Clinical trial results:
A Phase 3, Randomized, Active-Controlled, Observer-Blinded Trial To Assess The Safety, Tolerability, And Immunogenicity Of MenABCWY In Healthy Participants >=10 To <26 Years Of Age

Summary

EudraCT number	2019-004313-13
Trial protocol	DK CZ HU PL
Global end of trial date	24 July 2022

Results information

Result version number	v1 (current)
This version publication date	09 February 2023
First version publication date	09 February 2023

Trial information

Trial identification

Sponsor protocol code	C3511001

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT04440163
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Pfizer Inc.
Sponsor organisation address	235 E 42nd Street, New York, United States, NY 10017
Public contact	Pfizer ClinicalTrials.gov Call Center, Pfizer Inc., 001 8007181021, ClinicalTrials.gov_Inquiries@pfizer.com
Scientific contact	Pfizer ClinicalTrials.gov Call Center, Pfizer Inc., 001 8007181021, ClinicalTrials.gov_Inquiries@pfizer.com

Notes:

Paediatric regulatory details

Is trial part of an agreed paediatric investigation plan (PIP)	No
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	29 September 2022
Is this the analysis of the primary completion data?	No

Global end of trial reached?	Yes
Global end of trial date	24 July 2022
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

Immunogenicity: 1. To demonstrate that the immune response for Neisseria meningitidis group A (MenA), Neisseria meningitidis group C (MenC), Neisseria meningitidis group W (MenW), and Neisseria meningitidis group Y (MenY) induced by 2 doses of Neisseria meningitidis group A, B, C, W, and Y vaccine (MenABCWY) is noninferior to the immune response induced by 1 dose of meningococcal groups A, C, Y, and W-135 oligosaccharide diphtheria conjugate vaccine (MenACWY-CRM) in both ACWY-naïve and ACWY-experienced participants, separately. 2. To demonstrate that the immune response for MenB induced by 2 doses of MenABCWY is noninferior to the immune response induced by 2 doses of Trumenba. Safety: To describe the safety profile of MenABCWY, as measured by local reactions, systemic events, adverse events (AEs), serious adverse events (SAEs), newly diagnosed chronic medical conditions (NDCMCs), medically attended adverse event (MAEs), and immediate AEs.

Protection of trial subjects:

The study was in compliance with the ethical principles derived from the Declaration of Helsinki and in compliance with all International Council for Harmonisation (ICH) Good Clinical Practice (GCP) Guidelines. All the local regulatory requirements pertinent to safety of trial subjects were followed.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	17 June 2020
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	Yes

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	Czechia: 244
Country: Number of subjects enrolled	Denmark: 96
Country: Number of subjects enrolled	Hungary: 106
Country: Number of subjects enrolled	Poland: 218
Country: Number of subjects enrolled	United States: 1748
Worldwide total number of subjects	2412
EEA total number of subjects	664

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)	606
Adolescents (12-17 years)	991
Adults (18-64 years)	815
From 65 to 84 years	0
85 years and over	0

Subject disposition

Recruitment

Recruitment details: -

Pre-assignment

Screening details:

A total of 2431 subjects were enrolled and randomised in the study of which 18 subjects did not receive any vaccination. 2413 subjects received at least 1 dose of vaccination. 1 subject initially randomised to group 3 was excluded from safety population set as the subject received the wrong vaccination (Trumenba + saline).

Period 1

Period 1 title	Vaccination Phase
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Subject, Investigator

Arms

Are arms mutually exclusive?	Yes
Arm title	ACWY-Naive: Group 1 MenABCWY + Saline

Arm description:

On Day 1, Neisseria meningitidis group A, C, W, and Y (ACWY) naive subjects received a single dose of 0.5 millilitre (mL) Neisseria meningitidis serogroup A, B, C, W, Y (MenABCWY) intramuscularly into the left deltoid muscle along with 0.5 mL of saline intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Arm type	Experimental
Investigational medicinal product name	Saline
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of saline intramuscularly into the right deltoid muscle at Visit 1.

Investigational medicinal product name	MenABCWY
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder for suspension for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle at Visits 1 and 3.

Arm title	ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM

Arm description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid muscle along with 0.5 mL of meningococcal (groups A, C, Y, and W-135) oligosaccharide diphtheria conjugate vaccine (MenACWY-CRM) intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Arm type	Experimental

Investigational medicinal product name	MenACWY - CRM
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder and solution for solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid muscle at Visit 1.

Investigational medicinal product name	Trumenba
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle at Visits 1 and 3.

Arm title	ACWY-Experienced: Group 3 MenABCWY + Saline

Arm description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid muscle along with 0.5 mL of saline intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Arm type	Experimental
Investigational medicinal product name	Saline
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of saline intramuscularly into the right deltoid muscle at Visit 1.

Investigational medicinal product name	MenABCWY
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder for suspension for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle at Visits 1 and 3.

Arm title	ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM

Arm description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid muscle along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Arm type	Experimental
Investigational medicinal product name	MenACWY - CRM
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder and solution for solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid muscle at Visit 1.

Investigational medicinal product name	Trumenba
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle at Visits 1 and 3.

Arm title	ACWY-Naive: Group 5 MenABCWY + Saline

Arm description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid muscle along with 0.5 mL of saline intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Arm type	Experimental
Investigational medicinal product name	Saline
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of saline intramuscularly into the right deltoid muscle at Visit 1.

Investigational medicinal product name	MenABCWY
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder for suspension for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle at Visits 1 and 3.

Arm title	ACWY-Naive: Group 6 Trumenba+ MenACWY - CRM

Arm description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid muscle along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Arm type	Experimental
Investigational medicinal product name	MenACWY - CRM
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder and solution for solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid muscle at Visit 1.

Investigational medicinal product name	Trumenba
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle at Visits 1 and 3.

Arm title	ACWY-Experienced: Group 7 MenABCWY + Saline

Arm description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid muscle along with 0.5 mL of saline intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Arm type	Experimental
Investigational medicinal product name	MenABCWY
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder for suspension for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle at Visits 1 and 3.

Investigational medicinal product name	Saline
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of saline intramuscularly into the right deltoid muscle at Visit 1.

Arm title	ACWY-Experienced: Group 8 Trumenba+ MenACWY - CRM

Arm description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid muscle along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Arm type	Experimental
Investigational medicinal product name	Trumenba
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle at Visits 1 and 3.

Investigational medicinal product name	MenACWY - CRM
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder and solution for solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid muscle at Visit 1.

Number of subjects in period 1	ACWY-Naive: Group 1 MenABCWY + Saline	ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM	ACWY-Experienced: Group 3 MenABCWY + Saline
Started	547	274	526
Completed	490	248	440
Not completed	57	26	86
Consent withdrawn by subject	11	5	18

Pregnancy	1	-	2
No longer met eligibility criteria	5	1	5
Medication error without associated adverse event	-	-	1
Adverse event	3	1	-
Unspecified	-	-	3
Lost to follow-up	26	15	42
Withdrawal by parent/guardian	10	4	10
Protocol deviation	1	-	5

Number of subjects in period 1	ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM	ACWY-Naive: Group 5 MenABCWY + Saline	ACWY-Naive: Group 6 Trumenba+ MenACWY - CRM
Started	260	537	56
Completed	209	476	45
Not completed	51	61	11
Consent withdrawn by subject	14	10	3
Pregnancy	-	1	-
No longer met eligibility criteria	2	3	-
Medication error without associated adverse event	-	1	-
Adverse event	1	-	-
Unspecified	2	-	1
Lost to follow-up	22	30	3
Withdrawal by parent/guardian	7	16	4
Protocol deviation	3	-	-

Number of subjects in period 1	ACWY-Experienced: Group 7 MenABCWY + Saline	ACWY-Experienced: Group 8 Trumenba+ MenACWY - CRM
Started	153	59
Completed	122	44
Not completed	31	15
Consent withdrawn by subject	5	4
Pregnancy	-	-
No longer met eligibility criteria	2	3
Medication error without associated adverse event	-	-
Adverse event	-	-
Unspecified	-	1
Lost to follow-up	18	5
Withdrawal by parent/guardian	3	2
Protocol deviation	3	-

Period 2

Period 2 title	Follow-up Phase
Is this the baseline period?	No
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Subject, Investigator

Arms

Are arms mutually exclusive?	Yes
Arm title	ACWY-Naive: Group 1 MenABCWY + Saline

Arm description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid along with 0.5 mL of saline intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Arm type	Experimental
Investigational medicinal product name	MenABCWY
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder for suspension for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle at Visits 1 and 3.

Investigational medicinal product name	Saline
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of saline intramuscularly into the right deltoid muscle at Visit 1.

Arm title	ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM

Arm description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Arm type	Experimental
Investigational medicinal product name	MenACWY - CRM
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder and solution for solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid muscle at Visit 1.

Investigational medicinal product name	Trumenba
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection in pre-filled syringe

Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle at Visits 1 and 3.

Arm title	ACWY-Experienced: Group 3 MenABCWY + Saline

Arm description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid along with 0.5 mL of saline intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Arm type	Experimental
Investigational medicinal product name	Saline
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of saline intramuscularly into the right deltoid muscle at Visit 1.

Investigational medicinal product name	MenABCWY
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder for suspension for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle at Visits 1 and 3.

Arm title	ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM

Arm description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Arm type	Experimental
Investigational medicinal product name	MenACWY - CRM
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder and solution for solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid muscle at Visit 1.

Investigational medicinal product name	Trumenba
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle at Visits 1 and 3.

Arm title	ACWY-Naive: Group 5 MenABCWY + Saline

Arm description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid along with 0.5 mL of saline intramuscularly into the right deltoid (Vaccination 1). After 6

months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Arm type	Experimental
Investigational medicinal product name	MenABCWY
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder for suspension for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle at Visits 1 and 3.

Investigational medicinal product name	Saline
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of saline intramuscularly into the right deltoid muscle at Visit 1.

Arm title	ACWY-Naive: Group 6 Trumenba+ MenACWY - CRM

Arm description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Arm type	Experimental
Investigational medicinal product name	MenACWY - CRM
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder and solution for solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid at Visit 1.

Investigational medicinal product name	Trumenba
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle at Visits 1 and 3.

Arm title	ACWY-Experienced: Group 7 MenABCWY + Saline

Arm description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid along with 0.5 mL of saline intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only .

Arm type	Experimental
Investigational medicinal product name	Saline
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of saline intramuscularly into the right deltoid muscle at Visit 1.

Investigational medicinal product name	MenABCWY
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder for suspension for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle at Visits 1 and 3.

Arm title	ACWY-Experienced: Group 8 Trumenba+ MenACWY - CRM

Arm description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Arm type	Experimental
Investigational medicinal product name	MenACWY - CRM
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder and solution for solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid muscle at Visit 1.

Investigational medicinal product name	Trumenba
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle at Visits 1 and 3.

Number of subjects in period 2	ACWY-Naive: Group 1 MenABCWY + Saline	ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM	ACWY-Experienced: Group 3 MenABCWY + Saline
Started	490	248	440
Completed	487	243	440
Not completed	3	5	0
Lost to follow-up	3	5	-
Protocol deviation	-	-	-

Number of subjects in period 2	ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM	ACWY-Naive: Group 5 MenABCWY + Saline	ACWY-Naive: Group 6 Trumenba+ MenACWY - CRM
Started	209	476	45
Completed	208	475	45
Not completed	1	1	0
Lost to follow-up	-	1	-
Protocol deviation	1	-	-

Number of subjects in period 2	ACWY-Experienced: Group 7 MenABCWY	ACWY-Experienced: Group 8 Trumenba+

	+ Saline	MenACWY - CRM
Started	122	44
Completed	120	43
Not completed	2	1
Lost to follow-up	2	1
Protocol deviation	-	-

Reporting groups

Reporting group title	ACWY-Naive: Group 1 MenABCWY + Saline

Reporting group description:

On Day 1, Neisseria meningitidis group A, C, W, and Y (ACWY) naive subjects received a single dose of 0.5 millilitre (mL) Neisseria meningitidis serogroup A, B, C, W, Y (MenABCWY) intramuscularly into the left deltoid muscle along with 0.5 mL of saline intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Reporting group title	ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM

Reporting group description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid muscle along with 0.5 mL of meningococcal (groups A, C, Y, and W-135) oligosaccharide diphtheria conjugate vaccine (MenACWY-CRM) intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Reporting group title	ACWY-Experienced: Group 3 MenABCWY + Saline

Reporting group description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid muscle along with 0.5 mL of saline intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Reporting group title	ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM

Reporting group description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid muscle along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Reporting group title	ACWY-Naive: Group 5 MenABCWY + Saline

Reporting group description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid muscle along with 0.5 mL of saline intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Reporting group title	ACWY-Naive: Group 6 Trumenba+ MenACWY - CRM

Reporting group description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid muscle along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Reporting group title	ACWY-Experienced: Group 7 MenABCWY + Saline

Reporting group description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid muscle along with 0.5 mL of saline intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Reporting group title	ACWY-Experienced: Group 8 Trumenba+ MenACWY - CRM

Reporting group description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid muscle along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and

contributed to safety analyses only.

