Clinical trial results:
Immunogenicity & safety study of GSK Biologicals' meningococcal vaccine GSK134612 when co-administered with GSK Biologicals' MMRV vaccine (Priorix-Tetra™) in healthy 12 to 23-month-old children.

Summary

EudraCT number	2006-006580-23
Trial protocol	FI
Global end of trial date	26 March 2008

Results information

Result version number	v3 (current)
This version publication date	30 September 2020
First version publication date	06 March 2015
Version creation reason	• Correction of full data set Minor corrections of the full study results.

Trial information

Trial identification

Sponsor protocol code	109670

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT00474266
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	GlaxoSmithKline Biologicals
Sponsor organisation address	Rue de l'Institut 89, Rixensart, Belgium, B-1330
Public contact	Clinical Trials Call Center, GlaxoSmithKline Biologicals, 044 2089904466, GSKClinicalSupportHD@gsk.com
Scientific contact	Clinical Trials Call Center, GlaxoSmithKline Biologicals, 044 2089904466, GSKClinicalSupportHD@gsk.com

Notes:

Paediatric regulatory details

Is trial part of an agreed paediatric investigation plan (PIP)	Yes
EMA paediatric investigation plan number(s)	EMEA-000429-PIP01-08
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	27 January 2009
Is this the analysis of the primary completion data?	No

Global end of trial reached?	Yes
Global end of trial date	26 March 2008
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

42 days after the first vaccine dose
•To demonstrate the non-inferiority of the MenACWY-TT conjugate vaccine when compared to Meningitec, the licensed conjugate vaccine for N. meningitidis serogroup C, in terms of serogroup C serum bactericidal antibodies (rSBA-MenC).
•To demonstrate the immunogenicity induced by the MenACWY-TT conjugate vaccine for N. meningitidis serogroups A, W-135, and Y in terms of bactericidal antibodies to N. meningitidis serogroups A, W-135, and Y.
•To demonstrate the non-inferiority of MenACWY-TT conjugate vaccine co-administered with MMRV compared to MenACWY-TT conjugate vaccine alone in terms of bactericidal antibodies to N. meningitidis serogroups A, C, W-135, and Y.
•To demonstrate the non-inferiority of the immunogenicity of the first dose of MMRV vaccine co-administered with MenACWY-TT conjugate vaccine compared to the first dose of MMRV vaccine alone with respect to anti-measles, anti-mumps, anti-rubella, and anti-varicella seroconversion rates.

Protection of trial subjects:

All subjects were supervised for 30 min after vaccination administration with appropriate medical treatment readily available. Vaccines were administered by qualified and trained personnel only to eligible subjects that had no contraindications to any components of the vaccines. Subjects were followed-up for any solicited, unsolicited, and specified categories of AEs and SAEs that might have occurred during the study.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	05 June 2007
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	No

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	Finland: 1000
Worldwide total number of subjects	1000
EEA total number of subjects	1000

Notes:

Subjects enrolled per age group

In utero	0
Preterm newborn - gestational age < 37	0

wk	
Newborns (0-27 days)	0
Infants and toddlers (28 days-23 months)	1000
Children (2-11 years)	0
Adolescents (12-17 years)	0
Adults (18-64 years)	0
From 65 to 84 years	0
85 years and over	0

Subject disposition

Recruitment

Recruitment details: -

Pre-assignment

Screening details:

During the screening the following steps occurred: check for inclusion/exclusion criteria, contraindications/precautions, medical history of the subjects and signing informed consent forms

Period 1

Period 1 title	Overall Study Period (overall period)
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Not blinded

Arms

Are arms mutually exclusive?	Yes
Arm title	Nimenrix + Priorix-Tetra Group

Arm description:

Subjects received 1 dose of Nimenrix vaccine & 1 dose of Priorix-Tetra vaccine on Day 0 and a second dose of Priorix-Tetra vaccine on Day 84.

Arm type	Experimental
Investigational medicinal product name	Priorix-Tetra
Investigational medicinal product code	MeMuRu-OKA
Other name	MMRV, GSK Biologicals' combined measles, mumps, rubella and varicella vaccine
Pharmaceutical forms	Injection
Routes of administration	Subcutaneous use

Dosage and administration details:

2-dose subcutaneous injection in the right upper arm

Investigational medicinal product name	Nimenrix
Investigational medicinal product code	
Other name	MenACWY-TT conjugate vaccine, GSK Biologicals' meningococcal serogroups A, C, W-135, Y tetanus toxoid conjugate vaccine
Pharmaceutical forms	Injection
Routes of administration	Intramuscular use

Dosage and administration details:

Single dose intramuscular injection in the left thigh

Arm title	Nimenrix Group

Arm description:

Subjects received 1 dose of Nimenrix vaccine on Day 0 followed by 2 doses of Priorix-Tetra vaccine, respectively 42 and 84 days later.

Arm type	Experimental
Investigational medicinal product name	Priorix-Tetra
Investigational medicinal product code	MeMuRu-OKA
Other name	MMRV, GSK Biologicals' combined measles, mumps, rubella and varicella vaccine
Pharmaceutical forms	Injection
Routes of administration	Subcutaneous use

Dosage and administration details:

2-dose subcutaneous injection in the right upper arm

Investigational medicinal product name	Nimenrix
Investigational medicinal product code	
Other name	MenACWY-TT conjugate vaccine, GSK Biologicals' meningococcal serogroups A, C, W-135, Y tetanus toxoid conjugate vaccine
Pharmaceutical forms	Injection
Routes of administration	Intramuscular use

Dosage and administration details:

Single dose intramuscular injection in the left thigh

Arm title	Priorix-Tetra Group

Arm description:

Subjects received 1 dose of Priorix-Tetra vaccine on Day 0, 1 dose of Meningitec vaccine on Day 42 and a second dose of Priorix-Tetra vaccine on Day 84.

Arm type	Active comparator
Investigational medicinal product name	Meningitec
Investigational medicinal product code	
Other name	MenC-CRM, Pfizer`s (formerly Wyeth) meningococcal serogroup C oligosaccharide conjugate
Pharmaceutical forms	Injection
Routes of administration	Intramuscular use

Dosage and administration details:

Single dose intramuscular injection in the left thigh

Investigational medicinal product name	Priorix-Tetra
Investigational medicinal product code	MeMuRu-OKA
Other name	MMRV, GSK Biologicals' combined measles, mumps, rubella and varicella vaccine
Pharmaceutical forms	Injection
Routes of administration	Subcutaneous use

Dosage and administration details:

2-dose subcutaneous injection in the right upper arm

Arm title	Meningitec Group

Arm description:

Subjects received 1 dose of Meningitec vaccine on Day 0 followed by 2 doses of Priorix-Tetra vaccine, respectively 42 and 84 days later.

