



CERTIFICATE OF ANALYSIS

Product Description: mRNA-1273 Lipid Nanoparticle Moderna Part #: 50075
Manufacturer Name: Lonza Biologics Inc (Portsmouth) Container/Closure: (b) (4)
Manufacturer Lot: 962902
Moderna Lot Number: 5007521502 Specification: SPC-1213
Date of Manufacture: 05Jan2021 Expiry Date: 05Apr2021

Product Attribute	Method	Parameter	Specification	Result
Appearance	SOP-0278	Appearance - Color	(b) (4)	
		Appearance - Particulates		
Identity	SOP-1032	Identity		
Concentration	SOP-0999	RNA Content		
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-2022-1614-3815377



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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		
		% Area 5		
		RRT 1		
		RRT 2		
		RRT 3		
		RRT 4		
		RRT 5		
		% Total Impurities		
pH	SOP-0288	pH		
Osmolality	SOP-0279	Osmolality		
Bacterial Endotoxins	USP <85>	Bacterial Endotoxins		

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Product Attribute	Method	Parameter	Specification	Result
Bioburden	USP <61>	TAMC	(b) (4)	
		TYMC		

This material meets specification: Yes

Revision History:

1.0 - Original

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Document Approvals
Approved Date: 18 Feb 2021

Approval Verdict: Approved	Steven Anderson, (b) (6) @modernatx.com Quality Control Approval 17-Feb-2021 22:01:02 GMT+0000
QA Approval Verdict: Approved	(b) (6) , (b) (6) @modernatx.com Quality Assurance Approval 18-Feb-2021 18:03:00 GMT+0000