Reporting group values	ACWY-Naive: Group 1 MenABCWY + Saline	ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM	ACWY-Experienced: Group 3 MenABCWY + Saline
Number of subjects	547	274	526
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)	187	89	16
Adolescents (12-17 years)	72	43	354
Adults (18-64 years)	288	142	156
From 65-84 years	0	0	0
85 years and over	0	0	0
Age Continuous Units: years			
arithmetic mean	16.7	16.7	17.3
standard deviation	± 5.49	± 5.39	± 3.17
Gender Categorical Units: Subjects			
Female	289	140	279
Male	258	134	247
Race Units: Subjects			
White	467	239	370
Black or African American	26	19	74
Asian	19	4	18
American Indian or Alaska Native	2	2	2
Native Hawaiian or other Pacific Islander	1	0	2
Multiracial	9	3	12
Not reported	23	7	48
Ethnicity Units: Subjects			
Hispanic/Latino	93	53	156
Non- Hispanic/non- Latino	450	217	366
Not reported	4	4	4

Reporting group values	ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM	ACWY-Naive: Group 5 MenABCWY + Saline	ACWY-Naive: Group 6 Trumenba+ MenACWY - CRM
Number of subjects	260	537	56
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)	9	264	30
Adolescents (12-17 years)	173	186	14
Adults (18-64 years)	78	87	12
From 65-84 years	0	0	0
85 years and over	0	0	0
Age Continuous			
Units: years			
arithmetic mean	17.4	13.5	13.5
standard deviation	± 3.28	± 4.05	± 4.50
Gender Categorical			
Units: Subjects			
Female	131	253	20
Male	129	284	36
Race			
Units: Subjects			
White	195	419	46
Black or African American	32	57	5
Asian	6	7	1
American Indian or Alaska Native	2	4	1
Native Hawaiian or other Pacific Islander	0	1	0
Multiracial	3	7	2
Not reported	22	42	1
Ethnicity			
Units: Subjects			
Hispanic/Latino	86	131	15
Non- Hispanic/non- Latino	173	405	41
Not reported	1	1	0

Reporting group values	ACWY-Experienced: Group 7 MenABCWY + Saline	ACWY-Experienced: Group 8 Trumenba+ MenACWY - CRM	Total
Number of subjects	153	59	2412
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)	5	6	606
Adolescents (12-17 years)	104	45	991
Adults (18-64 years)	44	8	815
From 65-84 years	0	0	0
85 years and over	0	0	0
Age Continuous			
Units: years			
arithmetic mean	17.1	16.0	
standard deviation	± 3.04	± 2.75	-

Gender Categorical Units: Subjects			
Female	96	28	1236
Male	57	31	1176
Race Units: Subjects			
White	103	42	1881
Black or African American	27	5	245
Asian	1	1	57
American Indian or Alaska Native	2	1	16
Native Hawaiian or other Pacific Islander	0	0	4
Multiracial	2	0	38
Not reported	18	10	171
Ethnicity Units: Subjects			
Hispanic/Latino	58	29	621
Non- Hispanic/non- Latino	93	30	1775
Not reported	2	0	16

End points

End points reporting groups

Reporting group title	ACWY-Naive: Group 1 MenABCWY + Saline

Reporting group description:

On Day 1, Neisseria meningitidis group A, C, W, and Y (ACWY) naive subjects received a single dose of 0.5 millilitre (mL) Neisseria meningitidis serogroup A, B, C, W, Y (MenABCWY) intramuscularly into the left deltoid muscle along with 0.5 mL of saline intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Reporting group title	ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM

Reporting group description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid muscle along with 0.5 mL of meningococcal (groups A, C, Y, and W-135) oligosaccharide diphtheria conjugate vaccine (MenACWY-CRM) intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Reporting group title	ACWY-Experienced: Group 3 MenABCWY + Saline

Reporting group description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid muscle along with 0.5 mL of saline intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Reporting group title	ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM

Reporting group description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid muscle along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Reporting group title	ACWY-Naive: Group 5 MenABCWY + Saline

Reporting group description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid muscle along with 0.5 mL of saline intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Reporting group title	ACWY-Naive: Group 6 Trumenba+ MenACWY - CRM

Reporting group description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid muscle along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Reporting group title	ACWY-Experienced: Group 7 MenABCWY + Saline

Reporting group description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid muscle along with 0.5 mL of saline intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Reporting group title	ACWY-Experienced: Group 8 Trumenba+ MenACWY - CRM

Reporting group description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid muscle along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and

contributed to safety analyses only.

Reporting group title	ACWY-Naive: Group 1 MenABCWY + Saline

Reporting group description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid along with 0.5 mL of saline intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Reporting group title	ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM

Reporting group description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Reporting group title	ACWY-Experienced: Group 3 MenABCWY + Saline

Reporting group description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid along with 0.5 mL of saline intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Reporting group title	ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM

Reporting group description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Reporting group title	ACWY-Naive: Group 5 MenABCWY + Saline

Reporting group description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid along with 0.5 mL of saline intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Reporting group title	ACWY-Naive: Group 6 Trumenba+ MenACWY - CRM

Reporting group description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Reporting group title	ACWY-Experienced: Group 7 MenABCWY + Saline

Reporting group description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid along with 0.5 mL of saline intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only .

Reporting group title	ACWY-Experienced: Group 8 Trumenba+ MenACWY - CRM

Reporting group description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Subject analysis set title	Groups 1+3 Combined MenABCWY + Saline
Subject analysis set type	Sub-group analysis

Subject analysis set description:

On Day 1, ACWY naive and ACWY experienced subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid muscle along with 0.5 mL of saline intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last

vaccination and contributed to both safety and immunogenicity analyses.

Subject analysis set title	Groups 2+4 Combined Trumenba + MenACWY-CRM
Subject analysis set type	Sub-group analysis

Subject analysis set description:

On Day 1, ACWY naive and ACWY experienced subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid muscle along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Subject analysis set title	Groups 1+3+5+7 Combined MenABCWY + Saline
Subject analysis set type	Sub-group analysis

Subject analysis set description:

On Day 1, ACWY naive and ACWY experienced subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid muscle along with 0.5 mL of saline intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination.

Subject analysis set title	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM
Subject analysis set type	Sub-group analysis

Subject analysis set description:

On Day 1, ACWY naive and ACWY experienced subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid muscle along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid muscle (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid muscle (Vaccination 2). Subjects were followed up for 6 months after last vaccination.

Primary: Percentage of Subjects Achieving At least 4-Fold Rise in Serum Bactericidal Assay Using Human Complement (hSBA) Titer From Baseline for Each of the MenACWY Strains: 1 Month After Vaccination 2 in Group 1 Compared to 1 Month After Vaccination 1 in Group 2

End point title	Percentage of Subjects Achieving At least 4-Fold Rise in Serum Bactericidal Assay Using Human Complement (hSBA) Titer From Baseline for Each of the MenACWY Strains: 1 Month After Vaccination 2 in Group 1 Compared to 1 Month After Vaccination 1 in Group 2[1]

End point description:

4-fold increase was defined as: for subjects with baseline hSBA titer below limit of detection (LOD) (or hSBA titer <1:4),response=hSBA titer >=1:16;baseline hSBA titer >=LOD and < lower limit of quantitation (LLOQ) (i.e. hSBA titer of 1:8), response=hSBA titer >=4times LLOQ; baseline hSBA titer >=LLOQ, response=hSBA titer >=4 times baseline titer. Exact 2-sided confidence interval (CI) using Clopper and Pearson method was presented. Post-vaccination(PV) 1 and PV2 evaluable immunogenicity population for Group 2 and Group 1 included subjects randomised to study group of interest; eligible at visit(V) 2 and 4, respectively; received vaccine at V1 or V1 and V3, respectively; blood drawn for assay testing at protocol-specified time points; at least 1 valid, determinate MenACWY or MenACWY/MenB assay result, received no prohibited vaccines/treatment and had no protocol deviations through V2 and V4 respectively. N= subjects evaluable for end point; n=subjects evaluable for specified rows.

End point type	Primary

End point timeframe:

1 month after Vaccination 2 in Group 1 and 1 month after Vaccination 1 in Group 2

Notes:

[1] - 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: This endpoint was analyzed only for specified reporting arms.

End point values	ACWY-Naive: Group 1 MenABCWY + Saline	ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	451	254		
Units: Percentage of subjects				
number (confidence interval 95%)				
MenA (n=447, 254)	97.8 (95.9 to 98.9)	95.3 (91.9 to 97.5)		
MenC (n=451, 252)	93.3 (90.6 to 95.5)	52.4 (46.0 to 58.7)		
MenW (n=439, 244)	97.3 (95.3 to 98.6)	73.0 (66.9 to 78.4)		
MenY (n=446, 248)	94.4 (91.8 to 96.3)	70.6 (64.5 to 76.2)		

Statistical analyses

Statistical analysis title	MenA (Group 1 Vs Group 2)
Comparison groups	ACWY-Naive: Group 1 MenABCWY + Saline v ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM
Number of subjects included in analysis	705
Analysis specification	Pre-specified
Analysis type	non-inferiority[2]
Parameter estimate	Difference in percentage
Point estimate	2.5
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.2
upper limit	6

Notes:

[2] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was greater than (>) -10 percent (%), the non-inferiority was concluded.

Statistical analysis title	MenC (Group 1 Vs Group 2)
Comparison groups	ACWY-Naive: Group 1 MenABCWY + Saline v ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM
Number of subjects included in analysis	705
Analysis specification	Pre-specified
Analysis type	non-inferiority[3]
Parameter estimate	Difference in percentage
Point estimate	41
Confidence interval	
level	95 %
sides	2-sided
lower limit	34.4
upper limit	47.5

Notes:

[3] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Statistical analysis title	MenW (Group 1 Vs Group 2)
Comparison groups	ACWY-Naive: Group 1 MenABCWY + Saline v ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM
Number of subjects included in analysis	705
Analysis specification	Pre-specified
Analysis type	non-inferiority[4]
Parameter estimate	Difference in percentage
Point estimate	24.3
Confidence interval	
level	95 %
sides	2-sided
lower limit	18.8
upper limit	30.4

Notes:

[4] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Statistical analysis title	MenY (Group 1 Vs Group 2)
Comparison groups	ACWY-Naive: Group 1 MenABCWY + Saline v ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM
Number of subjects included in analysis	705
Analysis specification	Pre-specified
Analysis type	non-inferiority[5]
Parameter estimate	Difference in percentage
Point estimate	23.8
Confidence interval	
level	95 %
sides	2-sided
lower limit	18
upper limit	30.1

Notes:

[5] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Primary: Percentage of Subjects Achieving At least 4-Fold Rise in hSBA Titer From Baseline for Each of the MenACWY Strains: 1 Month After Vaccination 2 in Group 3 Compared to 1 Month After Vaccination 1 in Group 4

End point title	Percentage of Subjects Achieving At least 4-Fold Rise in hSBA Titer From Baseline for Each of the MenACWY Strains: 1 Month After Vaccination 2 in Group 3 Compared to 1 Month After Vaccination 1 in Group 4[6]

End point description:

4-fold increase was defined as: for subjects with baseline hSBA titer below LOD (or hSBA titer <1:4),response=hSBA titer >=1:16;baseline hSBA titer >=LOD (ie, hSBA titer of >=1:4) and < LLOQ (i.e. hSBA titer of 1:8), response=hSBA titer >=4times LLOQ; baseline hSBA titer >=LLOQ, response=hSBA titer >=4 times baseline titer. Exact 2-sided confidence interval (CI) using Clopper and Pearson method was presented. Post-vaccination(PV) 1 and PV2 evaluable immunogenicity population for Group 4 and Group 3 included subjects randomised to study group of interest; eligible at visit(V) 2 and 4, respectively; received vaccine at V1 or V1 and V3, respectively; blood drawn for assay testing at protocol-specified time points; at least 1 valid, determinate MenACWY or MenACWY/MenB assay result, received no prohibited vaccines/treatment and had no protocol deviations through V2 and V4

respectively. N= subjects evaluable for end point; n=subjects evaluable for specified rows.

End point type	Primary

End point timeframe:

1 month after Vaccination 2 in Group 3 and 1 month after Vaccination 1 in Group 4

Notes:

[6] - 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: This endpoint was analyzed only for specified reporting arms.

End point values	ACWY-Experienced: Group 3 MenABCWY + Saline	ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	387	227		
Units: Percentage of subjects				
number (confidence interval 95%)				
MenA (n=385, 227)	93.8 (90.9 to 96.0)	96.9 (93.7 to 98.8)		
MenC (n=386, 226)	93.8 (90.9 to 96.0)	94.7 (90.9 to 97.2)		
MenW (n=376, 222)	97.1 (94.8 to 98.5)	96.4 (93.0 to 98.4)		
MenY (n=387, 223)	93.0 (90.0 to 95.4)	93.7 (89.7 to 96.5)		

Statistical analyses

Statistical analysis title	MenA (Group 3 Vs Group 4)
Comparison groups	ACWY-Experienced: Group 3 MenABCWY + Saline v ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM
Number of subjects included in analysis	614
Analysis specification	Pre-specified
Analysis type	non-inferiority[7]
Parameter estimate	Difference in percentage
Point estimate	-3.2
Confidence interval	
level	95 %
sides	2-sided
lower limit	-6.5
upper limit	0.5

Notes:

[7] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Statistical analysis title	MenW (Group 3 Vs Group 4)
Comparison groups	ACWY-Experienced: Group 3 MenABCWY + Saline v ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM

Number of subjects included in analysis	614
Analysis specification	Pre-specified
Analysis type	non-inferiority[8]
Parameter estimate	Difference in percentage
Point estimate	0.7
Confidence interval	
level	95 %
sides	2-sided
lower limit	-2.2
upper limit	4.3

Notes:

[8] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Statistical analysis title	MenY (Group 3 Vs Group 4)
Comparison groups	ACWY-Experienced: Group 3 MenABCWY + Saline v ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM
Number of subjects included in analysis	614
Analysis specification	Pre-specified
Analysis type	non-inferiority[9]
Parameter estimate	Difference in percentage
Point estimate	-0.7
Confidence interval	
level	95 %
sides	2-sided
lower limit	-4.6
upper limit	3.8

Notes:

[9] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Statistical analysis title	MenC (Group 3 Vs Group 4)
Comparison groups	ACWY-Experienced: Group 3 MenABCWY + Saline v ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM
Number of subjects included in analysis	614
Analysis specification	Pre-specified
Analysis type	non-inferiority[10]
Parameter estimate	Difference in percentage
Point estimate	-0.9
Confidence interval	
level	95 %
sides	2-sided
lower limit	-4.6
upper limit	3.3

Notes:

[10] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Primary: Percentage of Subjects Achieving hSBA Titer Greater Than or Equal to (>=) LLOQ for all Primary Neisseria Meningitidis Group B (MenB) Test Strains Combined (Composite Response): Groups 1 and 3 Combined Versus Groups 2 and 4 Combined

End point title	Percentage of Subjects Achieving hSBA Titer Greater Than or

	Equal to (>=) LLOQ for all Primary Neisseria Meningitidis Group B (MenB) Test Strains Combined (Composite Response): Groups 1 and 3 Combined Versus Groups 2 and 4 Combined

End point description:

Percentage of subjects achieving hSBA titer >= LLOQ (1:16 for strain A22 and 1:8 for strains A56, B24, and B44) for all MenB test strains (A22, A56, B24 and B44) combined were reported in this endpoint. Exact 2-sided CI based using the Clopper and Pearson method was presented. PV2 evaluable immunogenicity population: subjects randomized to study group of interest; eligible at V4;received vaccine at V1 and V3;blood drawn for assay testing at protocol-specified time points; had at least 1 valid, determinate MenACWY or MenB assay result at V4; received no prohibited vaccines/treatment and had no protocol deviations through V4. Here, 'Number of Subjects Analyzed' (N)=subjects evaluable for this endpoint.