Arm type	Active comparator
Investigational medicinal product name	Priorix-Tetra
Investigational medicinal product code	MeMuRu-OKA
Other name	MMRV, GSK Biologicals' combined measles, mumps, rubella and varicella vaccine
Pharmaceutical forms	Injection
Routes of administration	Subcutaneous use

Dosage and administration details:

2-dose subcutaneous injection in the right upper arm

Investigational medicinal product name	Meningitec
Investigational medicinal product code	
Other name	MenC-CRM, Pfizer`s (formerly Wyeth) meningococcal serogroup C oligosaccharide conjugate
Pharmaceutical forms	Injection
Routes of administration	Intramuscular use

Dosage and administration details:

Single dose intramuscular injection in the left thigh

Number of subjects in period 1	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group
Started	375	374	126
Completed	368	354	122
Not completed	7	20	4
Consent withdrawn by subject	7	20	4

Number of subjects in period 1	Meningitec Group
Started	125
Completed	118
Not completed	7
Consent withdrawn by subject	7

Baseline characteristics

Reporting groups	
Reporting group title	Nimenrix + Priorix-Tetra Group
Reporting group description:	
Subjects received 1 dose of Nimenrix vaccine & 1 dose of Priorix-Tetra vaccine on Day 0 and a second dose of Priorix-Tetra vaccine on Day 84.	
Reporting group title	Nimenrix Group
Reporting group description:	
Subjects received 1 dose of Nimenrix vaccine on Day 0 followed by 2 doses of Priorix-Tetra vaccine, respectively 42 and 84 days later.	
Reporting group title	Priorix-Tetra Group
Reporting group description:	
Subjects received 1 dose of Priorix-Tetra vaccine on Day 0, 1 dose of Meningitec vaccine on Day 42 and a second dose of Priorix-Tetra vaccine on Day 84.	
Reporting group title	Meningitec Group
Reporting group description:	
Subjects received 1 dose of Meningitec vaccine on Day 0 followed by 2 doses of Priorix-Tetra vaccine, respectively 42 and 84 days later.	

Reporting group values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group
Number of subjects	375	374	126
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: months			
arithmetic mean	14.7	14.6	14.6
standard deviation	± 1.5	± 1.49	± 1.41
Gender categorical			
Units: Subjects			
Female	180	174	68
Male	195	200	58
Race/Ethnicity			
Units: Subjects			
White - Caucasian/European heritage	369	372	123
White - Arabic/North African heritage	4	2	2
Unspecified	2	0	1

Reporting group values	Meningitec Group	Total	
Number of subjects	125	1000	
Age categorical Units: Subjects			
In utero		0	
Preterm newborn infants (gestational age < 37 wks)		0	
Newborns (0-27 days)		0	
Infants and toddlers (28 days-23 months)		0	
Children (2-11 years)		0	
Adolescents (12-17 years)		0	
Adults (18-64 years)		0	
From 65-84 years		0	
85 years and over		0	
Age continuous Units: months			
arithmetic mean	14.4		
standard deviation	± 1.47	-	
Gender categorical Units: Subjects			
Female	60	482	
Male	65	518	
Race/Ethnicity Units: Subjects			
White - Caucasian/European heritage	123	987	
White - Arabic/North African heritage	2	10	
Unspecified	0	3	

End points

End points reporting groups

Reporting group title	Nimenrix + Priorix-Tetra Group
Reporting group description:	
Subjects received 1 dose of Nimenrix vaccine & 1 dose of Priorix-Tetra vaccine on Day 0 and a second dose of Priorix-Tetra vaccine on Day 84.	
Reporting group title	Nimenrix Group
Reporting group description:	
Subjects received 1 dose of Nimenrix vaccine on Day 0 followed by 2 doses of Priorix-Tetra vaccine, respectively 42 and 84 days later.	
Reporting group title	Priorix-Tetra Group
Reporting group description:	
Subjects received 1 dose of Priorix-Tetra vaccine on Day 0, 1 dose of Meningitec vaccine on Day 42 and a second dose of Priorix-Tetra vaccine on Day 84.	
Reporting group title	Meningitec Group
Reporting group description:	
Subjects received 1 dose of Meningitec vaccine on Day 0 followed by 2 doses of Priorix-Tetra vaccine, respectively 42 and 84 days later.	
Subject analysis set title	Pooled group
Subject analysis set type	Sub-group analysis
Subject analysis set description:	
Nimenrix + Priorix-Tetra and Nimenrix groups	

Primary: Number of subjects with rSBA-MenC, rSBA-MenA, rSBA-MenW-135, rSBA-MenY titers greater than or equal to the cut-off values

End point title	Number of subjects with rSBA-MenC, rSBA-MenA, rSBA-MenW-135, rSBA-MenY titers greater than or equal to the cut-off values[1]
End point description:	
The cut-off values for the rSBA titers were ≥ 1:8.	
End point type	Primary
End point timeframe:	
42 days after the first vaccine dose (Post vaccination I, study Day 42)	

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: The analysis was performed only on subjects receiving meningitis vaccination (Nimenrix) at Day 0.

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Meningitec Group	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	360	354	121	
Units: Subjects				
rSBA-MenA, D42 [N=360;354;51]	360	353	23	
rSBA-MenC, D42 [N=357;354;121]	357	353	118	
rSBA-MenW-135, D42 [N=360;354;58]	360	354	29	
rSBA-MenY, D42 [N=359;354;59]	359	354	32	

Statistical analyses

Statistical analysis title	Difference in % of subjects with rSBA-MenC ≥1:8
Comparison groups	Nimenrix Group v Meningitec Group
Number of subjects included in analysis	475
Analysis specification	Pre-specified
Analysis type	non-inferiority[2]
Parameter estimate	Difference in percentage
Point estimate	2.2
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.29
upper limit	6.78

Notes:

[2] - Non-inferiority criterion: Lower limit [LL] of the 2-sided standardized asymptotic 95% confidence interval [CI] ≥-10%

Statistical analysis title	Difference in % of subjects for rSBA-MenA ≥1:8
Comparison groups	Nimenrix + Priorix-Tetra Group v Nimenrix Group
Number of subjects included in analysis	714
Analysis specification	Pre-specified
Analysis type	non-inferiority[3]
Parameter estimate	Difference in percentage
Point estimate	0.28
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.78
upper limit	1.58

Notes:

[3] - Non-inferiority criterion: Lower limit [LL] of the 2-sided standardized asymptotic 95% confidence interval [CI] ≥ -10%

Statistical analysis title	Difference in % of subjects for rSBA-MenC ≥1:8
Comparison groups	Nimenrix + Priorix-Tetra Group v Nimenrix Group
Number of subjects included in analysis	714
Analysis specification	Pre-specified
Analysis type	non-inferiority[4]
Parameter estimate	Difference in percentage
Point estimate	0.28
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.79
upper limit	1.58

Notes:

[4] - Non-inferiority criterion: Lower limit [LL] of the 2-sided standardized asymptotic 95% confidence interval [CI] ≥ -10%

Statistical analysis title	Difference in % of subjects for rSBA-MenW-135 ≥1:8
Comparison groups	Nimenrix + Priorix-Tetra Group v Nimenrix Group

Number of subjects included in analysis	714
Analysis specification	Pre-specified
Analysis type	non-inferiority[5]
Parameter estimate	Difference in percentage
Point estimate	0
Confidence interval	
level	95 %
sides	2-sided
lower limit	-1.06
upper limit	1.07

Notes:

[5] - Non-inferiority criterion: Lower limit [LL] of the 2-sided standardized asymptotic 95% confidence interval [CI] ≥ -10%

Statistical analysis title	Difference in % of subjects for rSBA-MenY ≥1:8
Comparison groups	Nimenrix Group v Nimenrix + Priorix-Tetra Group
Number of subjects included in analysis	714
Analysis specification	Pre-specified
Analysis type	non-inferiority[6]
Parameter estimate	Difference in %
Point estimate	0
Confidence interval	
level	95 %
sides	2-sided
lower limit	-1.06
upper limit	1.07

Notes:

[6] - Non-inferiority criterion: Lower limit [LL] of the 2-sided standardized asymptotic 95% confidence interval [CI] ≥ -10%

Primary: Number of subjects with anti-measles antibody concentrations greater than or equal to the cut-off values

End point title	Number of subjects with anti-measles antibody concentrations greater than or equal to the cut-off values

End point description:

The cut-off values for anti-measles antibody concentrations were ≥ 150 mIU/mL.

