



Clinical trial results:

A Phase 2b/3, Multi-Center, Observer-Blind, Controlled Study of the Safety, Tolerability and Immunogenicity of Novartis Meningococcal B Recombinant Vaccine Administered to Healthy Adolescents Aged 11-17 Years According to Different Vaccination Schedules.

Due to a system error, the data reported in v1 is not correct and has been removed from public view.

Summary

EudraCT number	2014-004410-29
Trial protocol	Outside EU/EEA
Global end of trial date	16 December 2010

Results information

Result version number	v2 (current)
This version publication date	04 June 2016
First version publication date	27 December 2014
Version creation reason	Correction of full data set re-QC of this study is needed because of EudraCT system glitch and updates to results are required.

Trial information

Trial identification

Sponsor protocol code	V72P10
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Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT00661713
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Novartis Vaccines and Diagnostics S.r.l
Sponsor organisation address	Via Fiorentina 1,, Siena, Italy, 53100
Public contact	Posting Director, Novartis Vaccines and Diagnostics S.r.l, RegistryContactVaccinesUS@novartis.com
Scientific contact	Posting Director, Novartis Vaccines and Diagnostics S.r.l, RegistryContactVaccinesUS@novartis.com

Notes:

Paediatric regulatory details

Is trial part of an agreed paediatric investigation plan (PIP)	Yes
EMA paediatric investigation plan number(s)	EMA-000139-PIP01-07
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	01 June 2011
Is this the analysis of the primary completion data?	No
Global end of trial reached?	Yes
Global end of trial date	16 December 2010
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

To assess the immunogenicity, safety and tolerability of one, two (0,1 or 0,2 schedule) or three doses (0, 1, 2 schedule) of Novartis rMenB+OMV NZ in healthy adolescents, by evaluation of the serum bactericidal activity using human complement (SBA) response at one month after the last rMenB+OMV NZ dose.

Protection of trial subjects:

Study vaccines were not administered to individuals with known hypersensitivity to any component of the vaccines. An oral temperature $\geq 38.0^{\circ}\text{C}$ ($\geq 100.4^{\circ}\text{F}$) or serious active infection was a reason for delaying vaccination. Standard immunization practices were observed and care was taken to administer the injection intramuscularly. As with all injectable vaccines, appropriate medical treatment and supervision was readily available in case of rare anaphylactic reactions following administration of the study vaccine. Epinephrine 1:1000 and diphenhydramine was available in case of any anaphylactic reactions. Care was taken to ensure that the vaccine is not injected into a blood vessel.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	05 June 2008
Long term follow-up planned	Yes
Long term follow-up rationale	Safety
Long term follow-up duration	6 Months
Independent data monitoring committee (IDMC) involvement?	Yes

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	Chile: 1631
Worldwide total number of subjects	1631
EEA total number of subjects	0

Notes:

Subjects enrolled per age group

In utero	0
Preterm newborn - gestational age < 37 wk	0

Newborns (0-27 days)	0
Infants and toddlers (28 days-23 months)	0
Children (2-11 years)	233
Adolescents (12-17 years)	1398
Adults (18-64 years)	0
From 65 to 84 years	0
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

Subjects were enrolled at 10 study centers in Chile.

Pre-assignment

Screening details:

All enrolled subjects were included in the trial.

Period 1

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

Arms

Are arms mutually exclusive?	Yes
Arm title	rMenB06

Arm description:

Subjects received 2 doses each of rMenB+OMV-NZ at 0 and 6 months and placebo at 1 and 2 months.

Arm type	Experimental
Investigational medicinal product name	rMenB+OMV NZ
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Single dose of 0.5mL vaccine or 0.5 mL placebo is administered at each schedule by IM injection into deltoid muscle of non-dominant arm.

Arm title	rMenB0
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Arm description:

Subjects received 1 dose of rMenB+OMV-NZ at 0 month and 3 doses of placebo at 1, 2 and 6 months.

Arm type	Experimental
Investigational medicinal product name	rMenB+OMV NZ
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Single dose of 0.5mL vaccine or 0.5 mL placebo is administered at each schedule by IM injection into deltoid muscle of non-dominant arm.

Arm title	rMenB016
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Arm description:

Subjects received 3 doses of rMenB+OMV-NZ at 0, 1 and 6 months and 1 dose of placebo at 2 months

Arm type	Experimental
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Investigational medicinal product name	rMenB+OMV NZ
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection
Routes of administration	Intramuscular use
Dosage and administration details:	
Single dose of 0.5mL vaccine or 0.5 mL placebo is administered at each schedule by IM injection into deltoid muscle of non-dominant arm.	
Arm title	rMenB01
Arm description:	
Subjects received 2 doses each of rMenB+OMV-NZ at 0 and 1 months and placebo at 2 and 6 months.	
Arm type	Experimental
Investigational medicinal product name	rMenB+OMV NZ
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection
Routes of administration	Intramuscular use
Dosage and administration details:	
Single dose of 0.5mL vaccine or 0.5 mL placebo is administered at each schedule by IM injection into deltoid muscle of non-dominant arm.	
Arm title	rMenB026
Arm description:	
Subjects received 3 doses of rMenB+OMV-NZ at 0, 2 and 6 months and 1 dose of placebo at 1 month.	
Arm type	Experimental
Investigational medicinal product name	rMenB+OMV NZ
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection
Routes of administration	Intramuscular use
Dosage and administration details:	
Single dose of 0.5mL vaccine or 0.5 mL placebo is administered at each schedule by IM injection into deltoid muscle of non-dominant arm.	
Arm title	rMenB02
Arm description:	
Subjects received 2 doses each of rMenB+OMV-NZ at 0 and 2 months and placebo at 1 and 6 months.	
Arm type	Experimental
Investigational medicinal product name	rMenB+OMV NZ
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection
Routes of administration	Intramuscular use
Dosage and administration details:	
Single dose of 0.5mL vaccine or 0.5 mL placebo is administered at each schedule by IM injection into deltoid muscle of non-dominant arm.	
Arm title	rMenB012
Arm description:	
Subjects received 3 doses of rMenB+OMV-NZ at 0, 1 and 2 months and placebo at 6 months.	
Arm type	Experimental

Investigational medicinal product name	rMenB+OMV NZ
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Single dose of 0.5mL vaccine or 0.5 mL placebo is administered at each schedule by IM injection into deltoid muscle of non-dominant arm.

Arm title	rMenB6
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Arm description:

Subjects received 1 dose of rMenB+OMV-NZ at 6 months and 3 doses of placebo at 0, 1 and 2 months.

Arm type	Experimental
Investigational medicinal product name	rMenB+OMV NZ
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection
Routes of administration	Intramuscular use

Dosage and administration details:

Single dose of 0.5mL vaccine or 0.5 mL placebo is administered at each schedule by IM injection into deltoid muscle of non-dominant arm.

Number of subjects in period 1	rMenB06	rMenB0	rMenB016
Started	128	247	128
Completed	112	208	111
Not completed	16	39	17
Adverse event, serious fatal	-	-	-
Consent withdrawn by subject	11	25	12
Death	1	-	-
Administrative Reason	-	1	-
Unable to classify	1	-	-
Lost to follow-up	2	7	2
Inappropriate Enrollment	-	-	-
Protocol deviation	1	6	3

Number of subjects in period 1	rMenB01	rMenB026	rMenB02
Started	247	127	253
Completed	219	107	216
Not completed	28	20	37
Adverse event, serious fatal	-	-	-
Consent withdrawn by subject	21	12	26
Death	-	1	-
Administrative Reason	2	2	2
Unable to classify	-	-	-

Lost to follow-up	2	5	7
Inappropriate Enrollment	-	-	-
Protocol deviation	3	-	2

Number of subjects in period 1	rMenB012	rMenB6
Started	373	128
Completed	309	117
Not completed	64	11
Adverse event, serious fatal	1	-
Consent withdrawn by subject	45	9
Death	-	-
Administrative Reason	1	-
Unable to classify	-	-
Lost to follow-up	14	1
Inappropriate Enrollment	1	-
Protocol deviation	2	1

Baseline characteristics

Reporting groups

Reporting group title	rMenB06
Reporting group description:	
Subjects received 2 doses each of rMenB+OMV-NZ at 0 and 6 months and placebo at 1 and 2 months.	
Reporting group title	rMenB0
Reporting group description:	
Subjects received 1 dose of rMenB+OMV-NZ at 0 month and 3 doses of placebo at 1, 2 and 6 months.	
Reporting group title	rMenB016
Reporting group description:	
Subjects received 3 doses of rMenB+OMV-NZ at 0, 1 and 6 months and 1 dose of placebo at 2 months	
Reporting group title	rMenB01
Reporting group description:	
Subjects received 2 doses each of rMenB+OMV-NZ at 0 and 1 months and placebo at 2 and 6 months.	
Reporting group title	rMenB026
Reporting group description:	
Subjects received 3 doses of rMenB+OMV-NZ at 0, 2 and 6 months and 1 dose of placebo at 1 month.	
Reporting group title	rMenB02
Reporting group description:	
Subjects received 2 doses each of rMenB+OMV-NZ at 0 and 2 months and placebo at 1 and 6 months.	
Reporting group title	rMenB012
Reporting group description:	
Subjects received 3 doses of rMenB+OMV-NZ at 0, 1 and 2 months and placebo at 6 months.	
Reporting group title	rMenB6
Reporting group description:	
Subjects received 1 dose of rMenB+OMV-NZ at 6 months and 3 doses of placebo at 0, 1 and 2 months.	