End point type	Primary

End point timeframe:

1 month after Vaccination 2

End point values	Groups 1+3 Combined MenABCWY + Saline	Groups 2+4 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	755	383		
Units: Percentage of subjects				
number (confidence interval 95%)	78.3 (75.2 to 81.2)	68.7 (63.8 to 73.3)		

Statistical analyses

Statistical analysis title	Groups 1+3 Vs Groups 2+4
Comparison groups	Groups 1+3 Combined MenABCWY + Saline v Groups 2+4 Combined Trumenba + MenACWY-CRM
Number of subjects included in analysis	1138
Analysis specification	Pre-specified
Analysis type	non-inferiority[11]
Parameter estimate	Difference in percentage
Point estimate	9.6
Confidence interval	
level	95 %
sides	2-sided
lower limit	4.2
upper limit	15.2

Notes:

[11] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Primary: Percentage of Subjects Achieving At least a 4-Fold Rise in hSBA Titer From Baseline For Each Primary MenB Test Strains at 1 Month After Vaccination 2: Groups 1 and 3 Combined Versus Groups 2 and 4 Combined

End point title	Percentage of Subjects Achieving At least a 4-Fold Rise in hSBA Titer From Baseline For Each Primary MenB Test Strains at 1 Month After Vaccination 2: Groups 1 and 3 Combined Versus Groups 2 and 4 Combined

End point description:

Percentage of subjects achieving at least a 4-fold rise in hSBA titer for each primary MenB test strains (A22, A56, B24 and B44) were reported in this endpoint. Exact 2-sided CI based using the Clopper and Pearson method was presented. PV2 evaluable immunogenicity population: subjects randomized to study group of interest; eligible at V4;received vaccine at V1 and V3;blood drawn for assay testing at protocol-specified time points; had at least 1 valid, determinate MenACWY or MenB assay result at V4; received no prohibited vaccines/treatment and had no protocol deviations through V4. Here, N=subjects evaluable for this endpoint. n=subjects evaluable for specified rows.

End point type	Primary

End point timeframe:

1 month after Vaccination 2

End point values	Groups 1+3 Combined MenABCWY + Saline	Groups 2+4 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	845	419		
Units: Percentage of subjects				
number (confidence interval 95%)				
A22 (n=778, 396)	83.0 (80.2 to 85.6)	79.0 (74.7 to 82.9)		
A56 (n=807, 400)	95.9 (94.3 to 97.2)	94.5 (91.8 to 96.5)		
B24 (n=833, 418)	68.1 (64.8 to 71.2)	57.2 (52.3 to 62.0)		
B44 (n=845, 419)	86.5 (84.0 to 88.7)	79.2 (75.0 to 83.0)		

Statistical analyses

Statistical analysis title	A22 (Groups 1+3 Vs Groups 2+4)
Comparison groups	Groups 1+3 Combined MenABCWY + Saline v Groups 2+4 Combined Trumenba + MenACWY-CRM
Number of subjects included in analysis	1264
Analysis specification	Pre-specified
Analysis type	non-inferiority[12]
Parameter estimate	Difference in percentage
Point estimate	4
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.7
upper limit	8.9

Notes:

[12] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Statistical analysis title	A56 (Groups 1+3 Vs Groups 2+4)
Comparison groups	Groups 1+3 Combined MenABCWY + Saline v Groups 2+4 Combined Trumenba + MenACWY-CRM

Number of subjects included in analysis	1264
Analysis specification	Pre-specified
Analysis type	non-inferiority[13]
Parameter estimate	Difference in percentage
Point estimate	1.4
Confidence interval	
level	95 %
sides	2-sided
lower limit	-1
upper limit	4.3

Notes:

[13] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Statistical analysis title	B24 (Groups 1+3 Vs Groups 2+4)
Comparison groups	Groups 1+3 Combined MenABCWY + Saline v Groups 2+4 Combined Trumenba + MenACWY-CRM
Number of subjects included in analysis	1264
Analysis specification	Pre-specified
Analysis type	non-inferiority[14]
Parameter estimate	Difference in percentage
Point estimate	10.9
Confidence interval	
level	95 %
sides	2-sided
lower limit	5.2
upper limit	16.6

Notes:

[14] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Statistical analysis title	B44 (Groups 1+3 Vs Groups 2+4)
Comparison groups	Groups 1+3 Combined MenABCWY + Saline v Groups 2+4 Combined Trumenba + MenACWY-CRM
Number of subjects included in analysis	1264
Analysis specification	Pre-specified
Analysis type	non-inferiority[15]
Parameter estimate	Difference in percentage
Point estimate	7.3
Confidence interval	
level	95 %
sides	2-sided
lower limit	2.9
upper limit	11.9

Notes:

[15] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Primary: Percentage of Subjects With Local Reactions Within 7 Days After Vaccination 1: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With Local Reactions Within 7 Days

	After Vaccination 1: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[16]

End point description:

Local reactions included pain at injection site, redness and swelling and were recorded by subjects in an electronic diary (e-diary). Redness and swelling were measured and recorded in caliper units. 1 caliper unit =0.5 centimeter (cm) and graded as mild: >2.0 to 5.0 cm, moderate: >5.0 to 10.0 cm and severe: >10.0 cm. Pain at injection site was graded as mild: did not interfere with daily activity, moderate: interfered with daily activity and severe: prevented daily activity. Percentage of subjects with local reactions at injection site on left arm were reported in this endpoint. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination. Here, 'Number of Subjects Analysed' (N)=subjects evaluable for this endpoint.

End point type	Primary

End point timeframe:

Within 7 days after Vaccination 1

Notes:

[16] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1722	630		
Units: Percentage of subjects				
number (confidence interval 95%)				
Redness: Mild	8.8 (7.5 to 10.3)	7.3 (5.4 to 9.6)		
Redness: Moderate	14.5 (12.8 to 16.2)	10.0 (7.8 to 12.6)		
Redness: Severe	2.5 (1.8 to 3.3)	2.2 (1.2 to 3.7)		
Swelling: Mild	10.5 (9.0 to 12.0)	8.3 (6.2 to 10.7)		
Swelling: Moderate	13.3 (11.7 to 15.0)	12.4 (9.9 to 15.2)		
Swelling: Severe	1.2 (0.7 to 1.8)	0.8 (0.3 to 1.8)		
Pain at injection site: Mild	32.3 (30.1 to 34.6)	31.1 (27.5 to 34.9)		
Pain at injection site: Moderate	49.5 (47.1 to 51.9)	47.6 (43.7 to 51.6)		
Pain at injection site: Severe	7.5 (6.3 to 8.8)	6.3 (4.6 to 8.5)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With Local Reactions Within 7 Days After Vaccination 2: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With Local Reactions Within 7 Days After Vaccination 2: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[17]

End point description:

Local reactions included pain at injection site, redness and swelling and were recorded by subjects in an e-diary. Redness and swelling were measured and recorded in caliper units. 1 caliper unit =0.5 cm and graded as mild: >2.0 to 5.0 cm, moderate: >5.0 to 10.0 cm and severe: >10.0 cm. Pain at injection site was graded as mild: did not interfere with daily activity, moderate: interfered with daily activity and severe: prevented daily activity. Percentage of subjects with local reactions at injection site on left arm were reported in this endpoint. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination. Here, 'Number of Subjects Analysed' (N)=subjects evaluable for this endpoint.

End point type	Primary

End point timeframe:

Within 7 days after Vaccination 2

Notes:

[17] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1456	529		
Units: Percentage of subjects				
number (confidence interval 95%)				
Redness: Mild	7.7 (6.4 to 9.2)	6.6 (4.7 to 9.1)		
Redness: Moderate	12.6 (10.9 to 14.4)	7.2 (5.1 to 9.7)		
Redness: Severe	3.0 (2.1 to 4.0)	0.9 (0.3 to 2.2)		
Swelling: Mild	10.4 (8.9 to 12.1)	6.4 (4.5 to 8.9)		
Swelling: Moderate	12.8 (11.1 to 14.6)	8.1 (5.9 to 10.8)		
Swelling: Severe	1.0 (0.5 to 1.6)	0.2 (0.0 to 1.0)		
Pain at injection site: Mild	29.1 (26.7 to 31.5)	33.1 (29.1 to 37.3)		
Pain at injection site: Moderate	48.8 (46.2 to 51.4)	40.3 (36.1 to 44.6)		
Pain at injection site: Severe	6.5 (5.3 to 7.9)	5.3 (3.5 to 7.6)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With Systemic Events Within 7 Days After Vaccination 1: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With Systemic Events Within 7 Days After Vaccination 1: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[18]

End point description:

Systemic events were recorded by subjects in e-diary. Fever was defined as temperature >=38.0 degrees(deg) Celsius(C) and was categorised as 38.0 to 38.4 deg C, >38.4 to 38.9 deg C, >38.9 to 40.0

deg C and >40.0 deg C. Fatigue, headache, chills, muscle pain and joint pain were graded as mild: did not interfere with activity, moderate: some interference with activity and severe: prevented daily routine activity. Vomiting was graded as mild: 1 to 2 times in 24 hours(h), moderate: >2 times in 24h and severe: required intravenous hydration. Diarrhea was graded as mild: 2 to 3 loose stools in 24h, moderate: 4 to 5 loose stools in 24h and severe: 6 or more loose stools in 24h. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination. Here, 'Number of Subjects Analysed' (N)=subjects evaluable for this endpoint.

End point type	Primary

End point timeframe:

Within 7 days after Vaccination 1

Notes:

[18] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1739	638		
Units: Percentage of subjects				
number (confidence interval 95%)				
Fever: 38.0 deg C to 38.4 deg C	3.7 (2.8 to 4.7)	2.0 (1.1 to 3.5)		
Fever: >38.4 deg C to 38.9 deg C	1.6 (1.0 to 2.3)	2.8 (1.7 to 4.4)		
Fever: >38.9 deg C to 40.0 deg C	0.6 (0.3 to 1.1)	0.9 (0.3 to 2.0)		
Fever: >40.0 deg C	0.0 (0.0 to 0.2)	0.0 (0.0 to 0.6)		
Fatigue: Mild	23.5 (21.5 to 25.5)	25.7 (22.4 to 29.3)		
Fatigue: Moderate	25.5 (23.4 to 27.6)	25.7 (22.4 to 29.3)		
Fatigue: Severe	3.2 (2.4 to 4.1)	3.3 (2.0 to 5.0)		
Headache: Mild	25.6 (23.6 to 27.8)	24.5 (21.2 to 28.0)		
Headache: Moderate	19.2 (17.4 to 21.1)	20.4 (17.3 to 23.7)		
Headache: Severe	1.9 (1.3 to 2.7)	2.0 (1.1 to 3.5)		
Chills: Mild	12.6 (11.1 to 14.2)	10.2 (8.0 to 12.8)		
Chills: Moderate	6.7 (5.5 to 7.9)	7.8 (5.9 to 10.2)		
Chills: Severe	0.8 (0.4 to 1.3)	1.6 (0.8 to 2.9)		
Vomiting: Mild	2.5 (1.8 to 3.4)	2.0 (1.1 to 3.5)		
Vomiting: Moderate	0.6 (0.3 to 1.1)	0.9 (0.3 to 2.0)		
Vomiting: Severe	0.0 (0.0 to 0.2)	0.0 (0.0 to 0.6)		
Diarrhea: Mild	8.7 (7.5 to 10.2)	11.9 (9.5 to 14.7)		
Diarrhea: Moderate	2.0 (1.4 to 2.7)	1.6 (0.8 to 2.9)		
Diarrhea: Severe	0.3 (0.1 to 0.7)	0.0 (0.0 to 0.6)		
Muscle Pain: Mild	13.6 (12.0 to 15.3)	13.5 (10.9 to 16.4)		
Muscle Pain: Moderate	10.5 (9.1 to 12.1)	11.9 (9.5 to 14.7)		
Muscle Pain: Severe	1.6 (1.1 to 2.3)	2.0 (1.1 to 3.5)		
Joint Pain: Mild	10.7 (9.3 to 12.2)	12.9 (10.4 to 15.7)		

Joint Pain: Moderate	8.6 (7.3 to 10.0)	8.6 (6.6 to 11.1)		
Joint Pain: Severe	1.0 (0.6 to 1.6)	1.1 (0.4 to 2.2)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With Systemic Events Within 7 Days After Vaccination 2: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With Systemic Events Within 7 Days After Vaccination 2: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[19]

End point description:

Systemic events were recorded by subjects in e-diary. Fever was defined as temperature >=38.0 deg C and was categorised as 38.0 to 38.4 deg C, >38.4 to 38.9 deg C, >38.9 to 40.0 deg C and >40.0 deg C. Fatigue, headache, chills, muscle pain and joint pain were graded as mild: did not interfere with activity, moderate: some interference with activity and severe: prevented daily routine activity. Vomiting was graded as mild: 1 to 2 times in 24h, moderate: >2 times in 24h and severe: required intravenous hydration. Diarrhea was graded as mild: 2 to 3 loose stools in 24h, moderate: 4 to 5 loose stools in 24h and severe: 6 or more loose stools in 24h. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination. Here, 'Number of Subjects Analysed' (N)=subjects evaluable for this endpoint.