End point type	Primary

End point timeframe:

42 days after the first vaccine dose (Post vaccination I, study Day 42)

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group	Meningitec Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	361	354	118	120
Units: Subjects				
Anti-measles, D42	361	0	118	0

Statistical analyses

Statistical analysis title	Difference in %, seroconversion for anti-measles
Comparison groups	Nimenrix + Priorix-Tetra Group v Priorix-Tetra Group
Number of subjects included in analysis	479
Analysis specification	Pre-specified
Analysis type	non-inferiority[7]
Parameter estimate	Difference in percentage
Point estimate	0
Confidence interval	
level	95 %
sides	2-sided
lower limit	-1.06
upper limit	3.17

Notes:

[7] - Non-inferiority criterion: Lower limit [LL] of the 2-sided standardized asymptotic 95% confidence interval [CI] ≥ -10%

Primary: Number of subjects with anti-mumps antibody concentrations greater than or equal to the cut-off values

End point title	Number of subjects with anti-mumps antibody concentrations greater than or equal to the cut-off values
End point description:	
The cut-off values for anti-mumps antibody concentrations were ≥ 231 U/mL.	
End point type	Primary
End point timeframe:	
42 days after the first vaccine dose (Post vaccination I, study Day 42)	

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group	Meningitec Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	349	354	116	120
Units: Subjects				
Anti-mumps, D42	306	0	97	0

Statistical analyses

Statistical analysis title	Difference in %, seroconversion for anti-mumps
Comparison groups	Nimenrix + Priorix-Tetra Group v Priorix-Tetra Group
Number of subjects included in analysis	465
Analysis specification	Pre-specified
Analysis type	non-inferiority[8]
Parameter estimate	Difference in percentage
Point estimate	4.06

Confidence interval	
level	95 %
sides	2-sided
lower limit	-2.82
upper limit	12.46

Notes:

[8] - Non-inferiority criterion: Lower limit [LL] of the 2-sided standardized asymptotic 95% confidence interval [CI] ≥-10%

Primary: Number of subjects with anti-rubella antibody concentrations greater than or equal to the cut-off values

End point title	Number of subjects with anti-rubella antibody concentrations greater than or equal to the cut-off values

End point description:

The cut-off values for anti-rubella antibody concentrations were ≥4 IU/mL.

End point type	Primary

End point timeframe:

42 days after the first vaccine dose (Post vaccination I, study Day 42)

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group	Meningitec Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	361	354	118	120
Units: Subjects				
Anti-rubella, D42	361	1	118	1

Statistical analyses

Statistical analysis title	Difference in %, seroconversion for anti-rubella
Comparison groups	Nimenrix + Priorix-Tetra Group v Priorix-Tetra Group
Number of subjects included in analysis	479
Analysis specification	Pre-specified
Analysis type	non-inferiority[9]
Parameter estimate	Difference in percentage
Point estimate	0
Confidence interval	
level	95 %
sides	2-sided
lower limit	-1.06
upper limit	3.18

Notes:

[9] - Non-inferiority criterion: Lower limit [LL] of the 2-sided standardized asymptotic 95% confidence interval [CI] ≥ -10%

Primary: Number of subjects with anti-varicella antibody concentrations greater than or equal to the cut-off values

End point title	Number of subjects with anti-varicella antibody concentrations greater than or equal to the cut-off values

End point description:	
The cut-off values for anti-varicella antibody concentrations were ≥1:4.	
End point type	Primary
End point timeframe:	
42 days after the first vaccine dose (Post vaccination I, study Day 42)	

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group	Meningitec Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	333	335	111	116
Units: Subjects				
Anti-varicella, D42	326	6	105	2

Statistical analyses

Statistical analysis title	Difference in %, seroconversion for anti-varicella
Comparison groups	Nimenrix + Priorix-Tetra Group v Priorix-Tetra Group
Number of subjects included in analysis	444
Analysis specification	Pre-specified
Analysis type	non-inferiority[10]
Parameter estimate	Difference in percentage
Point estimate	3.36
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.28
upper limit	9.5

Notes:

[10] - Non-inferiority criterion: Lower limit [LL] of the 2-sided standardized asymptotic 95% confidence interval [CI] ≥-10%

Secondary: Number of subjects with rSBA-MenA, rSBA-MenC, rSBA-MenW-135 and rSBA-MenY titers greater than or equal to the cut-off values

End point title	Number of subjects with rSBA-MenA, rSBA-MenC, rSBA-MenW-135 and rSBA-MenY titers greater than or equal to the cut-off values

End point description:

The cut-off values for the rSBA titers were ≥ 1:8 and ≥ 1:128 respectively. At pre-vaccination for all groups, half of the subjects had sera tested for rSBA-MenC while the other half was tested for rSBA-MenA, rSBA-MenW-135 and rSBA-MenY. At Post vaccination I (Day 42), all subjects from Nimenrix + Priorix-Tetra and Nimenrix groups had sera tested for each rSBA. For Meningitec and Priorix-Tetra groups, all subjects were tested for rSBA-MenC while half of subjects were tested for rSBA-MenA, rSBA-MenW-135 and rSBA-MenY.

End point type	Secondary

End point timeframe:

Prior to and 42 days after the first vaccine dose (Pre vaccination, study Day 0 and Post vaccination I, study Day 42)

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group	Meningitec Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	360	354	117	121
Units: Subjects				
rSBA-MenA ≥ 1:8, D0 [N=158;171;53;53]	57	77	24	18
rSBA-MenA ≥ 1:128, D0 [N=158;171;53;53]	32	50	18	10
rSBA-MenA ≥ 1:128, D42 [N=360;354;55;51]	359	353	22	17
rSBA-MenC ≥ 1:8, D0 [N=178;174;60;60]	48	47	16	13
rSBA-MenC ≥ 1:128, D0 [N=178;174;60;60]	19	22	4	4
rSBA-MenC ≥ 1:128, D42 [N=357;354;117;121]	337	339	13	85
rSBA-MenW-135 ≥ 1:8, D0 [N=177;177;60;61]	76	81	29	30
rSBA-MenW-135 ≥ 1:128, D0 [N=177;177;60;61]	30	28	14	12
rSBA-MenW-135 ≥ 1:128, D42 [N=360;354;58;58]	360	352	16	15
rSBA-MenY ≥ 1:8, D0 [N=179;181;60;62]	103	112	41	34
rSBA-MenY ≥ 1:128, D0 [N=179;181;60;62]	75	79	30	23
rSBA-MenY ≥ 1:128, D42 [N=359;354;58;59]	358	353	30	21

Statistical analyses

No statistical analyses for this end point

Secondary: rSBA-MenA, rSBA-MenC, rSBA-MenW-135 and rSBA-MenY antibody titers

End point title	rSBA-MenA, rSBA-MenC, rSBA-MenW-135 and rSBA-MenY antibody titers

End point description:

Antibody titers were expressed as geometric mean titers (GMTs). At pre-vaccination for all groups, half of the subjects had sera tested for rSBA-MenC while the other half was tested for rSBA-MenA, rSBA-MenW-135 and rSBA-MenY. At Post vaccination I (Day 42), all subjects from Nimenrix + Priorix-Tetra and Nimenrix groups had sera tested for each rSBA. For Meningitec and Priorix-Tetra groups, all subjects were tested for rSBA-MenC while half of subjects were tested for rSBA-MenA, rSBA-MenW-135 and rSBA-MenY.

