

Product Information

**SILu™Mab K1 - Stable Isotope Labeled
 Universal Monoclonal Antibody Standard**
 recombinant, expressed in CHO cells

Catalog Number **MSQC6**
 Storage Temperature -20°C

Product Description

SILu™Mab K1 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 K1 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 K1 provides universal utility, and thus, eliminates the need to produce candidate-specific internal standards.

SILuMab K1 is an IgG1 antibody with a kappa 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 preclinical animal species, including rat, mouse, dog, and cynomolgus and rhesus monkeys. The resulting sequence matches are annotated in Table 1.

Each vial of SILuMab K1 contains the 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.

Sequence Information

SILuMab K1 Heavy Chain:

EVQLVESGGGLVQPGGSLRLSCVASGFTLNNDYMHWRQGI
 GKGLEWVSKIGTAGDRYYAGSVKGRFTISRENAKDSLYLQM
 NSLRVGDAAVYYCARGAGRWAPLGAFDIWGQGTMTVSSAS
 TKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTWNS
 GALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICN
 VNHKPSNTKVDKKEPKSCDKTHTCPPCPAPELLGGPSVFL
 FPPKPKDTLMISRTPEVTCVVDVSHEDPEVK **FNWYVDGVE**
VHNAKTKPREEQYNSTYR**VVSVLTVLHQDWLNGKEY**KCKVS
 NKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSL
 TCLVK**GFYPSDIAVEWESNGQPENNYK**TTPPVLDSDGSFFL
 YSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG

SILuMab K1 Light Chain:

QSALTQPRSVSGSPGQSVTISCTGTSSDIGYNFVSWYQQH
 PGKAPKLMYDATKRPSGVPDRFSGSKSGNTASLTISGLQA
 EDEADYYCCSYAGDYTPGVVFGGGTKLTVLTVAAPSVFIFP
 PSDEQLK**SGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQ**
ESVTEQDSKDSSTYSLSSTLTLSKADYEKHKVYACEVTHQGL
 SSPVTKSFNRGEC

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

SILuMab K1 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. Furlong, M. T. *et al.*, Bioanalysis, **5**, 1363-1376 (2013).

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

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Table 1.

Recommended Universal Peptide Sequences Liberated from SiLuMab K1 Tryptic Digest

Universal Peptide Sequence	Location	Isotype Overlap	Species Homology
FNWYVDGVEVHNAK	Heavy Chain	IgG1	NA
VVSVLTVLHQDWLNGK	Heavy Chain	IgG1, IgG3, IgG4	NA
GFYPSDIAVEWESNGQPENNYK	Heavy Chain	IgG1, IgG4	NA
SGTASVVCLLNNFYPR	Light Chain	Kappa	NA
VDNALQSGNSQESVTEQDSK	Light Chain	Kappa	NA
DSTYLSSTLTLSK	Light Chain	Kappa	NA