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[redacted]

Quality of Vaccines and Blood Products

EU OFFICIAL CONTROL AUTHORITY BATCH RELEASE CERTIFICATE FOR IMMUNOLOGICAL PRODUCTS

EU/EEA OFFICIAL CONTROL AUTHORITY BATCH RELEASE CERTIFICATE – Finished Product

Examined under Article 114 of Directive 2001/83/EC as amended by Directive 2004/27/EC (Immunological Medicinal Products) and in accordance with the Administrative Procedure for Official Control Authority Batch Release.

Trade name	**COMIRNATY** ✓
International Non-proprietary Name / Ph.Eur. name / Common name	**Pandemic COVID-19 Vaccine (mRNA)**
Batch numbers appearing on the package and other identification numbers associated with this batch[1]	**FL7649** ✓
Type of container	**Vial**
Total number of containers in this batch	**683.388**
Number of doses per container	**6 doses**
Date of start of period of validity	**15 September 2021**
Date of expiry	**28 February 2022** ✓
Marketing Authorisation number (member state / EU) issued by	**EU/1/20/1528**
Name and address of manufacturer	**Pfizer Manufacturing Belgium NV / 2870 Puurs, Belgium**
Name and address of marketing authorisation holder if different	**BioNTech Manufacturing GmbH An der Goldgrube 12 55131 Mainz, Germany**

This batch has been examined using documented procedures which form part of a quality system which is in accordance with the ISO/IEC 17025 standard.
This examination is based on the relevant EU OCABR guideline for this product.

This batch is in compliance with the approved specifications laid down in the relevant European Pharmacopoeia monographs and the above marketing authorisation and is released.

Signature **Date of issue**	Digitally signed by [redacted] Date: 2021.10.20 19:01:37 +02'00' LIMS
Name and function of signatory	[redacted] **Quality of Vaccines and Blood Products Service**

Certificate number: BE/21/2030 LIMS

[1] Such as batch number of final bulk

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[redacted]

Pfizer Manufacturing Belgium NV
PGS Puurs
Rijksweg 12
2870 Puurs

Date: 19-Oct-2021

Sciensano
Quality of Vaccines and Blood Products
Juliette Wytsmanstraat 14
B1050 Brussels
Belgium

Please consider this as an official request for Official Control Authority Batch Release (OCABR) and WHO release for the following product:

Trade Name:	COMIRNATY
Type of Container:	Vial
Storage Conditions:	-90˚C to -60˚C
Marketing Authorisation Holder:	BioNTech Manufacturing GmbH, An der Goldgrube 12, 55131 Mainz, Germany
Batch Number:	FL7649
Date of Filling:	27-Sep-2021
Expiry Date:	28-Feb-2022
Total Quantity:*	683388
Site of Manufacture:	Pfizer Manufacturing Belgium NV, PGS Puurs, Rijksweg 12, 2870 Puurs, Belgium

*No deviations were raised in context of yield for the batch. Therefore, there were no exceedance of the yield limits

Please find enclosed the lot release protocol and genealogy diagram for this batch. The lot release protocol has been reviewed by a Qualified Person and found to be satisfactory. The OMCL performing OCABR has been notified of all relevant approved variations that have an impact on product specifications or on data supplied in section 3 of this protocol as described in the EU administrative procedure for OCABR.

In addition, certification by qualified person that the above COMIRNATY batch was manufactured following all national requirements and complies with WHO good manufacturing practices for pharmaceutical products: main principles; WHO good manufacturing practices for biological products; and WHO Guidelines for independent lot release of vaccines by regulatory authorities.

- WHO Technical Report Series, No. 986, Annex 2.
- WHO Technical Report Series, No. 999, Annex 2.
- WHO Technical Report Series, No. 978, Annex 2

Prepared By:

[redacted]

QP Delegate

Approved By:

[redacted]

QP Delegate

DocUUID : 9f6751d2-85bf-4f39-bdee-6a2df25b96c7

REASON FOR SUBMISSION:
For Release

Lot Number: FL7649
Trade Name of Product: COMIRNATY
Licensed Name of Product: COMIRNATY
Marketing Authorisation Holder Name and Address: BioNTech Manufacturing GmbH, An der Goldgrube 12, 55131 Mainz, Germany
Manufacturing Site: Pfizer Manufacturing Belgium NV, PGS Puurs, Rijksweg 12, 2870 Puurs, Belgium
Marketing Authorisation Number: EU/1/20/1528

Date of Manufacture: 15-Sep-2021 **Date of Expiry:** 28-Feb-2022
Date of Fill: 27-Sep-2021

Product Information:

Drug Substance Target Concentration: [redacted]

LOT GENEALOGY

Component Description	Batch Number	Date of Manuf.	Manufacture Site	Quantity
Working Cell Bank	DW8970	07-May-2020	St. Louis Laboratories Pfizer Inc.	N/A
DNA Plasmid linearised	CPF-L022	13-Apr-2021	St. Louis Laboratories Pfizer Inc.	39.223 kg
BNT162b2 Drug Substance	21Y513C6101	21-May-2021	Pfizer ACMF	162.115 L
LNP Fabrication and Bulk Drug Product Formulation	FL1681	15-Sep-2021	Pfizer Puurs	328.10 kg
Drug Product Fill/Packaging	FL7649	15-Sep-2021	Pfizer Puurs	701572

Lot Number: FL7649

Licensed Name of Product: COMIRNATY

FILL INFORMATION

Container Type:	Vial	**Volume per container:**	0.45mL
Approved Storage Period:	6 months	**Storage Temperature:**	-90°C to -60°C
Number of containers for release:	683388	**Number of Doses per container:**	6
Volume of single human dose:	30 µg/Dose	**Start Date of period of Validity:**	Date of Manufacture

Certification by qualified person taking the overall responsibility for production and control of the product was manufactured and tested according to the procedures approved by the competent authorities and complies with the quality requirements. This includes that, for any materials derived from ruminants (bovine, ovine, caprine) used in the manufacture and/or formulation of the batch of product specified above, all measures have been taken to demonstrate compliance with Directive 2001/83/EC and amending Directives 2003/63/EC and 2004/27/EC.

In addition, the OMCL performing OCABR has been notified of all relevant approved variations that have an impact on product specifications or on data supplied in section 3 of this protocol as described in the EU administrative procedure for OCABR.

Prepared By: [redacted]

Approved By: [redacted]

Lot Number: FL7649

Licensed Name of Product: COMIRNATY

Table 1. Filled Vaccine Quality Control Tests

Test	Test Method	Specification	Date of Test	Result
Appearance	Appearance (Visual)	[redacted]	01-Oct-2021	MEETS TEST
Appearance (Visible Particulates)	Appearance (Particles)		01-Oct-2021	MEETS TEST
Subvisible Particles	Subvisible Particulate Matter		06-Oct-2021	67 Particles >= 10 µm per container
			06-Oct-2021	0 Particles >= 25 µm per container
pH	Potentiometry		04-Oct-2021	7.6
Osmolality	Osmometry		06-Oct-2021	572 mOsm/kg
LNP Size	Dynamic Light Scattering (DLS)		05-Oct-2021	[redacted] LIMS
LNP Polydispersity	Dynamic Light Scattering (DLS)		05-Oct-2021	[redacted] LIMS
RNA Encapsulation	Fluorescence assay		05-Oct-2021	[redacted]
RNA content	Fluorescence assay		05-Oct-2021	0.48 mg/m LIMS
ALC-0315 content	HPLC-CAD		06-Oct-2021	6.69 mg/mL LIMS
ALC-0159 content	HPLC-CAD		06-Oct-2021	0.83 mg/mL LIMS
DSPC content	HPLC-CAD		06-Oct-2021	1.42 mg/mL LIMS
Cholesterol content	HPLC-CAD		06-Oct-2021	2.89 mg/mL LIMS
Container content for injections	Vial Content (Volume)		01-Oct-2021	✓ Not less than 0.406 mL
Lipid identities	HPLC-CAD		06-Oct-2021 ✓	MEETS TEST

Lot Number: FL7649

Licensed Name of Product: COMIRNATY

Table 1 (Continued) Filled Vaccine Quality Control Tests

Test	Test Method	Specification	Date of Test	Result
Identity of encoded RNA sequence	RT-PCR	[redacted]	06-Oct-2021	Identity confir… LIMS
In Vitro Expression	Cell-based Flow Cytometry		08-Oct-2021	64 % LIMS
RNA Integrity	Capillary Gel Electrophoresis		30-Sep-2021	62 % LIMS
Bacterial Endotoxin	Endotoxin (LAL)		05-Oct-2021	<5.00 EU/mL LIMS

Abbreviations: LNP = Lipid nanoparticles; CAD = charged aerosol detector; RT-PCR = reverse transcription polymerase chain reaction; FACS = fluorescence activated cell sorter; ddPCR = droplet digital PCR; qPCR = quantitative PCR; dsRNA = double stranded RNA; LAL = Limulus amebocyte lysate; EU = endotoxin unit

Filled Vaccine Quality Control Tests (cont.)

Sterility

Method: Membrane Filtration **Type:** Final Container

Container: Sterility-20 mL/medium (40 vials)

Date On Test	Medium/Temperature	Date Off Test	Specification	Test Result
30-Sep-2021	Thioglycollate 30ºC-35ºC	15-Oct-2021	[redacted]	No growth observed
	Soybean Casein Digest 20ºC-25ºC			No growth observed

Table 2: Fill Vaccine In-Process Tests – Fill Weight Measurements

Pump	Minimum	Maximum	Mean
1	0.456 g	0.488 g	0.469 g
2	0.428 g	0.489 g	0.469 g
3	0.456 g	0.493 g	0.469 g
4	0.452 g	0.497 g	0.469 g
5	0.384 g	0.496 g	0.469 g
6	0.452 g	0.506 g	0.469 g
7	0.437 g	0.504 g	0.469 g
8	0.416 g	0.497 g	0.469 g

Acceptance Criteria: [redacted]
At least one value below limits was obtained where after corrective actions were taken as per Standard Operation Procedure (SOP) and vials were rejected during IPC Fill weight.

BNT162b2 LNP Fabrication

LNP Lot Number: FL1681

Table 1: In-Process Tests (IPT-C)

Test	Test Method	Specification	Date of Test	Result
pH of Citrate Buffer	Potentiometry	[redacted]	21-Sep-2021	4.0
pH of Phosphate Buffered Saline (PBS)	Potentiometry		21-Sep-2021	7.5
RNA Content (Post bioburden reduction filtration prior to PBS addition)	Fluorescence assay		12-Oct-2021	0.76 mg/mL

Lot Number: FL7649

Licensed Name of Product: COMIRNATY

BNT162b2 Drug Substance

Lot Number: 21Y513C6101

Date of Manufacture: 21-May-2021 **Date of Expiry:** 31-Oct-2021

Storage Temperature: - 25˚C to - 15˚C **Approved Storage Period:** 6 months

Consumed Quantity: 62475 g

Table 1. Drug Substance In-Process Tests (IPT-C)

Test	Test Method	Specification	Date of Test	Result
RNA Content (UFDF Pool Pre Dilution)	UV Spectroscopy	[redacted]	20-May-2021	3.24 mg/mL
RNA Content (UFDF Pool Post Dilution)	UV Spectroscopy		20-May-2021	2.26 mg/mL

Table 2. Drug Substance Quality Control Tests

Test	Test Method	Specification	Date of Test	Result
Clarity	Appearance (Clarity)	[redacted]	28-May-2021	1 NTU
Coloration	Appearance (Coloration)		28-May-2021	<=B9
pH	Potentiometry		28-May-2021	6.9
Content (RNA Concentration)	UV Spectroscopy		25-May-2021	2.27 mg/mL
Identity of Encoded RNA Sequence	RT-PCR		25-May-2021	Confirmed
RNA Integrity	Capillary Gel Electrophoresis		25-May-2021	69 %
5'- Cap	RP-HPLC		26-May-2021	90 %
Poly(A) Tail	ddPCR		11-Jun-2021	85 %
Residual DNA Template	qPCR		26-May-2021	220 ng DNA/mg RNA
Residual dsRNA	Immunoblot		21-Jun-2021	NMT 40 pg dsRNA/µg RNA
Bacterial Endotoxin	Endotoxin (LAL)		24-May-2021	NMT 1.0 EU/mL
Bioburden	Bioburden		21-May-2021	0 CFU/10mL

Abbreviations: NTU = Nephelometric Turbidity Units; B = brown; RT-PCR = reverse transcription polymerase chain reaction; ddPCR = droplet digital PCR; qPCR = quantitative PCR; dsRNA = double stranded RNA; LAL = Limulus amebocyte lysate; EU = endotoxin unit; CFU = colony forming unit

COMIRNATY Genealogy Flowchart

Working Cell Bank
Batch Number
DW8970

Linearised DNA Template	
WCB Input(s)	**Batch Number**
DW8970	CPF-L022

BNT162b2 Drug Substance	
Plasmid Input(s)	**Batch Number**
CPF-L022	21Y513C6101

LNP Fabrication	
DS Input(s)	**Batch Number**
21Y513C6101	FL1681

Bulk Drug Product Formulation	
LNP Input(s)	**Batch Number**
FL1681	FL1681

Fill/Packaged Lot	
Formulated Bulk Input(s)	**Batch Number**
FL1681	FL7649

Prepared By:

[redacted]

Approved By:

[redacted]