End point type	Secondary

End point timeframe:

Prior to and 42 days after the first vaccine dose (Pre vaccination, study Day 0 and Post vaccination I, study Day 42)

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group	Meningitec Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	360	354	117	121
Units: Titer				
geometric mean (confidence interval 95%)				
rSBA-MenA, D0 [N=158;171;53;53]	14.6 (10.9 to 19.4)	22.8 (16.8 to 31)	24.4 (13.7 to 43.4)	14.3 (8.5 to 24)
rSBA-MenA, D42 [N=360;354;55;51]	2085.9 (1905.3 to 2283.6)	2205 (2007.8 to 2421.6)	33.1 (19.1 to 57.4)	24.3 (13.4 to 44.1)
rSBA-MenC, D0 [N=178;174;60;60]	9.2 (7.4 to 11.4)	10 (7.8 to 12.6)	8.5 (6 to 12.2)	7.6 (5.5 to 10.6)
rSBA-MenC, D42 [N=357;354;117;121]	519 (470.9 to 571.9)	477.6 (437.3 to 521.6)	11.2 (8.3 to 15.2)	212.3 (170 to 265.2)
rSBA-MenW-135, D0 [N=177;177,60,61]	16.2 (12.6 to 20.7)	16.7 (13.1 to 21.4)	21.9 (13.5 to 35.4)	20.8 (13.1 to 33.2)
rSBA-MenW-135, D42 [N=360;354;58;58]	2055.8 (1871 to 2258.9)	2681.7 (2453.1 to 2931.6)	25.6 (15.6 to 42.1)	25.1 (14.6 to 43.1)
rSBA-MenY, D0 [N=179;181;60;62]	41.4 (30.2 to 56.6)	50.1 (36.7 to 68.2)	71 (40.9 to 123.2)	31.7 (18.9 to 53.2)
rSBA-MenY, D42 [N=359;354;58;59]	2282.4 (2051.3 to 2539.5)	2729.4 (2472.7 to 3012.8)	70 (39.3 to 124.7)	31.4 (18.4 to 53.6)

Statistical analyses

No statistical analyses for this end point

Secondary: Anti-PSA (anti-polysaccharide A), anti-PSC, anti-PSW-135 and anti-PSY antibodies concentrations

End point title	Anti-PSA (anti-polysaccharide A), anti-PSC, anti-PSW-135 and anti-PSY antibodies concentrations

End point description:

Anti-PS antibody concentrations were given as geometric mean concentrations (GMCs) and expressed as µg/mL. At pre-vaccination (Day 0) and Post-vaccination I (Day 42), a quarter of the subjects were tested for anti-PSC and another quarter for anti-PSA, anti-PSW-135 and anti-PSY.

End point type	Secondary

End point timeframe:

Prior to and 42 days after the first vaccine dose (Pre vaccination, study Day 0 and Post vaccination I, study Day 42)

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group	Meningitec Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	90	93	30	31
Units: µg/mL				
geometric mean (confidence interval 95%)				
Anti-PSA, D0 [N=90;93;29;31]	0.17 (0.15 to 0.19)	0.15 (0.15 to 0.16)	0.16 (0.14 to 0.18)	0.16 (0.14 to 0.17)
Anti-PSA, D42 [N=90;90;29;30]	28.74 (24.01 to 34.4)	15.71 (12.91 to 19.12)	0.16 (0.15 to 0.17)	0.15 (0.15 to 0.17)
Anti-PSC, D0 [N=89;90;30;30]	0.15 (0.15 to 0.15)	0.15 (0.15 to 0.15)	0.15 (0.15 to 0.15)	0.15 (0.15 to 0.15)
Anti-PSC, D42 [N=89;87;29;29]	9.26 (7.73 to 11.1)	7.44 (6.43 to 8.6)	0.15 (0.15 to 0.15)	4.89 (3.69 to 6.47)
Anti-PSW-135, D0 [N=90;92;29;31]	0.16 (0.15 to 0.17)	0.15 (0.15 to 0.16)	0.16 (0.14 to 0.18)	0.15 (0.15 to 0.15)
Anti-PSW-135, D42 [N=90;90;29;30]	6.5 (5.52 to 7.65)	4.5 (3.77 to 5.37)	0.16 (0.14 to 0.17)	0.15 (0.15 to 0.15)
Anti-PSY, D0 [N=89;93;29;31]	0.15 (0.15 to 0.15)	0.16 (0.15 to 0.16)	0.15 (0.15 to 0.15)	0.15 (0.15 to 0.15)
Anti-PSY, D42 [N=90;90;29;30]	8.56 (7.26 to 10.11)	6.37 (5.13 to 7.92)	0.16 (0.14 to 0.17)	0.15 (0.15 to 0.15)

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects with anti-PSA, anti-PSC, anti-PSW-135 and anti-PSY antibodies concentrations greater than or equal to the cut-off values

End point title	Number of subjects with anti-PSA, anti-PSC, anti-PSW-135 and anti-PSY antibodies concentrations greater than or equal to the cut-off values

End point description:

The cut-off values for anti-PS antibody concentrations were ≥ 0.3 µg/mL and ≥ 2.0 µg/mL respectively. At pre-vaccination (Day 0) and Post-vaccination I (Day 42), a quarter of the subjects were tested for anti-PSC and another quarter for anti-PSA, anti-PSW-135 and anti-PSY.