End point type	Primary

End point timeframe:

Within 7 days after Vaccination 2

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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1459	532		
Units: Percentage of subjects				
number (confidence interval 95%)				
Fever: 38.0 deg C to 38.4 deg C	1.8 (1.2 to 2.6)	0.4 (0.0 to 1.4)		
Fever: >38.4 deg C to 38.9 deg C	0.3 (0.1 to 0.7)	0.9 (0.3 to 2.2)		
Fever: >38.9 deg C to 40.0 deg C	0.2 (0.0 to 0.6)	0.2 (0.0 to 1.0)		
Fever: >40.0 deg C	0.0 (0.0 to 0.3)	0.0 (0.0 to 0.7)		
Fatigue: Mild	22.8 (20.7 to 25.1)	22.0 (18.5 to 25.8)		
Fatigue: Moderate	21.8 (19.7 to 24.0)	19.9 (16.6 to 23.6)		
Fatigue: Severe	2.9 (2.1 to 3.9)	1.7 (0.8 to 3.2)		
Headache: Mild	21.3 (19.2 to 23.5)	21.1 (17.7 to 24.8)		
Headache: Moderate	16.8 (14.9 to 18.8)	16.2 (13.1 to 19.6)		

Headache: Severe	1.7 (1.1 to 2.5)	0.6 (0.1 to 1.6)		
Chills: Mild	9.9 (8.5 to 11.6)	8.8 (6.6 to 11.6)		
Chills: Moderate	6.0 (4.9 to 7.4)	5.8 (4.0 to 8.2)		
Chills: Severe	0.4 (0.2 to 0.9)	1.5 (0.7 to 2.9)		
Vomiting: Mild	1.4 (0.8 to 2.1)	0.8 (0.2 to 1.9)		
Vomiting: Moderate	0.1 (0.0 to 0.5)	0.2 (0.0 to 1.0)		
Vomiting: Severe	0.0 (0.0 to 0.3)	0.0 (0.0 to 0.7)		
Diarrhea: Mild	6.9 (5.6 to 8.3)	6.0 (4.2 to 8.4)		
Diarrhea: Moderate	1.4 (0.8 to 2.1)	2.4 (1.3 to 4.1)		
Diarrhea: Severe	0.0 (0.0 to 0.3)	0.0 (0.0 to 0.7)		
Muscle Pain: Mild	10.0 (8.5 to 11.7)	10.0 (7.6 to 12.8)		
Muscle Pain: Moderate	11.9 (10.3 to 13.7)	11.5 (8.9 to 14.5)		
Muscle Pain: Severe	0.8 (0.4 to 1.4)	0.8 (0.2 to 1.9)		
Joint Pain: Mild	9.6 (8.1 to 11.2)	7.9 (5.7 to 10.5)		
Joint Pain: Moderate	8.3 (6.9 to 9.8)	6.8 (4.8 to 9.2)		
Joint Pain: Severe	0.4 (0.2 to 0.9)	0.9 (0.3 to 2.2)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With Use of Antipyretic Medication Within 7 Days After Vaccination 1: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With Use of Antipyretic Medication Within 7 Days After Vaccination 1: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[20]

End point description:

The use of antipyretic medication was recorded by subjects in an e-diary for 7 days after vaccination. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination. Here, 'Number of Subjects Analysed' (N)=subjects evaluable for this endpoint.

End point type	Primary

End point timeframe:

Within 7 days after Vaccination 1

Notes:

[20] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1739	638		
Units: Percentage of subjects				

number (confidence interval 95%)	29.5 (27.4 to 31.7)	28.1 (24.6 to 31.7)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With Use of Antipyretic Medication Within 7 Days After Vaccination 2: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With Use of Antipyretic Medication Within 7 Days After Vaccination 2: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[21]

End point description:

The use of antipyretic medication recorded by subjects in an e-diary for 7 days after vaccination. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination. Here, 'Number of Subjects Analysed' (N)=subjects evaluable for this endpoint.

End point type	Primary

End point timeframe:

Within 7 days after Vaccination 2

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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1459	532		
Units: Percentage of subjects				
number (confidence interval 95%)	25.1 (22.9 to 27.4)	20.5 (17.1 to 24.2)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With Adverse Events (AEs) Within 30 Days After Vaccination 1: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With Adverse Events (AEs) Within 30 Days After Vaccination 1: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[22]

End point description:

An AE was any untoward medical occurrence in a subject, temporally associated with the use of

investigational product, whether or not considered related to the investigational product. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination.

End point type	Primary

End point timeframe:

Within 30 days after Vaccination 1

Notes:

[22] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1763	649		
Units: Percentage of subjects				
number (confidence interval 95%)	5.8 (4.7 to 7.0)	6.5 (4.7 to 8.6)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With AEs Within 30 Days After Vaccination 2: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With AEs Within 30 Days After Vaccination 2: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[23]

End point description:

An AE was any untoward medical occurrence in a subject, temporally associated with the use of investigational product, whether or not considered related to the investigational product. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination. Here, 'Number of Subjects Analysed' (N)=subjects evaluable for this endpoint.

End point type	Primary

End point timeframe:

Within 30 days after Vaccination 2

Notes:

[23] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1558	562		
Units: Percentage of subjects				
number (confidence interval 95%)	5.3 (4.3 to 6.6)	3.7 (2.3 to 5.7)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With AEs Within 30 Days After Any Vaccination: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With AEs Within 30 Days After Any Vaccination: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[24]

End point description:

An AE was any untoward medical occurrence in a subject, temporally associated with the use of investigational product, whether or not considered related to the investigational product. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination.

End point type	Primary

End point timeframe:

Within 30 days after any Vaccination

Notes:

[24] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1763	649		
Units: Percentage of subjects				
number (confidence interval 95%)	9.7 (8.4 to 11.2)	9.1 (7.0 to 11.6)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With AEs During Vaccination Phase: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With AEs During Vaccination Phase: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[25]

End point description:

An AE was any untoward medical occurrence in a subject, temporally associated with the use of investigational product, whether or not considered related to the investigational product. Exact 2-sided

CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination.

End point type	Primary

End point timeframe:

From day of Vaccination 1 (Day 1) up to 1 month after Vaccination 2

Notes:

[25] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1763	649		
Units: Percentage of subjects				
number (confidence interval 95%)	20.9 (19.0 to 22.8)	20.3 (17.3 to 23.6)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With Serious Adverse Events (SAEs) Within 30 Days After Vaccination 1: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With Serious Adverse Events (SAEs) Within 30 Days After Vaccination 1: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[26]

End point description:

An SAE was any untoward medical occurrence that, at any dose: resulted in death; required inpatient hospitalisation or prolongation of existing hospitalisation; was life-threatening; resulted in persistent disability/incapacity; congenital anomaly/birth defect and other important medical events. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination.

End point type	Primary

End point timeframe:

Within 30 days after Vaccination 1

Notes:

[26] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1763	649		
Units: Percentage of subjects				
number (confidence interval 95%)	0.06 (0.0 to	0.0 (0.0 to 0.6)		

0.3)

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With SAEs Within 30 Days After Vaccination 2: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With SAEs Within 30 Days After Vaccination 2: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[27]

End point description:

An SAE was any untoward medical occurrence that, at any dose: resulted in death; required inpatient hospitalisation or prolongation of existing hospitalisation; was life-threatening; resulted in persistent disability/incapacity; congenital anomaly/birth defect and other important medical events. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination. Here, 'Number of Subjects Analysed' (N)=subjects evaluable for this endpoint.

End point type	Primary

End point timeframe:

Within 30 days after Vaccination 2

Notes:

[27] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1558	562		
Units: Percentage of subjects				
number (confidence interval 95%)	0.1 (0.0 to 0.5)	0.0 (0.0 to 0.7)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With SAEs During Vaccination Phase: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With SAEs During Vaccination Phase: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[28]

End point description:

An SAE was any untoward medical occurrence that, at any dose: resulted in death; required inpatient

hospitalisation or prolongation of existing hospitalisation; was life-threatening; resulted in persistent disability/ incapacity; congenital anomaly/birth defect and other important medical events. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination.

End point type	Primary

End point timeframe:

From day of Vaccination 1 (Day 1) up to 1 month after Vaccination 2

Notes:

[28] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1763	649		
Units: Percentage of subjects				
number (confidence interval 95%)	0.4 (0.2 to 0.8)	0.0 (0.0 to 0.6)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With SAEs Within 30 Days After Any Vaccination: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With SAEs Within 30 Days After Any Vaccination: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[29]

End point description:

An SAE was any untoward medical occurrence that, at any dose: resulted in death; required inpatient hospitalisation or prolongation of existing hospitalisation; was life-threatening; resulted in persistent disability/ incapacity; congenital anomaly/birth defect and other important medical events. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination.

End point type	Primary

End point timeframe:

Within 30 days after any Vaccination

Notes:

[29] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1763	649		
Units: Percentage of subjects				
number (confidence interval 95%)	0.2 (0.0 to 0.5)	0.0 (0.0 to 0.6)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With SAEs During Follow-up Phase: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With SAEs During Follow-up Phase: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[30]

End point description:

An SAE was any untoward medical occurrence that, at any dose: resulted in death; required inpatient hospitalisation or prolongation of existing hospitalisation; was life-threatening; resulted in persistent disability/ incapacity; congenital anomaly/birth defect and other important medical events. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination. Here, 'Number of Subjects Analysed' (N)=subjects evaluable for this endpoint.

End point type	Primary

End point timeframe:

From 1 month after Vaccination 2 up to 6 months after Vaccination 2

Notes:

[30] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1390	509		
Units: Percentage of subjects				
number (confidence interval 95%)	0.3 (0.1 to 0.7)	0.8 (0.2 to 2.0)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With SAEs Throughout the Study: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With SAEs Throughout the Study: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[31]

End point description:

An SAE was any untoward medical occurrence that, at any dose: resulted in death; required inpatient hospitalisation or prolongation of existing hospitalisation; was life-threatening; resulted in persistent disability/ incapacity; congenital anomaly/birth defect and other important medical events. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination.

End point type	Primary

End point timeframe:

From day of Vaccination 1 (Day 1) up to 6 months after Vaccination 2

Notes:

[31] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1763	649		
Units: Percentage of subjects				
number (confidence interval 95%)	0.6 (0.3 to 1.1)	0.6 (0.2 to 1.6)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With Medically Attended Adverse Events (MAEs) Within 30 Days After Vaccination 1: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With Medically Attended Adverse Events (MAEs) Within 30 Days After Vaccination 1: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[32]

End point description:

MAE was defined as a nonserious AE that resulted in an evaluation at a medical facility. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination.

End point type	Primary

End point timeframe:

Within 30 days after Vaccination 1

Notes:

[32] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1763	649		
Units: Percentage of subjects				
number (confidence interval 95%)	3.6 (2.8 to 4.5)	4.3 (2.9 to 6.2)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With MAEs Within 30 Days After Vaccination 2: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With MAEs Within 30 Days After Vaccination 2: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[33]

End point description:

MAE was defined as a nonserious AE that resulted in an evaluation at a medical facility. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination. Here, 'Number of Subjects Analysed' (N)=subjects evaluable for this endpoint.

End point type	Primary

End point timeframe:

Within 30 days after Vaccination 2

Notes:

[33] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1558	562		
Units: Percentage of subjects				
number (confidence interval 95%)	3.6 (2.7 to 4.6)	2.8 (1.6 to 4.6)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With MAEs Within 30 Days After Any Vaccination: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With MAEs Within 30 Days After Any

	Vaccination: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[34]

End point description:

MAE was defined as a nonserious AE that resulted in an evaluation at a medical facility. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination.

End point type	Primary

End point timeframe:

Within 30 days after any Vaccination

Notes:

[34] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1763	649		
Units: Percentage of subjects				
number (confidence interval 95%)	6.3 (5.2 to 7.5)	6.3 (4.6 to 8.5)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With MAEs During Follow-up Phase: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With MAEs During Follow-up Phase: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[35]

End point description:

MAE was defined as a nonserious AE that resulted in an evaluation at a medical facility. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination. Here, 'Number of Subjects Analysed' (N)=subjects evaluable for this endpoint.

End point type	Primary

End point timeframe:

From 1 month after Vaccination 2 up to 6 months after Vaccination 2

Notes:

[35] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1390	509		
Units: Percentage of subjects				
number (confidence interval 95%)	9.3 (7.8 to 10.9)	7.5 (5.3 to 10.1)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With MAEs During Vaccination Phase: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With MAEs During Vaccination Phase: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[36]

End point description:

MAE was defined as a nonserious AE that resulted in an evaluation at a medical facility. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination.

End point type	Primary

End point timeframe:

From day of Vaccination 1 (Day 1) up to 1 month after Vaccination 2

Notes:

[36] - 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: This endpoint was analyzed only for specified reporting arms.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1763	649		
Units: Percentage of subjects				
number (confidence interval 95%)	14.9 (13.3 to 16.7)	14.3 (11.7 to 17.3)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With MAEs Throughout the Study: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With MAEs Throughout the Study: By

	MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[37]

End point description:

MAE was defined as a nonserious AE that resulted in an evaluation at a medical facility. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination.

End point type	Primary

End point timeframe:

From day of Vaccination 1 (Day 1) up to 6 months after Vaccination 2

Notes:

[37] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1763	649		
Units: Percentage of subjects				
number (confidence interval 95%)	19.3 (17.5 to 21.2)	18.3 (15.4 to 21.5)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With Newly Diagnosed Chronic Medical Condition (NDCMC) Within 30 Days After Vaccination 1: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With Newly Diagnosed Chronic Medical Condition (NDCMC) Within 30 Days After Vaccination 1: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[38]

End point description:

An NDCMC was defined as a disease or medical condition, not previously identified, that is expected to be persistent or otherwise long-lasting in its effects. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination.

End point type	Primary

End point timeframe:

Within 30 days after Vaccination 1

Notes:

[38] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1763	649		
Units: Percentage of subjects				
number (confidence interval 95%)	0.2 (0.1 to 0.6)	0.0 (0.0 to 0.6)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With NDCMC Within 30 Days After Vaccination 2: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With NDCMC Within 30 Days After Vaccination 2: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[39]

End point description:

An NDCMC was defined as a disease or medical condition, not previously identified, that is expected to be persistent or otherwise long-lasting in its effects. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination. Here, 'Number of Subjects Analysed' (N)=subjects evaluable for this endpoint.

End point type	Primary

End point timeframe:

Within 30 days after Vaccination 2

Notes:

[39] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1558	562		
Units: Percentage of subjects				
number (confidence interval 95%)	0.06 (0.0 to 0.4)	0.0 (0.0 to 0.7)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With NDCMC Within 30 Days After Any Vaccination: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group

(Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With NDCMC Within 30 Days After Any Vaccination: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[40]

End point description:

An NDCMC was defined as a disease or medical condition, not previously identified, that is expected to be persistent or otherwise long-lasting in its effects. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination.

End point type	Primary

End point timeframe:

Within 30 Days after any Vaccination

Notes:

[40] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1763	649		
Units: Percentage of subjects				
number (confidence interval 95%)	0.3 (0.1 to 0.7)	0.0 (0.0 to 0.6)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With NDCMC During Vaccination Phase: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With NDCMC During Vaccination Phase: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[41]

End point description:

An NDCMC was defined as a disease or medical condition, not previously identified, that is expected to be persistent or otherwise long-lasting in its effects. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination.

End point type	Primary

End point timeframe:

From day of Vaccination 1 (Day 1) up to 1 month after Vaccination 2

Notes:

[41] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1763	649		
Units: Percentage of subjects				
number (confidence interval 95%)	1.1 (0.7 to 1.7)	0.3 (0.0 to 1.1)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With NDCMC Throughout the Study: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With NDCMC Throughout the Study: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[42]

End point description:

An NDCMC was defined as a disease or medical condition, not previously identified, that is expected to be persistent or otherwise long-lasting in its effects. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination.

End point type	Primary

End point timeframe:

From day of Vaccination 1 (Day 1) up to 6 months after Vaccination 2

Notes:

[42] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1763	649		
Units: Percentage of subjects				
number (confidence interval 95%)	1.4 (0.9 to 2.1)	0.3 (0.0 to 1.1)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With NDCMC During Follow-up Phase: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With NDCMC During Follow-up Phase: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and

	Trumenba Group (Groups 2, 4, 6, and 8 Combined)[43]

End point description:

An NDCMC was defined as a disease or medical condition, not previously identified, that is expected to be persistent or otherwise long-lasting in its effects. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination. Here, 'Number of Subjects Analysed' (N)=subjects evaluable for this endpoint.

End point type	Primary

End point timeframe:

From 1 month after Vaccination 2 up to 6 months after Vaccination 2

Notes:

[43] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1390	509		
Units: Percentage of subjects				
number (confidence interval 95%)	0.4 (0.1 to 0.8)	0.0 (0.0 to 0.7)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With Immediate AE Within 30 Minutes After Vaccination 1: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With Immediate AE Within 30 Minutes After Vaccination 1: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[44]

End point description:

Immediate AEs were defined as AEs occurring within the first 30 minutes after investigational product administration. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination. -99999, 99999 indicated lower and upper limit of 95% CI could not be estimated, due to insufficient subjects with event.

End point type	Primary

End point timeframe:

Within 30 minutes after Vaccination 1

Notes:

[44] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1763	649		
Units: Percentage of subjects				
number (confidence interval 95%)	0 (-99999 to 99999)	0 (-99999 to 99999)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects who Missed Days of School or Work due to AEs During Vaccination Phase: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects who Missed Days of School or Work due to AEs During Vaccination Phase: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[45]

End point description:

An AE was any untoward medical occurrence in a subject, temporally associated with the use of investigational product, whether or not considered related to the investigational product. Percentage of subjects who missed days of school or work due to AEs during vaccination phase were reported in this endpoint. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination.

End point type	Primary

End point timeframe:

From day of Vaccination 1 (Day 1) up to 1 month after Vaccination 2

Notes:

[45] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1763	649		
Units: Percentage of subjects				
number (not applicable)	5.0	4.5		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of Subjects With Immediate AE Within 30 Minutes After Vaccination 2: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and

Trumenba Group (Groups 2, 4, 6, and 8 Combined)

End point title	Percentage of Subjects With Immediate AE Within 30 Minutes After Vaccination 2: By MenABCWY Group (Groups 1, 3, 5, and 7 Combined) and Trumenba Group (Groups 2, 4, 6, and 8 Combined)[46]

End point description:

Immediate AEs were defined as AEs occurring within the first 30 minutes after investigational product administration. Exact 2-sided CI was based on the Clopper and Pearson method. Safety population included all randomised subjects who received at least 1 dose of investigational product and had safety data reported after vaccination. -99999, 99999 indicated lower and upper limit of 95% CI could not be estimated, due to insufficient subjects with event. Here, 'Number of Subjects Analysed' (N)=subjects evaluable for this endpoint.

End point type	Primary

End point timeframe:

Within 30 minutes after Vaccination 2

Notes:

[46] - 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: Only descriptive data was planned to be analysed for this endpoint.

End point values	Groups 1+3+5+7 Combined MenABCWY + Saline	Groups 2+4+6+8 Combined Trumenba + MenACWY-CRM		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	1558	562		
Units: Percentage of subjects				
number (confidence interval 95%)	0 (-99999 to 99999)	0 (-99999 to 99999)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percentage of Subjects Achieving At least 4-Fold Rise in hSBA Titer From Baseline for Each MenACWY Test Strains: 1 Month After Vaccination 1 in Group 1 Compared to Group 2

End point title	Percentage of Subjects Achieving At least 4-Fold Rise in hSBA Titer From Baseline for Each MenACWY Test Strains: 1 Month After Vaccination 1 in Group 1 Compared to Group 2[47]

End point description:

4-fold increase was defined as: for subjects with baseline hSBA titer below LOD (or hSBA titer <1:4),response=hSBA titer >=1:16;baseline hSBA titer >=LOD (ie, hSBA titer of >=1:4) and < LLOQ (i.e. hSBA titer of 1:8), response=hSBA titer >=4times LLOQ; baseline hSBA titer >=LLOQ, response=hSBA titer >=4 times baseline titer. Exact 2-sided confidence interval (CI) using Clopper and Pearson method was presented. PV1 evaluable immunogenicity population: subjects randomised to study group of interest; eligible at V 2; received vaccine at V1;blood drawn for assay testing at protocol-specified time points; at least 1 valid, determinate MenACWY assay result at V2; received no prohibited vaccines/treatment and had; no protocol deviations through V2. N=subjects evaluable for this endpoint. n=subjects evaluable for specified rows.

End point type	Secondary

End point timeframe:

1 month after Vaccination 1

Notes:

[47] - 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: This endpoint was analyzed only for specified reporting arms.

End point values	ACWY-Naive: Group 1 MenABCWY + Saline	ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	501	254		
Units: Percentage of subjects				
number (confidence interval 95%)				
MenA (n=499, 254)	97.0 (95.1 to 98.3)	95.3 (91.9 to 97.5)		
MenC (n=501, 252)	62.9 (58.5 to 67.1)	52.4 (46.0 to 58.7)		
MenW (n=492, 244)	79.3 (75.4 to 82.8)	73.0 (66.9 to 78.4)		
MenY (n=494, 248)	82.0 (78.3 to 85.3)	70.6 (64.5 to 76.2)		

Statistical analyses

Statistical analysis title	MenA (Group 1 Vs Group 2)
Comparison groups	ACWY-Naive: Group 1 MenABCWY + Saline v ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM
Number of subjects included in analysis	755
Analysis specification	Pre-specified
Analysis type	non-inferiority[48]
Parameter estimate	Difference in percentage
Point estimate	1.7
Confidence interval	
level	95 %
sides	2-sided
lower limit	-1
upper limit	5.3

Notes:

[48] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Statistical analysis title	MenC (Group 1 Vs Group 2)
Comparison groups	ACWY-Naive: Group 1 MenABCWY + Saline v ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM
Number of subjects included in analysis	755
Analysis specification	Pre-specified
Analysis type	non-inferiority[49]
Parameter estimate	Difference in percentage
Point estimate	10.5

Confidence interval	
level	95 %
sides	2-sided
lower limit	3
upper limit	17.9

Notes:

[49] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Statistical analysis title	MenW (Group 1 Vs Group 2)
Comparison groups	ACWY-Naive: Group 1 MenABCWY + Saline v ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM
Number of subjects included in analysis	755
Analysis specification	Pre-specified
Analysis type	non-inferiority[50]
Parameter estimate	Difference in percentage
Point estimate	6.3
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.1
upper limit	13.1

Notes:

[50] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Statistical analysis title	MenY (Group 1 Vs Group 2)
Comparison groups	ACWY-Naive: Group 1 MenABCWY + Saline v ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM
Number of subjects included in analysis	755
Analysis specification	Pre-specified
Analysis type	non-inferiority[51]
Parameter estimate	Difference in percentage
Point estimate	11.4
Confidence interval	
level	95 %
sides	2-sided
lower limit	5
upper limit	18.2

Notes:

[51] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Secondary: Percentage of Subjects Achieving At least 4-Fold Rise in hSBA Titer From Baseline for Each MenACWY Test Strains: 1 Month after Vaccination 1 in Group 3 Compared to Group 4

End point title	Percentage of Subjects Achieving At least 4-Fold Rise in hSBA Titer From Baseline for Each MenACWY Test Strains: 1 Month after Vaccination 1 in Group 3 Compared to Group 4[52]

End point description:

4-fold increase was defined as: for subjects with baseline hSBA titer below LOD (or hSBA titer <1:4),response=hSBA titer >=1:16;baseline hSBA titer >=LOD (ie, hSBA titer of >=1:4) and < LLOQ (i.e. hSBA titer of 1:8), response=hSBA titer >=4times LLOQ; baseline hSBA titer >=LLOQ, response=hSBA titer >=4 times baseline titer. Exact 2-sided confidence interval (CI) using Clopper and

was presented. PV1 evaluable immunogenicity population: subjects randomised to study group of interest; eligible at V 2; received vaccine at V1;blood drawn for assay testing at protocol-specified time points; at least 1 valid, determinate MenACWY assay result at V2; received no prohibited vaccines/treatment and had; no protocol deviations through V2. N=subjects evaluable for this endpoint. n=subjects evaluable for specified rows.

End point type	Secondary

End point timeframe:

1 month after Vaccination 1

Notes:

[52] - 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: This endpoint was analyzed only for specified reporting arms.

End point values	ACWY-Experienced: Group 3 MenABCWY + Saline	ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	442	227		
Units: Percentage of subjects				
number (confidence interval 95%)				
MenA (n=439, 227)	94.8 (92.2 to 96.7)	96.9 (93.7 to 98.8)		
MenC (n=439, 226)	93.4 (90.7 to 95.5)	94.7 (90.9 to 97.2)		
MenW (n=428, 222)	97.4 (95.4 to 98.7)	96.4 (93.0 to 98.4)		
MenY (n=442, 223)	94.3 (91.8 to 96.3)	93.7 (89.7 to 96.5)		

Statistical analyses

Statistical analysis title	MenA (Group 3 Vs Group 4)
Comparison groups	ACWY-Experienced: Group 3 MenABCWY + Saline v ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM
Number of subjects included in analysis	669
Analysis specification	Pre-specified
Analysis type	non-inferiority[53]
Parameter estimate	Difference in percentage
Point estimate	-2.2
Confidence interval	
level	95 %
sides	2-sided
lower limit	-5.2
upper limit	1.4

Notes:

[53] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Statistical analysis title	MenC (Group 3 Vs Group 4)
Comparison groups	ACWY-Experienced: Group 3 MenABCWY + Saline v ACWY-

	Experienced: Group 4 Trumenba+ MenACWY - CRM
Number of subjects included in analysis	669
Analysis specification	Pre-specified
Analysis type	non-inferiority[54]
Parameter estimate	Difference in percentage
Point estimate	-1.3
Confidence interval	
level	95 %
sides	2-sided
lower limit	-4.9
upper limit	2.9

Notes:

[54] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Statistical analysis title	MenW (Group 3 Vs Group 4)
Comparison groups	ACWY-Experienced: Group 3 MenABCWY + Saline v ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM
Number of subjects included in analysis	669
Analysis specification	Pre-specified
Analysis type	non-inferiority[55]
Parameter estimate	Difference in percentage
Point estimate	1
Confidence interval	
level	95 %
sides	2-sided
lower limit	-1.6
upper limit	4.6

Notes:

[55] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Statistical analysis title	MenY (Group 3 Vs Group 4)
Comparison groups	ACWY-Experienced: Group 3 MenABCWY + Saline v ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM
Number of subjects included in analysis	669
Analysis specification	Pre-specified
Analysis type	non-inferiority[56]
Parameter estimate	Difference in percentage
Point estimate	0.6
Confidence interval	
level	95 %
sides	2-sided
lower limit	-3
upper limit	5

Notes:

[56] - 95% CI for the difference in percentage of subjects was calculated based on Miettinen and Nurminen. If the lower limit of the 2-sided 95% CI for the difference in percentage of subjects was > -10%, the non-inferiority was concluded.

Adverse events information

Timeframe for reporting adverse events:

Systematic assessment(SA): local reactions/systemic events recorded within 7 days after vaccination 1, 2; Non-SA: SAEs recorded from Day 1 up to 6 months after vaccination 2 and other AEs recorded from Day 1 up to 1 month after vaccination 2

Adverse event reporting additional description:

Same event may appear as both an AE and SAE. However, what is presented are distinct events. An event may be categorised as serious in one subject and as non-serious in another, or a subject may have experienced both a serious and non-serious event. Safety population was evaluated.

Assessment type	Non-systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	25.0

Reporting groups

Reporting group title	ACWY-Naive: Group 1 MenABCWY + Saline

Reporting group description:

On Day 1, Neisseria meningitidis group A, C, W, and Y (ACWY) naive subjects received a single dose of 0.5 milliliter (mL) Neisseria meningitidis serogroup A,B,C,W,Y (MenABCWY) intramuscularly into the left deltoid along with 0.5 mL of saline intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Reporting group title	ACWY-Experienced: Group 3 MenABCWY + Saline

Reporting group description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid along with 0.5 mL of saline intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Reporting group title	ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM

Reporting group description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid along with 0.5 mL of meningococcal (groups A, C, Y, and W-135) oligosaccharide diphtheria conjugate vaccine (MenACWY-CRM) intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Reporting group title	ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM

Reporting group description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to both safety and immunogenicity analyses.

Reporting group title	ACWY-Naive: Group 5 MenABCWY + Saline

Reporting group description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid along with 0.5 mL of saline intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Reporting group title	ACWY-Naive: Group 6 Trumenba+ MenACWY - CRM

Reporting group description:

On Day 1, ACWY naive subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Reporting group title	ACWY-Experienced: Group 7 MenABCWY + Saline

Reporting group description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL MenABCWY intramuscularly into the left deltoid along with 0.5 mL of saline intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of MenABCWY intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Reporting group title	ACWY-Experienced: Group 8 Trumenba+ MenACWY - CRM

Reporting group description:

On Day 1, ACWY experienced subjects received a single dose of 0.5 mL Trumenba intramuscularly into the left deltoid along with 0.5 mL of MenACWY-CRM intramuscularly into the right deltoid (Vaccination 1). After 6 months, subjects received 0.5 mL of Trumenba intramuscularly into the left deltoid (Vaccination 2). Subjects were followed up for 6 months after last vaccination and contributed to safety analyses only.

Serious adverse events	ACWY-Naive: Group 1 MenABCWY + Saline	ACWY-Experienced: Group 3 MenABCWY + Saline	ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM
Total subjects affected by serious adverse events			
subjects affected / exposed	6 / 547 (1.10%)	3 / 526 (0.57%)	1 / 274 (0.36%)
number of deaths (all causes)	0	0	0
number of deaths resulting from adverse events	0	0	0
Injury, poisoning and procedural complications			
Head injury			
subjects affected / exposed	1 / 547 (0.18%)	0 / 526 (0.00%)	0 / 274 (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
Overdose			
subjects affected / exposed	0 / 547 (0.00%)	0 / 526 (0.00%)	0 / 274 (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 haemorrhage			
subjects affected / exposed	0 / 547 (0.00%)	1 / 526 (0.19%)	0 / 274 (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
Spinal cord injury			
subjects affected / exposed	0 / 547 (0.00%)	0 / 526 (0.00%)	0 / 274 (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
Tibia fracture			

subjects affected / exposed	0 / 547 (0.00%)	0 / 526 (0.00%)	0 / 274 (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			
Postural orthostatic tachycardia syndrome			
subjects affected / exposed	1 / 547 (0.18%)	0 / 526 (0.00%)	0 / 274 (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
Nervous system disorders			
Status migrainosus			
subjects affected / exposed	0 / 547 (0.00%)	0 / 526 (0.00%)	0 / 274 (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
Respiratory, thoracic and mediastinal disorders			
Dyspnoea			
subjects affected / exposed	1 / 547 (0.18%)	0 / 526 (0.00%)	0 / 274 (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			
Anxiety			
subjects affected / exposed	1 / 547 (0.18%)	0 / 526 (0.00%)	0 / 274 (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			
subjects affected / exposed	2 / 547 (0.37%)	0 / 526 (0.00%)	0 / 274 (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
Depression suicidal			
subjects affected / exposed	0 / 547 (0.00%)	1 / 526 (0.19%)	0 / 274 (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
Disruptive mood dysregulation disorder			

subjects affected / exposed	1 / 547 (0.18%)	0 / 526 (0.00%)	0 / 274 (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
Suicide attempt			
subjects affected / exposed	1 / 547 (0.18%)	0 / 526 (0.00%)	0 / 274 (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			
Appendicitis			
subjects affected / exposed	0 / 547 (0.00%)	0 / 526 (0.00%)	1 / 274 (0.36%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Escherichia urinary tract infection			
subjects affected / exposed	0 / 547 (0.00%)	0 / 526 (0.00%)	0 / 274 (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
Gastroenteritis salmonella			
subjects affected / exposed	0 / 547 (0.00%)	1 / 526 (0.19%)	0 / 274 (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			
Food intolerance			
subjects affected / exposed	0 / 547 (0.00%)	1 / 526 (0.19%)	0 / 274 (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	ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM	ACWY-Naive: Group 5 MenABCWY + Saline	ACWY-Naive: Group 6 Trumenba+ MenACWY - CRM
Total subjects affected by serious adverse events			
subjects affected / exposed	2 / 260 (0.77%)	2 / 537 (0.37%)	1 / 56 (1.79%)
number of deaths (all causes)	0	0	0
number of deaths resulting from adverse events	0	0	0
Injury, poisoning and procedural complications			
Head injury			

subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (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
Overdose			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	1 / 56 (1.79%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Post procedural haemorrhage			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (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
Spinal cord injury			
subjects affected / exposed	0 / 260 (0.00%)	1 / 537 (0.19%)	0 / 56 (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
Tibia fracture			
subjects affected / exposed	0 / 260 (0.00%)	1 / 537 (0.19%)	0 / 56 (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			
Postural orthostatic tachycardia syndrome			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (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			
Status migrainosus			
subjects affected / exposed	1 / 260 (0.38%)	0 / 537 (0.00%)	0 / 56 (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
Respiratory, thoracic and mediastinal disorders			
Dyspnoea			

subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (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			
Anxiety			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (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	0 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (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 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (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
Disruptive mood dysregulation disorder			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (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 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (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			
Appendicitis			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (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
Escherichia urinary tract infection			
subjects affected / exposed	1 / 260 (0.38%)	0 / 537 (0.00%)	0 / 56 (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

Gastroenteritis salmonella			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (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			
Food intolerance			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (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	ACWY-Experienced: Group 7 MenABCWY + Saline	ACWY-Experienced: Group 8 Trumenba+ MenACWY - CRM	
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	
Injury, poisoning and procedural complications			
Head injury			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Overdose			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Post procedural haemorrhage			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Spinal cord injury			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Tibia fracture			

subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cardiac disorders			
Postural orthostatic tachycardia syndrome			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Nervous system disorders			
Status migrainosus			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Respiratory, thoracic and mediastinal disorders			
Dyspnoea			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Psychiatric disorders			
Anxiety			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Depression			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Depression suicidal			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Disruptive mood dysregulation disorder			

subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Suicide attempt			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Infections and infestations			
Appendicitis			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Escherichia urinary tract infection			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gastroenteritis salmonella			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Metabolism and nutrition disorders			
Food intolerance			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	

Frequency threshold for reporting non-serious adverse events: 1 %

Non-serious adverse events	ACWY-Naive: Group 1 MenABCWY + Saline	ACWY-Experienced: Group 3 MenABCWY + Saline	ACWY-Naive: Group 2 Trumenba+ MenACWY - CRM
Total subjects affected by non-serious adverse events			
subjects affected / exposed	533 / 547 (97.44%)	504 / 526 (95.82%)	262 / 274 (95.62%)
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			

Skin papilloma			
subjects affected / exposed	1 / 547 (0.18%)	1 / 526 (0.19%)	1 / 274 (0.36%)
occurrences (all)	1	1	1
General disorders and administration site conditions			
Chills (CHILLS)			
alternative assessment type: Systematic			
subjects affected / exposed	155 / 547 (28.34%)	151 / 526 (28.71%)	78 / 274 (28.47%)
occurrences (all)	196	214	113
Fatigue			
subjects affected / exposed	0 / 547 (0.00%)	1 / 526 (0.19%)	0 / 274 (0.00%)
occurrences (all)	0	1	0
Fatigue (FATIGUE)			
alternative assessment type: Systematic			
subjects affected / exposed	364 / 547 (66.54%)	337 / 526 (64.07%)	183 / 274 (66.79%)
occurrences (all)	621	628	314
Injection site pain (PAIN AT INJECTION SITE)			
alternative assessment type: Systematic			
subjects affected / exposed	522 / 547 (95.43%)	486 / 526 (92.40%)	247 / 274 (90.15%)
occurrences (all)	946	860	455
Pyrexia			
subjects affected / exposed	2 / 547 (0.37%)	2 / 526 (0.38%)	0 / 274 (0.00%)
occurrences (all)	2	2	0
Pyrexia (FEVER)			
alternative assessment type: Systematic			
subjects affected / exposed	44 / 547 (8.04%)	29 / 526 (5.51%)	24 / 274 (8.76%)
occurrences (all)	50	32	24
Swelling (SWELLING)			
alternative assessment type: Systematic			
subjects affected / exposed	186 / 547 (34.00%)	158 / 526 (30.04%)	71 / 274 (25.91%)
occurrences (all)	271	211	100
Reproductive system and breast disorders			
Amenorrhoea			
subjects affected / exposed	0 / 547 (0.00%)	1 / 526 (0.19%)	0 / 274 (0.00%)
occurrences (all)	0	1	0

Dysmenorrhoea			
subjects affected / exposed	0 / 547 (0.00%)	1 / 526 (0.19%)	1 / 274 (0.36%)
occurrences (all)	0	1	1
Heavy menstrual bleeding			
subjects affected / exposed	0 / 547 (0.00%)	0 / 526 (0.00%)	0 / 274 (0.00%)
occurrences (all)	0	0	0
Respiratory, thoracic and mediastinal disorders			
Asthma			
subjects affected / exposed	1 / 547 (0.18%)	6 / 526 (1.14%)	0 / 274 (0.00%)
occurrences (all)	1	7	0
Painful respiration			
subjects affected / exposed	0 / 547 (0.00%)	2 / 526 (0.38%)	0 / 274 (0.00%)
occurrences (all)	0	2	0
Rhinitis allergic			
subjects affected / exposed	3 / 547 (0.55%)	3 / 526 (0.57%)	2 / 274 (0.73%)
occurrences (all)	3	3	2
Psychiatric disorders			
Anxiety			
subjects affected / exposed	3 / 547 (0.55%)	1 / 526 (0.19%)	1 / 274 (0.36%)
occurrences (all)	3	1	1
Major depression			
subjects affected / exposed	0 / 547 (0.00%)	1 / 526 (0.19%)	0 / 274 (0.00%)
occurrences (all)	0	1	0
Investigations			
SARS-CoV-2 test positive			
subjects affected / exposed	4 / 547 (0.73%)	8 / 526 (1.52%)	2 / 274 (0.73%)
occurrences (all)	4	8	2
Injury, poisoning and procedural complications			
Contusion			
subjects affected / exposed	2 / 547 (0.37%)	6 / 526 (1.14%)	1 / 274 (0.36%)
occurrences (all)	2	6	1
Fall			
subjects affected / exposed	6 / 547 (1.10%)	5 / 526 (0.95%)	2 / 274 (0.73%)
occurrences (all)	6	5	2
Head injury			

subjects affected / exposed	0 / 547 (0.00%)	0 / 526 (0.00%)	0 / 274 (0.00%)
occurrences (all)	0	0	0
Joint injury			
subjects affected / exposed	1 / 547 (0.18%)	1 / 526 (0.19%)	0 / 274 (0.00%)
occurrences (all)	1	1	0
Ligament sprain			
subjects affected / exposed	2 / 547 (0.37%)	0 / 526 (0.00%)	2 / 274 (0.73%)
occurrences (all)	3	0	2
Radius fracture			
subjects affected / exposed	1 / 547 (0.18%)	0 / 526 (0.00%)	1 / 274 (0.36%)
occurrences (all)	1	0	1
Skin laceration			
subjects affected / exposed	6 / 547 (1.10%)	1 / 526 (0.19%)	0 / 274 (0.00%)
occurrences (all)	6	1	0
Nervous system disorders			
Headache			
subjects affected / exposed	1 / 547 (0.18%)	1 / 526 (0.19%)	0 / 274 (0.00%)
occurrences (all)	1	1	0
Headache (HEADACHE)			
alternative assessment type: Systematic			
subjects affected / exposed	330 / 547 (60.33%)	312 / 526 (59.32%)	152 / 274 (55.47%)
occurrences (all)	553	571	255
Migraine			
subjects affected / exposed	1 / 547 (0.18%)	1 / 526 (0.19%)	0 / 274 (0.00%)
occurrences (all)	1	1	0
Ear and labyrinth disorders			
Cerumen impaction			
subjects affected / exposed	2 / 547 (0.37%)	4 / 526 (0.76%)	1 / 274 (0.36%)
occurrences (all)	2	4	1
Ear pain			
subjects affected / exposed	0 / 547 (0.00%)	3 / 526 (0.57%)	0 / 274 (0.00%)
occurrences (all)	0	3	0
Eye disorders			
Conjunctivitis allergic			
subjects affected / exposed	0 / 547 (0.00%)	2 / 526 (0.38%)	0 / 274 (0.00%)
occurrences (all)	0	2	0

Gastrointestinal disorders			
Abdominal pain			
subjects affected / exposed	2 / 547 (0.37%)	5 / 526 (0.95%)	0 / 274 (0.00%)
occurrences (all)	2	6	0
Abdominal pain lower			
subjects affected / exposed	0 / 547 (0.00%)	2 / 526 (0.38%)	0 / 274 (0.00%)
occurrences (all)	0	2	0
Constipation			
subjects affected / exposed	2 / 547 (0.37%)	1 / 526 (0.19%)	0 / 274 (0.00%)
occurrences (all)	2	1	0
Diarrhoea (DIARRHEA)			
alternative assessment type: Systematic			
subjects affected / exposed	69 / 547 (12.61%)	116 / 526 (22.05%)	50 / 274 (18.25%)
occurrences (all)	82	146	60
Gastrooesophageal reflux disease			
subjects affected / exposed	0 / 547 (0.00%)	1 / 526 (0.19%)	0 / 274 (0.00%)
occurrences (all)	0	1	0
Nausea			
subjects affected / exposed	3 / 547 (0.55%)	2 / 526 (0.38%)	0 / 274 (0.00%)
occurrences (all)	3	2	0
Vomiting (VOMITING)			
alternative assessment type: Systematic			
subjects affected / exposed	23 / 547 (4.20%)	22 / 526 (4.18%)	13 / 274 (4.74%)
occurrences (all)	25	26	15
Skin and subcutaneous tissue disorders			
Acne			
subjects affected / exposed	0 / 547 (0.00%)	5 / 526 (0.95%)	1 / 274 (0.36%)
occurrences (all)	0	5	1
Alopecia areata			
subjects affected / exposed	0 / 547 (0.00%)	0 / 526 (0.00%)	1 / 274 (0.36%)
occurrences (all)	0	0	1
Dermatitis atopic			
subjects affected / exposed	1 / 547 (0.18%)	0 / 526 (0.00%)	1 / 274 (0.36%)
occurrences (all)	1	0	1
Erythema (REDNESS)			
alternative assessment type: Systematic			

subjects affected / exposed	183 / 547 (33.46%)	162 / 526 (30.80%)	75 / 274 (27.37%)
occurrences (all)	276	211	105
Keratosis pilaris			
subjects affected / exposed	0 / 547 (0.00%)	0 / 526 (0.00%)	0 / 274 (0.00%)
occurrences (all)	0	0	0
Musculoskeletal and connective tissue disorders			
Arthralgia			
subjects affected / exposed	1 / 547 (0.18%)	4 / 526 (0.76%)	2 / 274 (0.73%)
occurrences (all)	1	4	2
Arthralgia (JOINT PAIN)			
alternative assessment type: Systematic			
subjects affected / exposed	156 / 547 (28.52%)	156 / 526 (29.66%)	75 / 274 (27.37%)
occurrences (all)	205	224	104
Costochondritis			
subjects affected / exposed	1 / 547 (0.18%)	0 / 526 (0.00%)	0 / 274 (0.00%)
occurrences (all)	1	0	0
Myalgia			
subjects affected / exposed	0 / 547 (0.00%)	0 / 526 (0.00%)	0 / 274 (0.00%)
occurrences (all)	0	0	0
Myalgia (MUSCLE PAIN)			
alternative assessment type: Systematic			
subjects affected / exposed	198 / 547 (36.20%)	207 / 526 (39.35%)	97 / 274 (35.40%)
occurrences (all)	272	282	138
Infections and infestations			
Acute sinusitis			
subjects affected / exposed	0 / 547 (0.00%)	1 / 526 (0.19%)	0 / 274 (0.00%)
occurrences (all)	0	1	0
COVID-19			
subjects affected / exposed	22 / 547 (4.02%)	24 / 526 (4.56%)	12 / 274 (4.38%)
occurrences (all)	22	24	12
Conjunctivitis			
subjects affected / exposed	0 / 547 (0.00%)	0 / 526 (0.00%)	0 / 274 (0.00%)
occurrences (all)	0	0	0
Cytomegalovirus infection			

subjects affected / exposed	0 / 547 (0.00%)	0 / 526 (0.00%)	0 / 274 (0.00%)
occurrences (all)	0	0	0
Gastroenteritis			
subjects affected / exposed	2 / 547 (0.37%)	1 / 526 (0.19%)	1 / 274 (0.36%)
occurrences (all)	2	1	1
Impetigo			
subjects affected / exposed	0 / 547 (0.00%)	1 / 526 (0.19%)	0 / 274 (0.00%)
occurrences (all)	0	1	0
Influenza			
subjects affected / exposed	1 / 547 (0.18%)	0 / 526 (0.00%)	0 / 274 (0.00%)
occurrences (all)	1	0	0
Nasopharyngitis			
subjects affected / exposed	3 / 547 (0.55%)	1 / 526 (0.19%)	6 / 274 (2.19%)
occurrences (all)	3	1	7
Lice infestation			
subjects affected / exposed	0 / 547 (0.00%)	0 / 526 (0.00%)	1 / 274 (0.36%)
occurrences (all)	0	0	1
Otitis externa			
subjects affected / exposed	1 / 547 (0.18%)	0 / 526 (0.00%)	2 / 274 (0.73%)
occurrences (all)	1	0	2
Otitis media			
subjects affected / exposed	0 / 547 (0.00%)	4 / 526 (0.76%)	2 / 274 (0.73%)
occurrences (all)	0	5	2
Pharyngitis			
subjects affected / exposed	5 / 547 (0.91%)	10 / 526 (1.90%)	4 / 274 (1.46%)
occurrences (all)	5	11	5
Pharyngitis streptococcal			
subjects affected / exposed	0 / 547 (0.00%)	0 / 526 (0.00%)	0 / 274 (0.00%)
occurrences (all)	0	0	0
Respiratory tract infection viral			
subjects affected / exposed	3 / 547 (0.55%)	1 / 526 (0.19%)	0 / 274 (0.00%)
occurrences (all)	3	1	0
Sinusitis			
subjects affected / exposed	0 / 547 (0.00%)	3 / 526 (0.57%)	2 / 274 (0.73%)
occurrences (all)	0	3	2
Tonsillitis			

subjects affected / exposed	5 / 547 (0.91%)	4 / 526 (0.76%)	4 / 274 (1.46%)
occurrences (all)	5	5	5
Upper respiratory tract infection			
subjects affected / exposed	10 / 547 (1.83%)	17 / 526 (3.23%)	7 / 274 (2.55%)
occurrences (all)	10	17	7
Viral infection			
subjects affected / exposed	1 / 547 (0.18%)	0 / 526 (0.00%)	2 / 274 (0.73%)
occurrences (all)	1	0	3
Viral upper respiratory tract infection			
subjects affected / exposed	3 / 547 (0.55%)	1 / 526 (0.19%)	2 / 274 (0.73%)
occurrences (all)	3	1	2

Non-serious adverse events	ACWY-Experienced: Group 4 Trumenba+ MenACWY - CRM	ACWY-Naive: Group 5 MenABCWY + Saline	ACWY-Naive: Group 6 Trumenba+ MenACWY - CRM
Total subjects affected by non-serious adverse events			
subjects affected / exposed	244 / 260 (93.85%)	512 / 537 (95.34%)	53 / 56 (94.64%)
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Skin papilloma			
subjects affected / exposed	1 / 260 (0.38%)	2 / 537 (0.37%)	0 / 56 (0.00%)
occurrences (all)	1	2	0
General disorders and administration site conditions			
Chills (CHILLS)			
alternative assessment type: Systematic			
subjects affected / exposed	59 / 260 (22.69%)	130 / 537 (24.21%)	14 / 56 (25.00%)
occurrences (all)	83	176	17
Fatigue			
subjects affected / exposed	0 / 260 (0.00%)	2 / 537 (0.37%)	0 / 56 (0.00%)
occurrences (all)	0	2	0
Fatigue (FATIGUE)			
alternative assessment type: Systematic			
subjects affected / exposed	160 / 260 (61.54%)	317 / 537 (59.03%)	30 / 56 (53.57%)
occurrences (all)	278	521	48
Injection site pain (PAIN AT INJECTION SITE)			
alternative assessment type: Systematic			

subjects affected / exposed	228 / 260 (87.69%)	493 / 537 (91.81%)	51 / 56 (91.07%)
occurrences (all)	387	889	82
Pyrexia			
subjects affected / exposed	0 / 260 (0.00%)	4 / 537 (0.74%)	0 / 56 (0.00%)
occurrences (all)	0	5	0
Pyrexia (FEVER)			
alternative assessment type: Systematic			
subjects affected / exposed	13 / 260 (5.00%)	42 / 537 (7.82%)	3 / 56 (5.36%)
occurrences (all)	14	47	3
Swelling (SWELLING)			
alternative assessment type: Systematic			
subjects affected / exposed	57 / 260 (21.92%)	200 / 537 (37.24%)	16 / 56 (28.57%)
occurrences (all)	76	289	22
Reproductive system and breast disorders			
Amenorrhoea			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (0.00%)
occurrences (all)	0	0	0
Dysmenorrhoea			
subjects affected / exposed	1 / 260 (0.38%)	1 / 537 (0.19%)	0 / 56 (0.00%)
occurrences (all)	1	1	0
Heavy menstrual bleeding			
subjects affected / exposed	1 / 260 (0.38%)	0 / 537 (0.00%)	1 / 56 (1.79%)
occurrences (all)	1	0	1
Respiratory, thoracic and mediastinal disorders			
Asthma			
subjects affected / exposed	0 / 260 (0.00%)	2 / 537 (0.37%)	0 / 56 (0.00%)
occurrences (all)	0	2	0
Painful respiration			
subjects affected / exposed	1 / 260 (0.38%)	1 / 537 (0.19%)	0 / 56 (0.00%)
occurrences (all)	1	1	0
Rhinitis allergic			
subjects affected / exposed	2 / 260 (0.77%)	3 / 537 (0.56%)	0 / 56 (0.00%)
occurrences (all)	2	3	0
Psychiatric disorders			

Anxiety			
subjects affected / exposed	2 / 260 (0.77%)	1 / 537 (0.19%)	1 / 56 (1.79%)
occurrences (all)	2	1	1
Major depression			
subjects affected / exposed	1 / 260 (0.38%)	0 / 537 (0.00%)	0 / 56 (0.00%)
occurrences (all)	1	0	0
Investigations			
SARS-CoV-2 test positive			
subjects affected / exposed	3 / 260 (1.15%)	4 / 537 (0.74%)	0 / 56 (0.00%)
occurrences (all)	3	4	0
Injury, poisoning and procedural complications			
Contusion			
subjects affected / exposed	0 / 260 (0.00%)	3 / 537 (0.56%)	1 / 56 (1.79%)
occurrences (all)	0	5	1
Fall			
subjects affected / exposed	4 / 260 (1.54%)	6 / 537 (1.12%)	1 / 56 (1.79%)
occurrences (all)	4	6	1
Head injury			
subjects affected / exposed	0 / 260 (0.00%)	1 / 537 (0.19%)	0 / 56 (0.00%)
occurrences (all)	0	1	0
Joint injury			
subjects affected / exposed	1 / 260 (0.38%)	1 / 537 (0.19%)	0 / 56 (0.00%)
occurrences (all)	1	1	0
Ligament sprain			
subjects affected / exposed	0 / 260 (0.00%)	1 / 537 (0.19%)	1 / 56 (1.79%)
occurrences (all)	0	1	1
Radius fracture			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	1 / 56 (1.79%)
occurrences (all)	0	0	1
Skin laceration			
subjects affected / exposed	1 / 260 (0.38%)	1 / 537 (0.19%)	0 / 56 (0.00%)
occurrences (all)	1	1	0
Nervous system disorders			
Headache			
subjects affected / exposed	3 / 260 (1.15%)	3 / 537 (0.56%)	0 / 56 (0.00%)
occurrences (all)	3	3	0

Headache (HEADACHE)			
alternative assessment type: Systematic			
subjects affected / exposed	161 / 260 (61.92%)	282 / 537 (52.51%)	24 / 56 (42.86%)
occurrences (all)	264	467	34
Migraine			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (0.00%)
occurrences (all)	0	0	0
Ear and labyrinth disorders			
Cerumen impaction			
subjects affected / exposed	2 / 260 (0.77%)	2 / 537 (0.37%)	0 / 56 (0.00%)
occurrences (all)	2	2	0
Ear pain			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	1 / 56 (1.79%)
occurrences (all)	0	0	1
Eye disorders			
Conjunctivitis allergic			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (0.00%)
occurrences (all)	0	0	0
Gastrointestinal disorders			
Abdominal pain			
subjects affected / exposed	1 / 260 (0.38%)	2 / 537 (0.37%)	1 / 56 (1.79%)
occurrences (all)	1	3	1
Abdominal pain lower			
subjects affected / exposed	0 / 260 (0.00%)	1 / 537 (0.19%)	0 / 56 (0.00%)
occurrences (all)	0	1	0
Constipation			
subjects affected / exposed	0 / 260 (0.00%)	6 / 537 (1.12%)	0 / 56 (0.00%)
occurrences (all)	0	7	0
Diarrhoea (DIARRHEA)			
alternative assessment type: Systematic			
subjects affected / exposed	54 / 260 (20.77%)	72 / 537 (13.41%)	8 / 56 (14.29%)
occurrences (all)	67	104	10
Gastrooesophageal reflux disease			
subjects affected / exposed	0 / 260 (0.00%)	1 / 537 (0.19%)	0 / 56 (0.00%)
occurrences (all)	0	1	0
Nausea			

subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (0.00%)
occurrences (all)	0	0	0
Vomiting (VOMITING)			
alternative assessment type: Systematic			
subjects affected / exposed	4 / 260 (1.54%)	21 / 537 (3.91%)	3 / 56 (5.36%)
occurrences (all)	4	24	3
Skin and subcutaneous tissue disorders			
Acne			
subjects affected / exposed	3 / 260 (1.15%)	8 / 537 (1.49%)	0 / 56 (0.00%)
occurrences (all)	3	8	0
Alopecia areata			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	1 / 56 (1.79%)
occurrences (all)	0	0	1
Dermatitis atopic			
subjects affected / exposed	0 / 260 (0.00%)	2 / 537 (0.37%)	1 / 56 (1.79%)
occurrences (all)	0	2	1
Erythema (REDNESS)			
alternative assessment type: Systematic			
subjects affected / exposed	58 / 260 (22.31%)	190 / 537 (35.38%)	15 / 56 (26.79%)
occurrences (all)	66	289	21
Keratosis pilaris			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	1 / 56 (1.79%)
occurrences (all)	0	0	1
Musculoskeletal and connective tissue disorders			
Arthralgia			
subjects affected / exposed	1 / 260 (0.38%)	1 / 537 (0.19%)	0 / 56 (0.00%)
occurrences (all)	1	1	0
Arthralgia (JOINT PAIN)			
alternative assessment type: Systematic			
subjects affected / exposed	83 / 260 (31.92%)	144 / 537 (26.82%)	12 / 56 (21.43%)
occurrences (all)	112	180	17
Costochondritis			
subjects affected / exposed	0 / 260 (0.00%)	1 / 537 (0.19%)	0 / 56 (0.00%)
occurrences (all)	0	1	0
Myalgia			

subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (0.00%)
occurrences (all)	0	0	0
Myalgia (MUSCLE PAIN)			
alternative assessment type: Systematic			
subjects affected / exposed	97 / 260 (37.31%)	167 / 537 (31.10%)	18 / 56 (32.14%)
occurrences (all)	139	215	25
Infections and infestations			
Acute sinusitis			
subjects affected / exposed	2 / 260 (0.77%)	1 / 537 (0.19%)	1 / 56 (1.79%)
occurrences (all)	2	1	1
COVID-19			
subjects affected / exposed	12 / 260 (4.62%)	36 / 537 (6.70%)	3 / 56 (5.36%)
occurrences (all)	12	36	3
Conjunctivitis			
subjects affected / exposed	0 / 260 (0.00%)	1 / 537 (0.19%)	1 / 56 (1.79%)
occurrences (all)	0	1	1
Cytomegalovirus infection			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	1 / 56 (1.79%)
occurrences (all)	0	0	1
Gastroenteritis			
subjects affected / exposed	0 / 260 (0.00%)	2 / 537 (0.37%)	0 / 56 (0.00%)
occurrences (all)	0	2	0
Impetigo			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	1 / 56 (1.79%)
occurrences (all)	0	0	1
Influenza			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (0.00%)
occurrences (all)	0	0	0
Nasopharyngitis			
subjects affected / exposed	1 / 260 (0.38%)	0 / 537 (0.00%)	0 / 56 (0.00%)
occurrences (all)	1	0	0
Lice infestation			
subjects affected / exposed	0 / 260 (0.00%)	1 / 537 (0.19%)	1 / 56 (1.79%)
occurrences (all)	0	1	1
Otitis externa			

subjects affected / exposed	1 / 260 (0.38%)	1 / 537 (0.19%)	0 / 56 (0.00%)
occurrences (all)	1	1	0
Otitis media			
subjects affected / exposed	1 / 260 (0.38%)	3 / 537 (0.56%)	0 / 56 (0.00%)
occurrences (all)	1	3	0
Pharyngitis			
subjects affected / exposed	2 / 260 (0.77%)	10 / 537 (1.86%)	2 / 56 (3.57%)
occurrences (all)	2	13	2
Pharyngitis streptococcal			
subjects affected / exposed	2 / 260 (0.77%)	3 / 537 (0.56%)	1 / 56 (1.79%)
occurrences (all)	2	3	1
Respiratory tract infection viral			
subjects affected / exposed	1 / 260 (0.38%)	1 / 537 (0.19%)	1 / 56 (1.79%)
occurrences (all)	1	1	1
Sinusitis			
subjects affected / exposed	0 / 260 (0.00%)	0 / 537 (0.00%)	0 / 56 (0.00%)
occurrences (all)	0	0	0
Tonsillitis			
subjects affected / exposed	0 / 260 (0.00%)	6 / 537 (1.12%)	0 / 56 (0.00%)
occurrences (all)	0	6	0
Upper respiratory tract infection			
subjects affected / exposed	7 / 260 (2.69%)	11 / 537 (2.05%)	4 / 56 (7.14%)
occurrences (all)	7	12	6
Viral infection			
subjects affected / exposed	3 / 260 (1.15%)	3 / 537 (0.56%)	0 / 56 (0.00%)
occurrences (all)	3	5	0
Viral upper respiratory tract infection			
subjects affected / exposed	0 / 260 (0.00%)	3 / 537 (0.56%)	0 / 56 (0.00%)
occurrences (all)	0	3	0

Non-serious adverse events	ACWY-Experienced: Group 7 MenABCWY + Saline	ACWY-Experienced: Group 8 Trumenba+ MenACWY - CRM	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	148 / 153 (96.73%)	58 / 59 (98.31%)	
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			

Skin papilloma			
subjects affected / exposed	2 / 153 (1.31%)	1 / 59 (1.69%)	
occurrences (all)	2	1	
General disorders and administration site conditions			
Chills (CHILLS)			
alternative assessment type: Systematic			
subjects affected / exposed	43 / 153 (28.10%)	19 / 59 (32.20%)	
occurrences (all)	61	24	
Fatigue			
subjects affected / exposed	0 / 153 (0.00%)	1 / 59 (1.69%)	
occurrences (all)	0	1	
Fatigue (FATIGUE)			
alternative assessment type: Systematic			
subjects affected / exposed	99 / 153 (64.71%)	43 / 59 (72.88%)	
occurrences (all)	165	69	
Injection site pain (PAIN AT INJECTION SITE)			
alternative assessment type: Systematic			
subjects affected / exposed	144 / 153 (94.12%)	57 / 59 (96.61%)	
occurrences (all)	245	99	
Pyrexia			
subjects affected / exposed	1 / 153 (0.65%)	1 / 59 (1.69%)	
occurrences (all)	1	1	
Pyrexia (FEVER)			
alternative assessment type: Systematic			
subjects affected / exposed	8 / 153 (5.23%)	3 / 59 (5.08%)	
occurrences (all)	8	4	
Swelling (SWELLING)			
alternative assessment type: Systematic			
subjects affected / exposed	49 / 153 (32.03%)	19 / 59 (32.20%)	
occurrences (all)	64	27	
Reproductive system and breast disorders			
Amenorrhoea			
subjects affected / exposed	2 / 153 (1.31%)	0 / 59 (0.00%)	
occurrences (all)	2	0	

Dysmenorrhoea			
subjects affected / exposed	2 / 153 (1.31%)	0 / 59 (0.00%)	
occurrences (all)	2	0	
Heavy menstrual bleeding			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences (all)	0	0	
Respiratory, thoracic and mediastinal disorders			
Asthma			
subjects affected / exposed	2 / 153 (1.31%)	0 / 59 (0.00%)	
occurrences (all)	2	0	
Painful respiration			
subjects affected / exposed	0 / 153 (0.00%)	1 / 59 (1.69%)	
occurrences (all)	0	1	
Rhinitis allergic			
subjects affected / exposed	4 / 153 (2.61%)	0 / 59 (0.00%)	
occurrences (all)	5	0	
Psychiatric disorders			
Anxiety			
subjects affected / exposed	1 / 153 (0.65%)	0 / 59 (0.00%)	
occurrences (all)	1	0	
Major depression			
subjects affected / exposed	0 / 153 (0.00%)	1 / 59 (1.69%)	
occurrences (all)	0	1	
Investigations			
SARS-CoV-2 test positive			
subjects affected / exposed	1 / 153 (0.65%)	1 / 59 (1.69%)	
occurrences (all)	1	1	
Injury, poisoning and procedural complications			
Contusion			
subjects affected / exposed	1 / 153 (0.65%)	0 / 59 (0.00%)	
occurrences (all)	1	0	
Fall			
subjects affected / exposed	1 / 153 (0.65%)	0 / 59 (0.00%)	
occurrences (all)	1	0	
Head injury			

subjects affected / exposed	2 / 153 (1.31%)	1 / 59 (1.69%)	
occurrences (all)	2	1	
Joint injury			
subjects affected / exposed	0 / 153 (0.00%)	1 / 59 (1.69%)	
occurrences (all)	0	1	
Ligament sprain			
subjects affected / exposed	1 / 153 (0.65%)	0 / 59 (0.00%)	
occurrences (all)	1	0	
Radius fracture			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences (all)	0	0	
Skin laceration			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences (all)	0	0	
Nervous system disorders			
Headache			
subjects affected / exposed	2 / 153 (1.31%)	1 / 59 (1.69%)	
occurrences (all)	2	1	
Headache (HEADACHE)			
alternative assessment type: Systematic			
subjects affected / exposed	86 / 153 (56.21%)	37 / 59 (62.71%)	
occurrences (all)	145	63	
Migraine			
subjects affected / exposed	3 / 153 (1.96%)	0 / 59 (0.00%)	
occurrences (all)	3	0	
Ear and labyrinth disorders			
Cerumen impaction			
subjects affected / exposed	1 / 153 (0.65%)	2 / 59 (3.39%)	
occurrences (all)	1	2	
Ear pain			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences (all)	0	0	
Eye disorders			
Conjunctivitis allergic			
subjects affected / exposed	2 / 153 (1.31%)	0 / 59 (0.00%)	
occurrences (all)	2	0	

Gastrointestinal disorders			
Abdominal pain			
subjects affected / exposed	0 / 153 (0.00%)	1 / 59 (1.69%)	
occurrences (all)	0	1	
Abdominal pain lower			
subjects affected / exposed	2 / 153 (1.31%)	0 / 59 (0.00%)	
occurrences (all)	2	0	
Constipation			
subjects affected / exposed	3 / 153 (1.96%)	0 / 59 (0.00%)	
occurrences (all)	3	0	
Diarrhoea (DIARRHEA)			
alternative assessment type: Systematic			
subjects affected / exposed	23 / 153 (15.03%)	8 / 59 (13.56%)	
occurrences (all)	29	9	
Gastrooesophageal reflux disease			
subjects affected / exposed	2 / 153 (1.31%)	0 / 59 (0.00%)	
occurrences (all)	2	0	
Nausea			
subjects affected / exposed	3 / 153 (1.96%)	0 / 59 (0.00%)	
occurrences (all)	3	0	
Vomiting (VOMITING)			
alternative assessment type: Systematic			
subjects affected / exposed	5 / 153 (3.27%)	3 / 59 (5.08%)	
occurrences (all)	5	3	
Skin and subcutaneous tissue disorders			
Acne			
subjects affected / exposed	1 / 153 (0.65%)	0 / 59 (0.00%)	
occurrences (all)	1	0	
Alopecia areata			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences (all)	0	0	
Dermatitis atopic			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences (all)	0	0	
Erythema (REDNESS)			
alternative assessment type: Systematic			

subjects affected / exposed	39 / 153 (25.49%)	16 / 59 (27.12%)	
occurrences (all)	60	25	
Keratosis pilaris			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences (all)	0	0	
Musculoskeletal and connective tissue disorders			
Arthralgia			
subjects affected / exposed	2 / 153 (1.31%)	2 / 59 (3.39%)	
occurrences (all)	2	2	
Arthralgia (JOINT PAIN)			
alternative assessment type: Systematic			
subjects affected / exposed	48 / 153 (31.37%)	19 / 59 (32.20%)	
occurrences (all)	67	24	
Costochondritis			
subjects affected / exposed	2 / 153 (1.31%)	0 / 59 (0.00%)	
occurrences (all)	2	0	
Myalgia			
subjects affected / exposed	0 / 153 (0.00%)	1 / 59 (1.69%)	
occurrences (all)	0	2	
Myalgia (MUSCLE PAIN)			
alternative assessment type: Systematic			
subjects affected / exposed	57 / 153 (37.25%)	22 / 59 (37.29%)	
occurrences (all)	79	30	
Infections and infestations			
Acute sinusitis			
subjects affected / exposed	1 / 153 (0.65%)	0 / 59 (0.00%)	
occurrences (all)	1	0	
COVID-19			
subjects affected / exposed	10 / 153 (6.54%)	0 / 59 (0.00%)	
occurrences (all)	10	0	
Conjunctivitis			
subjects affected / exposed	1 / 153 (0.65%)	0 / 59 (0.00%)	
occurrences (all)	1	0	
Cytomegalovirus infection			

subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences (all)	0	0	
Gastroenteritis			
subjects affected / exposed	2 / 153 (1.31%)	0 / 59 (0.00%)	
occurrences (all)	2	0	
Impetigo			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences (all)	0	0	
Influenza			
subjects affected / exposed	3 / 153 (1.96%)	0 / 59 (0.00%)	
occurrences (all)	3	0	
Nasopharyngitis			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences (all)	0	0	
Lice infestation			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences (all)	0	0	
Otitis externa			
subjects affected / exposed	0 / 153 (0.00%)	1 / 59 (1.69%)	
occurrences (all)	0	1	
Otitis media			
subjects affected / exposed	1 / 153 (0.65%)	1 / 59 (1.69%)	
occurrences (all)	1	1	
Pharyngitis			
subjects affected / exposed	7 / 153 (4.58%)	1 / 59 (1.69%)	
occurrences (all)	9	1	
Pharyngitis streptococcal			
subjects affected / exposed	2 / 153 (1.31%)	1 / 59 (1.69%)	
occurrences (all)	2	1	
Respiratory tract infection viral			
subjects affected / exposed	2 / 153 (1.31%)	0 / 59 (0.00%)	
occurrences (all)	2	0	
Sinusitis			
subjects affected / exposed	2 / 153 (1.31%)	0 / 59 (0.00%)	
occurrences (all)	2	0	
Tonsillitis			

subjects affected / exposed	1 / 153 (0.65%)	0 / 59 (0.00%)	
occurrences (all)	1	0	
Upper respiratory tract infection			
subjects affected / exposed	7 / 153 (4.58%)	1 / 59 (1.69%)	
occurrences (all)	8	1	
Viral infection			
subjects affected / exposed	0 / 153 (0.00%)	0 / 59 (0.00%)	
occurrences (all)	0	0	
Viral upper respiratory tract infection			
subjects affected / exposed	2 / 153 (1.31%)	0 / 59 (0.00%)	
occurrences (all)	2	0	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
30 April 2021	1) Protocol Sections 1.2, 1.3, 4.1, 8, 8.1.1, and 8.10.1.4: Added an optional increase in the volume of the blood draws at Visit 4 for the immunogenicity subset from 25 to 50 mL, to support assay development. The volume of blood drawn will depend on the consent obtained. 2) Throughout the protocol: The term "clinical trial (CT) SAE Report Form" has been replaced with "Vaccine SAE Reporting Form," as per the protocol administrative change letter (PACL) dated 08 May 2020. 3) Protocol Section 10.4.3, Woman of Childbearing Potential (WOCBP): The definition of postmenopausal state has been amended, as per the PACL dated 08 October 2020.
13 June 2022	1) Protocol Sections 5.2.1.1, 6.5.1, and 6.5.2: Made allowance for coronavirus disease 2019 (COVID-19) vaccinations within 8 days of study vaccination instead of 14 days (per the protocol administrative change letter [PACL] dated 01 July 2021).

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported