

Product Information

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

Catalog Number **MSQC17**
Storage Temperature -20°C

Product Description

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

Each vial of SigmaMAb Rituximab contains 500 µg of 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

SigmaMAb Rituximab Heavy Chain:

QVQLQQPGAELVKPGASVKMSCKASGYTFTSYNMHWVKQTP
GRGLEWIGAIYPGNGDTSYNQKFKGKATLTADKSSSTAYMQ
LSSLTSEDSAVYYCARSTYYGGDWYFNVWGAGTTVTVSAAS
TKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNS
GALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICN
VNHKPSNTKVDKKAEPKSCDKTHTCPPCPAPELLGGPSVFL
FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVE
VHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVS
NKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSL
TCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSDGSFFL
YSKLTVDKSRWQQGNVFSQSVMEALHNHYTQKSLSLSPG

SigmaMAb Rituximab Light Chain:

QIVLSQSPAILSASPGEKVTMTCRASSSVSYIHWFQQKPGS
SPKPWIYATSNLASGVFVRFSGSGSGTSYSLTISRVEAEDA
ATYYCQQWTSNPPTFGGGTKLEIKRTVAAPSVFIFPPSDEQ
LKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTE
QDSKDSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVT
KSFNRGEC

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses.

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.

Note: **Avoid PBS for reconstitution.**

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.

Storage/Stability

Store the lyophilized product at -20°C .

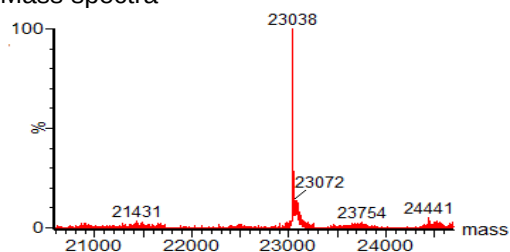
SILu is a trademark of Sigma-Aldrich Co. LLC.

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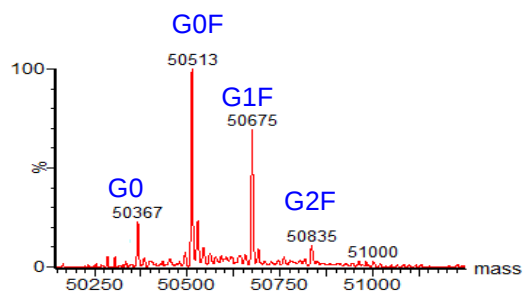
Appendices

Figure 1.

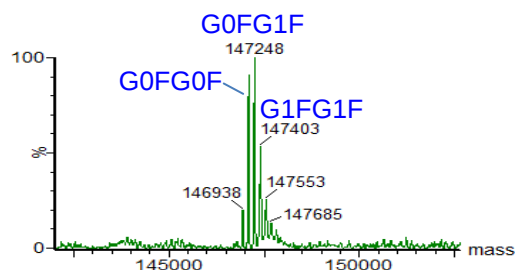
Mass spectra



(a) Light Chain, calculated mass: 23,039 Da



(b) Heavy Chain, calculated mass: 50,514 Da



(c) Intact SigmaMAb Rituximab, calculated mass: 147,075 Da

Deconvoluted mass spectra of (a) light chain, (b) heavy chain, and (c) Intact SigmaMAb Rituximab. 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 SigmaMAb Rituximab with the most abundant Glycoforms.

Description	Composition	Modification *	Avg. Mass (Da) **	Disulfide Bond ***
Light chain, Reduced	C ₁₀₁₆ H ₁₅₇₄ N ₂₇₂ O ₃₂₈ S ₆	PyroGlu	23039.44	2 intra-chain
Heavy chain, Reduced	C ₂₁₉₁ H ₃₃₇₄ N ₅₇₄ O ₆₇₅ S ₁₆	(PyroGlu)	49068.84	4 intra-chain
	C ₂₂₄₇ H ₃₄₆₆ N ₅₇₈ O ₇₁₄ S ₁₆	G0F (PyroGlu)	50514.18	
	C ₂₂₅₃ H ₃₄₇₆ N ₅₇₈ O ₇₁₉ S ₁₆	G1F (PyroGlu)	50676.32	
	C ₂₂₅₉ H ₃₄₈₆ N ₅₇₈ O ₇₂₄ S ₁₆	G2F (PyroGlu)	50838.33	
Native. Intact product, non-reduced	C ₆₄₁₄ H ₉₈₆₄ N ₁₆₉₂ O ₂₀₀₆ S ₄₄	(4 PyroGlu)	144184.3	16 (12 intra chain and 4 inter chain)
	C ₆₅₂₆ H ₁₀₀₄₈ N ₁₇₀₀ O ₂₀₈₄ S ₄₄	G0F+G0F (4PyroGlu)	147075.0	
	C ₆₅₃₂ H ₁₀₀₅₈ N ₁₇₀₀ O ₂₀₈₉ S ₄₄	G0F+G1F (4PyroGlu)	147237.1	
	C ₆₅₃₈ H ₁₀₀₆₈ N ₁₇₀₀ O ₂₀₉₄ S ₄₄	G1F+G1F (4PyroGlu)	147399.3	
	C ₆₅₄₄ H ₁₀₀₇₈ N ₁₇₀₀ O ₂₀₉₉ S ₄₄	G1F+G2F (4PyroGlu)	147561.4	
	C ₆₅₅₀ H ₁₀₀₈₈ N ₁₇₀₀ O ₂₁₀₄ S ₄₄	G2F+G2F (4PyroGlu)	147723.5	

G0F: GlcNAc₂Man₃GlcNAc₂Fuc

G1F: GalGlcNAc₂Man₃GlcNAc₂Fuc

G2F: Gal₂GlcNAc₂Man₃GlcNAc₂Fuc

* 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