End point type	Secondary

End point timeframe:

Prior to and 42 days after the first vaccine dose (Pre vaccination, study Day 0 and Post vaccination I, study Day 42)

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group	Meningitec Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	90	93	30	31
Units: Subjects				
Anti-PSA ≥ 0.3 µg/mL, D0 [N=90;93;29;31]	6	1	1	1
Anti-PSA ≥ 0.3 µg/mL, D42 [N=90;90;29;30]	90	89	2	1

Anti-PSA ≥ 2 µg/mL, D0 [N=90;93;29;31]	0	0	0	0
Anti-PSA ≥ 2 µg/mL, D42 [N=90;90;29;30]	90	88	0	0
Anti-PSC ≥ 0.3 µg/mL, D0 [N=89;90;30;30]	0	0	0	0
Anti-PSC ≥ 0.3 µg/mL, D42 [N=89;87;29;29]	89	87	0	29
Anti-PSC ≥ 2 µg/mL, D0 [N=89;90;30;30]	0	0	0	0
Anti-PSC ≥ 2 µg/mL, D42 [N=89;87;29;29]	85	85	0	26
Anti-PSW-135 ≥ 0.3 µg/mL, D0 [N=90;92;29;31]	4	2	1	0
Anti-PSW-135 ≥ 0.3 µg/mL, D42 [N=90;90;29;30]	90	89	1	0
Anti-PSW-135 ≥ 2 µg/mL, D0 [N=90;92;29;31]	0	0	0	0
Anti-PSW-135 ≥ 2 µg/mL, D42 [N=90;90;29;30]	82	80	0	0
Anti-PSY ≥ 0.3 µg/mL, D0 [N=89;93;29;31]	0	4	0	0
Anti-PSY ≥ 0.3 µg/mL, D42 [N=90;90;29;30]	90	89	1	0
Anti-PSY ≥ 2 µg/mL, D0 [N=89;93;29;31]	0	0	0	0
Anti-PSY ≥ 2 µg/mL, D42 [N=90;90;29;30]	87	79	0	0

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects with hSBA-MenA (meningococcal polysaccharide A serum bactericidal antibodies using human complement), hSBA-MenC, hSBA-MenW-135 and hSBA-MenY titers greater than or equal to the cut-off values

End point title	Number of subjects with hSBA-MenA (meningococcal polysaccharide A serum bactericidal antibodies using human complement), hSBA-MenC, hSBA-MenW-135 and hSBA-MenY titers greater than or equal to the cut-off values[11]

End point description:

The cut-off values for hSBA antibody titers were ≥1:4 and ≥1:8 for Nimenrix + Priorix-Tetra group, Nimenrix group, Meningitec group and Pooled group (Nimenrix + Priorix-Tetra and Nimenrix groups), respectively.

End point type	Secondary

End point timeframe:

Prior to and 42 days after the first vaccine dose (Pre vaccination, study Day 0 and Post vaccination I, study Day 42)

Notes:

[11] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: The analysis was performed only on subjects receiving meningitis vaccination (Nimenrix or Meningitec) at Day 0.

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Meningitec Group	Pooled group
Subject group type	Reporting group	Reporting group	Reporting group	Subject analysis set
Number of subjects analysed	359	363	123	722
Units: Subjects				
hSBA-MenA ≥1:4, D0 [N=357;356;122;713]	14	8	2	22
hSBA-MenA ≥1:4, D42 [N=348;338;117;686]	305	273	1	578
hSBA-MenA ≥1:8, D0 [N=357;356;122;713]	7	7	1	14
hSBA-MenA ≥1:8, D42 [N=348;338;117;686]	292	261	1	553
hSBA-MenC ≥1:4, D0 [N=359;363;122;722]	1	3	1	4
hSBA-MenC ≥1:4, D42 [N=346;341;116;687]	339	338	95	677
hSBA-MenC ≥1:8, D0 [N=359;363;122;722]	1	3	1	4
hSBA-MenC ≥1:8, D42 [N=346;341;116;687]	339	336	95	675
hSBA-MenW-135 ≥1:4, D0 [N=353;357;123;710]	4	3	0	7
hSBA-MenW-135 ≥1:4, D42 [N=337;336;114;673]	280	295	1	575
hSBA-MenW-135 ≥1:8, D0 [N=353;357;123;710]	4	2	0	6
hSBA-MenW-135 ≥1:8, D42 [N=337;336;114;673]	279	294	1	573
hSBA-MenY ≥1:4, D0 [N=344;349;122;693]	4	5	1	9
hSBA-MenY ≥1:4, D42 [N=333;329;117;662]	273	261	2	534
hSBA-MenY ≥1:8, D0 [N=344;349;122;693]	4	5	1	9
hSBA-MenY ≥1:8, D42 [N=333;329;117;662]	271	261	2	532

Statistical analyses

No statistical analyses for this end point

Secondary: hSBA-MenA, hSBA-MenC, hSBA-MenW-135 and hSBA-MenY antibody titers

End point title	hSBA-MenA, hSBA-MenC, hSBA-MenW-135 and hSBA-MenY antibody titers[12]

End point description:

Anti-hSBA antibody titers were expressed as geometric mean titers (GMTs) for Nimenrix + Priorix-Tetra group, Nimenrix group, Meningitec group and Pooled group (Nimenrix + Priorix-Tetra and Nimenrix groups), respectively.

End point type	Secondary

End point timeframe:

Prior to and 42 days after the first vaccine dose (Pre vaccination, study Day 0 and Post vaccination I, study Day 42)

Notes:

[12] - 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: The analysis was performed only on subjects receiving meningitis vaccination (Nimenrix) at Day 0.

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Meningitec Group	Pooled group
Subject group type	Reporting group	Reporting group	Reporting group	Subject analysis set
Number of subjects analysed	359	363	123	722
Units: Titer				
geometric mean (confidence interval 95%)				
hSBA- MenA, D0 [N=357;356;122;713]	2.1 (2.1 to 2.2)	2.1 (2 to 2.1)	2 (2 to 2.1)	2.1 (2.1 to 2.2)
hSBA- MenA, D42 [N=348;338;117;686]	33.7 (28.9 to 39.2)	19 (16.4 to 22.1)	2 (2 to 2.1)	25.4 (22.8 to 28.4)
hSBA-MenC, D0 [N=359;363;122;722]	2 (2 to 2)	2 (2 to 2.1)	2 (2 to 2.1)	2 (2 to 2.1)
hSBA-MenC, D42 [N=346;341;116;687]	209.1 (183.8 to 238)	196 (175.4 to 219)	40.3 (29.5 to 55.1)	202.5 (186 to 220.5)
hSBA-MenW-135, D0 [N=353;357;123;710]	2.1 (2 to 2.1)	2.1 (2 to 2.1)	2 (2 to 2)	2.1 (2 to 2.1)
hSBA-MenW-135, D42 [N=337;336;114;673]	57.3 (47 to 69.9)	48.9 (41.2 to 58)	2 (2 to 2.2)	52.9 (46.4 to 60.3)
hSBA-MenY, D0 [N=344;349;122;693]	2.1 (2 to 2.1)	2.1 (2 to 2.1)	2.1 (1.9 to 2.2)	2.1 (2 to 2.1)
hSBA-MenY, D42 [N=333;329;117;662]	38.7 (32.2 to 46.7)	30.9 (25.8 to 37.1)	2.1 (1.9 to 2.3)	34.6 (30.4 to 39.4)

Statistical analyses

No statistical analyses for this end point

Secondary: Anti-measles antibody concentrations

End point title	Anti-measles antibody concentrations

End point description:

Anti-measles antibody concentrations were given as geometric mean concentrations (GMCs) and expressed in milli-international units per millilitre (mIU/mL) in all groups.

End point type	Secondary

End point timeframe:

42 days after the first vaccine dose (Post vaccination I, study Day 42)

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group	Meningitec Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	361	354	118	120
Units: mIU/mL				
geometric mean (confidence interval 95%)				

Anti-measles, D42	4273.4 (4018.4 to 4544.6)	75 (75 to 75)	4457.3 (3976.3 to 4996.6)	75 (75 to 75)

Statistical analyses

No statistical analyses for this end point

Secondary: Anti-measles antibody concentrations

End point title	Anti-measles antibody concentrations[13]

End point description:

Anti-measles antibody concentrations were given as geometric mean concentrations (GMCs) and expressed in mIU/mL in a subset (30%) of the Nimenrix + Priorix-Tetra and Priorix-Tetra groups only.

End point type	Secondary

End point timeframe:

42 days after the second Priorix-Tetra vaccine dose (Post vaccination III, study Day 126)

Notes:

[13] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: The analysis was performed only on subjects receiving varicella vaccination (Priorix-Tetra) at Day 0.

End point values	Nimenrix + Priorix-Tetra Group	Priorix-Tetra Group		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	37	7		
Units: mIU/mL				
geometric mean (confidence interval 95%)	7113.8 (5335.6 to 9484.7)	8699.8 (4865.3 to 15556.2)		

Statistical analyses

No statistical analyses for this end point

Secondary: Anti-mumps antibody concentrations

End point title	Anti-mumps antibody concentrations

End point description:

Anti-mumps antibody concentrations were given as geometric mean concentrations (GMCs) and expressed in units per millilitre (U/mL) in all groups.

End point type	Secondary

End point timeframe:

42 days after the first vaccine dose (Post vaccination I, study Day 42)

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group	Meningitec Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	349	354	116	120
Units: U/mL				
geometric mean (confidence interval 95%)				
Anti-mumps, D42	662.9 (598.4 to 734.4)	115.5 (115.5 to 115.5)	710.1 (583.8 to 863.8)	115.5 (115.5 to 115.5)

Statistical analyses

No statistical analyses for this end point

Secondary: Anti-mumps antibody concentrations

End point title	Anti-mumps antibody concentrations[14]

End point description:

Anti-mumps antibody concentrations were given as geometric mean concentrations (GMCs) and expressed in U/mL in a subset (30%) of the Nimenrix + Priorix-Tetra and Priorix-Tetra groups only.

End point type	Secondary

End point timeframe:

42 days after the second Priorix-Tetra vaccine dose (Post vaccination III, study Day 126)

Notes:

[14] - 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: The analysis was performed only on subjects receiving varicella vaccination (Priorix-Tetra) at Day 0.

End point values	Nimenrix + Priorix-Tetra Group	Priorix-Tetra Group		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	37	7		
Units: U/mL				
geometric mean (confidence interval 95%)				
Anti-mumps, D126	3351.2 (2658.2 to 4224.7)	3334.1 (1933.1 to 5750.5)		

Statistical analyses

No statistical analyses for this end point

Secondary: Anti-rubella antibody concentrations

End point title	Anti-rubella antibody concentrations

End point description:

Anti-rubella antibody concentrations were given as geometric mean concentrations (GMCs) and expressed in IU/mL in all groups.

End point type	Secondary

End point timeframe:

42 days after the first vaccine dose (Post vaccination I, study Day 42)

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group	Meningitec Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	361	354	118	120
Units: IU/mL				
geometric mean (confidence interval 95%)				
Anti-rubella, D42	43.1 (40 to 46.5)	2 (2 to 2)	53.2 (46.6 to 60.7)	2 (2 to 2.1)

Statistical analyses

No statistical analyses for this end point

Secondary: Anti-rubella antibody concentrations

End point title	Anti-rubella antibody concentrations[15]

End point description:

Anti-rubella antibody concentrations were given as geometric mean concentrations (GMCs) and expressed in IU/mL in a subset (30%) of the Nimenrix + Priorix-Tetra and Priorix-Tetra groups only.

End point type	Secondary

End point timeframe:

42 days after the second Priorix-Tetra vaccine dose (Post vaccination III, study Day 126)

Notes:

[15] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: The analysis was performed only on subjects receiving varicella vaccination (Priorix-Tetra) at Day 0.

End point values	Nimenrix + Priorix-Tetra Group	Priorix-Tetra Group		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	37	7		
Units: IU/mL				
geometric mean (confidence interval 95%)				
Anti-rubella, D126	87.2 (74.8 to 101.6)	117 (73.8 to 185.5)		

Statistical analyses

No statistical analyses for this end point

Secondary: Anti-varicella antibody titers

End point title	Anti-varicella antibody titers

End point description:

Anti-varicella antibody titers were given as geometric mean titers (GMTs) for all groups.

End point type	Secondary

End point timeframe:

42 days after the first vaccine dose (Post vaccination I, study Day 42)

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group	Meningitec Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	333	335	111	116
Units: Titers				
geometric mean (confidence interval 95%)				
Anti-varicella, D42	152.8 (133.5 to 174.8)	2.2 (2 to 2.3)	128.8 (99.1 to 167.4)	2.2 (1.9 to 2.5)

Statistical analyses

No statistical analyses for this end point

Secondary: Anti-varicella antibody titers

End point title	Anti-varicella antibody titers[16]

End point description:

Anti-varicella antibody titers were given as geometric mean titers (GMTs) in a subset (30%) of the Nimenrix + Priorix-Tetra and Priorix-Tetra groups only.

End point type	Secondary

End point timeframe:

42 days after the second Priorix-Tetra vaccine dose (Post vaccination III, study Day 126)

Notes:

[16] - 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: The analysis was performed only on subjects receiving varicella vaccination (Priorix-Tetra) at Day 0.

End point values	Nimenrix + Priorix-Tetra Group	Priorix-Tetra Group		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	36	7		
Units: Titers				
geometric mean (confidence interval 95%)				

Anti-varicella, D126	4175.6 (3064 to 5690.6)	3360.1 (1646.5 to 6857)		

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects reporting solicited local symptoms specific for Priorix-Tetra vaccination

End point title	Number of subjects reporting solicited local symptoms specific for Priorix-Tetra vaccination[17]

End point description:

Solicited local symptoms assessed were pain, redness and swelling for the Nimenrix + Priorix-Tetra Group and Priorix-Tetra Group, respectively.

End point type	Secondary

End point timeframe:

During the 4-day (Days 0-3) after vaccination with first dose of Priorix-Tetra vaccine at Day 0

Notes:

[17] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: The analysis was performed only on subjects receiving varicella vaccination (Priorix-Tetra) at Day 0.

End point values	Nimenrix + Priorix-Tetra Group	Priorix-Tetra Group		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	375	124		
Units: Subjects				
Pain	75	22		
Redness	126	48		
Swelling	28	7		

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects reporting solicited local symptoms after Nimenrix or Meningitec vaccination

End point title	Number of subjects reporting solicited local symptoms after Nimenrix or Meningitec vaccination[18]

End point description:

Solicited local symptoms assessed were pain, redness and swelling for the Nimenrix + Priorix-Tetra Group, Nimenrix Group and Meningitec Group, respectively.

End point type	Secondary

End point timeframe:

During the 4-day (Days 0-3) after vaccination with Nimenrix or Meningitec at Day 0

Notes:

[18] - 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: The analysis was performed only on subjects receiving meningitis vaccination (Nimenrix or Meningitec) at Day 0.

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Meningitec Group	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	375	367	123	
Units: Subjects				
Pain	91	107	31	
Redness	133	136	39	
Swelling	52	69	10	

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects reporting solicited general symptoms

End point title	Number of subjects reporting solicited general symptoms

End point description:

Solicited general symptoms assessed were drowsiness, fever (measured rectally and temperature ≥ 38.0°C), irritability and loss of appetite, meningismus, parotiditis and rash.

