

Product Information

SILu™ Lite SigmaMAb Pembrolizumab Monoclonal Antibody Standard recombinant, expressed in CHO cells

Catalog Number **MSQC24**
Storage Temperature -20°C

Product Description

SILu™ Lite SigmaMAb Pembrolizumab is a recombinant monoclonal antibody with a molecular mass of ~150 kDa expressed in CHO cells. SigmaMAb Pembrolizumab is designed to be used as a standard for optimization of bioanalytical assays of Pembrolizumab.

Each vial of SigmaMAb Pembrolizumab contains 500 μg of lyophilized antibody 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

SigmaMAb Pembrolizumab Heavy Chain:

QVQLVQSGVEVKKPGASVKVSKASGYTFTNYYMYWVRQAP
GQGLEWMGGINPSNGGTNFNEKFKNRVLTITDSSTTTAYME
LKSLQFDDTAVYYCARRDYRFDMGFYWGQGTITVTVSSAST
KGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSG
ALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGKTKYTCNV
DHKPSNTKVDKRVESKYGPCCPPCPAPEFLGGPSVFLFPPK
PKDTLMISRTPEVTCVVVDVSQEDPEVQFNWYVDGVEVHNA
KTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGL
PSSIEKTIKAKGQPREPQVYTLPPSQEEMTKNQVSLTCLV
KGFYPSDIAVEWESNGQPENNYKTPPVLDSDGSFFLYSRL
TVDKSRWQEGNVFSCSVMEALHNHYTQKSLSLSLG

SigmaMAb Pembrolizumab Light Chain:

EIVLTQSPATLSLSPGERATLSCRASKGVSTSGYSYLHWYQ
QKPGQAPRLLIYLAAYLESQVPAARFSGSGSDFTLTISL
EPEDFAVYYCQHSRDLPLTFGGGKVEIKRTVAAPSVFIFP
PSDEQLKSGTASVCLLNNFYPREAKVQWKVDNALQSGNSQ
ESVTEQDSKSTYSLSTLTLSKADYEKHKVYACEVTHQGL
SSPVTKSFNRGEC

Precautions and Disclaimer

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

Reconstitute the contents of the vial by adding 500 μL of ultrapure water or phosphate buffer, and mixing vigorously for a 1 mg/mL solution.

If the lyophilized powder does not dissolve completely, make the solution slightly acidic by adding 0.1% formic acid until complete dissolution is achieved. The resulting acidic solution should be neutralized to pH 6–7 by addition of a base or dilution into suitable buffer.

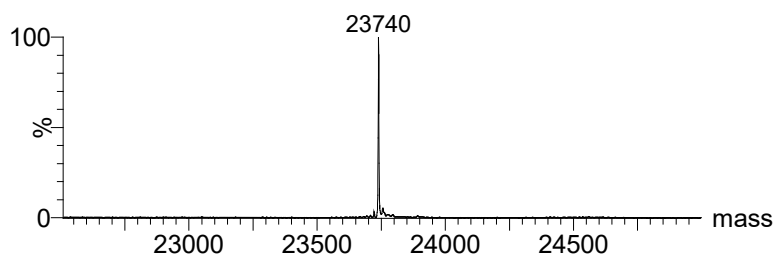
Note: Avoid PBS for reconstitution.

Storage/Stability

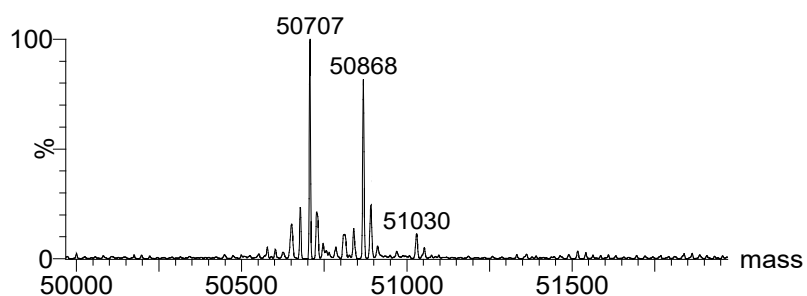
Store the lyophilized product at -20°C .

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

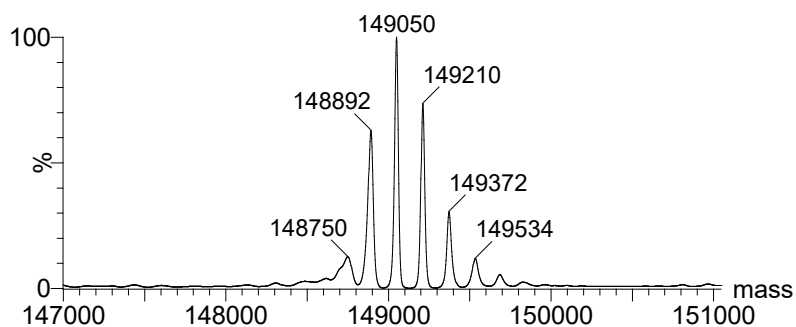
Appendices
Figure 1.
Mass Spectra



(a) Reduced Light Chain



(b) Reduced Heavy Chain



(c) Intact, non-reduced

Deconvoluted mass spectra of partially reduced (a) light chain, (b) heavy chain, and (c) intact SigmaMAb Pembrolizumab. The reduction was performed in non-denaturing conditions, where the interchain disulfide bonds (which are more susceptible to reduction) will break and produce the light chain and heavy chains, while the intrachain disulfide bonds within each individual domain may remain intact.

Table 1.

The calculated molecular mass of light chains, heavy chains of fully reduced, and non-reduced (intact) SigmaMAb Pembrolizumab with the most abundant glycoforms in this product.

Description	Composition	Modification*	Average Mass (Da)**	Disulfide bond***
Light chain, reduced	C ₁₀₅₁ H ₁₆₃₄ N ₂₈₀ O ₃₃₇ S ₅	NA	23744.28	2 intra-chain
Heavy chain, reduced	C ₂₁₉₅ H ₃₃₆₉ N ₅₇₅ O ₆₈₀ S ₁₈	PyroGlu	49269.98	4 intra-chain
	C ₂₂₅₁ H ₃₄₆₁ N ₅₇₉ O ₇₁₉ S ₁₈	G0F, PyroGlu	50715.31	
	C ₂₂₅₇ H ₃₄₇₁ N ₅₇₉ O ₇₂₄ S ₁₈	G1F, PyroGlu	50877.46	
	C ₂₂₆₃ H ₃₄₈₁ N ₅₇₉ O ₇₂₉ S ₁₈	G2F, PyroGlu	51039.60	
Native, intact product, non-reduced	C ₆₄₉₂ H ₉₉₇₄ N ₁₇₁₀ O ₂₀₃₄ S ₄₆	2PyroGlu	145996.3	16 (12 intra-chain and 4 inter-chain)
	C ₆₆₀₄ H ₁₀₁₅₈ N ₁₇₁₈ O ₂₁₁₂ S ₄₆	G0F + G0F, 2PyroGlu	148886.9	
	C ₆₆₁₀ H ₁₀₁₆₈ N ₁₇₁₈ O ₂₁₁₇ S ₄₆	G0F + G1F, 2PyroGlu	149049.1	
	C ₆₆₁₆ H ₁₀₁₇₈ N ₁₇₁₈ O ₂₁₂₂ S ₄₆	G1F + G1F, 2PyroGlu	149211.2	
	C ₆₆₂₂ H ₁₀₁₈₈ N ₁₇₁₈ O ₂₁₂₇ S ₄₆	G1F + G2F, 2PyroGlu	149373.3	
	C ₆₆₂₈ H ₁₀₁₉₈ N ₁₇₁₈ O ₂₁₃₂ S ₄₆	G2F + G2F, 2PyroGlu	149535.5	

G0F: GlcNAc₂Man₃GlcNAc₂Fuc

G1F: GlcNAc₂Man₃GlcNAc₂GalFuc

G2F: GlcNAc₂Man₃GlcNAc₂Gal₂Fuc

* C-terminal Lys removed from the sequence and accounted in the table

** Masses based on NIST Physical Reference Data

*** Intra disulfide bonds remain intact after partial reduction

PJ, CY 03/21-1