTISR
ENAKDSLYLQMNSLRVGDAVYYCARGAGRWAPLG
AFDIWGQGTMTVSSASTKGPSVFPLAPSSKSTSGG
TAALGCLVKDYFPEPTVSWNSGALTSGVHTFPAVL
QSSGLYSLSSVTPSSSLGTQTYICNVNHKPSNTKV
DKKVEPKSCDKTHTCPPCPAPPELLGGPSVFLFPPKPK
DTLMISRTPEVTCVVVDVSHEDPEVK**FNWYVDGVEV**
HNAKTKPREEQYNSTYR**VVSVLTVLHQDWLNGKEY**
KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRD
ELTK**NQVSLTCLVKGFYP****SDIAVEWESNGQPENNYK**
TTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVM
HEALHNHYTQKSLSLSPG

SILuMab Light Chain:

QSALTQPRSVSGSPGQSSTISCTGTSSDIGGYNFVS
WYQQHPGKAPKLMYDATKRPSGVPDRFSGSKSGN
TASLTISGLQAEDEADYYCCSYAGDYTPGVVFGGT
KLTVLGQPKAAPSVTLFPPSSEELQANKATLVCLISDF
YPGAVTVAWKADSSPVK**AGVETTPSK**QSNK**YAA**
SSYLSLTPEQWKSHRSYSCQVTHEGSTVEKTVAPTE
CS

Preparation Instructions

SILuMab recovery is maximized when 0.1% formic acid is used for reconstitution of the lyophilized product. Reconstitution with other solvents may reduce recovery. Do not freeze after reconstitution.

1. Briefly centrifuge the vial at $\sim 10,000 \times g$ to collect the product at the bottom of the vial.
2. Add 500 μL of ultrapure water containing 0.1% formic acid to the vial.
3. Mix the contents by gently inverting the vial a minimum of 5 times.
4. Allow the vial to stand at room temperature for at least 15 minutes and repeat mixing by inversion.

Storage/Stability

Store the lyophilized product at -20°C .

References

1. Furlong, M.T. *et al.*, Biomed. Chromatogr., **26**(8), 1024-1032 (2012).
2. Li, H. *et al.*, Anal. Chem., **84**, 1267-1273 (2012).

SILu is a trademark of Sigma-Aldrich Co. LLC.

KR,BG,GY,MAM 05/14-1

Table 1.

Recommended Universal Peptide Sequences Liberated from SILuMab Tryptic Digest

Universal Peptide Sequence	Location	Isotype Overlap	Species Homology
DTLMISR	Heavy Chain	IgG1, IgG2, IgG3, IgG4	Rhesus monkey Cynomolgus monkey
FNWYVDGVEVHNAK	Heavy Chain	IgG1	
VVSVLTVLHQDWLNGK	Heavy Chain	IgG1, IgG3, IgG4	
NQVSLTCLVK	Heavy Chain	IgG1, IgG2, IgG3, IgG4	Rhesus monkey Cynomolgus monkey
GFYPSDIAVEWESNGQPENNYK	Heavy Chain	IgG1, IgG4	
AGVETTTPSK	Light Chain	lambda	Rhesus monkey Cynomolgus monkey
YAASSYLSLTPEQWK	Light Chain	lambda	