End point type	Secondary

End point timeframe:

During the 4-day (Days 0-3) follow-up period after Dose1 vaccination in all groups

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group	Meningitec Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	375	367	124	124
Units: Subjects				
Drowsiness	122	103	29	40
Fever≥38.0°C	56	34	14	16
Irritability	190	150	48	54
Loss of appetite	107	84	29	33
Meningismus	0	0	0	0
Parotiditis	0	0	0	0
Rash	22	23	10	6

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects with Priorix-Tetra-specific solicited general symptoms

End point title	Number of subjects with Priorix-Tetra-specific solicited general symptoms

End point description:

Solicited general symptoms assessed were fever (measured rectally and temperature ≥ 38.0°C), meningismus, parotiditis and rash.

End point type	Secondary

End point timeframe:

During the 43-day (Days 0-42) after Dose1 vaccination period

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group	Meningitec Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	375	367	124	124
Units: Subjects				
Fever ≥ 38.0°C	295	164	99	56
Meningismus	1	0	0	1
Parotiditis	0	0	0	0
Rash	119	66	36	24

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects reporting specific adverse events (AEs)

End point title	Number of subjects reporting specific adverse events (AEs)

End point description:

Specific AEs include:
− rash (hives, idiopathic thrombocytopenic purpura, petechiae),
− New Onset of Chronic Illness(es) (NOCI) (e.g. autoimmune disorders, asthma, type I diabetes and allergies), and/or:
− conditions prompting emergency room (ER) visits or or non-routine physician office visits (i.e. office visits not related to well-being care, vaccination, injury or common acute illnesses such as upper respiratory tract infections, otitis media, pharyngitis, gastroenteritis).

End point type	Secondary

End point timeframe:

From Day 0 up to 6 months after first vaccine dose

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group	Meningitec Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	375	374	126	125
Units: Subjects				
Rash (es)	13	10	2	6
NOCI (s)	6	3	1	1
ER visit (s)	28	29	3	7

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects reporting unsolicited symptoms

End point title	Number of subjects reporting unsolicited symptoms

End point description:

Unsolicited symptom covers any symptom reported in addition to those solicited during the clinical study and any solicited symptom with onset outside the specified period of follow-up for solicited symptoms.

End point type	Secondary

End point timeframe:

During the 43-day (Days 0-42) post Dose 1 vaccination period

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group	Meningitec Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	375	374	126	125
Units: Subjects				
Any (AE's)	243	225	86	68

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects reporting unsolicited symptoms

End point title	Number of subjects reporting unsolicited symptoms

End point description:

Unsolicited symptom covers any symptom reported in addition to those solicited during the clinical study and any solicited symptom with onset outside the specified period of follow-up for solicited symptoms.

End point type	Secondary

End point timeframe:

During the 43-day (Days 0-42) follow-up period after each vaccination

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group	Meningitec Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	375	374	126	125
Units: Subjects				
Any (AE's)	252	233	90	75

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects reporting serious adverse events (SAEs)

End point title	Number of subjects reporting serious adverse events (SAEs)

End point description:

SAEs assessed include medical occurrences that result in death, are life-threatening, require hospitalization or prolongation of hospitalization, result in disability/incapacity or are a congenital anomaly/birth defect in the offspring of a study subject.

End point type	Secondary

End point timeframe:

From Day 0 up to 6 months after vaccination

End point values	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Priorix-Tetra Group	Meningitec Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	375	374	126	125
Units: Subjects				
Any (SAE's)	13	10	3	2

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

SAEs: Day 0 up to 6 months. Solicited local and general symptoms: during the 4-day (Day 0-Day 3) period after vaccination. Unsolicited symptoms (AEs): during the 43-day (Days 0-42) period after vaccination.

Adverse event reporting additional description:

This is specific for each SAE/AE that is entered.
The occurrence of reported AEs (all/related) was not available and it is encoded as equal to the number of affected subjects.

Assessment type	Systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	12.0

Reporting groups

Reporting group title	Nimenrix + Priorix-Tetra Group

Reporting group description:

Subjects received 1 dose of Nimenrix vaccine & 1 dose of Priorix-Tetra vaccine on Day 0 and a second dose of Priorix-Tetra vaccine on Day 84.

Reporting group title	Nimenrix Group

Reporting group description:

Subjects received 1 dose of Nimenrix vaccine on Day 0 followed by 2 doses of Priorix-Tetra vaccine, respectively 42 and 84 days later.

Reporting group title	Meningitec Group

Reporting group description:

Subjects received 1 dose of Meningitec vaccine on Day 0 followed by 2 doses of Priorix-Tetra vaccine, respectively 42 and 84 days later.

Reporting group title	Priorix-Tetra Group

Reporting group description:

Subjects received 1 dose of Priorix-Tetra vaccine on Day 0, 1 dose of Meningitec vaccine on Day 42 and a second dose of Priorix-Tetra vaccine on Day 84.

Serious adverse events	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Meningitec Group
Total subjects affected by serious adverse events			
subjects affected / exposed	13 / 375 (3.47%)	10 / 374 (2.67%)	2 / 125 (1.60%)
number of deaths (all causes)	0	0	0
number of deaths resulting from adverse events	0	0	0
Investigations			
Medical observation			
subjects affected / exposed	1 / 375 (0.27%)	0 / 374 (0.00%)	0 / 125 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Injury, poisoning and procedural complications			

Concussion			
subjects affected / exposed	2 / 375 (0.53%)	0 / 374 (0.00%)	0 / 125 (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
Drug toxicity			
subjects affected / exposed	1 / 375 (0.27%)	0 / 374 (0.00%)	0 / 125 (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
Poisoning			
subjects affected / exposed	0 / 375 (0.00%)	1 / 374 (0.27%)	0 / 125 (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
Nervous system disorders			
Febrile convulsion			
subjects affected / exposed	0 / 375 (0.00%)	1 / 374 (0.27%)	1 / 125 (0.80%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Skin and subcutaneous tissue disorders			
Henoch-schonlein purpura			
subjects affected / exposed	0 / 375 (0.00%)	0 / 374 (0.00%)	1 / 125 (0.80%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Infections and infestations			
Bronchitis			
subjects affected / exposed	2 / 375 (0.53%)	3 / 374 (0.80%)	0 / 125 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 3	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastroenteritis			
subjects affected / exposed	0 / 375 (0.00%)	1 / 374 (0.27%)	0 / 125 (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
Gastroenteritis rotavirus			

subjects affected / exposed	2 / 375 (0.53%)	0 / 374 (0.00%)	0 / 125 (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
Influenza			
subjects affected / exposed	1 / 375 (0.27%)	0 / 374 (0.00%)	0 / 125 (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
Laryngitis			
subjects affected / exposed	0 / 375 (0.00%)	1 / 374 (0.27%)	0 / 125 (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
Otitis media			
subjects affected / exposed	1 / 375 (0.27%)	1 / 374 (0.27%)	0 / 125 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pneumococcal sepsis			
subjects affected / exposed	0 / 375 (0.00%)	0 / 374 (0.00%)	1 / 125 (0.80%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pneumonia			
subjects affected / exposed	2 / 375 (0.53%)	1 / 374 (0.27%)	0 / 125 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pyelonephritis			
subjects affected / exposed	0 / 375 (0.00%)	1 / 374 (0.27%)	0 / 125 (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
Pyelonephritis acute			
subjects affected / exposed	1 / 375 (0.27%)	0 / 374 (0.00%)	0 / 125 (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
Sepsis			

subjects affected / exposed	1 / 375 (0.27%)	0 / 374 (0.00%)	0 / 125 (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
Upper respiratory tract infection			
subjects affected / exposed	0 / 375 (0.00%)	1 / 374 (0.27%)	0 / 125 (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
Viral infection			
subjects affected / exposed	1 / 375 (0.27%)	0 / 374 (0.00%)	0 / 125 (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

