



CERTIFICATE OF ANALYSIS

Product Description: mRNA-1273 Lipid Nanoparticle Moderna Part #: 50075
Manufacturer Name: Lonza Biologics Inc (Portsmouth) Container/Closure: (b) (4)
Manufacturer Lot: 951778
Moderna Lot Number: 5007520502 Specification: SPC-1213
Date of Manufacture: 18Nov2020 Expiry Date: 14Feb2021

Product Attribute	Method	Parameter	Specification	Result
Appearance	SOP-0278	Appearance - Color	(b) (4)	
		Appearance - Particulates		
Identity	SOP-1032	Identity		
Concentration	SOP-0999	Concentration		
Purity	SOP-0996	Purity		
		% IG1		
		% IG2		
		% IG3		
		% Total Impurities		
% RNA Encapsulation	SOP-1000	% Encapsulation		
Dynamic Light Scattering	SOP-0998	Particle Size		
		Polydispersity		
Lipid Identification	SOP-1001	SM102		
		Cholesterol		
		DSPC		
		PEG-DMG		

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FDA-CBER-2022-1614-3815367



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Product Attribute	Method	Parameter	Specification	Result
Lipid Content		SM102	(b) (4)	
		Cholesterol		
		DSPC		
		PEG-DMG		
Lipid Impurities		% Area 1		
		% Area 2		
		% Area 3		
		% Area 4		
		RRT 1		
		RRT 2		
		RRT 3		
		RRT 4		
		% Total Impurities		
pH	SOP-0288	pH		
Osmolality	SOP-0279	Osmolality		
Bacterial Endotoxins	USP <85>	Bacterial Endotoxins		
Bioburden	USP <61>	TAMC		
		TYMC		

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Manufacturer Name:	Lonza Biologics Inc (Portsmouth)	Container/Closure:	(b) (4)
Manufacturer Lot:	951778		
Moderna Lot Number:	5007520502	Specification:	SPC-1213
Date of Manufacture:	18Nov2020	Expiry Date:	14Feb2021

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This material meets specification: Yes

Revision History:

- 1.0 - Original
- 2.0 - Corrected expiry date from 16Jul2021 to 14Feb2021

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Document Approvals
Approved Date: 22 Dec 2020

Approval Verdict: Approved	Steven Anderson, (b) (6) @modernatx.com) Quality Control Approval 22-Dec-2020 23:53:28 GMT+0000
QA Approval Verdict: Approved	(b) (6) (b) (6) @modernatx.com) Quality Assurance Approval 23-Dec-2020 00:41:01 GMT+0000