Reporting group values	rMenB06	rMenB0	rMenB016
Number of subjects	128	247	128
Age categorical Units: Subjects			
In utero Preterm newborn infants (gestational age < 37 wks) Newborns (0-27 days) Infants and toddlers (28 days-23 months) Children (2-11 years) Adolescents (12-17 years) Adults (18-64 years) From 65-84 years 85 years and over			
Age continuous Units: years			
arithmetic mean	13.8	13.7	13.9
standard deviation	± 1.9	± 1.9	± 1.9

Gender categorical Units: Subjects			
Female	76	147	76
Male	52	100	52

Reporting group values	rMenB01	rMenB026	rMenB02
Number of subjects	247	127	253
Age categorical Units: Subjects			
In utero Preterm newborn infants (gestational age < 37 wks) Newborns (0-27 days) Infants and toddlers (28 days-23 months) Children (2-11 years) Adolescents (12-17 years) Adults (18-64 years) From 65-84 years 85 years and over			
Age continuous Units: years			
arithmetic mean	13.9	13.7	13.7
standard deviation	± 1.9	± 1.9	± 1.8
Gender categorical Units: Subjects			
Female	138	73	138
Male	109	54	115

Reporting group values	rMenB012	rMenB6	Total
Number of subjects	373	128	1631
Age categorical Units: Subjects			
In utero Preterm newborn infants (gestational age < 37 wks) Newborns (0-27 days) Infants and toddlers (28 days-23 months) Children (2-11 years) Adolescents (12-17 years) Adults (18-64 years) From 65-84 years 85 years and over			0 0 0 0 0 0 0 0
Age continuous Units: years			
arithmetic mean	13.8	13.8	-
standard deviation	± 1.9	± 2	-
Gender categorical Units: Subjects			
Female	199	66	913
Male	174	62	718

End points

End points reporting groups

Reporting group title	rMenB06
Reporting group description: Subjects received 2 doses each of rMenB+OMV-NZ at 0 and 6 months and placebo at 1 and 2 months.	
Reporting group title	rMenB0
Reporting group description: Subjects received 1 dose of rMenB+OMV-NZ at 0 month and 3 doses of placebo at 1, 2 and 6 months.	
Reporting group title	rMenB016
Reporting group description: Subjects received 3 doses of rMenB+OMV-NZ at 0, 1 and 6 months and 1 dose of placebo at 2 months	
Reporting group title	rMenB01
Reporting group description: Subjects received 2 doses each of rMenB+OMV-NZ at 0 and 1 months and placebo at 2 and 6 months.	
Reporting group title	rMenB026
Reporting group description: Subjects received 3 doses of rMenB+OMV-NZ at 0, 2 and 6 months and 1 dose of placebo at 1 month.	
Reporting group title	rMenB02
Reporting group description: Subjects received 2 doses each of rMenB+OMV-NZ at 0 and 2 months and placebo at 1 and 6 months.	
Reporting group title	rMenB012
Reporting group description: Subjects received 3 doses of rMenB+OMV-NZ at 0, 1 and 2 months and placebo at 6 months.	
Reporting group title	rMenB6
Reporting group description: Subjects received 1 dose of rMenB+OMV-NZ at 6 months and 3 doses of placebo at 0, 1 and 2 months.	
Subject analysis set title	All Enrolled Population
Subject analysis set type	Full analysis
Subject analysis set description: All subjects who enrolled in this study.	
Subject analysis set title	Per Protocol-month 1
Subject analysis set type	Per protocol
Subject analysis set description: All subjects in the Full Analysis Set/MITT population who received all the relevant doses of vaccine correctly, and provided evaluable post immunization serum samples at month 1.	
Subject analysis set title	Per Protocol-month 2
Subject analysis set type	Per protocol
Subject analysis set description: All subjects in the Full Analysis Set/MITT population who received all the relevant doses of vaccine correctly, and provided evaluable post immunization serum samples at month 2.	
Subject analysis set title	Per Protocol-month 0
Subject analysis set type	Per protocol
Subject analysis set description: All subjects in the Full Analysis Set/MITT population who received all the relevant doses of vaccine correctly, and provided evaluable post immunization serum samples at month 0.	
Subject analysis set title	Safety Population
Subject analysis set type	Safety analysis
Subject analysis set description: All subjects enrolled who received study vaccination and provide post-baseline safety data.	
Subject analysis set title	Per Protocol-month 6

Subject analysis set type	Per protocol
Subject analysis set description:	
All subjects in the Full Analysis Set/MITT population who received all the relevant doses of vaccine correctly, and provided evaluable post immunization serum samples at 1 month after 4th dose.	
Subject analysis set title	Per Protocol-month 7
Subject analysis set type	Per protocol
Subject analysis set description:	
All subjects in the Full Analysis Set/MITT population who received all the relevant doses of vaccine correctly, and provided evaluable post immunization serum samples at 1 month after 4th dose.	
Subject analysis set title	Per Protocol-month 3
Subject analysis set type	Per protocol
Subject analysis set description:	
All subjects in the Full Analysis Set/MITT population who received all the relevant doses of vaccine correctly, and provided evaluable post immunization serum samples at 1 month after 4th dose	

Primary: 1. Percentages` of subjects with hSBA titer $\geq 1:4$ after receiving one, two or three doses of rMenB+OMV NZ vaccine

End point title	1. Percentages` of subjects with hSBA titer $\geq 1:4$ after receiving one, two or three doses of rMenB+OMV NZ vaccine ^[1]
End point description:	
Immunogenicity was evaluated by measuring the percentage of subjects with hSBA titer $>1:4$ against 44/76-SL, 5/99, NZ98/254 strains at months 1, 2, 3.	
End point type	Primary
End point timeframe:	
Month-1, 2, 3	

Notes:

[1] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis is associated to this endpoint. Analyses were run descriptively.

End point values	rMenB06	rMenB0	rMenB016	rMenB01
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	112	223	113	231
Units: Percentage of Subjects				
number (confidence interval 95%)				
44/76-SL- Mo 0 N=112,223,113,231,110,232,334,116	42 (33 to 52)	47 (40 to 54)	41 (32 to 50)	38 (32 to 45)
44/76-SL- Mo 1 N=112,223,113,231,110,232,333,115	92 (85 to 96)	92 (88 to 95)	95 (89 to 98)	93 (88 to 96)
44/76-SL- Mo 2 N=108,213,108,222,105,219,307,109	88 (80 to 93)	92 (88 to 95)	100 (97 to 100)	100 (98 to 100)
44/76-SL- Mo 3 N=107,208,105,215,104,215,303,108	84 (76 to 90)	88 (82 to 92)	99 (95 to 100)	100 (97 to 100)
5/99- Mo 0 N=112,223,113,231,110,232,334,116	29 (20 to 38)	41 (35 to 48)	28 (20 to 38)	31 (25 to 38)
5/99- Mo 1 N=111,223,113,231,110,232,333,115	97 (92 to 99)	96 (93 to 98)	96 (90 to 99)	97 (94 to 99)
5/99- Mo 2 N=108,213,108,222,105,219,308,109	95 (90 to 98)	94 (90 to 97)	100 (97 to 100)	100 (98 to 100)
5/99- Mo 3 N=107,209,105,215,105,215,303,108	92 (85 to 96)	89 (84 to 93)	99 (95 to 100)	100 (98 to 100)
NZ98/254-mo 0 N=112,223,113,231,110,232,333,116	32 (24 to 42)	39 (33 to 46)	33 (24 to 42)	35 (29 to 41)
NZ98/254-mo 1 N=111,223,113,231,110,232,333,115	90 (83 to 95)	94 (90 to 97)	95 (89 to 98)	94 (90 to 96)
NZ98/254-mo 2 N=107,213,108,222,105,218,308,109	81 (73 to 88)	84 (74 to 88)	99 (95 to 100)	100 (98 to 100)

NZ98/254-mo 3 N=107,208,105,215,104,215,302,108	80 (72 to 87)	76 (70 to 82)	97 (92 to 99)	97 (94 to 99)
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End point values	rMenB026	rMenB02	rMenB012	rMenB6
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	110	232	334	116
Units: Percentage of Subjects				
number (confidence interval 95%)				
44/76-SL- Mo 0 N=112,223,113,231,110,232,334,116	37 (28 to 47)	47 (40 to 53)	46 (41 to 52)	46 (36 to 55)
44/76-SL- Mo 1 N=112,223,113,231,110,232,333,115	90 (83 to 95)	92 (88 to 95)	95 (92 to 97)	43 (34 to 53)
44/76-SL- Mo 2 N=108,213,108,222,105,219,307,109	88 (80 to 93)	89 (85 to 93)	100 (98 to 100)	50 (40 to 59)
44/76-SL- Mo 3 N=107,208,105,215,104,215,303,108	100 (97 to 100)	100 (98 to 100)	100 (98 to 100)	48 (38 to 58)
5/99- Mo 0 N=112,223,113,231,110,232,334,116	30 (22 to 39)	37 (31 to 44)	36 (30 to 41)	29 (21 to 38)
5/99- Mo 1 N=111,223,113,231,110,232,333,115	97 (92 to 99)	96 (93 to 98)	97 (94 to 98)	35 (26 to 44)
5/99- Mo 2 N=108,213,108,222,105,219,308,109	89 (81 to 94)	95 (92 to 98)	100 (98 to 100)	31 (23 to 41)
5/99- Mo 3 N=107,209,105,215,105,215,303,108	98 (93 to 100)	100 (98 to 100)	100 (99 to 100)	32 (24 to 42)
NZ98/254-mo 0 N=112,223,113,231,110,232,333,116	34 (25 to 43)	37 (31 to 44)	33 (28 to 38)	38 (29 to 47)
NZ98/254-mo 1 N=111,223,113,231,110,232,333,115	90 (83 to 95)	93 (89 to 96)	95 (92 to 97)	38 (29 to 48)
NZ98/254-mo 2 N=107,213,108,222,105,218,308,109	78 (69 to 86)	85 (79 to 89)	100 (98 to 100)	39 (29 to 48)
NZ98/254-mo 3 N=107,208,105,215,104,215,302,108	100 (97 to 100)	100 (98 to 100)	99 (97 to 100)	43 (33 to 52)

Statistical analyses

No statistical analyses for this end point

Primary: 9. Number of Subjects with Local Reactions and systemic reactions occurring in days 1 to 7 after vaccination

End point title	9. Number of Subjects with Local Reactions and systemic reactions occurring in days 1 to 7 after vaccination ^[2]
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End point description:

Safety was assessed as the number of subjects who reported local and systemic reactions during day 1 to day 7 after vaccination with rMenB+OMV

End point type	Primary
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End point timeframe:

1 to 7 days after each vaccination

Notes:

[2] - 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: No statistical analysis is associated to this endpoint. Analyses were run descriptively.

End point values	rMenB06	rMenB0	rMenB016	rMenB01
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	128	247	128	247
Units: Number of Subjects				
erythema (local)	93	162	95	188
Induration (Local)	71	130	75	151
Swelling (Local)	72	132	81	144
Pain (Local)	122	236	124	237
Med.Att Fever (Systemic)	1	0	2	0
Malaise (Systemic)				
Myalgia(Systemic)	85	141	91	156
Arthralgia(Systemic)	55	76	55	80
Headache(Systemic)	79	139	88	160
Nausea(Systemic)	41	80	51	72
Fever(Systemic)	12	8	11	21

End point values	rMenB026	rMenB02	rMenB012	rMenB6
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	127	253	373	128
Units: Number of Subjects				
erythema (local)	94	172	282	85
Induration (Local)	82	121	228	57
Swelling (Local)	76	115	226	54
Pain (Local)	113	236	345	123
Med.Att Fever (Systemic)	1	1	1	1
Malaise (Systemic)				
Myalgia(Systemic)	81	160	238	91
Arthralgia(Systemic)	39	105	146	43
Headache(Systemic)	73	165	244	74
Nausea(Systemic)	42	88	143	49
Fever(Systemic)	18	26	38	18

Statistical analyses

No statistical analyses for this end point

Secondary: 2. Percentages 'of subjects with hSBA titer $\geq 1:4$ after receiving a booster dose of rMenB+OMV NZ vaccine at month 6.

End point title	2. Percentages 'of subjects with hSBA titer $\geq 1:4$ after receiving a booster dose of rMenB+OMV NZ vaccine at month 6.
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End point description:

Immunogenicity was evaluated by measuring the percentage of subjects with hSBA titer $>1:4$ against 44/76-SL, 5/99, NZ98/254 strains at months 6 & 7.

End point type	Secondary
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End point timeframe:

Month-6 & 7

End point values	rMenB06	rMenB0	rMenB016	rMenB01
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	100	188	113	231
Units: Percentage of Subjects				
number (confidence interval 95%)				
44/76-SL- Mo 6 N=100,188,100,198,99,201,278,100	76 (66 to 84)	72 (65 to 79)	93 (86 to 97)	92 (88 to 96)
44/76-SL- Mo 7 N=86,173,95,186,91,179,255,95	100 (96 to 100)	71 (64 to 78)	100 (96 to 100)	90 (85 to 94)
5/99- Mo 6 N=100,188,100,198,99,201,278,100	79 (70 to 87)	74 (67 to 80)	99 (95 to 100)	98 (96 to 100)
5/99- Mo 7 N=86,173,95,187,91,179,255,95	99 (94 to 100)	67 (60 to 74)	100 (96 to 100)	98 (95 to 99)
NZ98/254-mo 6 N=99,188100,198,99,200,278,100	81 (72 to 88)	69 (62 to 76)	93 (86 to 97)	89 (84 to 93)
NZ98/254-mo 7 N=86,172,95,187,91,179,255,95	100 (96 to 100)	67 (60 to 74)	100 (96 to 100)	85 (79 to 90)

End point values	rMenB026	rMenB02	rMenB012	rMenB6
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	110	232	334	116
Units: Percentage of Subjects				
number (confidence interval 95%)				
44/76-SL- Mo 6 N=100,188,100,198,99,201,278,100	97 (91 to 99)	98 (94 to 99)	97 (94 to 99)	46 (36 to 56)
44/76-SL- Mo 7 N=86,173,95,186,91,179,255,95	100 (96 to 100)	95 (91 to 98)	95 (92 to 98)	93 (85 to 97)
5/99- Mo 6 N=100,188,100,198,99,201,278,100	99 (95 to 100)	100 (97 to 100)	100 (98 to 100)	28 (19 to 38)
5/99- Mo 7 N=86,173,95,187,91,179,255,95	100 (96 to 100)	99 (96 to 100)	99 (97 to 100)	93 (85 to 97)
NZ98/254-mo 6 N=99,188100,198,99,200,278,100	97 (91 to 99)	96 (92 to 98)	97 (94 to 99)	45 (35 to 55)
NZ98/254-mo 7 N=86,172,95,187,91,179,255,95	100 (96 to 100)	94 (89 to 97)	95 (92 to 98)	93 (85 to 97)

Statistical analyses

No statistical analyses for this end point

Secondary: 3. Percentage of subjects with hSBA titer $\geq 1:8$ after primary and booster vaccination.

End point title	3. Percentage of subjects with hSBA titer $\geq 1:8$ after primary and booster vaccination.
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End point description:

Immunogenicity was evaluated by measuring the percentage of subjects with hSBA titer $\geq 1:8$ against 44/76-SL, 5/99, NZ98/254 strains at baseline, month-1, month-2, month-3, month-6 and month-7.

End point type	Secondary
End point timeframe:	
Baseline, month-1, month-2, month-3, month-6 and month-7.	

End point values	rMenB06	rMenB0	rMenB016	rMenB01
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	112	223	113	231
Units: Percentage of Subjects				
number (confidence interval 95%)				
44/76-SL- Mo 0 N=112,223,113,231,110,232,334,116	29 (21 to 39)	37 (31 to 44)	31 (23 to 40)	32 (26 to 38)
44/76-SL- Mo 1 N=112,223,113,231,110,232,333,115	87 (79 to 92)	87 (82 to 91)	85 (77 to 91)	85 (80 to 89)
44/76-SL- Mo 2 N=108, 213,108,222,105,219,307,109	79 (70 to 86)	84 (78 to 89)	99 (95 to 100)	99 (97 to 100)
44/76-SL- Mo 3 N=107,208,105,215,104,215,303,108	74 (64 to 82)	77 (71 to 83)	99 (95 to 100)	98 (95 to 99)
44/76-SL- Mo 6 N= 100,188,100,198,99,201,278,100	62 (52 to 72)	62 (54 to 69)	90 (82 to 95)	83 (77 to 88)
44/76-SL- Mo 7 N=86,173,95,186,91,179,255,95	99 (94 to 100)	57 (49 to 64)	100 (96 to 100)	82 (75 to 87)
5/99- Mo 0 N=112,223,113,231,110,232,334,116	18 (11 to 26)	24 (19 to 30)	20 (13 to 29)	22 (17 to 28)
5/99- Mo 1 N= 111,223,113,231,110,232,333,115	96 (91 to 99)	91 (87 to 95)	89 (82 to 94)	94 (90 to 96)
5/99- Mo 2 N=108,213,108,222,105,219,308,109	89 (81 to 94)	85 (80 to 90)	100 (97 to 100)	100 (98 to 100)
5/99- Mo 3 N=107,209,105,215,105,215,303,108	81 (73 to 88)	77 (71 to 83)	99 (95 to 99)	100 (97 to 100)
5/99- Mo 6 N=100,188,100,198,99,201,278,100	60 (50 to 70)	57 (50 to 64)	97 (91 to 100)	98 (95 to 99)
5/99- Mo 7 N=86,173,95,187,91,179,255,95	99 (94 to 100)	48 (40 to 56)	100 (96 to 100)	97 (93 to 99)
NZ98/254 Mo 0 N=112,223,113,231,110,232,333,116	22 (15 to 31)	30 (24 to 36)	27 (19 to 36)	25 (20 to 31)
NZ98/254 Mo 1 N=111,223,113,231,110,232,333,115	84 (76 to 90)	83 (77 to 87)	82 (74 to 89)	84 (79 to 88)
NZ98/254 Mo 2 N=107,213,108,222,105,218,308,109	72 (62 to 80)	70 (64 to 76)	98 (93 to 100)	99 (97 to 100)
NZ98/254 Mo 3 N=107,208,105,215,104,215,302,108	70 (60 to 79)	65 (58 to 71)	90 (82 to 95)	91 (86 to 94)
NZ98/254 Mo 6 N=99,188,100,198,99,200,278,100	60 (49 to 69)	54 (47 to 62)	80 (71 to 87)	77 (70 to 82)
NZ98/254 Mo 7 N=86,172,95,187,91,179,255,95	99 (94 to 100)	49 (42 to 57)	99 (94 to 100)	71 (64 to 78)

End point values	rMenB026	rMenB02	rMenB012	rMenB6
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	110	232	334	116
Units: Percentage of Subjects				
number (confidence interval 95%)				

44/76-SL- Mo 0 N=112,223,113,231,110,232,334,116	30 (22 to 39)	35 (29 to 42)	33 (28 to 38)	33 (24 to 42)
44/76-SL- Mo 1 N=112,223,113,231,110,232,333,115	81 (72 to 88)	87 (82 to 91)	86 (82 to 90)	30 (22 to 40)
44/76-SL- Mo 2 N=108, 213,108,222,105,219,307,109	80 (71 to 87)	80 (74 to 85)	99 (98 to 100)	33 (24 to 43)
44/76-SL- Mo 3 N=107,208,105,215,104,215,303,108	99 (95 to 100)	100 (98 to 100)	99 (97 to 100)	36 (27 to 46)
44/76-SL- Mo 6 N= 100,188,100,198,99,201,278,100	90 (82 to 95)	91 (86 to 95)	93 (90 to 96)	34 (25 to 44)
44/76-SL- Mo 7 N=86,173,95,186,91,179,255,95	100 (96 to 100)	88 (82 to 92)	91 (86 to 94)	89 (81 to 95)
5/99- Mo 0 N=112,223,113,231,110,232,334,116	23 (15 to 32)	22 (17 to 28)	22 (17 to 26)	14 (8 to 21)
5/99- Mo 1 N= 111,223,113,231,110,232,333,115	91 (84 to 96)	93 (89 to 96)	94 (91 to 96)	19 (12 to 28)
5/99- Mo 2 N=108,213,108,222,105,219,308,109	78 (69 to 86)	88 (83 to 92)	99 (98 to 100)	17 (11 to 26)
5/99- Mo 3 N=107,209,105,215,105,215,303,108	98 (93 to 100)	100 (98 to 100)	100 (99 to 100)	19 (12 to 27)
5/99- Mo 6 N=100,188,100,198,99,201,278,100	98 (93 to 100)	99 (96 to 100)	99 (97 to 100)	16 (9 to 25)
5/99- Mo 7 N=86,173,95,187,91,179,255,95	100 (96 to 100)	97 (94 to 99)	98 (95 to 99)	86 (78 to 93)
NZ98/254 Mo 0 N=112,223,113,231,110,232,333,116	24 (16 to 33)	26 (21 to 32)	25 (20 to 30)	29 (21 to 38)
NZ98/254 Mo 1 N=111,223,113,231,110,232,333,115	75 (65 to 82)	80 (74 to 85)	86 (81 to 89)	26 (18 to 35)
NZ98/254 Mo 2 N=107,213,108,222,105,218,308,109	65 (55 to 74)	75 (68 to 80)	99 (97 to 100)	31 (23 to 41)
NZ98/254 Mo 3 N=107,208,105,215,104,215,302,108	98 (93 to 100)	100 (97 to 100)	98 (96 to 99)	30 (21 to 39)
NZ98/254 Mo 6 N=99,188,100,198,99,200,278,100	86 (77 to 92)	86 (80 to 90)	91 (87 to 94)	38 (28 to 48)
NZ98/254 Mo 7 N=86,172,95,187,91,179,255,95	100 (96 to 100)	81 (74 to 86)	84 (79 to 88)	86 (78 to 93)

Statistical analyses

No statistical analyses for this end point

Secondary: 4. Percentages of subjects with at least a fourfold rise in hSBA titer over the prevaccination and after booster vaccination

End point title	4. Percentages of subjects with at least a fourfold rise in hSBA titer over the prevaccination and after booster vaccination
End point description:	
Immunogenicity was evaluated by measuring the percentage of subjects with at least a fourfold rise in hSBA titer over the prevaccination and after booster vaccination against 44/76-SL, 5/99, NZ98/254 strains at month-1, month-2, month-3 and month-7.	
End point type	Secondary
End point timeframe:	
Month-1, month-2, month-3 and month-7.	

End point values	rMenB06	rMenB0	rMenB016	rMenB01
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	112	223	113	231
Units: Percentage of Subjects				
number (confidence interval 95%)				
44/76-SL Mo 1 N=112,223,113,231,110,232,333,115	73 (64 to 81)	75 (69 to 80)	71 (61 to 79)	77 (71 to 82)
44/76-SL Mo 2 N=108,213,107,222,105,219,307,109	62 (52 to 71)	67 (60 to 73)	94 (88 to 98)	96 (92 to 98)
44/76-SL Mo 3 N=107,208,105,215,104,215,303,108	53 (43 to 63)	59 (52 to 66)	88 (81 to 94)	91 (87 to 95)
44/76-SL Mo 7 N=86,173,94,186,91,179,255,95	95 (89 to 99)	33 (26 to 40)	98 (93 to 100)	73 (66 to 79)
5/99 Mo 1 N=111,223,113,231,110,232,333,115	87 (80 to 93)	79 (73 to 84)	81 (72 to 87)	85 (80 to 89)
5/99 Mo 2 N=108,213,107,222,105,219,308,109	78 (69 to 85)	65 (58 to 72)	98 (93 to 100)	98 (95 to 100)
5/99 Mo 3 N=107,209,104,215,105,215,303,108	65 (56 to 74)	53 (46 to 60)	95 (89 to 98)	99 (96 to 100)
5/99- Mo 7 N=86,173,94,187,91,179,255,95	98 (92 to 100)	27 (21 to 34)	99 (94 to 100)	88 (82 to 92)
NZ98/254 Mo 1 N=111,223,113,231,110,232,332,115	72 (63 to 80)	70 (63 to 76)	65 (56 to 74)	74 (67 to 79)
NZ98/254 Mo 2 N=107,213,107,222,105,218,307,109	57 (47 to 67)	52 (45 to 59)	89 (81 to 94)	93 (89 to 96)
NZ98/254 Mo 3 N=107,208,104,215,104,215,301,108	50 (40 to 59)	43 (36 to 50)	78 (69 to 85)	81 (76 to 86)
NZ98/254 Mo 7 N=86,172,94,187,91,179,254,95	94 (87 to 98)	27 (21 to 35)	95 (88 to 98)	62 (55 to 69)

End point values	rMenB026	rMenB02	rMenB012	rMenB6
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	110	232	334	116
Units: Percentage of Subjects				
number (confidence interval 95%)				
44/76-SL Mo 1 N=112,223,113,231,110,232,333,115	67 (58 to 76)	73 (67 to 79)	72 (67 to 77)	3 (1 to 7)
44/76-SL Mo 2 N=108,213,107,222,105,219,307,109	65 (55 to 74)	61 (54 to 67)	94 (91 to 97)	6 (2 to 12)
44/76-SL Mo 3 N=107,208,105,215,104,215,303,108	91 (84 to 96)	95 (92 to 98)	95 (92 to 97)	3 (1 to 8)
44/76-SL Mo 7 N=86,173,94,186,91,179,255,95	93 (86 to 98)	76 (69 to 82)	80 (75 to 85)	76 (66 to 84)
5/99 Mo 1 N=111,223,113,231,110,232,333,115	79 (70 to 86)	85 (80 to 89)	85 (80 to 88)	3 (1 to 7)
5/99 Mo 2 N=108,213,107,222,105,219,308,109	63 (53 to 72)	74 (68 to 80)	98 (96 to 99)	5 (2 to 10)
5/99 Mo 3 N=107,209,104,215,105,215,303,108	96 (91 to 99)	99 (96 to 100)	99 (98 to 100)	6 (3 to 13)
5/99- Mo 7 N=86,173,94,187,91,179,255,95	99 (94 to 100)	90 (85 to 94)	94 (90 to 97)	82 (73 to 89)
NZ98/254 Mo 1 N=111,223,113,231,110,232,332,115	59 (49 to 68)	64 (58 to 70)	73 (68 to 78)	3 (1 to 7)
NZ98/254 Mo 2 N=107,213,107,222,105,218,307,109	51 (41 to 61)	57 (50 to 64)	93 (89 to 95)	7 (3 to 14)

NZ98/254 Mo 3 N=107,208,104,215,104,215,301,108	91 (84 to 96)	91 (86 to 94)	93 (90 to 96)	6 (3 to 13)
NZ98/254 Mo 7 N=86,172,94,187,91,179,254,95	92 (85 to 97)	69 (62 to 76)	75 (69 to 80)	77 (67 to 85)

Statistical analyses

No statistical analyses for this end point

Secondary: 5. Geometric mean titers (GMTs) after primary and booster vaccination

End point title	5. Geometric mean titers (GMTs) after primary and booster vaccination
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End point description:

Immunogenicity was evaluated by measuring the Geometric mean titers (GMTs) after primary and booster vaccination against 44/76-SL, 5/99, NZ98/254.

End point type	Secondary
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End point timeframe:

month-1, month-2, month-3, month-6 and month-7

End point values	rMenB06	rMenB0	rMenB016	rMenB01
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	112	223	113	231
Units: Titer				
geometric mean (confidence interval 95%)				
44/76 GMT Mo 0 N=112,223,113,231,110,232,334,116	3.41 (2.54 to 4.58)	4.24 (3.44 to 5.22)	3.34 (2.49 to 4.48)	3.35 (2.72 to 4.11)
44/76 GMT Mo 1 N=112,223,113,231,110,232,333,115	46 (33 to 63)	58 (46 to 72)	56 (40 to 77)	52 (41 to 65)
44/76 GMT Mo 2 N= 108,213,108,222,105,219,307,109	31 (23 to 41)	41 (34 to 50)	182 (138 to 240)	187 (154 to 228)
44/76 GMT Mo 3 N= 107,208,105,215,104,215,303,108	20 (16 to 26)	31 (26 to 38)	132 (101 to 172)	114 (95 to 137)
44/76 GMT Mo 6 N= 100,188,100,198,99,201,278,100	13 (9.24 to 18)	15 (12 to 19)	59 (43 to 82)	50 (39 to 63)
44/76 GMT Mo 7 N= 86, 173,95,186,91,179,255,95	218 (157 to 302)	12 (9.69 to 15)	324 (236 to 443)	36 (29 to 45)
5/99 GMT Mo 0 N= 112,223,113,231,110,232,334,116	2.61 (2.03 to 3.34)	3.15 (2.64 to 3.75)	2.59 (2.02 to 3.32)	2.52 (2.11 to 2.99)
5/99 GMT Mo 1 N= 111,223,113,231,110,232,333,115	81 (61 to 109)	64 (52 to 79)	66 (49 to 88)	72 (59 to 88)
5/99 GMT Mo 2 N= 108,213,108,222,105,219,308,109	40 (31 to 51)	34 (28 to 40)	505 (396 to 644)	451 (381 to 535)
5/99 GMT Mo 3 N= 107,209,105,215,105,215,303,108	25 (20 to 31)	23 (20 to 27)	303 (242 to 380)	273 (233 to 320)
5/99 GMT Mo 6 N= 100,188,100,198,99,201,278,100	12 (9.56 to 16)	11 (9.26 to 13)	125 (98 to 160)	113 (95 to 135)
5/99 GMT Mo 7 N= 86,173,95,187,91,179,255,95	880 (675 to 1147)	8.61 (7.13 to 10)	1094 (849 to 1410)	99 (82 to 119)
NZ98/254 GMT Mo0 N=112,223,113,231,110,232,333,116	2.87 (2.14 to 3.84)	3.35 (2.72 to 4.13)	3.43 (2.56 to 4.59)	2.98 (2.43 to 3.66)

NZ98/254 GMT Mo1 N=111,223,113,231,110,232,333,115	42 (31 to 56)	44 (36 to 55)	47 (35 to 63)	45 (36 to 55)
NZ98/254 GMT Mo2 N=107,213,108,222,105,218,308,109	23 (17 to 30)	25 (20 to 31)	98 (72 to 132)	89 (72 to 110)
NZ98/254 GMT Mo3 N=107,208,105,215,104,215,302,108	17 (13 to 22)	19 (16 to 24)	61 (46 to 82)	52 (42 to 64)
NZ98/254 GMT Mo 6 N= 99,188,100,198,99,200,278,100	12 (8.94 to 17)	11 (8.63 to 14)	31 (22 to 42)	29 (23 to 36)
NZ98/254 GMT Mo 7 N= 86,172,95,187,91,179,255,95	140 (101 to 195)	10 (8.01 to 13)	181 (132 to 248)	24 (19 to 30)

End point values	rMenB026	rMenB02	rMenB012	rMenB6
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	110	232	334	116
Units: Titer				
geometric mean (confidence interval 95%)				
44/76 GMT Mo 0 N=112,223,113,231,110,232,334,116	3.39 (2.52 to 4.56)	3.99 (3.25 to 4.9)	3.87 (3.26 to 4.6)	3.89 (2.91 to 5.19)
44/76 GMT Mo 1 N=112,223,113,231,110,232,333,115	44 (32 to 61)	57 (45 to 71)	60 (49 to 72)	3.39 (2.46 to 4.65)
44/76 GMT Mo 2 N= 108,213,108,222,105,219,307,109	28 (21 to 37)	38 (31 to 46)	193 (164 to 228)	4.09 (3.11 to 5.38)
44/76 GMT Mo 3 N= 107,208,105,215,104,215,303,108	182 (139 to 236)	230 (191 to 277)	240 (205 to 280)	4.04 (3.12 to 5.22)
44/76 GMT Mo 6 N= 100,188,100,198,99,201,278,100	54 (39 to 75)	75 (60 to 95)	86 (70 to 104)	3.9 (2.82 to 5.4)
44/76 GMT Mo 7 N= 86, 173,95,186,91,179,255,95	259 (188 to 357)	48 (38 to 60)	59 (49 to 72)	56 (41 to 77)
5/99 GMT Mo 0 N= 112,223,113,231,110,232,334,116	2.43 (1.89 to 3.12)	2.72 (2.29 to 3.24)	2.58 (2.23 to 2.98)	2.27 (1.78 to 2.89)
5/99 GMT Mo 1 N= 111,223,113,231,110,232,333,115	57 (42 to 76)	76 (62 to 93)	71 (60 to 84)	2.56 (1.93 to 3.4)
5/99 GMT Mo 2 N= 108,213,108,222,105,219,308,109	26 (20 to 33)	40 (34 to 48)	481 (415 to 556)	2.48 (1.95 to 3.16)
5/99 GMT Mo 3 N= 107,209,105,215,105,215,303,108	540 (431 to 677)	822 (702 to 964)	584 (510 to 668)	2.58 (2.07 to 3.22)
5/99 GMT Mo 6 N= 100,188,100,198,99,201,278,100	124 (97 to 158)	147 (123 to 175)	186 (160 to 216)	2.03 (1.59 to 2.59)
5/99 GMT Mo 7 N= 86,173,95,187,91,179,255,95	994 (767 to 1289)	121 (101 to 146)	164 (141 to 192)	53 (41 to 68)
NZ98/254 GMT Mo0 N=112,223,113,231,110,232,333,116	3.07 (2.28 to 4.12)	3.39 (2.76 to 4.16)	2.83 (2.38 to 3.36)	3.12 (2.34 to 4.15)
NZ98/254 GMT Mo1 N=111,223,113,231,110,232,333,115	37 (27 to 50)	42 (34 to 52)	49 (41 to 58)	2.85 (2.11 to 3.84)
NZ98/254 GMT Mo2 N=107,213,108,222,105,218,308,109	19 (14 to 26)	26 (21 to 32)	92 (77 to 110)	3.28 (2.43 to 4.41)
NZ98/254 GMT Mo3 N=107,208,105,215,104,215,302,108	117 (87 to 157)	125 (102 to 154)	122 (102 to 145)	3.57 (2.68 to 4.75)
NZ98/254 GMT Mo 6 N= 99,188,100,198,99,200,278,100	44 (32 to 61)	49 (39 to 61)	52 (43 to 63)	4.17 (3.04 to 5.72)
NZ98/254 GMT Mo 7 N= 86,172,95,187,91,179,255,95	168 (122 to 232)	39 (31 to 49)	41 (34 to 50)	47 (34 to 64)

Statistical analyses

No statistical analyses for this end point

Secondary: 6. Geometric mean ratios (GMRs) after primary and booster vaccination.

End point title	6. Geometric mean ratios (GMRs) after primary and booster vaccination.
End point description:	
Immunogenicity was evaluated by measuring the Geometric mean ratios (GMRs) after primary and booster vaccination against 44/76-SL, 5/99, NZ98/254.	
End point type	Secondary
End point timeframe:	
month-1, month-2, month-3, month-6 and month-7	

End point values	rMenB06	rMenB0	rMenB016	rMenB01
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	112	223	113	231
Units: Ratio				
geometric mean (confidence interval 95%)				
44/76GMR Mo 1to0 N=112,223,113,231,110,232,333,115	13 (10 to 18)	14 (11 to 17)	17 (12 to 22)	16 (13 to 19)
44/76GMR Mo 2to0 N=108,213,107,222,105,219,307,109	8.92 (6.73 to 12)	9.65 (7.88 to 12)	53 (40 to 71)	56 (46 to 69)
44/76GMR Mo 3to0 N=107,208,104,215,104,215,303,108	5.98 (4.51 to 7.92)	7.31 (5.97 to 8.96)	37 (28 to 50)	34 (28 to 42)
44/76GMR Mo 6to0 N=100,188,99,198,99,201,278,100	3.98 (2.96 to 5.35)	3.64 (2.93 to 4.52)	17 (13 to 23)	16 (13 to 19)
44/76GMR Mo 7to0 N=86,173,94,186,91,179,255,95	74 (54 to 103)	3.09 (2.46 to 3.88)	92 (67 to 125)	12 (9.24 to 12)
44/76GMR Mo 7to6 86,173,95,186,91,179,255,94	18 (14 to 23)	0.89 (0.76 to 1.05)	5.36 (4.3 to 6.68)	0.72 (0.61 to 0.84)
5/99GMR Mo 1to0 N=111,223,113,231,110,232,333,115	31 (23 to 42)	20 (16 to 25)	25 (19 to 34)	29 (23 to 35)
5/99GMR Mo 2to0 N=108,213,107,222,105,219,308,109	15 (11 to 20)	11 (8.65 to 13)	198 (149 to 262)	181 (149 to 220)
5/99GMR Mo 3to0 N=107,209,104,215,105,215,303,108	9.22 (6.94 to 12)	7.37 (6.01 to 9.04)	115 (86 to 153)	109 (89 to 133)
5/99GMR Mo 6to0 N=100,188,99,198,99,201,278,100	4.65 (3.47 to 6.23)	3.83 (3.09 to 4.75)	49 (37 to 66)	45 (36 to 55)
5/99GMR Mo 7 to 0 N=86,173,95,187,91,179,255,94	355 (254 to 497)	3.07 (2.42 to 3.89)	430 (312 to 594)	40 (32 to 50)
5/99GMR Mo 7to6 N=86,173,95,187,91,179,255,94	71 (55 to 90)	0.83 (0.7 to 0.99)	8.98 (7.13 to 11)	0.87 (0.74 to 1.03)
NZ98/254GMR Mo 1to0 N=111,223,113,231,110,232,115	14 (11 to 19)	13 (11 to 16)	14 (10 to 18)	15 (12 to 18)
NZ98/254GMR Mo 2to0 N=107,213,107,222,105,218,109,	7.69 (5.86 to 10)	7.24 (5.97 to 8.79)	29 (22 to 38)	30 (24 to 36)
NZ98/254GMR Mo 3to0 N=107,208,104,215,104,215,108	6.01 (4.54 to 7.96)	5.5 (4.49 to 6.74)	18 (14 to 24)	18 (14 to 21)
NZ98/254GMR Mo 6to0 N=99,188,99,198,99,200,277,100	4.75 (3.62 to 6.24)	3.49 (2.86 to 4.26)	9.26 (7.05 to 12)	10 (8.29 to 12)
NZ98/254GMR Mo 7to0 N=86,172,94,187,91,179,254,95	59 (44 to 80)	3.32 (2.67 to 4.12)	53 (40 to 71)	8.94 (7.26 to 11)
NZ98/254GMR Mo 7to6 N=85,172,95,187,91,179,255,94	11 (8.73 to 14)	0.99 (0.84 to 1.17)	5.86 (4.7 to 7.3)	0.85 (0.73 to 1)

End point values	rMenB026	rMenB02	rMenB012	rMenB6
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	110	232	334	116
Units: Ratio				
geometric mean (confidence interval 95%)				
44/76GMR Mo 1to0 N=112,223,113,231,110,232,333,115	13 (9.71 to 18)	14 (12 to 17)	15 (13 to 18)	0.89 (0.66 to 1.18)
44/76GMR Mo 2to0 N=108,213,107,222,105,219,307,109	8.43 (6.33 to 11)	9.51 (7.79 to 12)	50 (42 to 59)	1.04 (0.79 to 1.38)
44/76GMR Mo 3to0 N=107,208,104,215,104,215,303,108	55 (41 to 73)	58 (48 to 71)	62 (52 to 73)	0.98 (0.74 to 1.3)
44/76GMR Mo 6to0 N=100,188,99,198,99,201,278,100	16 (12 to 21)	20 (16 to 25)	23 (19 to 27)	0.92 (0.69 to 1.24)
44/76GMR Mo 7to0 N=86,173,94,186,91,179,255,95	79 (58 to 109)	13 (11 to 17)	16 (13 to 19)	13 (9.76 to 18)
44/76GMR Mo 7to6 86,173,95,186,91,179,255,94	5.08 (4.05 to 6.37)	0.67 (0.57 to 0.79)	0.67 (0.59 to 0.77)	14 (11 to 17)
5/99GMR Mo 1to0 N=111,223,113,231,110,232,333,115	23 (17 to 32)	28 (23 to 34)	28 (23 to 33)	1.13 (0.84 to 1.52)
5/99GMR Mo 2to0 N=108,213,107,222,105,219,308,109	11 (8.13 to 14)	15 (12 to 18)	186 (158 to 220)	1.06 (0.8 to 1.4)
5/99GMR Mo 3to0 N=107,209,104,215,105,215,303,108	233 (175 to 311)	306 (250 to 374)	225 (190 to 267)	1.09 (0.82 to 1.44)
5/99GMR Mo 6to0 N=100,188,99,198,99,201,278,100	52 (39 to 70)	56 (45 to 69)	74 (62 to 88)	0.82 (0.61 to 1.1)
5/99GMR Mo 7 to 0 N=86,173,95,187,91,179,255,94	427 (307 to 593)	46 (36 to 58)	65 (53 to 79)	21 (16 to 29)
5/99GMR Mo 7to6 N=86,173,95,187,91,179,255,94	7.92 (6.26 to 10)	0.83 (0.71 to 0.99)	0.86 (0.74 to 0.99)	26 (20 to 32)
NZ98/254GMR Mo 1to0 N=111,223,113,231,110,232,115	12 (9 to 16)	12 (10 to 15)	17 (15 to 21)	0.91 (0.68 to 1.2)
NZ98/254GMR Mo 2to0 N=107,213,107,222,105,218,109,	6.46 (4.91 to 8.5)	7.96 (6.57 to 9.63)	33 (28 to 39)	1.06 (0.81 to 1.38)
NZ98/254GMR Mo 3to0 N=107,208,104,215,104,215,108	40 (30 to 54)	38 (32 to 47)	44 (37 to 52)	1.13 (0.86 to 1.5)
NZ98/254GMR Mo 6to0 N=99,188,99,198,99,200,277,100	14 (11 to 19)	15 (13 to 19)	19 (16 to 22)	1.28 (0.98 to 1.68)
NZ98/254GMR Mo 7to0 N=86,172,94,187,91,179,254,95	57 (42 to 77)	13 (10 to 16)	15 (12 to 18)	15 (11 to 19)
NZ98/254GMR Mo 7to6 N=85,172,95,187,91,179,255,94	3.95 (3.15 to 4.95)	0.84 (0.72 to 0.99)	0.81 (0.7 to 0.92)	11 (8.98 to 14)

Statistical analyses

No statistical analyses for this end point

Secondary: 7. GMCs of Antibodies Against 287-293 Antigen (ELISA) after primary and Booster Vaccination

End point title	7. GMCs of Antibodies Against 287-293 Antigen (ELISA) after primary and Booster Vaccination
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End point description:

Immunogenicity was evaluated by measuring the Geometric mean Concentration (GMCs) after primary and booster vaccination against Antigen 287-293 Antigen.

End point type	Secondary
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End point timeframe:

month-1, month-2, month-3, month-6 and month-7

End point values	rMenB06	rMenB0	rMenB016	rMenB01
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	34	35	35	35
Units: IU/mL				
geometric mean (confidence interval 95%)				
GMC Mo 0 N= 34,35,35,32,35,35,35,35,35	35 (25 to 51)	35 (25 to 50)	43 (30 to 61)	37 (26 to 54)
GMC Mo 1 N= 34,35,35,35,35,35,35,35,35	190 (113 to 318)	204 (123 to 340)	334 (200 to 555)	217 (130 to 361)
GMC Mo 2 N= 34,35,35,34,35,35,35,35,35	173 (115 to 261)	154 (102 to 231)	3025 (2015 to 4543)	3875 (2566 to 5854)
GMC Mo 3 N= 34,35,35,34,35,35,35,35,35	102 (69 to 152)	124 (84 to 183)	1612 (1093 to 2378)	1831 (1234 to 2716)
GMC Mo 6 N= 34,35,35,35,35,35,35,35,35	91 (59 to 138)	72 (48 to 110)	565 (372 to 857)	488 (322 to 741)
GMC Mo 7 N= 34,34,35,34,35,35,35,35,35	2240 (1385 to 3623)	69 (43 to 112)	3840 (2391 to 6168)	383 (237 to 620)

End point values	rMenB026	rMenB02	rMenB012	rMenB6
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	35	35	35	35
Units: IU/mL				
geometric mean (confidence interval 95%)				
GMC Mo 0 N= 34,35,35,32,35,35,35,35,35	44 (31 to 63)	32 (23 to 46)	32 (22 to 45)	48 (34 to 68)
GMC Mo 1 N= 34,35,35,35,35,35,35,35,35	234 (140 to 389)	220 (132 to 367)	521 (313 to 868)	50 (30 to 82)
GMC Mo 2 N= 34,35,35,34,35,35,35,35,35	175 (117 to 263)	144 (96 to 216)	3693 (2459 to 5545)	42 (28 to 62)
GMC Mo 3 N= 34,35,35,34,35,35,35,35,35	3332 (2259 to 4916)	2936 (1990 to 4332)	5314 (3602 to 7839)	42 (29 to 62)
GMC Mo 6 N= 34,35,35,35,35,35,35,35,35	807 (531 to 1224)	628 (414 to 953)	1602 (1055 to 2431)	37 (24 to 56)
GMC Mo 7 N= 34,34,35,34,35,35,35,35,35	5492 (3419 to 8821)	532 (331 to 855)	1111 (692 to 1785)	283 (176 to 454)

Statistical analyses

Secondary: 8. GMRs of Antibodies Against 287-293 Antigen (ELISA) after primary and Booster Vaccination

End point title	8. GMRs of Antibodies Against 287-293 Antigen (ELISA) after primary and Booster Vaccination
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End point description:

Immunogenicity was evaluated by measuring the Geometric mean Ratios (GMRs) after primary and booster vaccination against 287-293 Antigen

End point type	Secondary
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End point timeframe:

month-1, month-2, month-3, month-6 and month-7

End point values	rMenB06	rMenB0	rMenB016	rMenB01
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	34	35	35	35
Units: Ratio				
geometric mean (confidence interval 95%)				
GMR Mo 1 to 0 N= 34,35,35,32,35,35,35,35,35	5.37 (3.19 to 9.05)	5.82 (3.48 to 9.73)	7.75 (4.64 to 13)	5.34 (3.12 to 9.14)
GMR Mo 2 to 0 N= 34,35,35,31,35,35,35,35,35	4.9 (3.2 to 7.5)	4.38 (2.88 to 6.66)	70 (46 to 107)	112 (72 to 175)
GMR Mo 3 to 0 N= 34,35,35,31,35,35,35,35,35	2.9 (1.82 to 4.61)	3.54 (2.24 to 5.59)	37 (24 to 59)	55 (34 to 89)
GMR Mo 6 to 0 N= 34,35,35,32,35,35,35,35,35	2.56 (1.59 to 4.13)	2.06 (1.29 to 3.3)	13 (8.2 to 21)	13 (7.86 to 21)
GMR Mo 7 to 0 N= 34,34,35,31,35,35,35,35,35	63 (34 to 119)	1.94 (1.03 to 3.64)	89 (48 to 166)	11 (5.67 to 21)

End point values	rMenB026	rMenB02	rMenB012	rMenB6
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	35	35	35	35
Units: Ratio				
geometric mean (confidence interval 95%)				
GMR Mo 1 to 0 N= 34,35,35,32,35,35,35,35,35	5.26 (3.14 to 8.79)	6.85 (4.09 to 11)	16 (9.77 to 27)	1.03 (0.62 to 1.73)
GMR Mo 2 to 0 N= 34,35,35,31,35,35,35,35,35	3.94 (2.59 to 5.99)	4.46 (2.93 to 6.79)	116 (76 to 176)	0.87 (0.57 to 1.32)
GMR Mo 3 to 0 N= 34,35,35,31,35,35,35,35,35	75 (47 to 118)	91 (59 to 144)	167 (105 to 263)	0.88 (0.56 to 1.4)
GMR Mo 6 to 0 N= 34,35,35,32,35,35,35,35,35	18 (11 to 29)	20 (12 to 31)	50 (31 to 80)	0.77 (0.48 to 1.23)
GMR Mo 7 to 0 N= 34,34,35,31,35,35,35,35,35	123 (66 to 229)	17 (8.9 to 31)	35 (19 to 65)	5.9 (3.17 to 11)

Statistical analyses

No statistical analyses for this end point

Secondary: 10. Number of Subjects reporting unsolicited AEs throughout the study

End point title	10. Number of Subjects reporting unsolicited AEs throughout the study
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End point description:

Safety was assessed as the number of subjects who reported unsolicited AEs throughout the study.

End point type	Secondary
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End point timeframe:

Throughout the study

End point values	rMenB06	rMenB0	rMenB016	rMenB01
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	128	247	128	247
Units: Number of Subjects				
Any AE's	65	137	73	143
At least possibly related AEs	22	36	30	36
Serious AEs	5	4	2	4
At least possibly related SAEs	0	0	0	0
AEs leading to discontinuation	1	0	0	0

End point values	rMenB026	rMenB02	rMenB012	rMenB6
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	127	253	373	128
Units: Number of Subjects				
Any AE's	72	148	210	80
At least possibly related AEs	24	43	76	26
Serious AEs	2	4	11	3
At least possibly related SAEs	0	0	2	0
AEs leading to discontinuation	1	0	1	0

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

Solicited adverse events (AEs) were collected from Day 1 through 7, Serious AEs were collected throughout the study

Assessment type	Non-systematic
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Dictionary used

Dictionary name	MedDRA
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Dictionary version	13.1
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Reporting groups

Reporting group title	rMenB06
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Reporting group description:

Subjects received 2 doses each of rMenB+OMV-NZ at 0 and 6 months and placebo at 1 and 2 months.

Reporting group title	rMenB0
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Reporting group description:

Subjects received 1 dose of rMenB+OMV-NZ at 0 month and 3 doses of placebo at 1, 2 and 6 months.

Reporting group title	rMenB016
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Reporting group description:

Subjects received 3 doses of rMenB+OMV-NZ at 0, 1 and 6 months and 1 dose of placebo at 2 months.

Reporting group title	rMenB01
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Reporting group description:

Subjects received 2 doses each of rMenB+OMV-NZ at 0 and 1 months and placebo at 2 and 6 months.

Reporting group title	rMenB026
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Reporting group description:

Subjects received 3 doses of rMenB+OMV-NZ at 0, 2 and 6 months and 1 dose of placebo at 1 month.

Reporting group title	rMenB02
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Reporting group description:

Subjects received 2 doses each of rMenB+OMV-NZ at 0 and 2 months and placebo at 1 and 6 months.

Reporting group title	rMenB012
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Reporting group description:

Subjects received 3 doses of rMenB+OMV-NZ at 0, 1 and 2 months and placebo at 6 months.

Reporting group title	rMenB6
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Reporting group description:

Subjects received 1 dose of rMenB+OMV-NZ at 6 months and 3 doses of placebo at 0, 1 and 2 months.

Serious adverse events	rMenB06	rMenB0	rMenB016
Total subjects affected by serious adverse events			
subjects affected / exposed	5 / 128 (3.91%)	4 / 247 (1.62%)	2 / 128 (1.56%)
number of deaths (all causes)	1	0	0
number of deaths resulting from adverse events	0	0	0
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
ADENOMA BENIGN			

subjects affected / exposed	0 / 128 (0.00%)	0 / 247 (0.00%)	0 / 128 (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
BENIGN OVARIAN TUMOUR			
subjects affected / exposed	0 / 128 (0.00%)	0 / 247 (0.00%)	0 / 128 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Injury, poisoning and procedural complications			
JOINT INJURY			
subjects affected / exposed	0 / 128 (0.00%)	0 / 247 (0.00%)	0 / 128 (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
LIGAMENT RUPTURE			
subjects affected / exposed	0 / 128 (0.00%)	0 / 247 (0.00%)	0 / 128 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
ROAD TRAFFIC ACCIDENT			
subjects affected / exposed	1 / 128 (0.78%)	0 / 247 (0.00%)	0 / 128 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 1	0 / 0	0 / 0
TOXICITY TO VARIOUS AGENTS			
subjects affected / exposed	0 / 128 (0.00%)	0 / 247 (0.00%)	0 / 128 (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
Surgical and medical procedures			
ADENOIDECTOMY			
subjects affected / exposed	0 / 128 (0.00%)	0 / 247 (0.00%)	0 / 128 (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
TONSILLECTOMY			
subjects affected / exposed	0 / 128 (0.00%)	0 / 247 (0.00%)	0 / 128 (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 CONVULSION			
	subjects affected / exposed	1 / 128 (0.78%)	1 / 247 (0.40%)
	occurrences causally related to treatment / all	0 / 1	0 / 2
	deaths causally related to treatment / all	0 / 0	0 / 0
EPILEPSY			
	subjects affected / exposed	0 / 128 (0.00%)	1 / 247 (0.40%)
	occurrences causally related to treatment / all	0 / 0	0 / 1
	deaths causally related to treatment / all	0 / 0	0 / 0
SYNCOPE			
	subjects affected / exposed	0 / 128 (0.00%)	0 / 247 (0.00%)
	occurrences causally related to treatment / all	0 / 0	0 / 0
	deaths causally related to treatment / all	0 / 0	0 / 0
Pregnancy, puerperium and perinatal conditions PREMATURE LABOUR			
	subjects affected / exposed	1 / 128 (0.78%)	0 / 247 (0.00%)
	occurrences causally related to treatment / all	0 / 1	0 / 0
	deaths causally related to treatment / all	0 / 0	0 / 0
Reproductive system and breast disorders TESTICULAR TORSION			
	subjects affected / exposed	0 / 128 (0.00%)	0 / 247 (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 ASTHMATIC CRISIS			
	subjects affected / exposed	0 / 128 (0.00%)	0 / 247 (0.00%)
	occurrences causally related to treatment / all	0 / 0	0 / 0
	deaths causally related to treatment / all	0 / 0	0 / 0
Skin and subcutaneous tissue disorders URTICARIA			
	subjects affected / exposed	0 / 128 (0.00%)	0 / 247 (0.00%)
	occurrences causally related to treatment / all	0 / 0	0 / 0
	deaths causally related to treatment / all	0 / 0	0 / 0
Psychiatric disorders			

MAJOR DEPRESSION			
subjects affected / exposed	0 / 128 (0.00%)	0 / 247 (0.00%)	0 / 128 (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
PANIC ATTACK			
subjects affected / exposed	0 / 128 (0.00%)	0 / 247 (0.00%)	0 / 128 (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 / 128 (0.00%)	1 / 247 (0.40%)	0 / 128 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Renal and urinary disorders			
GLOMERULONEPHRITIS MINIMAL LESION			
subjects affected / exposed	0 / 128 (0.00%)	0 / 247 (0.00%)	0 / 128 (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
Musculoskeletal and connective tissue disorders			
JUVENILE IDIOPATHIC ARTHRITIS			
subjects affected / exposed	0 / 128 (0.00%)	0 / 247 (0.00%)	0 / 128 (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	1 / 128 (0.78%)	1 / 247 (0.40%)	1 / 128 (0.78%)
occurrences causally related to treatment / all	0 / 1	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
DYSENTERY			
subjects affected / exposed	0 / 128 (0.00%)	1 / 247 (0.40%)	0 / 128 (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
MENINGITIS BACTERIAL			

subjects affected / exposed	0 / 128 (0.00%)	0 / 247 (0.00%)	0 / 128 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
PNEUMONIA VIRAL			
subjects affected / exposed	1 / 128 (0.78%)	0 / 247 (0.00%)	0 / 128 (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
SHIGELLA INFECTION			
subjects affected / exposed	0 / 128 (0.00%)	0 / 247 (0.00%)	0 / 128 (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	rMenB01	rMenB026	rMenB02
Total subjects affected by serious adverse events			
subjects affected / exposed	4 / 247 (1.62%)	2 / 127 (1.57%)	4 / 253 (1.58%)
number of deaths (all causes)	0	1	0
number of deaths resulting from adverse events	0	0	0
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
ADENOMA BENIGN			
subjects affected / exposed	0 / 247 (0.00%)	0 / 127 (0.00%)	0 / 253 (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
BENIGN OVARIAN TUMOUR			
subjects affected / exposed	0 / 247 (0.00%)	0 / 127 (0.00%)	0 / 253 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Injury, poisoning and procedural complications			
JOINT INJURY			
subjects affected / exposed	0 / 247 (0.00%)	0 / 127 (0.00%)	0 / 253 (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
LIGAMENT RUPTURE			

subjects affected / exposed	0 / 247 (0.00%)	0 / 127 (0.00%)	0 / 253 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
ROAD TRAFFIC ACCIDENT			
subjects affected / exposed	0 / 247 (0.00%)	0 / 127 (0.00%)	0 / 253 (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
TOXICITY TO VARIOUS AGENTS			
subjects affected / exposed	0 / 247 (0.00%)	0 / 127 (0.00%)	2 / 253 (0.79%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 2
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Surgical and medical procedures			
ADENOIDECTOMY			
subjects affected / exposed	1 / 247 (0.40%)	0 / 127 (0.00%)	0 / 253 (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
TONSILLECTOMY			
subjects affected / exposed	1 / 247 (0.40%)	0 / 127 (0.00%)	0 / 253 (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			
CONVULSION			
subjects affected / exposed	0 / 247 (0.00%)	0 / 127 (0.00%)	0 / 253 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
EPILEPSY			
subjects affected / exposed	0 / 247 (0.00%)	0 / 127 (0.00%)	0 / 253 (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
SYNCOPE			
subjects affected / exposed	0 / 247 (0.00%)	0 / 127 (0.00%)	0 / 253 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pregnancy, puerperium and perinatal			

conditions			
PREMATURE LABOUR			
subjects affected / exposed	0 / 247 (0.00%)	0 / 127 (0.00%)	0 / 253 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Reproductive system and breast disorders			
TESTICULAR TORSION			
subjects affected / exposed	1 / 247 (0.40%)	0 / 127 (0.00%)	0 / 253 (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			
ASTHMATIC CRISIS			
subjects affected / exposed	0 / 247 (0.00%)	0 / 127 (0.00%)	0 / 253 (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
Skin and subcutaneous tissue disorders			
URTICARIA			
subjects affected / exposed	0 / 247 (0.00%)	0 / 127 (0.00%)	0 / 253 (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			
MAJOR DEPRESSION			
subjects affected / exposed	0 / 247 (0.00%)	1 / 127 (0.79%)	0 / 253 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 1	0 / 0
PANIC ATTACK			
subjects affected / exposed	0 / 247 (0.00%)	1 / 127 (0.79%)	0 / 253 (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
SUICIDE ATTEMPT			
subjects affected / exposed	0 / 247 (0.00%)	1 / 127 (0.79%)	0 / 253 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Renal and urinary disorders			

GLOMERULONEPHRITIS MINIMAL LESION subjects affected / exposed occurrences causally related to treatment / all deaths causally related to treatment / all	1 / 247 (0.40%) 0 / 1 0 / 0	0 / 127 (0.00%) 0 / 0 0 / 0	0 / 253 (0.00%) 0 / 0 0 / 0
Musculoskeletal and connective tissue disorders JUVENILE IDIOPATHIC ARTHRITIS subjects affected / exposed occurrences causally related to treatment / all deaths causally related to treatment / all	0 / 247 (0.00%) 0 / 0 0 / 0	0 / 127 (0.00%) 0 / 0 0 / 0	0 / 253 (0.00%) 0 / 0 0 / 0
Infections and infestations APPENDICITIS subjects affected / exposed occurrences causally related to treatment / all deaths causally related to treatment / all	1 / 247 (0.40%) 0 / 1 0 / 0	1 / 127 (0.79%) 0 / 1 0 / 0	1 / 253 (0.40%) 0 / 1 0 / 0
DYSENTERY subjects affected / exposed occurrences causally related to treatment / all deaths causally related to treatment / all	0 / 247 (0.00%) 0 / 0 0 / 0	0 / 127 (0.00%) 0 / 0 0 / 0	0 / 253 (0.00%) 0 / 0 0 / 0
MENINGITIS BACTERIAL subjects affected / exposed occurrences causally related to treatment / all deaths causally related to treatment / all	0 / 247 (0.00%) 0 / 0 0 / 0	0 / 127 (0.00%) 0 / 0 0 / 0	0 / 253 (0.00%) 0 / 0 0 / 0
PNEUMONIA VIRAL subjects affected / exposed occurrences causally related to treatment / all deaths causally related to treatment / all	0 / 247 (0.00%) 0 / 0 0 / 0	0 / 127 (0.00%) 0 / 0 0 / 0	0 / 253 (0.00%) 0 / 0 0 / 0
SHIGELLA INFECTION subjects affected / exposed occurrences causally related to treatment / all deaths causally related to treatment / all	0 / 247 (0.00%) 0 / 0 0 / 0	0 / 127 (0.00%) 0 / 0 0 / 0	1 / 253 (0.40%) 0 / 1 0 / 0

Serious adverse events	rMenB012	rMenB6	
Total subjects affected by serious adverse events			
subjects affected / exposed	11 / 373 (2.95%)	3 / 128 (2.34%)	

number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
ADENOMA BENIGN			
subjects affected / exposed	0 / 373 (0.00%)	1 / 128 (0.78%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
BENIGN OVARIAN TUMOUR			
subjects affected / exposed	1 / 373 (0.27%)	0 / 128 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Injury, poisoning and procedural complications			
JOINT INJURY			
subjects affected / exposed	1 / 373 (0.27%)	0 / 128 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
LIGAMENT RUPTURE			
subjects affected / exposed	1 / 373 (0.27%)	0 / 128 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
ROAD TRAFFIC ACCIDENT			
subjects affected / exposed	0 / 373 (0.00%)	0 / 128 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
TOXICITY TO VARIOUS AGENTS			
subjects affected / exposed	0 / 373 (0.00%)	0 / 128 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Surgical and medical procedures			
ADENOIDECTOMY			
subjects affected / exposed	0 / 373 (0.00%)	0 / 128 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
TONSILLECTOMY			

subjects affected / exposed	0 / 373 (0.00%)	0 / 128 (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			
CONVULSION			
subjects affected / exposed	0 / 373 (0.00%)	0 / 128 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
EPILEPSY			
subjects affected / exposed	0 / 373 (0.00%)	0 / 128 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
SYNCOPE			
subjects affected / exposed	1 / 373 (0.27%)	0 / 128 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Pregnancy, puerperium and perinatal conditions			
PREMATURE LABOUR			
subjects affected / exposed	0 / 373 (0.00%)	0 / 128 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Reproductive system and breast disorders			
TESTICULAR TORSION			
subjects affected / exposed	0 / 373 (0.00%)	0 / 128 (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			
ASTHMATIC CRISIS			
subjects affected / exposed	1 / 373 (0.27%)	0 / 128 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Skin and subcutaneous tissue disorders			
URTICARIA			

subjects affected / exposed	1 / 373 (0.27%)	0 / 128 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Psychiatric disorders			
MAJOR DEPRESSION			
subjects affected / exposed	0 / 373 (0.00%)	0 / 128 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
PANIC ATTACK			
subjects affected / exposed	0 / 373 (0.00%)	0 / 128 (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 / 373 (0.00%)	1 / 128 (0.78%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Renal and urinary disorders			
GLOMERULONEPHRITIS MINIMAL LESION			
subjects affected / exposed	0 / 373 (0.00%)	0 / 128 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Musculoskeletal and connective tissue disorders			
JUVENILE IDIOPATHIC ARTHRITIS			
subjects affected / exposed	2 / 373 (0.54%)	0 / 128 (0.00%)	
occurrences causally related to treatment / all	2 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Infections and infestations			
APPENDICITIS			
subjects affected / exposed	2 / 373 (0.54%)	1 / 128 (0.78%)	
occurrences causally related to treatment / all	0 / 2	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
DYSENTERY			

subjects affected / exposed	0 / 373 (0.00%)	0 / 128 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
MENINGITIS BACTERIAL			
subjects affected / exposed	1 / 373 (0.27%)	0 / 128 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
PNEUMONIA VIRAL			
subjects affected / exposed	0 / 373 (0.00%)	0 / 128 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
SHIGELLA INFECTION			
subjects affected / exposed	0 / 373 (0.00%)	0 / 128 (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: 5 %

Non-serious adverse events	rMenB06	rMenB0	rMenB016
Total subjects affected by non-serious adverse events			
subjects affected / exposed	123 / 128 (96.09%)	238 / 247 (96.36%)	126 / 128 (98.44%)
Injury, poisoning and procedural complications			
LIGAMENT SPRAIN			
subjects affected / exposed	4 / 128 (3.13%)	6 / 247 (2.43%)	3 / 128 (2.34%)
occurrences (all)	4	6	3
Nervous system disorders			
HEADACHE			
subjects affected / exposed	79 / 128 (61.72%)	140 / 247 (56.68%)	88 / 128 (68.75%)
occurrences (all)	185	346	256
General disorders and administration site conditions			
INJECTION SITE ERYTHEMA			
subjects affected / exposed	93 / 128 (72.66%)	162 / 247 (65.59%)	97 / 128 (75.78%)
occurrences (all)	211	338	225
INJECTION SITE INDURATION			

subjects affected / exposed	72 / 128 (56.25%)	130 / 247 (52.63%)	76 / 128 (59.38%)
occurrences (all)	149	240	167
INJECTION SITE PAIN			
subjects affected / exposed	122 / 128 (95.31%)	236 / 247 (95.55%)	124 / 128 (96.88%)
occurrences (all)	378	667	396
INJECTION SITE SWELLING			
subjects affected / exposed	73 / 128 (57.03%)	132 / 247 (53.44%)	81 / 128 (63.28%)
occurrences (all)	129	244	172
MALAISE			
subjects affected / exposed	92 / 128 (71.88%)	181 / 247 (73.28%)	96 / 128 (75.00%)
occurrences (all)	222	371	238
PYREXIA			
subjects affected / exposed	12 / 128 (9.38%)	8 / 247 (3.24%)	13 / 128 (10.16%)
occurrences (all)	17	11	18
Gastrointestinal disorders			
NAUSEA			
subjects affected / exposed	41 / 128 (32.03%)	80 / 247 (32.39%)	51 / 128 (39.84%)
occurrences (all)	80	120	109
Musculoskeletal and connective tissue disorders			
ARTHRALGIA			
subjects affected / exposed	56 / 128 (43.75%)	76 / 247 (30.77%)	55 / 128 (42.97%)
occurrences (all)	101	131	106
MYALGIA			
subjects affected / exposed	85 / 128 (66.41%)	141 / 247 (57.09%)	91 / 128 (71.09%)
occurrences (all)	170	266	187
Infections and infestations			
BRONCHITIS			
subjects affected / exposed	6 / 128 (4.69%)	7 / 247 (2.83%)	5 / 128 (3.91%)
occurrences (all)	6	7	5
GASTROENTERITIS			
subjects affected / exposed	4 / 128 (3.13%)	7 / 247 (2.83%)	2 / 128 (1.56%)
occurrences (all)	4	8	2
NASOPHARYNGITIS			
subjects affected / exposed	9 / 128 (7.03%)	24 / 247 (9.72%)	18 / 128 (14.06%)
occurrences (all)	9	26	18
PHARYNGITIS			

subjects affected / exposed	7 / 128 (5.47%)	11 / 247 (4.45%)	5 / 128 (3.91%)
occurrences (all)	7	11	6
TONSILLITIS			
subjects affected / exposed	3 / 128 (2.34%)	5 / 247 (2.02%)	4 / 128 (3.13%)
occurrences (all)	4	5	5

Non-serious adverse events	rMenB01	rMenB026	rMenB02
Total subjects affected by non-serious adverse events			
subjects affected / exposed	242 / 247 (97.98%)	118 / 127 (92.91%)	240 / 253 (94.86%)
Injury, poisoning and procedural complications			
LIGAMENT SPRAIN			
subjects affected / exposed	7 / 247 (2.83%)	7 / 127 (5.51%)	7 / 253 (2.77%)
occurrences (all)	8	7	7
Nervous system disorders			
HEADACHE			
subjects affected / exposed	160 / 247 (64.78%)	74 / 127 (58.27%)	165 / 253 (65.22%)
occurrences (all)	444	208	452
General disorders and administration site conditions			
INJECTION SITE ERYTHEMA			
subjects affected / exposed	188 / 247 (76.11%)	94 / 127 (74.02%)	172 / 253 (67.98%)
occurrences (all)	428	251	389
INJECTION SITE INDURATION			
subjects affected / exposed	151 / 247 (61.13%)	82 / 127 (64.57%)	122 / 253 (48.22%)
occurrences (all)	328	191	234
INJECTION SITE PAIN			
subjects affected / exposed	237 / 247 (95.95%)	113 / 127 (88.98%)	236 / 253 (93.28%)
occurrences (all)	729	398	749
INJECTION SITE SWELLING			
subjects affected / exposed	144 / 247 (58.30%)	76 / 127 (59.84%)	115 / 253 (45.45%)
occurrences (all)	310	171	242
MALAISE			
subjects affected / exposed	172 / 247 (69.64%)	87 / 127 (68.50%)	185 / 253 (73.12%)
occurrences (all)	405	235	444
PYREXIA			
subjects affected / exposed	21 / 247 (8.50%)	18 / 127 (14.17%)	26 / 253 (10.28%)
occurrences (all)	22	20	30

Gastrointestinal disorders			
NAUSEA			
subjects affected / exposed	72 / 247 (29.15%)	42 / 127 (33.07%)	89 / 253 (35.18%)
occurrences (all)	126	72	156
Musculoskeletal and connective tissue disorders			
ARTHRALGIA			
subjects affected / exposed	89 / 247 (36.03%)	31 / 127 (24.41%)	105 / 253 (41.50%)
occurrences (all)	175	81	215
MYALGIA			
subjects affected / exposed	158 / 247 (63.97%)	82 / 127 (64.57%)	160 / 253 (63.24%)
occurrences (all)	335	193	357
Infections and infestations			
BRONCHITIS			
subjects affected / exposed	10 / 247 (4.05%)	9 / 127 (7.09%)	6 / 253 (2.37%)
occurrences (all)	10	9	6
GASTROENTERITIS			
subjects affected / exposed	15 / 247 (6.07%)	2 / 127 (1.57%)	14 / 253 (5.53%)
occurrences (all)	15	2	15
NASOPHARYNGITIS			
subjects affected / exposed	20 / 247 (8.10%)	9 / 127 (7.09%)	28 / 253 (11.07%)
occurrences (all)	21	11	30
PHARYNGITIS			
subjects affected / exposed	9 / 247 (3.64%)	4 / 127 (3.15%)	7 / 253 (2.77%)
occurrences (all)	10	4	7
TONSILLITIS			
subjects affected / exposed	7 / 247 (2.83%)	3 / 127 (2.36%)	6 / 253 (2.37%)
occurrences (all)	9	3	7

Non-serious adverse events	rMenB012	rMenB6	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	354 / 373 (94.91%)	125 / 128 (97.66%)	
Injury, poisoning and procedural complications			
LIGAMENT SPRAIN			
subjects affected / exposed	15 / 373 (4.02%)	4 / 128 (3.13%)	
occurrences (all)	15	4	
Nervous system disorders			

HEADACHE subjects affected / exposed occurrences (all)	244 / 373 (65.42%) 704	76 / 128 (59.38%) 209	
General disorders and administration site conditions			
INJECTION SITE ERYTHEMA subjects affected / exposed occurrences (all)	282 / 373 (75.60%) 680	86 / 128 (67.19%) 169	
INJECTION SITE INDURATION subjects affected / exposed occurrences (all)	228 / 373 (61.13%) 564	58 / 128 (45.31%) 116	
INJECTION SITE PAIN subjects affected / exposed occurrences (all)	345 / 373 (92.49%) 1160	123 / 128 (96.09%) 398	
INJECTION SITE SWELLING subjects affected / exposed occurrences (all)	226 / 373 (60.59%) 523	55 / 128 (42.97%) 92	
MALAISE subjects affected / exposed occurrences (all)	272 / 373 (72.92%) 690	89 / 128 (69.53%) 205	
PYREXIA subjects affected / exposed occurrences (all)	38 / 373 (10.19%) 50	20 / 128 (15.63%) 27	
Gastrointestinal disorders			
NAUSEA subjects affected / exposed occurrences (all)	143 / 373 (38.34%) 276	49 / 128 (38.28%) 90	
Musculoskeletal and connective tissue disorders			
ARTHRALGIA subjects affected / exposed occurrences (all)	146 / 373 (39.14%) 320	44 / 128 (34.38%) 77	
MYALGIA subjects affected / exposed occurrences (all)	238 / 373 (63.81%) 568	91 / 128 (71.09%) 198	
Infections and infestations			
BRONCHITIS			

subjects affected / exposed	14 / 373 (3.75%)	11 / 128 (8.59%)	
occurrences (all)	14	14	
GASTROENTERITIS			
subjects affected / exposed	23 / 373 (6.17%)	3 / 128 (2.34%)	
occurrences (all)	27	3	
NASOPHARYNGITIS			
subjects affected / exposed	43 / 373 (11.53%)	13 / 128 (10.16%)	
occurrences (all)	46	15	
PHARYNGITIS			
subjects affected / exposed	21 / 373 (5.63%)	8 / 128 (6.25%)	
occurrences (all)	24	9	
TONSILLITIS			
subjects affected / exposed	16 / 373 (4.29%)	7 / 128 (5.47%)	
occurrences (all)	18	8	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
23 July 2008	To include an external safety monitoring committee (Data Monitoring Committee-DMC) in the safety monitoring procedures of the trial. To clarify the procedure for stopping/pausing the trial
26 August 2008	To add, according to requests from Regulators, collection of medically attended fever for 7 days from vaccination To enlarge visit 5 window and to replace the final study phone contact by a final study office visit To include in exclusion criterion no. 7 sexual abstinence and the use of condom without spermicidal agent as additional acceptable birth control methods and to clarify that acceptable birth control measures must have been used for at least two months prior to study entry by female subjects of childbearing age. To clarify that urine pregnancy test will be required only for all females of childbearing potential To review the plan on the interim analysis To remove the duration of the enrolment period in order to avoid potential future amendments. To update the sponsor representative details and the contact number for trial related emergencies out of office hours.
01 September 2009	To describe the safety follow-up after subject withdrawal. To clarify that the scheduling of Visit 5 and Visit 7 should be based on the actual date of the preceding study vaccinations at Visit 3 and Visit 5
03 February 2010	To change the study objectives To change the study endpoints
13 April 2010	To change the study endpoints

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported

Online references

<http://www.ncbi.nlm.nih.gov/pubmed/22260988>