Serious adverse events	Priorix-Tetra Group		
Total subjects affected by serious adverse events			
subjects affected / exposed	3 / 126 (2.38%)		
number of deaths (all causes)	0		
number of deaths resulting from adverse events	0		
Investigations			
Medical observation			
subjects affected / exposed	0 / 126 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		
Injury, poisoning and procedural complications			
Concussion			
subjects affected / exposed	0 / 126 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		
Drug toxicity			
subjects affected / exposed	0 / 126 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		
Poisoning			

subjects affected / exposed	0 / 126 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		
Nervous system disorders			
Febrile convulsion			
subjects affected / exposed	0 / 126 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		
Skin and subcutaneous tissue disorders			
Henoch-schonlein purpura			
subjects affected / exposed	0 / 126 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		
Infections and infestations			
Bronchitis			
subjects affected / exposed	1 / 126 (0.79%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Gastroenteritis			
subjects affected / exposed	0 / 126 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		
Gastroenteritis rotavirus			
subjects affected / exposed	0 / 126 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		
Influenza			
subjects affected / exposed	0 / 126 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		
Laryngitis			
subjects affected / exposed	0 / 126 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		

Otitis media			
subjects affected / exposed	0 / 126 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		
Pneumococcal sepsis			
subjects affected / exposed	0 / 126 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		
Pneumonia			
subjects affected / exposed	1 / 126 (0.79%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Pyelonephritis			
subjects affected / exposed	1 / 126 (0.79%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Pyelonephritis acute			
subjects affected / exposed	0 / 126 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		
Sepsis			
subjects affected / exposed	0 / 126 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		
Upper respiratory tract infection			
subjects affected / exposed	0 / 126 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		
Viral infection			
subjects affected / exposed	0 / 126 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		

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

Non-serious adverse events	Nimenrix + Priorix-Tetra Group	Nimenrix Group	Meningitec Group
Total subjects affected by non-serious adverse events			
subjects affected / exposed	340 / 375 (90.67%)	313 / 374 (83.69%)	103 / 125 (82.40%)
Nervous system disorders			
Febrile convulsion			
alternative assessment type: Non-systematic			
subjects affected / exposed	38 / 375 (10.13%)	37 / 374 (9.89%)	11 / 125 (8.80%)
occurrences (all)	38	37	11
General disorders and administration site conditions			
Irritability			
alternative assessment type: Non-systematic			
subjects affected / exposed	51 / 375 (13.60%)	19 / 374 (5.08%)	9 / 125 (7.20%)
occurrences (all)	51	19	9
Gastrointestinal disorders			
Diarrhoea			
alternative assessment type: Non-systematic			
subjects affected / exposed	53 / 375 (14.13%)	40 / 374 (10.70%)	16 / 125 (12.80%)
occurrences (all)	53	40	16
Teething			
alternative assessment type: Non-systematic			
subjects affected / exposed	39 / 375 (10.40%)	38 / 374 (10.16%)	13 / 125 (10.40%)
occurrences (all)	39	38	13
Infections and infestations			
Rhinitis			
alternative assessment type: Non-systematic			
subjects affected / exposed	54 / 375 (14.40%)	66 / 374 (17.65%)	23 / 125 (18.40%)
occurrences (all)	54	66	23
Upper respiratory tract infection			
alternative assessment type: Non-systematic			
subjects affected / exposed	38 / 375 (10.13%)	35 / 374 (9.36%)	11 / 125 (8.80%)
occurrences (all)	38	35	11
Otitis media			
alternative assessment type: Non-systematic			

subjects affected / exposed	0 / 375 (0.00%)	29 / 374 (7.75%)	0 / 125 (0.00%)
occurrences (all)	0	29	0
Bronchitis			
alternative assessment type: Non-systematic			
subjects affected / exposed	54 / 375 (14.40%)	66 / 374 (17.65%)	23 / 125 (18.40%)
occurrences (all)	54	66	23
Pneumonia			
alternative assessment type: Non-systematic			
subjects affected / exposed	53 / 375 (14.13%)	40 / 374 (10.70%)	16 / 125 (12.80%)
occurrences (all)	53	40	16
Concussion			
alternative assessment type: Non-systematic			
subjects affected / exposed	39 / 375 (10.40%)	38 / 374 (10.16%)	13 / 125 (10.40%)
occurrences (all)	39	38	13
Gastroenteritis rotavirus			
alternative assessment type: Non-systematic			
subjects affected / exposed	51 / 375 (13.60%)	0 / 374 (0.00%)	9 / 125 (7.20%)
occurrences (all)	51	0	9

Non-serious adverse events	Priorix-Tetra Group		
Total subjects affected by non-serious adverse events			
subjects affected / exposed	108 / 126 (85.71%)		
Nervous system disorders			
Febrile convulsion			
alternative assessment type: Non-systematic			
subjects affected / exposed	16 / 126 (12.70%)		
occurrences (all)	16		
General disorders and administration site conditions			
Irritability			
alternative assessment type: Non-systematic			
subjects affected / exposed	17 / 126 (13.49%)		
occurrences (all)	17		
Gastrointestinal disorders			
Diarrhoea			
alternative assessment type: Non-systematic			

subjects affected / exposed	14 / 126 (11.11%)		
occurrences (all)	14		
Teething			
alternative assessment type: Non-systematic			
subjects affected / exposed	14 / 126 (11.11%)		
occurrences (all)	14		
Infections and infestations			
Rhinitis			
alternative assessment type: Non-systematic			
subjects affected / exposed	21 / 126 (16.67%)		
occurrences (all)	21		
Upper respiratory tract infection			
alternative assessment type: Non-systematic			
subjects affected / exposed	16 / 126 (12.70%)		
occurrences (all)	16		
Otitis media			
alternative assessment type: Non-systematic			
subjects affected / exposed	0 / 126 (0.00%)		
occurrences (all)	0		
Bronchitis			
alternative assessment type: Non-systematic			
subjects affected / exposed	21 / 126 (16.67%)		
occurrences (all)	21		
Pneumonia			
alternative assessment type: Non-systematic			
subjects affected / exposed	14 / 126 (11.11%)		
occurrences (all)	14		
Concussion			
alternative assessment type: Non-systematic			
subjects affected / exposed	14 / 126 (11.11%)		
occurrences (all)	14		
Gastroenteritis rotavirus			
alternative assessment type: Non-systematic			

subjects affected / exposed occurrences (all)	17 / 126 (13.49%) 17		

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? No

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported