Clinical trial results:
A Phase 2/3, Randomized, Observer-Blind, Placebo-Controlled Study to Evaluate the Safety, Reactogenicity, and Effectiveness of mRNA-1273 SARS-CoV-2 Vaccine in Healthy Adolescents 12 to <18 Years of Age

Summary

EudraCT number	2023-000382-14
Trial protocol	Outside EU/EEA
Global end of trial date	12 July 2024

Results information

Result version number	v2 (current)
This version publication date	01 March 2026
First version publication date	26 January 2025
Version creation reason	

Trial information

Trial identification

Sponsor protocol code	mRNA-1273-P203

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT04649151
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	ModernaTX, Inc.
Sponsor organisation address	325 Binney Street, Cambridge, MA, United States, 02142
Public contact	Moderna Clinical Trials Support Center, ModernaTX, Inc., +1 866-663-3762, WeCareClinicalTrials@modernatx.com
Scientific contact	Moderna Clinical Trials Support Center, ModernaTX, Inc., +1 866-663-3762, WeCareClinicalTrials@modernatx.com

Notes:

Paediatric regulatory details

Is trial part of an agreed paediatric investigation plan (PIP)	Yes
EMA paediatric investigation plan number(s)	EMEA-002893-PIP01-20
Does article 45 of REGULATION (EC) No 1901/2006 apply to this trial?	No
Does article 46 of REGULATION (EC) No 1901/2006 apply to this trial?	Yes

Notes:

Results analysis stage

Analysis stage	Final
Date of interim/final analysis	23 July 2024
Is this the analysis of the primary completion data?	Yes
Primary completion date	14 June 2024
Global end of trial reached?	Yes
Global end of trial date	12 July 2024
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

The study was designed to primarily evaluate the safety, reactogenicity, and effectiveness of mRNA-1273 vaccine administered as primary series and a booster dose (BD) to an adolescent population. The study also evaluated the safety and immunogenicity of an mRNA-1273.222 vaccine against the SARS-CoV- 2 omicron variant as a primary series.

Protection of trial subjects:

This study was conducted in accordance with the protocol and consensus ethical principles derived from international guidelines including the Declaration of Helsinki, and Council for International Organizations of Medical Sciences (CIOMS) International Ethical Guidelines, applicable International Council for Harmonisation (ICH) Good Clinical Practice (GCP) guidelines, and other applicable laws and regulatory requirements.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	09 December 2020
Long term follow-up planned	Yes
Long term follow-up rationale	Safety
Long term follow-up duration	12 Months
Independent data monitoring committee (IDMC) involvement?	Yes

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	United States: 3994
Country: Number of subjects enrolled	Dominican Republic: 334
Worldwide total number of subjects	4328
EEA total number of subjects	0

Notes:

Subjects enrolled per age group

In utero	0
Preterm newborn - gestational age < 37 wk	0
Newborns (0-27 days)	0
Infants and toddlers (28 days-23 months)	0
Children (2-11 years)	0

Adolescents (12-17 years)	4328
Adults (18-64 years)	0
From 65 to 84 years	0
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

The study included Part 1A as the Blinded Phase with participants remaining blinded until the initiation of Part 1B (open-label cross-over vaccination phase), and Parts 1C-1, 1C-2, 2, and 3 as open-label.

Pre-assignment

Screening details:

Per-protocol immunogenicity subset (PPIS) of randomly selected participants from study mRNA-1273-P301 (P301) aged 18-25 meeting prespecified criteria (N=296) used for comparison of immune response. "Completed" and "Not Completed" data reported in Participant Flow collected from "Overall Study" (ie, as 1 period regardless if booster dose received).

Period 1

Period 1 title	Overall Study (overall period)
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Subject, Investigator, Carer, Monitor

Blinding implementation details:

Part 1A was observer-blind. Participants remained blinded until the initiation of Part 1B (open-label cross-over phase). Parts 1C-1, 1C-2, 2, and 3 were open-label.

Arms

Are arms mutually exclusive?	Yes
Arm title	Part 1A: mRNA-1273 100 µg

Arm description:

Participants received at least 1 of 2 doses of 100 micrograms (µg) mRNA-1273 by intramuscular (IM) injection (Day 1 and Day 29).

Arm type	Experimental
Investigational medicinal product name	mRNA-1273
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Sterile concentrate
Routes of administration	Intramuscular use

Dosage and administration details:

mRNA-1273 was administered per dose and schedule specified in the arm description.

Arm title	Part 1A: Placebo

Arm description:

Participants received at least 1 of 2 doses of placebo matched to mRNA-1273 100 µg by IM injection (Day 1 and Day 29). Participants had the option to receive crossover vaccination with 100 µg mRNA-1273 in Part 1B.

Arm type	Placebo
Investigational medicinal product name	Placebo
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Sterile concentrate
Routes of administration	Intramuscular use

Dosage and administration details:

Placebo matched to mRNA-1273 was administered per schedule specified in the arm description.

Arm title	Part 1C-2: mRNA-1273 50 µg BD

Arm description:

Participants who completed primary COVID-19 vaccination series with a non-Moderna vaccine under

emergency use authorization (EUA), received a single BD of 50 µg mRNA-1273 IM injection on BD Day 1.

Arm type	Experimental
Investigational medicinal product name	mRNA-1273
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Sterile concentrate
Routes of administration	Intramuscular use

Dosage and administration details:

mRNA-1273 was administered per dose and schedule specified in the arm description.

Arm title	Part 2: mRNA-1273 50 µg

Arm description:

Participants received at least 1 of 2 doses of 50 µg mRNA-1273 by IM injection (Day 1 and Day 29).

Arm type	Experimental
Investigational medicinal product name	mRNA-1273
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Sterile concentrate
Routes of administration	Intramuscular use

Dosage and administration details:

mRNA-1273 was administered per dose and schedule specified in the arm description.

Arm title	Part 3: mRNA-1273.222 50 µg

Arm description:

Participants received 1 dose of mRNA-1273.222 50 µg by IM injection (Day 1). Some participants may have received a second dose of mRNA-1273.222 50 µg at approximately 6 months after the first dose (Day 181).

Arm type	Experimental
Investigational medicinal product name	mRNA-1273.222
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Sterile concentrate
Routes of administration	Intramuscular use

Dosage and administration details:

mRNA-1273.222 was administered per dose and schedule specified in the arm description.

Number of subjects in period 1	Part 1A: mRNA-1273 100 µg	Part 1A: Placebo	Part 1C-2: mRNA-1273 50 µg BD
Started	2490	1243	155
Part 1: 1st Injection	2486	1240	0 [1]
Part 1: 2nd Injection	2480	1222	0 [2]
Part 2: 1st Injection	0 [3]	0 [4]	0 [5]
Part 2: 2nd Injection	0 [6]	0 [7]	0 [8]
Part 3: 1 Dose	0 [9]	0 [10]	0 [11]
Part 3: 2 Doses	0 [12]	0 [13]	0 [14]
Safety Analysis Set	2486	1240	155
Solicited Safety Set	2485	1240	125 [15]

Per-Protocol (PP) Immunogenicity Subset	340 [16]	0 [17]	136 [18]
PP Set for Efficacy	2142	1044	0 [19]
Part 2 BD	0 [20]	0 [21]	0 [22]
PP Immunogenicity SARS-CoV-2 Positive	0 [23]	0 [24]	0 [25]
Part 1C-1 BD	1357	51 [26]	0 [27]
Part 1B Crossover Vaccination	0 [28]	96	0 [29]
Part 1C-1 PPIS-Negative (Neg)	267 [30]	0 [31]	0 [32]
Completed	1274	74	143
Not completed	1216	1169	12
Physician decision	10	-	-
Consent withdrawn by subject	370	113	2
Protocol Deviation	25	3	-
Adverse event, non-fatal	1	-	-
Death	-	-	-
Pregnancy	-	-	-
Other than specified	59	294	-
Received another COVID-19 vaccine under EUA	495	730	-
Lost to follow-up	256	29	10

Number of subjects in period 1	Part 2: mRNA-1273 50 µg	Part 3: mRNA-1273.222 50 µg
Started	52	388
Part 1: 1st Injection	0 [33]	0 [34]
Part 1: 2nd Injection	0 [35]	0 [36]
Part 2: 1st Injection	52	0 [37]
Part 2: 2nd Injection	50	0 [38]
Part 3: 1 Dose	0 [39]	388
Part 3: 2 Doses	0 [40]	335 [41]
Safety Analysis Set	52	388
Solicited Safety Set	52	387
Per-Protocol (PP) Immunogenicity Subset	46	373
PP Set for Efficacy	0 [42]	0 [43]
Part 2 BD	19 [44]	0 [45]
PP Immunogenicity SARS-CoV-2 Positive	44	372
Part 1C-1 BD	0 [46]	0 [47]
Part 1B Crossover Vaccination	0 [48]	0 [49]
Part 1C-1 PPIS-Negative (Neg)	0 [50]	0 [51]
Completed	41	358
Not completed	11	30
Physician decision	1	1

Consent withdrawn by subject	7	15
Protocol Deviation	-	-
Adverse event, non-fatal	-	-
Death	-	1
Pregnancy	-	3
Other than specified	-	4
Received another COVID-19 vaccine under EUA	-	-
Lost to follow-up	3	6

Notes:

[1] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[2] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[3] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[4] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[5] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[6] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[7] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[8] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[9] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[10] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[11] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[12] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that

completed, minus those who left.

Justification: Value indicates the number of applicable participants for the milestone and dose group.

[13] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[14] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[15] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[16] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[17] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[18] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[19] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[20] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[21] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[22] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[23] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[24] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[25] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[26] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[27] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[28] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[29] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[30] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[31] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[32] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[33] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[34] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[35] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[36] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[37] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[38] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[39] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[40] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[41] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[42] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[43] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that

completed, minus those who left.

Justification: Value indicates the number of applicable participants for the milestone and dose group.

[44] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[45] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[46] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[47] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[48] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[49] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[50] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

[51] - The number of subjects at this milestone seems inconsistent with the number of subjects in the arm. It is expected that the number of subjects will be greater than, or equal to the number that completed, minus those who left.
Justification: Value indicates the number of applicable participants for the milestone and dose group.

Baseline characteristics

Reporting groups	
Reporting group title	Part 1A: mRNA-1273 100 µg
Reporting group description:	
Participants received at least 1 of 2 doses of 100 micrograms (µg) mRNA-1273 by intramuscular (IM) injection (Day 1 and Day 29).	
Reporting group title	Part 1A: Placebo
Reporting group description:	
Participants received at least 1 of 2 doses of placebo matched to mRNA-1273 100 µg by IM injection (Day 1 and Day 29). Participants had the option to receive crossover vaccination with 100 µg mRNA-1273 in Part 1B.	
Reporting group title	Part 1C-2: mRNA-1273 50 µg BD
Reporting group description:	
Participants who completed primary COVID-19 vaccination series with a non-Moderna vaccine under emergency use authorization (EUA), received a single BD of 50 µg mRNA-1273 IM injection on BD Day 1.	
Reporting group title	Part 2: mRNA-1273 50 µg
Reporting group description:	
Participants received at least 1 of 2 doses of 50 µg mRNA-1273 by IM injection (Day 1 and Day 29).	
Reporting group title	Part 3: mRNA-1273.222 50 µg
Reporting group description:	
Participants received 1 dose of mRNA-1273.222 50 µg by IM injection (Day 1). Some participants may have received a second dose of mRNA-1273.222 50 µg at approximately 6 months after the first dose (Day 181).	

Reporting group values	Part 1A: mRNA-1273 100 µg	Part 1A: Placebo	Part 1C-2: mRNA-1273 50 µg BD
Number of subjects	2490	1243	155
Age Categorical Units: Subjects			
In utero	0	0	0
Preterm newborn infants (gestational age < 37 wks)	0	0	0
Newborns (0-27 days)	0	0	0
Infants and toddlers (28 days-23 months)	0	0	0
Children (2-11 years)	0	0	0
Adolescents (12-17 years)	2490	1243	155
Adults (18-64 years)	0	0	0
From 65-84 years	0	0	0
85 years and over	0	0	0
Gender Categorical Units: Subjects			
Female	1206	607	78
Male	1284	636	77

Reporting group values	Part 2: mRNA-1273 50 µg	Part 3: mRNA-1273.222 50 µg	Total
Number of subjects	52	388	4328
Age Categorical Units: Subjects			
In utero	0	0	0

Preterm newborn infants (gestational age < 37 wks)	0	0	0
Newborns (0-27 days)	0	0	0
Infants and toddlers (28 days-23 months)	0	0	0
Children (2-11 years)	0	0	0
Adolescents (12-17 years)	52	388	4328
Adults (18-64 years)	0	0	0
From 65-84 years	0	0	0
85 years and over	0	0	0
Gender Categorical Units: Subjects			
Female	26	185	2102
Male	26	203	2226

Subject analysis sets

Subject analysis set title	Study mRNA-1273-P301 (NCT04470427) mRNA-1273 100 µg
Subject analysis set type	Per protocol
Subject analysis set description: Participants (young adults; 18-25 years of age) received 100 µg mRNA-1273 on a 2 injection schedule in Study mRNA-1273-P301 (P301).	
Subject analysis set title	Part 2: mRNA-1273 50 µg First Injection
Subject analysis set type	Safety analysis
Subject analysis set description: Participants received 1 dose of 50 µg mRNA-1273 by IM injection (Day 1).	
Subject analysis set title	Part 2: mRNA-1273 50 µg Second Injection
Subject analysis set type	Safety analysis
Subject analysis set description: Participants received 2nd dose of 50 µg mRNA-1273 by IM injection (Day 29).	
Subject analysis set title	Part 2: mRNA-1273 50 µg BD
Subject analysis set type	Safety analysis
Subject analysis set description: Participants received open-label mRNA-1273 50 µg in Part 2 and then a single BD of 50 µg mRNA-1273 IM injection on BD Day 1 in Part 2.	
Subject analysis set title	Part 3: mRNA-1273.222 50 µg 1 Dose
Subject analysis set type	Safety analysis
Subject analysis set description: Participants received 1 dose of mRNA-1273.222 50 µg by IM injection (Day 1).	
Subject analysis set title	Part 1A: mRNA-1273 100 µg
Subject analysis set type	Safety analysis
Subject analysis set description: Participants received at least 1 of 2 doses of 100 µg mRNA-1273 by IM injection (Day 1 and Day 29).	
Subject analysis set title	Part 1A: Placebo
Subject analysis set type	Safety analysis
Subject analysis set description: Participants received at least 1 of 2 doses of placebo matched to mRNA-1273 100 µg by IM injection (Day 1 and Day 29).	
Subject analysis set title	Part 1B: mRNA-1273 100 µg
Subject analysis set type	Safety analysis
Subject analysis set description: Participants previously received 2 doses of placebo in the blinded phase and then received crossover vaccination with 100 µg of mRNA-1273.	

Subject analysis set title	Part 1C-1: mRNA-1273 50 µg BD
Subject analysis set type	Safety analysis

Subject analysis set description:

Participants received mRNA-1273 100 µg in blinded or cross-over phase (Parts 1A or 1B) and then a single BD of 50 µg mRNA-1273 IM injection on BD Day 1 in Part 1 C-1.

Subject analysis set title	Part 1C-2: mRNA-1273 50 µg BD
Subject analysis set type	Safety analysis

Subject analysis set description:

Participants who completed primary COVID-19 vaccination series with a non-Moderna vaccine under EUA, received a single BD of 50 µg mRNA-1273 IM injection on BD Day 1

Subject analysis set title	Part 2: mRNA-1273 50 µg
Subject analysis set type	Safety analysis

Subject analysis set description:

Participants received at least at least 1 of 2 doses of 50 µg mRNA-1273 by IM injection (Day 1 and Day 29).

Subject analysis set title	Part 1A: mRNA-1273 100 µg (Randomization Set)
Subject analysis set type	Full analysis

Subject analysis set description:

Participants were randomized to at least 1 of 2 doses of 100 µg mRNA-1273 by IM injection (Day 1 and Day 29).

Subject analysis set title	Part 1A: Placebo (Randomization Set)
Subject analysis set type	Full analysis

Subject analysis set description:

Participants were randomized to receive at least 1 of 2 doses of placebo by IM injection (Day 1 and Day 29).

Subject analysis set title	Part 3: mRNA-1273.222 50 µg Second Dose
Subject analysis set type	Safety analysis

Subject analysis set description:

Participants received 1 dose of mRNA-1273.222 50 µg by IM injection (Day 1) and a second dose of mRNA-1273.222 50 µg approximately 6 months after the first dose (Day 181).

Reporting group values	Study mRNA-1273-P301 (NCT04470427) mRNA-1273 100 µg	Part 2: mRNA-1273 50 µg First Injection	Part 2: mRNA-1273 50 µg Second Injection
Number of subjects	296	52	50
Age Categorical Units: Subjects			
In utero	0		
Preterm newborn infants (gestational age < 37 wks)	0		
Newborns (0-27 days)	0		
Infants and toddlers (28 days-23 months)	0		
Children (2-11 years)	0		
Adolescents (12-17 years)	0		
Adults (18-64 years)	296		
From 65-84 years	0		
85 years and over	0		
Gender Categorical Units: Subjects			
Female	153		
Male	143		

Reporting group values	Part 2: mRNA-1273 50 µg BD	Part 3: mRNA-1273.222 50 µg 1	Part 1A: mRNA-1273 100 µg

		Dose	
Number of subjects	19	388	2486
Age Categorical Units: Subjects			
In utero Preterm newborn infants (gestational age < 37 wks) Newborns (0-27 days) Infants and toddlers (28 days-23 months) Children (2-11 years) Adolescents (12-17 years) Adults (18-64 years) From 65-84 years 85 years and over			
Gender Categorical Units: Subjects			
Female Male			

Reporting group values	Part 1A: Placebo	Part 1B: mRNA-1273 100 µg	Part 1C-1: mRNA-1273 50 µg BD
Number of subjects	1240	96	1408
Age Categorical Units: Subjects			
In utero Preterm newborn infants (gestational age < 37 wks) Newborns (0-27 days) Infants and toddlers (28 days-23 months) Children (2-11 years) Adolescents (12-17 years) Adults (18-64 years) From 65-84 years 85 years and over			
Gender Categorical Units: Subjects			
Female Male			

Reporting group values	Part 1C-2: mRNA-1273 50 µg BD	Part 2: mRNA-1273 50 µg	Part 1A: mRNA-1273 100 µg (Randomization Set)
Number of subjects	155	52	2490
Age Categorical Units: Subjects			
In utero Preterm newborn infants (gestational age < 37 wks) Newborns (0-27 days) Infants and toddlers (28 days-23 months) Children (2-11 years) Adolescents (12-17 years)			

Adults (18-64 years) From 65-84 years 85 years and over			
Gender Categorical Units: Subjects			
Female Male			

Reporting group values	Part 1A: Placebo (Randomization Set)	Part 3: mRNA-1273.222 50 µg Second Dose	
Number of subjects	1243	335	
Age Categorical Units: Subjects			
In utero Preterm newborn infants (gestational age < 37 wks) Newborns (0-27 days) Infants and toddlers (28 days-23 months) Children (2-11 years) Adolescents (12-17 years) Adults (18-64 years) From 65-84 years 85 years and over			
Gender Categorical Units: Subjects			
Female Male			

End points

End points reporting groups

Reporting group title	Part 1A: mRNA-1273 100 µg
Reporting group description:	
Participants received at least 1 of 2 doses of 100 micrograms (µg) mRNA-1273 by intramuscular (IM) injection (Day 1 and Day 29).	
Reporting group title	Part 1A: Placebo
Reporting group description:	
Participants received at least 1 of 2 doses of placebo matched to mRNA-1273 100 µg by IM injection (Day 1 and Day 29). Participants had the option to receive crossover vaccination with 100 µg mRNA-1273 in Part 1B.	
Reporting group title	Part 1C-2: mRNA-1273 50 µg BD
Reporting group description:	
Participants who completed primary COVID-19 vaccination series with a non-Moderna vaccine under emergency use authorization (EUA), received a single BD of 50 µg mRNA-1273 IM injection on BD Day 1.	
Reporting group title	Part 2: mRNA-1273 50 µg
Reporting group description:	
Participants received at least 1 of 2 doses of 50 µg mRNA-1273 by IM injection (Day 1 and Day 29).	
Reporting group title	Part 3: mRNA-1273.222 50 µg
Reporting group description:	
Participants received 1 dose of mRNA-1273.222 50 µg by IM injection (Day 1). Some participants may have received a second dose of mRNA-1273.222 50 µg at approximately 6 months after the first dose (Day 181).	
Subject analysis set title	Study mRNA-1273-P301 (NCT04470427) mRNA-1273 100 µg
Subject analysis set type	Per protocol
Subject analysis set description:	
Participants (young adults; 18-25 years of age) received 100 µg mRNA-1273 on a 2 injection schedule in Study mRNA-1273-P301 (P301).	
Subject analysis set title	Part 2: mRNA-1273 50 µg First Injection
Subject analysis set type	Safety analysis
Subject analysis set description:	
Participants received 1 dose of 50 µg mRNA-1273 by IM injection (Day 1).	
Subject analysis set title	Part 2: mRNA-1273 50 µg Second Injection
Subject analysis set type	Safety analysis
Subject analysis set description:	
Participants received 2nd dose of 50 µg mRNA-1273 by IM injection (Day 29).	
Subject analysis set title	Part 2: mRNA-1273 50 µg BD
Subject analysis set type	Safety analysis
Subject analysis set description:	
Participants received open-label mRNA-1273 50 µg in Part 2 and then a single BD of 50 µg mRNA-1273 IM injection on BD Day 1 in Part 2.	
Subject analysis set title	Part 3: mRNA-1273.222 50 µg 1 Dose
Subject analysis set type	Safety analysis
Subject analysis set description:	
Participants received 1 dose of mRNA-1273.222 50 µg by IM injection (Day 1).	
Subject analysis set title	Part 1A: mRNA-1273 100 µg
Subject analysis set type	Safety analysis
Subject analysis set description:	
Participants received at least 1 of 2 doses of 100 µg mRNA-1273 by IM injection (Day 1 and Day 29).	
Subject analysis set title	Part 1A: Placebo
Subject analysis set type	Safety analysis

Subject analysis set description:

Participants received at least 1 of 2 doses of placebo matched to mRNA-1273 100 µg by IM injection (Day 1 and Day 29).

Subject analysis set title	Part 1B: mRNA-1273 100 µg
Subject analysis set type	Safety analysis

Subject analysis set description:

Participants previously received 2 doses of placebo in the blinded phase and then received crossover vaccination with 100 µg of mRNA-1273.

Subject analysis set title	Part 1C-1: mRNA-1273 50 µg BD
Subject analysis set type	Safety analysis

Subject analysis set description:

Participants received mRNA-1273 100 µg in blinded or cross-over phase (Parts 1A or 1B) and then a single BD of 50 µg mRNA-1273 IM injection on BD Day 1 in Part 1 C-1.

Subject analysis set title	Part 1C-2: mRNA-1273 50 µg BD
Subject analysis set type	Safety analysis

Subject analysis set description:

Participants who completed primary COVID-19 vaccination series with a non-Moderna vaccine under EUA, received a single BD of 50 µg mRNA-1273 IM injection on BD Day 1

Subject analysis set title	Part 2: mRNA-1273 50 µg
Subject analysis set type	Safety analysis

Subject analysis set description:

Participants received at least at least 1 of 2 doses of 50 µg mRNA-1273 by IM injection (Day 1 and Day 29).

Subject analysis set title	Part 1A: mRNA-1273 100 µg (Randomization Set)
Subject analysis set type	Full analysis

Subject analysis set description:

Participants were randomized to at least 1 of 2 doses of 100 µg mRNA-1273 by IM injection (Day 1 and Day 29).

Subject analysis set title	Part 1A: Placebo (Randomization Set)
Subject analysis set type	Full analysis

Subject analysis set description:

Participants were randomized to receive at least 1 of 2 doses of placebo by IM injection (Day 1 and Day 29).

Subject analysis set title	Part 3: mRNA-1273.222 50 µg Second Dose
Subject analysis set type	Safety analysis

Subject analysis set description:

Participants received 1 dose of mRNA-1273.222 50 µg by IM injection (Day 1) and a second dose of mRNA-1273.222 50 µg approximately 6 months after the first dose (Day 181).

Primary: Number of Participants With Solicited Local and Systemic Adverse Reactions (ARs)

End point title	Number of Participants With Solicited Local and Systemic Adverse Reactions (ARs)[1][2]

End point description:

Solicited ARs (local and systemic) were collected in an electronic diary (eDiary). Local ARs included injection site pain, injection site erythema (redness), injection site swelling/induration (hardness), and axillary (underarm) swelling or tenderness ipsilateral to the side of injection. Systemic ARs included fever, headache, fatigue, myalgia, arthralgia, nausea/vomiting, and chills. Solicited ARs considered causally related to injection were graded 1-4 (per Toxicity Grading Scale for Healthy Adult and Adolescent Volunteers Enrolled in Preventive Vaccine Clinical Trials); lower score indicated lower severity, and higher score indicated greater severity. Solicited Safety Set included participants who received at least 1 dose of study drug and contributed any solicited AR data. Investigator reviewed if the solicited AR was recorded as an adverse event (AE). A Summary of serious AEs (SAEs) and nonserious AEs, regardless of causality, is located in the AE section.

End point type	Primary

End point timeframe:

7 days post-vaccination

Notes:

[1] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.
Justification: As prespecified in the protocol, no statistical analysis was conducted for this endpoint.

[2] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 1A: mRNA-1273 100 µg	Part 1A: Placebo	Part 1C-2: mRNA-1273 50 µg BD	Part 2: mRNA-1273 50 µg First Injection
Subject group type	Reporting group	Reporting group	Reporting group	Subject analysis set
Number of subjects analysed	2485	1240	125	52
Units: participants				
Grade 1	586	585	42	25
Grade 2	1250	293	48	16
Grade 3	627	59	9	1
Grade 4	3	1	0	0
Any Solicited AR	2466	938	99	42

End point values	Part 2: mRNA-1273 50 µg Second Injection	Part 2: mRNA-1273 50 µg BD	Part 3: mRNA-1273.222 50 µg 1 Dose	Part 1C-1: mRNA-1273 50 µg BD
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	Subject analysis set
Number of subjects analysed	46	19	387	1351
Units: participants				
Grade 1	18	7	145	627
Grade 2	9	0	62	501
Grade 3	3	1	25	150
Grade 4	0	0	1	0
Any Solicited AR	30	8	233	1278

Statistical analyses

No statistical analyses for this end point

Primary: Number of Participants With Unsolicited AEs

End point title	Number of Participants With Unsolicited AEs[3][4]

End point description:

An unsolicited AE: any AE reported by participant that was not specified as a SAR in protocol or was specified as a SAR but started outside protocol defined period for reporting SARs (onset after Day 7 of dosing). An AE defined as any untoward medical occurrence associated with the use of a drug in humans, whether or not considered drug related. Abnormal laboratory test result or other safety assessment, including one that worsened from baseline and considered clinically significant by PI recorded as an AE. Non-serious SARs persisting beyond 7 days, leading to discontinuation, or medically attended defined as AEs in Part 1/2 but not in Part 3. COVID-19/SARS-CoV-2 infections were AEs in Part1/2 but considered clinical events for efficacy in Part 3 and not AEs. Summary of SAEs and nonserious AEs, regardless of causality, located in AE section. Safety Set: received at least 1 dose of study drug. 'Overall number of participants analyzed'=participants evaluable for endpoint.

End point type	Primary

End point timeframe:

Up to 28 days post-vaccination

Notes:

[3] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.
Justification: As prespecified in the protocol, no statistical analysis was conducted for this endpoint.

[4] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 1A: mRNA-1273 100 µg	Part 1A: Placebo	Part 1C-2: mRNA-1273 50 µg BD	Part 2: mRNA-1273 50 µg
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	2486	1240	155	52
Units: participants	582	237	19	10

End point values	Part 2: mRNA-1273 50 µg BD	Part 3: mRNA-1273.222 50 µg 1 Dose	Part 1C-1: mRNA-1273 50 µg BD	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	19	388	1405	
Units: participants	2	52	209	

Statistical analyses

No statistical analyses for this end point

Primary: Part 1A Geometric Mean Value of Serum Pseudovirus Neutralizing Antibody (nAb) ID50 Titers From Study P203 Vaccine Recipients at Day 57 Compared With Those From Young Adult (18 to 25 Years of Age) Vaccine Recipients (Day 57) in Study P301

End point title	Part 1A Geometric Mean Value of Serum Pseudovirus Neutralizing Antibody (nAb) ID50 Titers From Study P203 Vaccine Recipients at Day 57 Compared With Those From Young Adult (18 to 25 Years of Age) Vaccine Recipients (Day 57) in Study P301[5]

End point description:

Pseudovirus nAb ID50 titers measured using pseudovirus neutralization assay (PsVNA) assay. Antibody values reported as below lower limit of quantification (LLOQ) replaced by 0.5*LLOQ. Values greater than upper limit of quantification (ULOQ) replaced by ULOQ if actual values not available (LLOQ: 18.5 arbitrary units (AU)/milliliter(mL), ULOQ: 45118 AU/mL). Antibody levels analyzed using ANCOVA model with group variable (adolescents in P203 and young adults in P301) as fixed effect. PPIS P301: randomly selected participants from Study P301 aged 18-25 meeting prespecified criteria used for comparison of immune response. Part 1A PPIS: randomized participants selected for Immunogenicity Subset, received planned doses of study drug, complied with immunogenicity testing schedule, and had no major protocol deviations that impacted key or critical data. Participants seropositive at baseline excluded from PPIS. 'Overall number of participants analyzed'=participants evaluable for endpoint.

End point type	Primary

End point timeframe:

Day 57 Study P203/Day 57 Study P301

Notes:

[5] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 1A: mRNA-1273 100 µg	Study mRNA-1273-P301 (NCT04470427) mRNA-1273 100 µg		
Subject group type	Reporting group	Subject analysis set		
Number of subjects analysed	340	295		
Units: titer				
geometric mean (confidence interval 95%)	1401.670 (1276.218 to 1539.453)	1299.855 (1175.380 to 1437.511)		

Statistical analyses

Statistical analysis title	Statistical Analysis 1

Statistical analysis description:

Geometric mean ratio (GMR) of P203 vs P301

Comparison groups	Part 1A: mRNA-1273 100 µg v Study mRNA-1273-P301 (NCT04470427) mRNA-1273 100 µg
Number of subjects included in analysis	635
Analysis specification	Pre-specified
Analysis type	non-inferiority[6]
Parameter estimate	GMR
Point estimate	1.078
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.94
upper limit	1.237

Notes:

[6] - The noninferiority of Geometric Mean value (based on geometric least squares means [GLSM]) was considered demonstrated if: The lower bound of the 95% confidence interval (CI) of the geometric mean ratio (GMR) was >0.667 based on the noninferiority margin of 1.5, and the GMR point estimate ≥0.8 (minimum threshold).

Primary: Part 1C-1 Geometric Mean Concentration (GMC) of Serum Pseudovirus nAb Against the Original Strain After the BD in Study P203 at BD Day 29 Compared With Those From Young Adult (18 to 25 Years of Age) Vaccine Recipients (Day 57) in Study P301

End point title	Part 1C-1 Geometric Mean Concentration (GMC) of Serum Pseudovirus nAb Against the Original Strain After the BD in Study P203 at BD Day 29 Compared With Those From Young Adult (18 to 25 Years of Age) Vaccine Recipients (Day 57) in Study P301

End point description:

Pseudovirus nAb measured using PsVNA assay. Antibody values reported <LLOQ replaced by 0.5*LLOQ. Values >ULOQ replaced by ULOQ if actual values not available (LLOQ: 10, ULOQ: 281600). PPIS-Neg: received mRNA-1273 in Blinded Phase, received BD, a negative SARS-CoV-2 status at baseline (preDose 1 of Blinded Phase), no major protocol deviations that impacted key or critical data, were prebooster SARS-CoV-2 negative, no virologic or serologic evidence of SARSCoV-2 infection on or before BD-Day 1 (prebooster). PPIS P301: aged 18-25 met criteria and SARS-CoV-2 negative used for comparison of

immune response. Part 1C-1 PPIS-Neg: baseline (predose 1 of part 1A) SARS-CoV-2 negative, BD-Day 1 and BD-Day 29 Ab assessment, no major protocol deviations, did not receive off-study COVID-19 vaccination prior to BD-Day 29 visit, received 2 doses of mRNA-1273 in Blinded Phase, received BD, prebooster SARS-CoV2 negative. 'Overall number of participants analyzed'=participants evaluable for endpoint.

End point type	Primary

End point timeframe:

BD Day 29 Study P203/Day 57 Study P301

End point values	Study mRNA-1273-P301 (NCT04470427) mRNA-1273 100 µg	Part 1C-1: mRNA-1273 50 µg BD		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	294	264		
Units: arbitrary units (AU)/mL				
geometric mean (confidence interval 95%)	1400.4 (1272.7 to 1541.0)	7102.0 (6553.2 to 7696.8)		

Statistical analyses

Statistical analysis title	Statistical Analysis 1

Statistical analysis description:

GMR of GMC at BD-Day 29 P203 vs GMC at Day 57 P301

Comparison groups	Part 1C-1: mRNA-1273 50 µg BD v Study mRNA-1273-P301 (NCT04470427) mRNA-1273 100 µg
Number of subjects included in analysis	558
Analysis specification	Pre-specified
Analysis type	non-inferiority[7]
Parameter estimate	GMR
Point estimate	5.071
Confidence interval	
level	95 %
sides	2-sided
lower limit	4.477
upper limit	5.745

Notes:

[7] - The lower bound of the 95% CI of noninferiority margin of 1.5. GMR point estimate >=0.8 (minimum threshold).

Primary: Part 1A Seroresponse Rate (SRR) for Serum Pseudovirus nAb ID50 in Study P203 Vaccine Recipients at Day 57 Compared With Those From Young Adult (18 to 25 Years of Age) Vaccine Recipients (Day 57) in Study P301

End point title	Part 1A Seroresponse Rate (SRR) for Serum Pseudovirus nAb ID50 in Study P203 Vaccine Recipients at Day 57 Compared With Those From Young Adult (18 to 25 Years of Age) Vaccine Recipients (Day 57) in Study P301[8]

End point description:

Percentage of participants with seroresponse for pseudovirus nAb ID50 measured using PsVNA assay are reported. Seroresponse was defined as a change from below the LLOQ to equal above 4*LLOQ, or at

least a 4-fold rise if baseline is equal to or above the LLOQ. (LLOQ: 18.5 AU/mL), ULOQ: 45118 AU/mL).
PPIS P301: randomly selected participants from Study P301 aged 18-25 meeting pre-specified criteria were used for comparison assessments of immune response.
Part 1A PPIS: randomized participants who were selected for the Immunogenicity Subset, received planned doses of study drug per schedule, complied with immunogenicity testing schedule, and had no major protocol deviations that impacted key or critical data. Participants who were seropositive at baseline were excluded from the PPIS. 'Overall number of participants analyzed' = participants evaluable for this endpoint.

End point type	Primary

End point timeframe:

Day 57 Study P203/Day 57 Study P301

Notes:

[8] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 1A: mRNA-1273 100 µg	Study mRNA-1273-P301 (NCT04470427) mRNA-1273 100 µg		
Subject group type	Reporting group	Subject analysis set		
Number of subjects analysed	340	295		
Units: percentage of participants				
number (confidence interval 95%)	98.8 (97.0 to 99.7)	99.0 (97.1 to 99.8)		

Statistical analyses

Statistical analysis title	Statistical Analysis 1

Statistical analysis description:

SRR difference of P203 vs P301

Comparison groups	Part 1A: mRNA-1273 100 µg v Study mRNA-1273-P301 (NCT04470427) mRNA-1273 100 µg
Number of subjects included in analysis	635
Analysis specification	Pre-specified
Analysis type	non-inferiority[9]
Parameter estimate	percentage difference
Point estimate	-0.2
Confidence interval	
level	95 %
sides	2-sided
lower limit	-2.1
upper limit	1.9

Notes:

[9] - Noninferiority margin of 10%. Lower bound of the 95% CI of the SRR difference >-10%. and a point estimator >-5% (minimum threshold)

Primary: Part 1C-2 GMC of Post-booster Pseudovirus nAb Against Ancestral Strain at BD Day 29

End point title	Part 1C-2 GMC of Post-booster Pseudovirus nAb Against Ancestral Strain at BD Day 29[10][11]

End point description:

Antibody values reported as below the LLOQ were replaced by 0.5 * LLOQ. Values greater than the ULOQ were replaced by the ULOQ if actual values were not available (LLOQ: 10 AU/mL, ULOQ: 111433

AU/mL). Part 1C-2 PPIS: all randomized participants who received BD in Part 1C-2, had BD-Day 29 Ab assessment, had no major protocol deviations that impacted key or critical data, and did not receive off-study COVID-19 vaccination prior to BD-Day 29 visit. 'Overall number of participants analyzed' = participants evaluable for this endpoint.

End point type	Primary

End point timeframe:

BD Day 29

Notes:

[10] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.
Justification: As prespecified in the protocol, no statistical analysis was conducted for this endpoint.

[11] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 1C-2: mRNA-1273 50 µg BD			
Subject group type	Reporting group			
Number of subjects analysed	134			
Units: AU/mL				
geometric mean (confidence interval 95%)	9433.4 (8496.8 to 10473.3)			

Statistical analyses

No statistical analyses for this end point

Primary: Part 2 GMC of the Pseudovirus nAb Against Ancestral Strain at Day 57

End point title	Part 2 GMC of the Pseudovirus nAb Against Ancestral Strain at Day 57[12][13]

End point description:

Antibody values reported as below the LLOQ were replaced by 0.5 * LLOQ. Values greater than the ULOQ were replaced by the ULOQ if actual values were not available (LLOQ: 10 AU/mL, ULOQ: 111433 AU/mL). Part 2 PPIS: all randomized participants who received at least 1 dose of the planned study drug, had Ab assessment for the analysis endpoint, and had no major protocol deviations that could impact key or critical data.

End point type	Primary

End point timeframe:

Day 57

Notes:

[12] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.
Justification: Part 2, due to the smaller number of participants enrolled, hypothesis testing was not conducted. Descriptive analysis included.
[13] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 2: mRNA-1273 50 µg			
Subject group type	Reporting group			
Number of subjects analysed	46			
Units: AU/mL				
geometric mean (confidence interval 95%)	7351.5 (5621.7 to 9613.7)			

Statistical analyses

No statistical analyses for this end point

Primary: Part 1C-1 SRR of Serum Pseudovirus nAb Against the Original Strain After the BD in Study P203 at BD Day 29 Compared With Those From Young Adult (18 to 25 Years of Age) Vaccine Recipients (Day 57) in Study P301

End point title	Part 1C-1 SRR of Serum Pseudovirus nAb Against the Original Strain After the BD in Study P203 at BD Day 29 Compared With Those From Young Adult (18 to 25 Years of Age) Vaccine Recipients (Day 57) in Study P301

End point description:

Percentage of participants with seroresponse for pseudovirus nAb measured using PsVNA assay are reported. Seroresponse relative to pre-Dose 1 (baseline) at a participant level was defined as a change from below the LLOQ to equal or above 4 * LLOQ, or at least a 4-fold-rise if baseline was equal to or above LLOQ. (LLOQ: 10 AU/mL, ULOQ: 281600 AU/mL).
PPIS P301: randomly selected participants from Study P301 aged 18-25 meeting pre-specified criteria and SARS-CoV-2 negative were used for comparison assessments of immune response.
Part 1C-1 PPIS-Neg: participants were baseline (pre-dose 1 of part 1A) SARS-CoV-2 negative, had BD-Day 1 and BD-Day 29 Ab assessment, had no major protocol deviations, did not receive off-study COVID-19 vaccination prior to BD-Day 29 visit, received 2 doses of mRNA-1273 in the Blinded Phase per schedule, received BD, and were pre-booster SARS-CoV2 negative. 'Overall number of participants analyzed' = participants evaluable for this endpoint.

End point type	Primary

End point timeframe:

BD Day 29 Study P203/Day 57 Study P301

End point values	Study mRNA-1273-P301 (NCT04470427) mRNA-1273 100 µg	Part 1C-1: mRNA-1273 50 µg BD		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	294	264		
Units: percentage of participants				
number (confidence interval 95%)	99.3 (97.6 to 99.9)	100.0 (98.6 to 100.0)		

Statistical analyses

Statistical analysis title	Statistical Analysis 1
Statistical analysis description:	
SRR difference of P203 BD-Day 29 vs P301 Day 57	
Comparison groups	Part 1C-1: mRNA-1273 50 µg BD v Study mRNA-1273-P301 (NCT04470427) mRNA-1273 100 µg
Number of subjects included in analysis	558
Analysis specification	Pre-specified
Analysis type	non-inferiority[14]
Parameter estimate	SRR Difference
Point estimate	0.7
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.8
upper limit	2.4

Notes:

[14] - Noninferiority margin of 10%. Lower bound of the 95% CI of the SRR difference >-10%.

Primary: Part 3 GMC of nAb post Dose 1 mRNA 1273.222 Against Omicron BA.4/BA.5 Compared With Those From Young Adult (18 to 25 Years of Age) Vaccine Recipients (Day 57) in Study P301

End point title	Part 3 GMC of nAb post Dose 1 mRNA 1273.222 Against Omicron BA.4/BA.5 Compared With Those From Young Adult (18 to 25 Years of Age) Vaccine Recipients (Day 57) in Study P301[15]

End point description:

Antibody values reported as below the LLOQ were replaced by 0.5*LLOQ. Values greater than the ULOQ were replaced by the ULOQ if actual values were not available (LLOQ: 103 AU/mL, ULOQ: 28571 AU/mL). ANCOVA model with the group variable (adolescents in P203 and young adults in P301) as fixed effect.
PPIS P301: randomly selected participants from Study P301 aged 18-25 meeting pre-specified criteria and SARS-CoV-2 negative were used for comparison of immune response.
Part 3 PPIS-Pos: participants received Dose 1 of mRNA-1273.222, had Day 29 antibody assessments, no major protocol deviations, did not receive off-study COVID-19 vaccination prior to Day 29, SARS-CoV-2 positive at Baseline. 'Overall number of participants analyzed' = participants evaluable for the endpoint.

End point type	Primary

End point timeframe:

Day 29 Study P203/Day 57 Study P301

Notes:

[15] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 3: mRNA-1273.222 50 µg	Study mRNA-1273-P301 (NCT04470427) mRNA-1273 100 µg		
Subject group type	Reporting group	Subject analysis set		
Number of subjects analysed	372	294		
Units: AU/mL				
geometric mean (confidence interval 95%)	2727.8 (2558.7 to 2908.1)	56.6 (52.7 to 60.8)		

Statistical analyses

Statistical analysis title	Statistical Analysis 1
Statistical analysis description: GMR of P203 vs P301	
Comparison groups	Part 3: mRNA-1273.222 50 µg v Study mRNA-1273-P301 (NCT04470427) mRNA-1273 100 µg
Number of subjects included in analysis	666
Analysis specification	Pre-specified
Analysis type	superiority[16]
Parameter estimate	GMR
Point estimate	48.191
Confidence interval	
level	95 %
sides	2-sided
lower limit	43.765
upper limit	53.065

Notes:

[16] - The superiority of GMC (based on GLSM] was considered demonstrated if: The lower bound of the 95% CI of the GMR was >1

Primary: Part 3 GMC of nAb post Dose 1 mRNA 1273.222 Against SARS-CoV-2 Ancestral Strain Compared With Those From Young Adult (18 to 25 Years of Age) Vaccine Recipients (Day 57) in Study P301

End point title	Part 3 GMC of nAb post Dose 1 mRNA 1273.222 Against SARS-CoV-2 Ancestral Strain Compared With Those From Young Adult (18 to 25 Years of Age) Vaccine Recipients (Day 57) in Study P301[17]

End point description:

Antibody values reported as below the LLOQ were replaced by 0.5*LLOQ. Values greater than the ULOQ were replaced by the ULOQ if actual values were not available (LLOQ: 10 AU/mL, ULOQ: 111433 AU/mL). ANCOVA model with the group variable (adolescents in P203 and young adults in P301) as fixed effect.
PPIS P301: randomly selected participants from Study P301 aged 18-25 meeting pre-specified criteria and SARS-CoV-2 negative were used for comparison of immune response.
Part 3 PPIS-Pos: participants received Dose 1 of mRNA-1273.222, had Day 29 antibody assessments, no major protocol deviations, did not receive off-study COVID-19 vaccination prior to Day 29, SARS-CoV-2 positive at Baseline. 'Overall number of participants analyzed' = participants evaluable for the endpoint.

End point type	Primary

End point timeframe:

Day 29 Study P203/Day 57 Study P301

Notes:

[17] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 3: mRNA-1273.222 50 µg	Study mRNA-1273-P301 (NCT04470427) mRNA-1273 100 µg		
Subject group type	Reporting group	Subject analysis set		
Number of subjects analysed	371	295		
Units: AU/mL				
geometric mean (confidence interval 95%)	7603.9 (7004.6 to 8254.6)	1692.3 (1543.4 to 1855.5)		

Statistical analyses

Statistical analysis title	Statistical Analysis 1
Statistical analysis description:	
GMR of GMC at BD-Day 29 P203 vs GMC at Day 57 P301	
Comparison groups	Part 3: mRNA-1273.222 50 µg v Study mRNA-1273-P301 (NCT04470427) mRNA-1273 100 µg
Number of subjects included in analysis	666
Analysis specification	Pre-specified
Analysis type	non-inferiority[18]
Parameter estimate	GMR
Point estimate	4.493
Confidence interval	
level	95 %
sides	2-sided
lower limit	3.972
upper limit	5.083

Notes:

[18] - The noninferiority of Geometric Mean value (based on GLSM) was considered demonstrated if: The lower bound of the 95% CI of the GMR was >0.667 based on the noninferiority margin of 1.5, and the GMR point estimate ≥0.8 (minimum threshold).

Primary: Number of Participants With SAEs, AEs of Special Interest (AESIs), Medically Attended AEs (MAAEs), and AEs leading to Study Discontinuation

End point title	Number of Participants With SAEs, AEs of Special Interest (AESIs), Medically Attended AEs (MAAEs), and AEs leading to Study Discontinuation[19][20]

End point description:

SAE: AE resulting in death, life-threatening, required inpatient hospitalization or prolongation of existing hospitalization, resulted in disability/permanent damage, a congenital anomaly/birth defect, or important medical event. AESIs identified based on medical concepts that may be related to COVID-19 or were of interest in COVID-19 vaccine safety surveillance. MAAE: AE that led to unscheduled visit to doctor included visits to a site for unscheduled assessments. Non-serious SARs persisting beyond 7 days, leading to discontinuation, or medically attended were defined as AEs in Part 1/2 but not in Part 3. COVID-19/SARS-CoV-2 infections: AEs in Part 1/2 but considered clinical events for efficacy in Part 3 and not AEs. Participants receiving >1 dose of mRNA-1273 included in analysis. 'Overall number of participants analyzed'=participants evaluable for endpoint. Note: Part 3 presented for overall study for this assessment (AE section presents AEs separately for 1 dose and 2nd dose).

End point type	Primary

End point timeframe:

Day 1 up to Day 751

Notes:

[19] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.
Justification: As prespecified in the protocol, no statistical analysis was conducted for this endpoint.

[20] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 1A: mRNA-1273 100 µg	Part 1C-2: mRNA-1273 50 µg BD	Part 2: mRNA-1273 50 µg	Part 3: mRNA-1273.222 50 µg
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	2486	155	52	388
Units: participants				
SAEs	21	3	0	16
AESIs	17	1	0	3
MAAEs	1040	45	12	183
AEs Leading to Study Discontinuation	0	0	0	1

End point values	Part 2: mRNA-1273 50 µg BD	Part 1B: mRNA-1273 100 µg	Part 1C-1: mRNA-1273 50 µg BD	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	19	96	1408	
Units: participants				
SAEs	0	2	9	
AESIs	0	0	9	
MAAEs	7	31	541	
AEs Leading to Study Discontinuation	0	0	0	

Statistical analyses

No statistical analyses for this end point

Primary: Part 2 SRR of Pseudovirus nAb Against Ancestral Strain

End point title	Part 2 SRR of Pseudovirus nAb Against Ancestral Strain[21][22]

End point description:

Percentage of participants with seroresponse for pseudovirus nAb measured using PsVNA assay are reported. Seroresponse relative to pre-Dose 1 (baseline) at a participant level was defined as a change from below the LLOQ to equal or above 4 * LLOQ, or at least a 4-fold-rise if baseline was equal to or above the LLOQ (LLOQ: 10 AU/mL, ULOQ: 111433 AU/mL). Part 2 PPIS: all randomized participants who received at least 1 dose of the planned study drug, had Ab assessment for the analysis endpoint, and had no major protocol deviations that could impact key or critical data.

End point type	Primary

End point timeframe:

Day 57

Notes:

[21] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.
Justification: Part 2, due to the smaller number of participants enrolled, hypothesis testing was not conducted. Descriptive analysis included.
[22] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 2: mRNA-1273 50 µg			
Subject group type	Reporting group			
Number of subjects analysed	46			
Units: percentage of participants				
number (confidence interval 95%)	91.3 (79.2 to 97.6)			

Statistical analyses

No statistical analyses for this end point

Secondary: Part 1A Number of Participants with a SARS-CoV-2 Infection (Symptomatic or Asymptomatic)

End point title	Part 1A Number of Participants with a SARS-CoV-2 Infection (Symptomatic or Asymptomatic)[23]

End point description:

SARS-CoV-2 infection was defined in participants with negative SARS-CoV-2 status at baseline: bAb level against SARS-CoV-2 nucleocapsid protein negative at Day 1, that became positive postbaseline; or positive postbaseline. Part 1A PP Set for Efficacy: all randomized participants who received planned doses of study drug, had no immunologic or virologic evidence of prior COVID-19, and had no major protocol deviations that impact key or critical efficacy data.

End point type	Secondary

End point timeframe:

Day 43 (14 days after second injection) up to a median follow up of 2.5 months after second injection

Notes:

[23] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 1A: mRNA-1273 100 µg	Part 1A: Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	2142	1044		
Units: participants	22	25		

Statistical analyses

Statistical analysis title	Statistical Analysis 1

Statistical analysis description:	
Vaccine efficacy (VE, percent), was defined as 1 - ratio of incidence rate (mRNA-1273 vs. placebo).	
Comparison groups	Part 1A: mRNA-1273 100 µg v Part 1A: Placebo
Number of subjects included in analysis	3186
Analysis specification	Pre-specified
Analysis type	other[24]
Method	VE
Parameter estimate	VE
Point estimate	60.3
Confidence interval	
level	95 %
sides	2-sided
lower limit	26.6
upper limit	78.6

Notes:

[24] - The 95% confidence interval (CI) of the ratio was calculated using the exact method conditional upon the total number of cases, adjusting for person-years.

Secondary: Part 1A Number of Participants with Secondary Case Definition of COVID-19 (Center for Disease Control and Prevention [CDC] Case Definition)

End point title	Part 1A Number of Participants with Secondary Case Definition of COVID-19 (Center for Disease Control and Prevention [CDC] Case Definition)[25]

End point description:

Secondary case definition of COVID-19 was defined by the following criteria: 1 systemic or respiratory symptoms: fever (temperature > 38ºC/≥ 100.4ºF), or chills, cough, shortness of breath or difficulty breathing, fatigue, muscle aches, or body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea, or vomiting or diarrhea, and at least one positive test for SARS-CoV-2. Part 1A PP Set for Efficacy: all randomized participants who received planned doses of study drug, had no immunologic or virologic evidence of prior COVID-19, and had no major protocol deviations that impact key or critical efficacy data.

End point type	Secondary

End point timeframe:

Day 43 (14 days after second injection) up to a median follow up of 2.5 months after second injection

Notes:

[25] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 1A: mRNA-1273 100 µg	Part 1A: Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	2142	1044		
Units: participants	2	9		

Statistical analyses

Statistical analysis title	Statistical Analysis 1
Statistical analysis description:	
VE (percent), was defined as 1 - ratio of incidence rate (mRNA-1273 vs. placebo).	
Comparison groups	Part 1A: mRNA-1273 100 µg v Part 1A: Placebo

Number of subjects included in analysis	3186
Analysis specification	Pre-specified
Analysis type	other[26]
Method	VE
Parameter estimate	VE
Point estimate	89.9
Confidence interval	
level	95 %
sides	2-sided
lower limit	51
upper limit	98.9

Notes:

[26] - The 95% CI of the ratio was calculated using the exact method conditional upon the total number of cases, adjusting for person-years.

Secondary: Part 1A Number of Participants with a First Occurrence of Symptomatic COVID-19

End point title	Part 1A Number of Participants with a First Occurrence of Symptomatic COVID-19[27]

End point description:

COVID-19 was defined as symptomatic disease based on the following criteria: participants experienced at least 2 of the following systemic symptoms: fever (≥ 38ºC/≥ 100.4ºF), chills, myalgia, headache, sore throat, new olfactory and taste disorder(s); or experienced at least 1 of the following respiratory signs/symptoms: cough, shortness of breath or difficulty breathing, or clinical or radiographical evidence of pneumonia; and had at least 1 nasopharyngeal swab, nasal swab, or saliva sample (or respiratory sample, if hospitalized) positive for SARS-CoV-2. Part 1A PP Set for Efficacy: all randomized participants who received planned doses of study drug, had no immunologic or virologic evidence of prior COVID-19, and had no major protocol deviations that impact key or critical efficacy data.

End point type	Secondary

End point timeframe:

Day 43 (14 days after second injection) up to 2.5 months after second injection

Notes:

[27] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 1A: mRNA-1273 100 µg	Part 1A: Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	2142	1044		
Units: participants	0	6		

Statistical analyses

Statistical analysis title	Statistical Analysis 1

Statistical analysis description:

VE (percent), was defined as 1 - ratio of incidence rate (mRNA-1273 vs. placebo).

Comparison groups	Part 1A: mRNA-1273 100 µg v Part 1A: Placebo

Number of subjects included in analysis	3186
Analysis specification	Pre-specified
Analysis type	other[28]
Method	VE
Parameter estimate	VE
Point estimate	100
Confidence interval	
level	95 %
sides	2-sided
lower limit	61.2
upper limit	9999

Notes:

[28] - The 95% CI of the ratio was calculated using the exact method conditional upon the total number of cases, adjusting for person-years. 9999= not estimable (NE, not reached).

Secondary: Part 1A Number of Participants With Asymptomatic SARS-CoV-2 Infection

End point title	Part 1A Number of Participants With Asymptomatic SARS-CoV-2 Infection[29]

End point description:

Asymptomatic SARS-CoV-2 infection was defined as absence of symptoms and a positive RT-PCR or serology test (bAb levels against SARS-CoV-2 nucleocapsid protein) post dosing in participants who did not have an infection at baseline or pre-Dose 1. Part 1A PP Set for Efficacy: all randomized participants who received planned doses of study drug, had no immunologic or virologic evidence of prior COVID-19, and had no major protocol deviations that impact key or critical efficacy data.

End point type	Secondary

End point timeframe:

Day 43 (14 days after second injection) up to a median follow up of 2.5 months after second injection

Notes:

[29] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 1A: mRNA-1273 100 µg	Part 1A: Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	2142	1044		
Units: participants	20	16		

Statistical analyses

Statistical analysis title	Statistical Analysis 1

Statistical analysis description:

VE (percent), was defined as 1 - ratio of incidence rate (mRNA-1273 vs. placebo).

Comparison groups	Part 1A: mRNA-1273 100 µg v Part 1A: Placebo

Number of subjects included in analysis	3186
Analysis specification	Pre-specified
Analysis type	other[30]
Method	VE
Parameter estimate	VE
Point estimate	43.5
Confidence interval	
level	95 %
sides	2-sided
lower limit	-16.5
upper limit	72.2

Notes:

[30] - The 95% CI of the ratio was calculated using the exact method conditional upon the total number of cases, adjusting for person-years.

Secondary: Part 1C-1 GMC of Post-booster Pseudovirus nAb Against Variant Strain (B.1.1.529)

End point title	Part 1C-1 GMC of Post-booster Pseudovirus nAb Against Variant Strain (B.1.1.529)

End point description:

Post-booster Pseudovirus nAb against B.1.1.529 (LLOQ: 8 AU/mL, ULOQ: 24503 AU/mL). Antibody values reported as below the LLOQ were replaced by 0.5 * LLOQ. Values greater than the ULOQ were replaced by the ULOQ if actual values were not available. Part 1C-1 PPIS: participants were baseline (pre-dose 1 of Part 1A) SARS-CoV-2 negative, had BD-Day 1 and BD-Day 29 Ab assessment, had no major protocol deviations, did not receive off-study COVID-19 vaccination prior to BD-Day 29 visit, received 2 doses of mRNA-1273 in the Blinded Phase per schedule, and received BD. Overall number of participants analyzed' = participants evaluable for this endpoint.

End point type	Secondary

End point timeframe:

BD Day 29

End point values	Part 1C-1: mRNA-1273 50 µg BD			
Subject group type	Subject analysis set			
Number of subjects analysed	331			
Units: AU/mL				
geometric mean (confidence interval 95%)	943.4 (853.5 to 1042.8)			

Statistical analyses

No statistical analyses for this end point

Secondary: Part 3 SRR of Serum Pseudovirus nAb Post Dose 1 of mRNA-1273.222 Against Omicron BA.4/BA.5 Compared with Young Adults (18 to 25 Years of Age) Vaccine Recipients (Day 57) in Study P301

End point title	Part 3 SRR of Serum Pseudovirus nAb Post Dose 1 of mRNA-1273.222 Against Omicron BA.4/BA.5 Compared with Young Adults (18 to 25 Years of Age) Vaccine Recipients (Day 57) in Study P301[31]

End point description:

Seroresponse from pre Dose 1 Baseline at a participant level was defined as a change from below the LLOQ to equal or above 4 * LLOQ, or at least a 4-fold rise if Baseline was equal to or above the LLOQ (LLOQ: 103 AU/mL, ULOQ: 28571 AU/mL). PIS P301: randomly selected participants from Study P301 aged 18-25 meeting pre-specified criteria and SARS-CoV-2 negative were used for comparison of immune response. Part 3 PPIS-Pos: participants received Dose 1 of mRNA-1273.222, had Day 29 antibody assessments, no major protocol deviations, did not receive off-study COVID-19 vaccination prior to Day 29, SARS-CoV-2 positive at Baseline. 'Overall number of participants analyzed' = participants evaluable for the endpoint.

End point type	Secondary

End point timeframe:

Day 29 Study P203/Day 57 Study P301

Notes:

[31] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 3: mRNA-1273.222 50 µg	Study mRNA-1273-P301 (NCT04470427) mRNA-1273 100 µg		
Subject group type	Reporting group	Subject analysis set		
Number of subjects analysed	372	294		
Units: percentage of participants				
number (confidence interval 95%)	95.4 (92.8 to 97.3)	0.0 (0.0 to 1.2)		

Statistical analyses

No statistical analyses for this end point

Secondary: Part 1C-1 SRR of the Post-booster Serum bAb Against Variants of Interest (B.1.1.7, B.1.351, B.1.617.2, and P.1) as Measured by MSD

End point title	Part 1C-1 SRR of the Post-booster Serum bAb Against Variants of Interest (B.1.1.7, B.1.351, B.1.617.2, and P.1) as Measured by MSD

End point description:

Percentage of participants with seroresponse for bAb measured using (MesoScale Discovery) MSD are reported. Seroresponse from baseline (pre-Dose 1) at a participant level was defined as a change from below the LLOQ to equal or above 4 * LLOQ, or at least a 4-fold-rise if baseline (pre-Dose 1 is equal to or above the LLOQ. Part 1C-1 PPIS: participants were baseline (pre-dose 1 of Part 1A) SARS-CoV-2 negative, had BD-Day 1 and BD-Day 29 Ab assessment, had no major protocol deviations, did not receive off-study COVID-19 vaccination prior to BD-Day 29 visit, received 2 doses of mRNA-1273 in the Blinded Phase per schedule, and received BD. 'Overall number of participants analyzed' = participants evaluable for this endpoint.

End point type	Secondary

End point timeframe:

BD Day 29

End point values	Part 1C-1: mRNA-1273 50 µg BD			
Subject group type	Subject analysis set			
Number of subjects analysed	324			
Units: Percentage of participants				
number (confidence interval 95%)				
B.1.1.7	100.0 (98.9 to 100.0)			
B.1.351	100.0 (98.9 to 100.0)			
B.1.617.2	100.0 (98.9 to 100.0)			
P.1	100.0 (98.9 to 100.0)			

Statistical analyses

No statistical analyses for this end point

Secondary: Part 3 Pseudovirus nAb SRR of post Dose 1 of mRNA-1273.222 Against Ancestral Strain Compared With Those From Young Adult (18 to 25 Years of Age) Vaccine Recipients (Day 57) in Study P301

End point title	Part 3 Pseudovirus nAb SRR of post Dose 1 of mRNA-1273.222 Against Ancestral Strain Compared With Those From Young Adult (18 to 25 Years of Age) Vaccine Recipients (Day 57) in Study P301[32]

End point description:

Percentage of participants with seroresponse for pseudovirus nAb measured using PsVNA assay are reported. Seroresponse from pre-Dose 1 Baseline at a participant level was defined as a change from below the LLOQ to equal or above 4 * LLOQ, or at least a 4-fold rise if Baseline was equal to or above the LLOQ.
PPIS P301: randomly selected participants from Study P301 aged 18-25 meeting pre-specified criteria and SARS-CoV-2 negative were used for comparison assessments of immune response.
Part 3 PPIS-Pos: participants who received Dose 1 of mRNA-1273.222, had Day 29 antibody assessments, no major protocol deviations, did not receive off-study COVID-19 vaccination prior to Day 29, and were SARS-CoV-2 positive at baseline. 'Overall number of participants analyzed' = participants evaluable for the endpoint.

End point type	Secondary

End point timeframe:

Day 29 P203/Day 57 P301

Notes:

[32] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 3: mRNA-1273.222 50 µg	Study mRNA-1273-P301 (NCT04470427) mRNA-1273 100 µg		
Subject group type	Reporting group	Subject analysis set		
Number of subjects analysed	370	295		
Units: percentage of participants				
number (confidence interval 95%)	94.9 (92.1 to 96.9)	99.3 (97.6 to 99.9)		

Statistical analyses

No statistical analyses for this end point

Secondary: Part 3 GM Value of Post Dose 1 (Day 29) of mRNA-1273.222 bAb Against Other Variants of Interest

End point title	Part 3 GM Value of Post Dose 1 (Day 29) of mRNA-1273.222 bAb Against Other Variants of Interest[33]

End point description:

mRNA-1273.222 bAb was measured using a S-binding IgG immunoassay. Antibody values reported as below the LLOQ were replaced by 0.5 * LLOQ. Values greater than the ULOQ are replaced by the ULOQ if actual values are not available (LLOQ: 397 AU/ml, ULOQ: 2200000 AU/mL). PPIS: all participants who received Dose 1 of mRNA-1273.222 and had both Baseline (pre Dose 1) and Day 29 antibody assessment, had no major protocol deviations that impacted key or critical data; and had not received off-study COVID-19 vaccination prior to Day 29 visit. 'Overall number of participants analyzed' = participants evaluable for the endpoint.

End point type	Secondary

End point timeframe:

Day 29

Notes:

[33] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 3: mRNA-1273.222 50 µg			
Subject group type	Reporting group			
Number of subjects analysed	372			
Units: AU/mL				
geometric mean (confidence interval 95%)				
BA.5 (n=372)	282734.2 (266581.0 to 299866.1)			
AY.4 (n=372)	557963.4 (529270.6 to 588211.6)			
B.1.1.7 (n=372)	434879.0 (412699.2 to 458250.8)			
B.1.351 (n=372)	431476.5 (409656.1 to 454459.1)			
B.1.1.529 (n=372)	189826.0 (178578.0 to 201782.5)			
P.1 (n=372)	471868.9 (446431.3 to 498756.0)			

Statistical analyses

No statistical analyses for this end point

Secondary: Part 1C-2 GM Value of mRNA-1273 booster Against Variants of Interest at Day 29

End point title	Part 1C-2 GM Value of mRNA-1273 booster Against Variants of Interest at Day 29[34]

End point description:

As a result of emergence of a more divergent variant of concern (Omicron), Part 1C-2 enrollment and booster dosing were discontinued. Therefore, data were collected for Part 1C-2 Primary Outcome Measure but after Part 1C-2 was discontinued, per Sponsor, it was decided that data would not be collected for this Part 1C-2 Secondary Outcome Measure and instead collect data for the more updated variant containing vaccine (Part 3: mRNA-1273.222).

End point type	Secondary

End point timeframe:

Day 29

Notes:

[34] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 1C-2: mRNA-1273 50 µg BD			
Subject group type	Reporting group			
Number of subjects analysed	0[35]			
Units: AU/mL				
geometric mean (confidence interval 95%)	(to)			

Notes:

[35] - Data not collected due to discontinuation of enrollment and booster dosing.

Statistical analyses

No statistical analyses for this end point

Secondary: Part 1 A GM Level of SARS-CoV-2 Spike Protein-specific bAb at Days 1, 57, 209, 394

End point title	Part 1 A GM Level of SARS-CoV-2 Spike Protein-specific bAb at Days 1, 57, 209, 394[36]

End point description:

SARS-CoV-2 Spike Protein-specific binding antibody (bAb) were measured using MesoScale Discovery (MSD) electrochemiluminescence multiplex assay. Antibody values reported as below the LLOQ were replaced by 0.5*LLOQ. Values greater than the ULOQ are replaced by the ULOQ if actual values are not available (LLOQ: 69 AU/mL, ULOQ: 14400000 AU/mL). Part 1A PPIS for long term analysis included all randomized participants who had a negative SARS-CoV-2 status at baseline (pre-Dose 1), received planned doses of study drug per schedule, complied with immunogenicity testing schedule, and had no major protocol deviations that impacted key or critical data. 'Overall number of participants analyzed' =

participants evaluable for this endpoint.

End point type	Secondary

End point timeframe:

Days 1, 57, 209, 394

Notes:

[36] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 1A: mRNA-1273 100 µg			
Subject group type	Reporting group			
Number of subjects analysed	369			
Units: AU/mL				
geometric mean (confidence interval 95%)				
Day 1 (n=369)	65.848 (60.348 to 71.850)			
Day 57 (n=366)	346830.736 (330758.387 to 363684.079)			
Day 209 (n=366	79624.290 (73959.321 to 85723.172)			
Day 394 (n=356)	58647.246 (52309.921 to 65752.336)			

Statistical analyses

No statistical analyses for this end point

Secondary: Part 1A GM Value of SARS-CoV-2-Specific nAb at Days 1, 57, 209, 394

End point title	Part 1A GM Value of SARS-CoV-2-Specific nAb at Days 1, 57, 209, 394[37]

End point description:

SARS-CoV-2-Specific nAb were measured using PsVNA assay. Antibody values reported as below the LLOQ were replaced by 0.5*LLOQ. Values greater than the ULOQ are replaced by the ULOQ if actual values are not available (LLOQ: 10 AU/mL, ULOQ: 281600 AU/mL). Part 1A PPIS for long term analysis included all randomized participants who received had a negative SARS-CoV-2 status at baseline (pre-Dose 1), received planned doses of study drug per schedule, complied with immunogenicity testing schedule, and had no major protocol deviations that impacted key or critical data. 'Overall number of participants analyzed' = participants evaluable for this endpoint.

End point type	Secondary

End point timeframe:

Days 1, 57, 209, 394

Notes:

[37] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Prespecified for applicable part(s) only.

End point values	Part 1A: mRNA-1273 100 µg			
Subject group type	Reporting group			
Number of subjects analysed	369			
Units: AU/mL				
geometric mean (confidence interval 95%)				
Day 1 (n=369)	11.249 (10.712 to 11.812)			
Day 57 (n=366)	1868.363 (1758.809 to 1984.742)			
Day 209 (n=366)	625.363 (583.319 to 670.437)			
Day 394 (n=363)	550.262 (489.875 to 618.093)			

Statistical analyses

No statistical analyses for this end point

Secondary: Part 1C-1 GM Value of Post-booster Dose Serum bAb Against Variants of Interest (B.1.1.7, B.1.351, B.1.617.2, and P.1) as Measured by MSD

End point title	Part 1C-1 GM Value of Post-booster Dose Serum bAb Against Variants of Interest (B.1.1.7, B.1.351, B.1.617.2, and P.1) as Measured by MSD

End point description:

Antibody values reported as below the LLOQ were replaced by 0.5*LLOQ. Values greater than the ULOQ were replaced by the ULOQ if actual values were not available. B.1.1.7 (LLOQ: 52, ULOQ: 8800000), B.1.351 (LLOQ: 111, ULOQ: 5000000), B.1.617.2 (LLOQ: 49, ULOQ: 7400000), P.1 (LLOQ: 143, ULOQ: 5800000). Part 1C-1 PPIS: participants were baseline (pre-dose 1 of Part 1A) SARS-CoV-2 negative, had BD-Day 1 and BD-Day 29 Ab assessment, had no major protocol deviations, did not receive off-study COVID-19 vaccination prior to BD-Day 29 visit, received 2 doses of mRNA-1273 in the Blinded Phase per schedule, and received BD 'Overall number of participants analyzed' = participants evaluable for this endpoint.

End point type	Secondary

End point timeframe:

BD Day 29

End point values	Part 1C-1: mRNA-1273 50 µg BD			
Subject group type	Subject analysis set			
Number of subjects analysed	324			
Units: AU/mL				
geometric mean (confidence interval 95%)				
B.1.1.7	581097.8 (543987.7 to 620739.5)			

B.1.351	431569.2 (404983.2 to 459900.6)			
B.1.617.2	456423.3 (429083.9 to 485504.8)			
P.1	417277.2 (391682.5 to 444544.5)			

Statistical analyses

No statistical analyses for this end point

Other pre-specified: Number of Deaths Related to Study Drug

End point title	Number of Deaths Related to Study Drug

End point description:

A death that occurred during the study or that came to the attention of the investigator during the study was reported to Sponsor, whether or not considered related to study drug. The investigator assessed causality (whether there was a reasonable possibility that study drug caused the death). Relationship was characterized using following classifications: Not related: not a reasonable possibility of a relationship to the study drug. Temporal sequence of the death relative to administration of the study drug was not reasonable and/or the death was more likely explained by a cause other than the study drug. Related: a reasonable possibility of a relationship to the study drug. There was evidence of exposure to the study drug. The temporal sequence of the death relative to the administration of the study drug was reasonable. The death was more likely explained by the study drug than by another cause. Safety Set: participants who received at least 1 dose of study drug.

End point type	Other pre-specified

End point timeframe:

Day 1 up to Day 751

End point values	Part 2: mRNA-1273 50 µg BD	Part 3: mRNA-1273.222 50 µg 1 Dose	Part 1A: mRNA-1273 100 µg	Part 1A: Placebo
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	Subject analysis set
Number of subjects analysed	19	388	2486	1240
Units: participants				
Deaths	0	0	0	0
Deaths related to study drug	0	0	0	0

End point values	Part 1B: mRNA-1273 100 µg	Part 1C-1: mRNA-1273 50 µg BD	Part 1C-2: mRNA-1273 50 µg BD	Part 2: mRNA-1273 50 µg
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	Subject analysis set
Number of subjects analysed	96	1408	155	52
Units: participants				
Deaths	0	0	0	0
Deaths related to study drug	0	0	0	0

End point values	Part 3: mRNA-1273.222 50 µg Second Dose			
Subject group type	Subject analysis set			
Number of subjects analysed	335			
Units: participants				
Deaths	1			
Deaths related to study drug	0			

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

Day 1 up to Day 751

Adverse event reporting additional description:

Safety Set: received at least 1 dose of study drug.
Non-serious SARs persisting beyond 7 days, leading to discontinuation, or medically attended were defined as AEs in Part 1/2 but not in Part 3. COVID-19/SARS-CoV-2 infections were AEs in Part 1/2 but were considered clinical events for efficacy in Part 3 and not AEs.

Assessment type	Systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	23.0

Reporting groups

Reporting group title	Part 1A: Placebo

Reporting group description:

Participants received at least 1 of 2 doses of placebo by IM injection (Day 1 and Day 29).

Reporting group title	Part 1A: mRNA-1273 100 µg

Reporting group description:

Participants received at least 1 of 2 doses of 100 µg mRNA-1273 by IM injection (Day 1 and Day 29).

Reporting group title	Part 1 B: mRNA-1273 100 µg

Reporting group description:

Participants previously received at least 1 of 2 doses of placebo in the blinded phase and then received crossover vaccination with 100 µg of mRNA-1273.

Reporting group title	Part 1C-1: mRNA-1273 50 µg BD

Reporting group description:

Participants received mRNA-1273 100 µg in blinded or cross-over phase (Parts 1A or 1B) and then a single BD of 50 µg mRNA-1273 IM injection on BD Day 1 in Part 1C-1.

Reporting group title	Part 3: mRNA-1273.222 50 ug Second Dose

Reporting group description:

Participants received 1 dose of mRNA-1273.222 50 µg by IM injection (Day 1) and a second dose of mRNA-1273.222 50 µg approximately 6 months after the first dose (Day 181).

Reporting group title	Part 2: mRNA-1273 50 µg

Reporting group description:

Participants received at least 1 of 2 doses of 50 µg mRNA-1273 by IM injection (Day 1 and Day 29).

Reporting group title	Part 3: mRNA1273.222 50 µg 1 Dose

Reporting group description:

Participants received 1 dose of mRNA-1273.222 50 µg by IM injection (Day 1).

Reporting group title	Part 2: mRNA-1273 50 ug BD

Reporting group description:

Participants received open-label mRNA-1273 50 µg in Part 2 and then a single BD of 50 µg mRNA-1273 IM injection on BD Day 1 in Part 2.

Reporting group title	Part 1C-2: mRNA-1273 50 µg BD

Reporting group description:

Participants who completed primary COVID-19 vaccination series with a non-Moderna vaccine under EUA, received a single booster of 50 µg mRNA-1273 IM injection on BD Day 1.

Serious adverse events	Part 1A: Placebo	Part 1A: mRNA-1273 100 µg	Part 1 B: mRNA-1273 100 µg
Total subjects affected by serious adverse events			
subjects affected / exposed	4 / 1240 (0.32%)	21 / 2486 (0.84%)	2 / 96 (2.08%)
number of deaths (all causes)	0	0	0
number of deaths resulting from adverse events			
Vascular disorders			
Hypertension			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pregnancy, puerperium and perinatal conditions			
Abortion			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Abortion spontaneous			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Immune system disorders			
Anaphylactic reaction			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Reproductive system and breast disorders			
Vaginal haematoma			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Psychiatric disorders			
Emotional distress			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Depression suicidal			

subjects affected / exposed	0 / 1240 (0.00%)	1 / 2486 (0.04%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Depression			
subjects affected / exposed	0 / 1240 (0.00%)	1 / 2486 (0.04%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Major depression			
subjects affected / exposed	0 / 1240 (0.00%)	2 / 2486 (0.08%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 2	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Suicide attempt			
subjects affected / exposed	1 / 1240 (0.08%)	3 / 2486 (0.12%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 3	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Suicidal ideation			
subjects affected / exposed	0 / 1240 (0.00%)	5 / 2486 (0.20%)	1 / 96 (1.04%)
occurrences causally related to treatment / all	0 / 0	0 / 5	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Investigations			
Hepatic enzyme increased			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Injury, poisoning and procedural complications			
Clavicle fracture			
subjects affected / exposed	0 / 1240 (0.00%)	1 / 2486 (0.04%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Concussion			
subjects affected / exposed	0 / 1240 (0.00%)	1 / 2486 (0.04%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0

Cervical vertebral fracture			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gun shot wound			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Post procedural fever			
subjects affected / exposed	0 / 1240 (0.00%)	1 / 2486 (0.04%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Femur fracture			
subjects affected / exposed	0 / 1240 (0.00%)	1 / 2486 (0.04%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Sunburn			
subjects affected / exposed	0 / 1240 (0.00%)	1 / 2486 (0.04%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Road traffic accident			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	1 / 96 (1.04%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Facial bones fracture			
subjects affected / exposed	0 / 1240 (0.00%)	1 / 2486 (0.04%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Splenic injury			
subjects affected / exposed	0 / 1240 (0.00%)	1 / 2486 (0.04%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Vulvovaginal injury			

subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Congenital, familial and genetic disorders			
Syringomyelia			
subjects affected / exposed	0 / 1240 (0.00%)	1 / 2486 (0.04%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pectus excavatum			
subjects affected / exposed	0 / 1240 (0.00%)	1 / 2486 (0.04%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Arnold-Chiari malformation			
subjects affected / exposed	0 / 1240 (0.00%)	1 / 2486 (0.04%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cardiac disorders			
Cardiogenic shock	Additional description: Sponsor assessment was Not related based on medical history, results of the heart biopsy, including findings of long-standing pre-existing heart failure and long time to onset (256 days).		
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Nervous system disorders			
Idiopathic generalised epilepsy			
subjects affected / exposed	0 / 1240 (0.00%)	1 / 2486 (0.04%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Seizure			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Status migrainosus			

subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Epilepsy			
subjects affected / exposed	1 / 1240 (0.08%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Blood and lymphatic system disorders			
Normochromic normocytic anaemia			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Hypercoagulation	Additional description: Sponsor assessment was Not related based on medical history, results of the heart biopsy, including findings of long-standing pre-existing heart failure and long time to onset (256 days).		
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastrointestinal disorders			
Vomiting			
subjects affected / exposed	0 / 1240 (0.00%)	1 / 2486 (0.04%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Diarrhoea			
subjects affected / exposed	0 / 1240 (0.00%)	1 / 2486 (0.04%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Hepatobiliary disorders			
Hyperbilirubinaemia neonatal			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Drug-induced liver injury			

subjects affected / exposed	0 / 1240 (0.00%)	1 / 2486 (0.04%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Renal and urinary disorders			
Chronic kidney disease			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Nephrotic syndrome			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Nephrolithiasis			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Obstructive nephropathy			
subjects affected / exposed	1 / 1240 (0.08%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Infections and infestations			
Amoebic dysentery			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Dengue fever			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Murine typhus			
subjects affected / exposed	0 / 1240 (0.00%)	1 / 2486 (0.04%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cellulitis			

subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pneumonia			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Appendicitis			
subjects affected / exposed	1 / 1240 (0.08%)	2 / 2486 (0.08%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 2	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Peritonitis			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Metabolism and nutrition disorders			
Hyperkalaemia			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Dehydration			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Metabolic acidosis			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Decreased appetite			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Hypocalcaemia			

subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0

Serious adverse events	Part 1C-1: mRNA-1273 50 µg BD	Part 3: mRNA-1273.222 50 ug Second Dose	Part 2: mRNA-1273 50 µg
Total subjects affected by serious adverse events			
subjects affected / exposed	9 / 1408 (0.64%)	4 / 335 (1.19%)	0 / 52 (0.00%)
number of deaths (all causes)	0	1	0
number of deaths resulting from adverse events			
Vascular disorders			
Hypertension			
subjects affected / exposed	0 / 1408 (0.00%)	1 / 335 (0.30%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pregnancy, puerperium and perinatal conditions			
Abortion			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Abortion spontaneous			
subjects affected / exposed	0 / 1408 (0.00%)	2 / 335 (0.60%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 2	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Immune system disorders			
Anaphylactic reaction			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Reproductive system and breast disorders			
Vaginal haematoma			
subjects affected / exposed	1 / 1408 (0.07%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Psychiatric disorders			

Emotional distress			
subjects affected / exposed	1 / 1408 (0.07%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Depression suicidal			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Depression			
subjects affected / exposed	1 / 1408 (0.07%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Major depression			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Suicide attempt			
subjects affected / exposed	1 / 1408 (0.07%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Suicidal ideation			
subjects affected / exposed	2 / 1408 (0.14%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Investigations			
Hepatic enzyme increased			
subjects affected / exposed	1 / 1408 (0.07%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Injury, poisoning and procedural complications			
Clavicle fracture			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0

Concussion			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cervical vertebral fracture			
subjects affected / exposed	1 / 1408 (0.07%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gun shot wound			
subjects affected / exposed	0 / 1408 (0.00%)	1 / 335 (0.30%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 1	0 / 0
Post procedural fever			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Femur fracture			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Sunburn			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Road traffic accident			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Facial bones fracture			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Splenic injury			

subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Vulvovaginal injury			
subjects affected / exposed	1 / 1408 (0.07%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Congenital, familial and genetic disorders			
Syringomyelia			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pectus excavatum			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Arnold-Chiari malformation			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cardiac disorders			
Cardiogenic shock	Additional description: Sponsor assessment was Not related based on medical history, results of the heart biopsy, including findings of long-standing pre-existing heart failure and long time to onset (256 days).		
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Nervous system disorders			
Idiopathic generalised epilepsy			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Seizure			

subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Status migrainosus			
subjects affected / exposed	1 / 1408 (0.07%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Epilepsy			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Blood and lymphatic system disorders			
Normochromic normocytic anaemia			
subjects affected / exposed	0 / 1408 (0.00%)	1 / 335 (0.30%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Hypercoagulation	Additional description: Sponsor assessment was Not related based on medical history, results of the heart biopsy, including findings of long-standing pre-existing heart failure and long time to onset (256 days).		
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastrointestinal disorders			
Vomiting			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Diarrhoea			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Hepatobiliary disorders			
Hyperbilirubinaemia neonatal			

subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Drug-induced liver injury			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Renal and urinary disorders			
Chronic kidney disease			
subjects affected / exposed	0 / 1408 (0.00%)	1 / 335 (0.30%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Nephrotic syndrome			
subjects affected / exposed	0 / 1408 (0.00%)	1 / 335 (0.30%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Nephrolithiasis			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Obstructive nephropathy			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Infections and infestations			
Amoebic dysentery			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Dengue fever			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Murine typhus			

subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cellulitis			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pneumonia			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Appendicitis			
subjects affected / exposed	1 / 1408 (0.07%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Peritonitis			
subjects affected / exposed	0 / 1408 (0.00%)	1 / 335 (0.30%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Metabolism and nutrition disorders			
Hyperkalaemia			
subjects affected / exposed	0 / 1408 (0.00%)	1 / 335 (0.30%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Dehydration			
subjects affected / exposed	1 / 1408 (0.07%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Metabolic acidosis			
subjects affected / exposed	0 / 1408 (0.00%)	1 / 335 (0.30%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Decreased appetite			

subjects affected / exposed	1 / 1408 (0.07%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Hypocalcaemia			
subjects affected / exposed	0 / 1408 (0.00%)	1 / 335 (0.30%)	0 / 52 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0

Serious adverse events	Part 3: mRNA1273.222 50	Part 2: mRNA-1273 50 ug BD	Part 1C-2: mRNA-1273 50 µg BD
Total subjects affected by serious adverse events			
subjects affected / exposed	12 / 388 (3.09%)	0 / 19 (0.00%)	3 / 155 (1.94%)
number of deaths (all causes)	0	0	0
number of deaths resulting from adverse events			
Vascular disorders			
Hypertension			
subjects affected / exposed	1 / 388 (0.26%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pregnancy, puerperium and perinatal conditions			
Abortion			
subjects affected / exposed	1 / 388 (0.26%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Abortion spontaneous			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Immune system disorders			
Anaphylactic reaction			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	1 / 155 (0.65%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Reproductive system and breast disorders			
Vaginal haematoma			

subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Psychiatric disorders			
Emotional distress			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Depression suicidal			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Depression			
subjects affected / exposed	1 / 388 (0.26%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Major depression			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Suicide attempt			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Suicidal ideation			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Investigations			
Hepatic enzyme increased			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Injury, poisoning and procedural			

complications			
Clavicle fracture			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Concussion			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cervical vertebral fracture			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gun shot wound			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Post procedural fever			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Femur fracture			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Sunburn			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Road traffic accident			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Facial bones fracture			

subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Splenic injury			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Vulvovaginal injury			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Congenital, familial and genetic disorders			
Syringomyelia			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pectus excavatum			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Arnold-Chiari malformation			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cardiac disorders			
Cardiogenic shock	Additional description: Sponsor assessment was Not related based on medical history, results of the heart biopsy, including findings of long-standing pre-existing heart failure and long time to onset (256 days).		
subjects affected / exposed	1 / 388 (0.26%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	1 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Nervous system disorders			
Idiopathic generalised epilepsy			

subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Seizure			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	1 / 155 (0.65%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Status migrainosus			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Epilepsy			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Blood and lymphatic system disorders			
Normochromic normocytic anaemia			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Hypercoagulation	Additional description: Sponsor assessment was Not related based on medical history, results of the heart biopsy, including findings of long-standing pre-existing heart failure and long time to onset (256 days).		
subjects affected / exposed	1 / 388 (0.26%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	1 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastrointestinal disorders			
Vomiting			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Diarrhoea			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0

Hepatobiliary disorders			
Hyperbilirubinaemia neonatal			
subjects affected / exposed	1 / 388 (0.26%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Drug-induced liver injury			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Renal and urinary disorders			
Chronic kidney disease			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Nephrotic syndrome			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Nephrolithiasis			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	1 / 155 (0.65%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Obstructive nephropathy			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Infections and infestations			
Amoebic dysentery			
subjects affected / exposed	1 / 388 (0.26%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Dengue fever			

subjects affected / exposed	5 / 388 (1.29%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 5	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Murine typhus			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cellulitis			
subjects affected / exposed	1 / 388 (0.26%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pneumonia			
subjects affected / exposed	1 / 388 (0.26%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Appendicitis			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Peritonitis			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Metabolism and nutrition disorders			
Hyperkalaemia			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Dehydration			
subjects affected / exposed	1 / 388 (0.26%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Metabolic acidosis			

subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Decreased appetite			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Hypocalcaemia			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0

Frequency threshold for reporting non-serious adverse events: 5 %

Non-serious adverse events	Part 1A: Placebo	Part 1A: mRNA-1273 100 µg	Part 1 B: mRNA-1273 100 µg
Total subjects affected by non-serious adverse events			
subjects affected / exposed	155 / 1240 (12.50%)	943 / 2486 (37.93%)	22 / 96 (22.92%)
Nervous system disorders			
Headache			
subjects affected / exposed	51 / 1240 (4.11%)	117 / 2486 (4.71%)	1 / 96 (1.04%)
occurrences (all)	57	129	1
General disorders and administration site conditions			
Injection site lymphadenopathy			
subjects affected / exposed	6 / 1240 (0.48%)	137 / 2486 (5.51%)	0 / 96 (0.00%)
occurrences (all)	6	146	0
Gastrointestinal disorders			
Abdominal pain			
subjects affected / exposed	3 / 1240 (0.24%)	8 / 2486 (0.32%)	0 / 96 (0.00%)
occurrences (all)	3	9	0
Skin and subcutaneous tissue disorders			
Mechanical urticaria			
subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences (all)	0	0	0
Parapsoriasis			

subjects affected / exposed	0 / 1240 (0.00%)	0 / 2486 (0.00%)	0 / 96 (0.00%)
occurrences (all)	0	0	0
Psychiatric disorders			
Attention deficit hyperactivity disorder			
subjects affected / exposed	6 / 1240 (0.48%)	41 / 2486 (1.65%)	0 / 96 (0.00%)
occurrences (all)	6	41	0
Anxiety			
subjects affected / exposed	3 / 1240 (0.24%)	58 / 2486 (2.33%)	1 / 96 (1.04%)
occurrences (all)	3	60	1
Infections and infestations			
Respiratory tract infection			
subjects affected / exposed	4 / 1240 (0.32%)	11 / 2486 (0.44%)	0 / 96 (0.00%)
occurrences (all)	4	12	0
Parainfluenzae virus infection			
subjects affected / exposed	0 / 1240 (0.00%)	3 / 2486 (0.12%)	1 / 96 (1.04%)
occurrences (all)	0	3	1
Nasopharyngitis			
subjects affected / exposed	6 / 1240 (0.48%)	60 / 2486 (2.41%)	4 / 96 (4.17%)
occurrences (all)	6	64	4
Influenza			
subjects affected / exposed	0 / 1240 (0.00%)	19 / 2486 (0.76%)	1 / 96 (1.04%)
occurrences (all)	0	20	1
COVID-19			
subjects affected / exposed	34 / 1240 (2.74%)	382 / 2486 (15.37%)	11 / 96 (11.46%)
occurrences (all)	35	383	11
Asymptomatic COVID-19			
subjects affected / exposed	25 / 1240 (2.02%)	81 / 2486 (3.26%)	6 / 96 (6.25%)
occurrences (all)	25	82	6
Upper respiratory tract infection			
subjects affected / exposed	28 / 1240 (2.26%)	257 / 2486 (10.34%)	3 / 96 (3.13%)
occurrences (all)	32	293	3
Tooth abscess			
subjects affected / exposed	0 / 1240 (0.00%)	2 / 2486 (0.08%)	0 / 96 (0.00%)
occurrences (all)	0	2	0

Non-serious adverse events	Part 1C-1: mRNA-1273 50 µg BD	Part 3: mRNA-1273.222 50 ug Second Dose	Part 2: mRNA-1273 50 µg
Total subjects affected by non-serious adverse events			
subjects affected / exposed	429 / 1408 (30.47%)	51 / 335 (15.22%)	12 / 52 (23.08%)
Nervous system disorders			
Headache			
subjects affected / exposed	28 / 1408 (1.99%)	5 / 335 (1.49%)	1 / 52 (1.92%)
occurrences (all)	29	5	1
General disorders and administration site conditions			
Injection site lymphadenopathy			
subjects affected / exposed	5 / 1408 (0.36%)	0 / 335 (0.00%)	1 / 52 (1.92%)
occurrences (all)	5	0	1
Gastrointestinal disorders			
Abdominal pain			
subjects affected / exposed	6 / 1408 (0.43%)	1 / 335 (0.30%)	0 / 52 (0.00%)
occurrences (all)	6	1	0
Skin and subcutaneous tissue disorders			
Mechanical urticaria			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences (all)	0	0	0
Parapsoriasis			
subjects affected / exposed	0 / 1408 (0.00%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences (all)	0	0	0
Psychiatric disorders			
Attention deficit hyperactivity disorder			
subjects affected / exposed	14 / 1408 (0.99%)	0 / 335 (0.00%)	3 / 52 (5.77%)
occurrences (all)	14	0	3
Anxiety			
subjects affected / exposed	26 / 1408 (1.85%)	1 / 335 (0.30%)	0 / 52 (0.00%)
occurrences (all)	27	1	0
Infections and infestations			
Respiratory tract infection			
subjects affected / exposed	2 / 1408 (0.14%)	22 / 335 (6.57%)	0 / 52 (0.00%)
occurrences (all)	2	30	0
Parainfluenzae virus infection			
subjects affected / exposed	2 / 1408 (0.14%)	0 / 335 (0.00%)	0 / 52 (0.00%)
occurrences (all)	2	0	0

Nasopharyngitis			
subjects affected / exposed	16 / 1408 (1.14%)	23 / 335 (6.87%)	0 / 52 (0.00%)
occurrences (all)	17	26	0
Influenza			
subjects affected / exposed	30 / 1408 (2.13%)	0 / 335 (0.00%)	1 / 52 (1.92%)
occurrences (all)	30	0	1
COVID-19			
subjects affected / exposed	257 / 1408 (18.25%)	0 / 335 (0.00%)	3 / 52 (5.77%)
occurrences (all)	267	0	3
Asymptomatic COVID-19			
subjects affected / exposed	39 / 1408 (2.77%)	0 / 335 (0.00%)	2 / 52 (3.85%)
occurrences (all)	39	0	2
Upper respiratory tract infection			
subjects affected / exposed	81 / 1408 (5.75%)	0 / 335 (0.00%)	2 / 52 (3.85%)
occurrences (all)	101	0	2
Tooth abscess			
subjects affected / exposed	1 / 1408 (0.07%)	1 / 335 (0.30%)	0 / 52 (0.00%)
occurrences (all)	1	1	0

Non-serious adverse events	Part 3: mRNA1273.222 50	Part 2: mRNA-1273 50 ug BD	Part 1C-2: mRNA-1273 50 µg BD
Total subjects affected by non-serious adverse events			
subjects affected / exposed	77 / 388 (19.85%)	7 / 19 (36.84%)	28 / 155 (18.06%)
Nervous system disorders			
Headache			
subjects affected / exposed	20 / 388 (5.15%)	0 / 19 (0.00%)	1 / 155 (0.65%)
occurrences (all)	27	0	1
General disorders and administration site conditions			
Injection site lymphadenopathy			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences (all)	0	0	0
Gastrointestinal disorders			
Abdominal pain			
subjects affected / exposed	1 / 388 (0.26%)	1 / 19 (5.26%)	0 / 155 (0.00%)
occurrences (all)	1	1	0
Skin and subcutaneous tissue disorders			

Mechanical urticaria			
subjects affected / exposed	0 / 388 (0.00%)	1 / 19 (5.26%)	0 / 155 (0.00%)
occurrences (all)	0	1	0
Parapsoriasis			
subjects affected / exposed	0 / 388 (0.00%)	1 / 19 (5.26%)	0 / 155 (0.00%)
occurrences (all)	0	1	0
Psychiatric disorders			
Attention deficit hyperactivity disorder			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	2 / 155 (1.29%)
occurrences (all)	0	0	2
Anxiety			
subjects affected / exposed	0 / 388 (0.00%)	1 / 19 (5.26%)	1 / 155 (0.65%)
occurrences (all)	0	1	1
Infections and infestations			
Respiratory tract infection			
subjects affected / exposed	26 / 388 (6.70%)	0 / 19 (0.00%)	1 / 155 (0.65%)
occurrences (all)	34	0	1
Parainfluenzae virus infection			
subjects affected / exposed	1 / 388 (0.26%)	1 / 19 (5.26%)	1 / 155 (0.65%)
occurrences (all)	1	1	1
Nasopharyngitis			
subjects affected / exposed	30 / 388 (7.73%)	0 / 19 (0.00%)	0 / 155 (0.00%)
occurrences (all)	34	0	0
Influenza			
subjects affected / exposed	5 / 388 (1.29%)	2 / 19 (10.53%)	7 / 155 (4.52%)
occurrences (all)	6	2	8
COVID-19			
subjects affected / exposed	0 / 388 (0.00%)	3 / 19 (15.79%)	10 / 155 (6.45%)
occurrences (all)	0	3	10
Asymptomatic COVID-19			
subjects affected / exposed	0 / 388 (0.00%)	0 / 19 (0.00%)	2 / 155 (1.29%)
occurrences (all)	0	0	2
Upper respiratory tract infection			
subjects affected / exposed	4 / 388 (1.03%)	1 / 19 (5.26%)	6 / 155 (3.87%)
occurrences (all)	4	1	8
Tooth abscess			

subjects affected / exposed occurrences (all)	0 / 388 (0.00%) 0	1 / 19 (5.26%) 1	0 / 155 (0.00%) 0

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
23 March 2021	- Addition of the crossover design - Study design was updated to describe the updated crossover design of the study, including Part A (the Blinded Phase) and Part B (the Open-label Observational Phase).
27 July 2021	- Added CDC case definitions for myocarditis and pericarditis. - Added assessment of risk of myocarditis and pericarditis.
04 November 2021	- Added Part C to the study. - Updated long-term analysis and Booster Phase analysis. - Addition of booster interim analyses. - Added nasal swab for samples for SARS-CoV-2. - Clarified that only Part A and Part C will have primary immunogenicity analyses.
25 January 2022	- Added Part 1C-2 and Part 2.
11 October 2022	- Modifications to primary objectives and endpoints, secondary endpoints, statistical hypothesis, power and sample size, analysis, and procedures in Part 2 of the study. - Clarified that immunogenicity hypothesis testing will not be performed for Part 2. - Discontinuation of enrollment in Part 1C-2 and Part 2 of the study. - Clarified that Convalescent Visits are applicable to Part 1A and 1B only. - Removed BD from Part 2 and convalescent visits from Part 1C-1, Part 1C-2, and Part 2 of the study. - Added an open-label Part 3 of the study. - Updated exclusion criteria. - Updated study assessments and procedures.
22 June 2023	-Modifications to primary and (key) secondary immunogenicity objectives and endpoints, statistical hypothesis, power and sample size, and analysis in Part 3 of the study. - Updated inclusion/exclusion criteria - Clarifying the definition of the SARS-CoV-2 status at baseline.
19 October 2023	- Updated Part 3 study design and objective to single dosing. - Updated to single dosing in Part 3. - Reduced safety follow-up duration for Part 3 participants who receive Dose 2. - Updated timepoints for collection of blood samples and nasopharyngeal or nasal swab samples. -Clarification of the end-of-study definition. - Clarification added on the time period for recording all concomitant medications and nonstudy vaccinations in the electronic case report form. - Updated safety assessments related to single dosing in Part 3. -Updated PP Immunogenicity Subset for Part 3. - Addition of schedule of assessments for Part 3 participants who receive only 1 dose. - Addition of schedule of assessments for Part 2 participants who receive the booster dose.

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

Limitations of the trial such as small numbers of subjects analysed or technical problems leading to unreliable data.

Part 1C-2 enrollment discontinued before planned number of participants. Part 2 discontinued early due to availability of updated variant vaccine (mRNA-1273.222); no hypothesis testing done for primary endpoint/other endpoints not assessed.

Notes:

Online references

http://www.ncbi.nlm.nih.gov/pubmed/34379915

http://www.ncbi.nlm.nih.gov/pubmed/39091673

http://www.ncbi.nlm.nih.gov/pubmed/39332418