



Clinical trial results:

A phase II, partially double-blind, randomised, controlled, single-centre study to assess the immunogenicity and reactogenicity of three different formulations of GSK Biologicals' DTPw-HBV-IPV/Hib candidate vaccine compared to the Zilbrix™/Hib and Poliorix™ vaccines administered concomitantly, when administered as a single booster dose to poliovirus vaccine-primed healthy toddlers aged 12-24 months.

Summary

EudraCT number	2016-000645-31
Trial protocol	Outside EU/EEA
Global end of trial date	02 September 2010

Results information

Result version number	v1
This version publication date	24 August 2016
First version publication date	24 August 2016

Trial information

Trial identification

Sponsor protocol code	113264
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Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT01106092
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, +44 2089904466, GSKClinicalSupportHD@gsk.com
Scientific contact	Clinical Trials Call Center, GlaxoSmithKline Biologicals, +44 2089904466, GSKClinicalSupportHD@gsk.com

Notes:

Paediatric regulatory details

Is trial part of an agreed paediatric investigation plan (PIP)	No
Does article 45 of REGULATION (EC) No 1901/2006 apply to this trial?	No
Does article 46 of REGULATION (EC) No 1901/2006 apply to this trial?	Yes

Notes:

Results analysis stage

Analysis stage	Final
Date of interim/final analysis	07 December 2010
Is this the analysis of the primary completion data?	Yes
Primary completion date	02 September 2010
Global end of trial reached?	Yes
Global end of trial date	02 September 2010
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

•To demonstrate the non-inferiority of GSK Biologicals' DTPw-HBV-IPV(3 doses)/Hib vaccine compared to Poliorix™ co-administered with Zilbrix™/Hib,
-(full dose): in terms of seroprotection rates to the 3 poliovirus types and to demonstrate that the formulation induces at least a 2-fold increase in the geometric mean (GM) of the individual ratios (post- over pre-booster titres) for anti-poliovirus antibodies (Abs), 1 month after booster vaccination
-(1/2 dose): in terms of seroprotection rates to the 3 poliovirus types and to demonstrate that the formulation induces at least a 2-fold increase in the GM of the individual ratios (post- over pre-booster titres) for anti-poliovirus abs, 1 month after booster vaccination
-(1/3 dose): in terms of seroprotection rates to the 3 poliovirus types and to demonstrate that the formulation induces at least a 2-fold increase in the GM of the individual ratios (post- over pre-booster titres) for anti-poliovirus Abs, 1month after booster vaccination.

Protection of trial subjects:

The vaccinees will be observed closely for at least 30 minutes following the administration of vaccines, with appropriate medical treatment readily available in case of a rare anaphylactic reaction.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	13 May 2010
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	Yes

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	Philippines: 312
Worldwide total number of subjects	312
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)	312
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 (overall period)
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Subject, Investigator

Blinding implementation details:

The study was conducted in a partially double blind manner:

- The study was double blind [i.e. the investigator and parent(s)/LAR(s) of the subjects were unaware of the treatment administered] for the three groups receiving the three different DTPw-HBV-IPV/Hib formulations (Form groups).
- The study was open-label with respect to the Control Group as subjects in this group received two injections.

Arms

Are arms mutually exclusive?	Yes
Arm title	GSK2036874A Group 1

Arm description: -

Arm type	Experimental
Investigational medicinal product name	GSK2036874A
Investigational medicinal product code	
Other name	DTPw-HBV-IPV/Hib
Pharmaceutical forms	Injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received one dose of the vaccine (formulation 1) in the anterolateral region of the left thigh, at Day 0.

Arm title	GSK2036874A Group 2
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Arm description: -

Arm type	Experimental
Investigational medicinal product name	GSK2036874A
Investigational medicinal product code	
Other name	DTPw-HBV-IPV/Hib
Pharmaceutical forms	Injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received one dose of the vaccine (formulation 2) in the anterolateral region of the left thigh, at Day 0.

Arm title	GSK2036874A Group 3
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Arm description: -

Arm type	Experimental
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Investigational medicinal product name	GSK2036874A
Investigational medicinal product code	
Other name	DTPw-HBV-IPV/Hib
Pharmaceutical forms	Injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received one dose of the vaccine (formulation 3) in the anterolateral region of the left thigh, at Day 0.

Arm title	Zilbrix/HIB/Poliorix Group
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Arm description: -

Arm type	Active comparator
Investigational medicinal product name	Zilbrix™/Hib
Investigational medicinal product code	
Other name	DTPw-HBV/Hib Kft.
Pharmaceutical forms	Injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received one dose of the vaccine in the anterolateral region of the left thigh, at Day 0.

Investigational medicinal product name	Poliorix™
Investigational medicinal product code	
Other name	IPV
Pharmaceutical forms	Injection
Routes of administration	Intramuscular use

Dosage and administration details:

Subjects received one dose of the vaccine in the anterolateral region of the right thigh, at Day 0.

Number of subjects in period 1	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3
Started	78	78	78
Completed	78	78	78
Not completed	0	0	0
Consent withdrawn by subject	-	-	-

Number of subjects in period 1	Zilbrix/HIB/Poliorix Group
Started	78
Completed	77
Not completed	1
Consent withdrawn by subject	1

Baseline characteristics

Reporting groups

Reporting group title	GSK2036874A Group 1
Reporting group description: -	
Reporting group title	GSK2036874A Group 2
Reporting group description: -	
Reporting group title	GSK2036874A Group 3
Reporting group description: -	
Reporting group title	Zilbrix/HIB/Poliorix Group
Reporting group description: -	

Reporting group values	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3
Number of subjects	78	78	78
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	17.4	18	17.7
standard deviation	± 3.81	± 2.96	± 3.38
Gender categorical Units: Subjects			
Female	37	31	35
Male	41	47	43

Reporting group values	Zilbrix/HIB/Poliorix Group	Total	
Number of subjects	78	312	
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)		0 0 0 0 0 0 0	

From 65-84 years		0	
85 years and over		0	

Age continuous			
Units: months			
arithmetic mean	17.5		
standard deviation	± 3.59	-	
Gender categorical			
Units: Subjects			
Female	40	143	
Male	38	169	

End points

End points reporting groups

Reporting group title	GSK2036874A Group 1
Reporting group description: -	
Reporting group title	GSK2036874A Group 2
Reporting group description: -	
Reporting group title	GSK2036874A Group 3
Reporting group description: -	
Reporting group title	Zilbrix/HIB/Poliorix Group
Reporting group description: -	

Primary: NUMBER OF SUBJECTS SEROPROTECTED AGAINST ANTI-POLIOVIRUS (ANTI-POLIO) TYPES 1, 2 AND 3.

End point title	NUMBER OF SUBJECTS SEROPROTECTED AGAINST ANTI-POLIOVIRUS (ANTI-POLIO) TYPES 1, 2 AND 3.
End point description: Seroprotection was defined as anti-polio types 1, 2 and 3 antibody titres \geq 8 effective dose (ED50), for 50% of vaccinated subjects.	
End point type	Primary
End point timeframe: At Month 1 (POST)	

End point values	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3	Zilbrix/HIB/Poliorix Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	78	78	78	77
Units: Subjects				
Anti-polio 1 POST [N=78;78;78;77]	78	77	78	77
Anti-polio 2 POST [N=77;78;78;77]	77	78	78	77
Anti-polio 3 POST [N=78;78;78;77]	77	77	78	77

Statistical analyses

Statistical analysis title	Difference in SPR rates for anti-polio 1 (F1)
Statistical analysis description: To demonstrate the non-inferiority of GSK2036874A vaccine (Formulation 1) compared to Poliorix TM vaccine co-administered with Zilbrix TM /Hib vaccine, in terms of seroprotection rates to the three poliovirus types and to demonstrate that the formulation induces at least a two-fold increase in the geometric mean of the individual ratios (post- over pre-booster titres) for anti-polio type 1 antibodies, one month after vaccination.	
Comparison groups	Zilbrix/HIB/Poliorix Group v GSK2036874A Group 1

Number of subjects included in analysis	155
Analysis specification	Pre-specified
Analysis type	non-inferiority ^[1]
Parameter estimate	Difference in seroprotection rate
Point estimate	0
Confidence interval	
level	95 %
sides	2-sided
lower limit	-4.78
upper limit	4.72

Notes:

[1] - The upper limit (UL) of the standardized asymptotic 95% confidence interval (CI) on the group [Zilbrix/Hib Group - GSK2036874A Group 1] difference in percentage of seroprotected subjects $\leq 10\%$.

Statistical analysis title	Difference in SPR rates for anti-polio 1 (F2)
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Statistical analysis description:

To demonstrate the non-inferiority of GSK2036874A vaccine (Formulation 2) compared to Poliorix™ vaccine co-administered with Zilbrix™/Hib vaccine, in terms of seroprotection rates to the three poliovirus types and to demonstrate that the formulation induces at least a two-fold increase in the geometric mean of the individual ratios (post- over pre-booster titres) for anti-polio type 1 antibodies, one month after vaccination.

Comparison groups	Zilbrix/HIB/Poliorix Group v GSK2036874A Group 2
Number of subjects included in analysis	155
Analysis specification	Pre-specified
Analysis type	non-inferiority ^[2]
Parameter estimate	Difference in seroprotection rate
Point estimate	1.28
Confidence interval	
level	95 %
sides	2-sided
lower limit	-3.53
upper limit	6.94

Notes:

[2] - The upper limit (UL) of the standardized asymptotic 95% confidence interval (CI) on the group [Zilbrix/Hib Group - GSK2036874A Group 2] difference in percentage of seroprotected subjects $\leq 10\%$.

Statistical analysis title	Difference in SPR rates for anti-polio 1 (F3)
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Statistical analysis description:

To demonstrate the non-inferiority of GSK2036874A vaccine (Formulation 3) compared to Poliorix™ vaccine co-administered with Zilbrix™/Hib vaccine, in terms of seroprotection rates to the three poliovirus types and to demonstrate that the formulation induces at least a two-fold increase in the geometric mean of the individual ratios (post- over pre-booster titres) for anti-polio type 1 antibodies, one month after vaccination.

Comparison groups	GSK2036874A Group 3 v Zilbrix/HIB/Poliorix Group
Number of subjects included in analysis	155
Analysis specification	Pre-specified
Analysis type	non-inferiority ^[3]
Parameter estimate	Difference in seroprotection rate
Point estimate	0
Confidence interval	
level	95 %
sides	2-sided
lower limit	-4.78
upper limit	4.72

Notes:

[3] - The upper limit (UL) of the standardized asymptotic 95% confidence interval (CI) on the group [Zilbrix/Hib Group - GSK2036874A Group 3] difference in percentage of seroprotected subjects $\leq 10\%$.

Statistical analysis title	Difference in SPR rates for anti-polio 2 (F1)
Statistical analysis description:	
To demonstrate the non-inferiority of GSK2036874A vaccine (Formulation 1) compared to Poliorix™ vaccine co-administered with Zilbrix™/Hib vaccine, in terms of seroprotection rates to the three poliovirus types and to demonstrate that the formulation induces at least a two-fold increase in the geometric mean of the individual ratios (post- over pre-booster titres) for anti-polio type 2 antibodies, one month after vaccination.	
Comparison groups	GSK2036874A Group 1 v Zilbrix/HIB/Poliorix Group
Number of subjects included in analysis	155
Analysis specification	Pre-specified
Analysis type	non-inferiority ^[4]
Parameter estimate	Difference in seroprotection rate
Point estimate	0
Confidence interval	
level	95 %
sides	2-sided
lower limit	-4.78
upper limit	4.78

Notes:

[4] - The upper limit (UL) of the standardized asymptotic 95% confidence interval (CI) on the group [Zilbrix/Hib Group - GSK2036874A Group 1] difference in percentage of seroprotected subjects $\leq 10\%$.

Statistical analysis title	Difference in SPR rates for anti-polio 2 (F2)
Statistical analysis description:	
To demonstrate the non-inferiority of GSK2036874A vaccine (Formulation 2) compared to Poliorix™ vaccine co-administered with Zilbrix™/Hib vaccine, in terms of seroprotection rates to the three poliovirus types and to demonstrate that the formulation induces at least a two-fold increase in the geometric mean of the individual ratios (post- over pre-booster titres) for anti-polio type 2 antibodies, one month after vaccination.	
Comparison groups	GSK2036874A Group 2 v Zilbrix/HIB/Poliorix Group
Number of subjects included in analysis	155
Analysis specification	Pre-specified
Analysis type	non-inferiority ^[5]
Parameter estimate	Difference in seroprotection rate
Point estimate	0
Confidence interval	
level	95 %
sides	2-sided
lower limit	-4.78
upper limit	4.72

Notes:

[5] - The upper limit (UL) of the standardized asymptotic 95% confidence interval (CI) on the group [Zilbrix/Hib Group - GSK2036874A Group 2] difference in percentage of seroprotected subjects $\leq 10\%$.

Statistical analysis title	Difference in SPR rates for anti-polio 2 (F3)
Statistical analysis description:	
To demonstrate the non-inferiority of GSK2036874A vaccine (Formulation 3) compared to Poliorix™ vaccine co-administered with Zilbrix™/Hib vaccine, in terms of seroprotection rates to the three poliovirus types and to demonstrate that the formulation induces at least a two-fold increase in the geometric mean of the individual ratios (post- over pre-booster titres) for anti-polio type 2 antibodies, one month after vaccination.	
Comparison groups	GSK2036874A Group 3 v Zilbrix/HIB/Poliorix Group

Number of subjects included in analysis	155
Analysis specification	Pre-specified
Analysis type	non-inferiority ^[6]
Parameter estimate	Difference in seroprotection rate
Point estimate	0
Confidence interval	
level	95 %
sides	2-sided
lower limit	-4.78
upper limit	4.72

Notes:

[6] - The upper limit (UL) of the standardized asymptotic 95% confidence interval (CI) on the group [Zilbrix/Hib Group - GSK2036874A Group 3] difference in percentage of seroprotected subjects $\leq 10\%$.

Statistical analysis title	Difference in SPR rates for anti-polio 3 (F1)
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Statistical analysis description:

To demonstrate the non-inferiority of GSK2036874A vaccine (Formulation 1) compared to Poliorix™ vaccine co-administered with Zilbrix™/Hib vaccine, in terms of seroprotection rates to the three poliovirus types and to demonstrate that the formulation induces at least a two-fold increase in the geometric mean of the individual ratios (post- over pre-booster titres) for anti-polio type 3 antibodies, one month after vaccination.

Comparison groups	GSK2036874A Group 1 v Zilbrix/HIB/Poliorix Group
Number of subjects included in analysis	155
Analysis specification	Pre-specified
Analysis type	non-inferiority ^[7]
Parameter estimate	Difference in seroprotection rate
Point estimate	1.28
Confidence interval	
level	95 %
sides	2-sided
lower limit	-3.53
upper limit	6.94

Notes:

[7] - The upper limit (UL) of the standardized asymptotic 95% confidence interval (CI) on the group [Zilbrix/Hib Group - GSK2036874A Group 1] difference in percentage of seroprotected subjects $\leq 10\%$.

Statistical analysis title	Difference in SPR rates for anti-polio 3 (F2)
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Statistical analysis description:

To demonstrate the non-inferiority of GSK2036874A vaccine (Formulation 2) compared to Poliorix™ vaccine co-administered with Zilbrix™/Hib vaccine, in terms of seroprotection rates to the three poliovirus types and to demonstrate that the formulation induces at least a two-fold increase in the geometric mean of the individual ratios (post- over pre-booster titres) for anti-polio type 3 antibodies, one month after vaccination.

Comparison groups	GSK2036874A Group 2 v Zilbrix/HIB/Poliorix Group
Number of subjects included in analysis	155
Analysis specification	Pre-specified
Analysis type	non-inferiority ^[8]
Parameter estimate	Difference in seroprotection rate
Point estimate	1.28
Confidence interval	
level	95 %
sides	2-sided
lower limit	-3.53
upper limit	6.94

Notes:

[8] - The upper limit (UL) of the standardized asymptotic 95% confidence interval (CI) on the group [Zilbrix/Hib Group - GSK2036874A Group 2] difference in percentage of seroprotected subjects $\leq 10\%$.

Statistical analysis title	Difference in SPR rates for anti-polio 3 (F3)
Statistical analysis description:	
To demonstrate the non-inferiority of GSK2036874A vaccine (Formulation 3) compared to Poliorix™ vaccine co-administered with Zilbrix™/Hib vaccine, in terms of seroprotection rates to the three poliovirus types and to demonstrate that the formulation induces at least a two-fold increase in the geometric mean of the individual ratios (post- over pre-booster titres) for anti-polio type 3 antibodies, one month after vaccination.	
Comparison groups	GSK2036874A Group 3 v Zilbrix/HIB/Poliorix Group
Number of subjects included in analysis	155
Analysis specification	Pre-specified
Analysis type	non-inferiority ^[9]
Parameter estimate	Difference in seroprotection rate
Point estimate	0
Confidence interval	
level	95 %
sides	2-sided
lower limit	-4.78
upper limit	4.72

Notes:

[9] - The upper limit (UL) of the standardized asymptotic 95% confidence interval (CI) on the group [Zilbrix/Hib Group - GSK2036874A Group 3] difference in percentage of seroprotected subjects $\leq 10\%$.

Primary: ANTI-POLIO TYPES 1, 2 AND 3 ANTIBODY TITERS

End point title	ANTI-POLIO TYPES 1, 2 AND 3 ANTIBODY TITERS ^[10]
End point description:	
End point type	Primary
End point timeframe:	
At Month 1 (POST)	

Notes:

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

Justification: The analysis of the primary endpoint was descriptive i.e. no statistical hypothesis test was performed.

End point values	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3	Zilbrix/HIB/Poliorix Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	78	78	78	77
Units: Titers				
geometric mean (confidence interval 95%)				
Anti-polio 1 POST [N=78;78;78;77]	2218.4 (1786.3 to 2755.1)	1486.7 (1065.9 to 2073.5)	1245.1 (1007.2 to 1539.2)	3760.2 (2973.7 to 4754.7)
Anti-polio 2 POST [N=77;78;78;77]	1598.8 (1293.5 to 1976.3)	1056.4 (841.5 to 1326.1)	966.5 (779.5 to 1198.3)	2883.2 (2275.2 to 3653.8)
Anti-polio 3 POST [N=78;78;78;77]	2820 (2129.9 to 3733.9)	2217.7 (1654 to 2973.4)	1915.8 (1498.1 to 2449.8)	3626.4 (2618.2 to 5022.9)

Statistical analyses

No statistical analyses for this end point

Secondary: NUMBER OF SEROCONVERTED SUBJECTS FOR ANTI-POLIO TYPES 1, 2 AND 3

End point title	NUMBER OF SEROCONVERTED SUBJECTS FOR ANTI-POLIO TYPES 1, 2 AND 3
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End point description:

Seroconversion was defined as:

For initially seronegative subjects, antibody titre ≥ 8 ED50 one month after the booster dose;

For initially seropositive subjects: antibody titre one month after the booster dose ≥ 4 fold the pre-booster antibody titre;

For subjects with pre-booster antibody titre below the highest dilution tested (reciprocal < 8192 ED50): highest dilution tested one month after the booster dose (reciprocal > 8192 ED50).

End point type	Secondary
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End point timeframe:

At Month 1 (POST)

End point values	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3	Zilbrix/HIB/Poliorix Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	78	78	78	77
Units: Subjects				
Anti-polio 1 POST [N=78;78;78;77]	70	64	60	69
Anti-polio 2 POST [N=77;78;78;77]	68	66	70	72
Anti-polio 3 POST [N=78;78;78;77]	74	74	73	75

Statistical analyses

No statistical analyses for this end point

Secondary: NUMBER OF SUBJECTS SEROPROTECTED AGAINST ANTI-POLIOVIRUS (ANTI-POLIO) TYPES 1, 2 AND 3.

End point title	NUMBER OF SUBJECTS SEROPROTECTED AGAINST ANTI-POLIOVIRUS (ANTI-POLIO) TYPES 1, 2 AND 3.
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End point description:

End point type	Secondary
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End point timeframe:

At Month 0 (PRE)

End point values	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3	Zilbrix/HIB/Polio rix Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	78	78	78	77
Units: Subjects				
Anti-polio 1 PRE [N=78;78;78;77]	76	70	74	75
Anti-polio 2 PRE [N=78;78;78;77]	77	75	78	74
Anti-polio 3 PRE [N=78;78;78;77]	74	76	76	70

Statistical analyses

No statistical analyses for this end point

Secondary: ANTI-POLIO TYPES 1, 2 AND 3 ANTIBODY TITERS

End point title	ANTI-POLIO TYPES 1, 2 AND 3 ANTIBODY TITERS
End point description:	
End point type	Secondary
End point timeframe:	
At Month 0 (PRE)	

End point values	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3	Zilbrix/HIB/Polio rix Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	78	78	78	77
Units: Titers				
geometric mean (confidence interval 95%)				
Anti-polio 1 PRE [N=78;78;78;77]	321.1 (231.2 to 446)	219.1 (144 to 333.6)	296.6 (205.1 to 428.8)	296.9 (213.9 to 412.1)
Anti-polio 2 PRE [N=78;78;78;77]	186.8 (140.1 to 249.2)	152.2 (111.8 to 207.3)	183.4 (146.4 to 229.7)	148 (112.4 to 194.9)
Anti-polio 3 PRE [N=78;78;78;77]	74.5 (56 to 99)	82.1 (62.1 to 108.6)	102.1 (77.6 to 134.4)	79.1 (57.9 to 108.1)

Statistical analyses

No statistical analyses for this end point

Secondary: NUMBER OF SEROPROTECTED SUBJECTS FOR ANTI-DIPHTHERIA (ANTI-D) AND ANTI-TETANUS (ANTI-T)

End point title	NUMBER OF SEROPROTECTED SUBJECTS FOR ANTI-
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End point description:

Seroprotection was defined as anti-D and anti-T antibody concentration ≥ 0.1 International Units per milliliter (IU/mL).

End point type Secondary

End point timeframe:

At Month 0 (PRE) and Month 1 (POST)

End point values	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3	Zilbrix/HIB/Polio Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	78	78	78	77
Units: Subjects				
Anti-D PRE	69	69	69	65
Anti-D POST	78	78	78	77
Anti-T PRE	78	77	77	76
Anti-T POST	78	78	78	77

Statistical analyses

No statistical analyses for this end point

Secondary: ANTI-D AND ANTI-T CONCENTRATIONS

End point title ANTI-D AND ANTI-T CONCENTRATIONS

End point description:

End point type Secondary

End point timeframe:

At Month 0 (PRE) and Month 1 (POST)

End point values	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3	Zilbrix/HIB/Polio Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	78	78	78	77
Units: IU/mL				
geometric mean (confidence interval 95%)				
Anti-D PRE	0.301 (0.237 to 0.382)	0.331 (0.258 to 0.424)	0.33 (0.264 to 0.412)	0.374 (0.276 to 0.508)
Anti-D POST	6.519 (5.46 to 7.783)	7.687 (6.112 to 9.669)	8.659 (7.132 to 10.514)	6.807 (5.231 to 8.858)
Anti-T PRE	0.776 (0.639 to 0.942)	0.766 (0.622 to 0.944)	0.833 (0.668 to 1.038)	0.932 (0.756 to 1.149)
Anti-T POST	26.12 (22.65 to 30.121)	31.047 (25.954 to 37.139)	31.054 (26.837 to 35.934)	24.402 (21.042 to 28.298)

Statistical analyses

No statistical analyses for this end point

Secondary: NUMBER OF SEROPROTECTED AND SEROPOSITIVE SUBJECTS FOR ANTI-HEPATITIS B (ANTI-HBS)

End point title	NUMBER OF SEROPROTECTED AND SEROPOSITIVE SUBJECTS FOR ANTI-HEPATITIS B (ANTI-HBS)
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End point description:

Seropositivity was defined as anti-HBs antibody concentration ≥ 3.3 milli-international units per milliliter (mIU/mL). Seroprotection was defined as anti-HBs antibody concentration ≥ 10 mIU/mL.

Note that percentage of subjects with concentration ≥ 10 mIU/mL was over-estimated due to the use of in-house assay overestimating concentrations between 10-100 mIU/mL. Accordingly GMCs were also overestimated.

A decrease in the specificity of the anti-HB ELISA assay had been observed in some studies for low levels of antibody (10-100 mIU/mL). The table shows updated results following partial or complete retesting/reanalysis. Some of the available blood samples initially tested with ELISA were re-tested using the new assay, CLIA.

End point type	Secondary
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End point timeframe:

At Month 0 (PRE) and Month 1 (POST)

End point values	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3	Zilbrix/HIB/Polio Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	78	78	78	77
Units: Subjects				
Anti-HBs ≥ 3.3 mIU/mL PRE	71	70	73	73
Anti-HBs ≥ 3.3 mIU/mL POST	78	77	78	77
Anti-HBs ≥ 10 mIU/mL PRE	64	67	62	70
Anti-HBs ≥ 10 mIU/mL POST	77	77	78	77

Statistical analyses

No statistical analyses for this end point

Secondary: ANTI-HBS CONCENTRATIONS

End point title	ANTI-HBS CONCENTRATIONS
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End point description:

End point type	Secondary
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End point timeframe:

At Month 0 (PRE) and Month 1 (POST)

End point values	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3	Zilbrix/HIB/Polio- rix Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	78	78	78	77
Units: mIU/mL				
geometric mean (confidence interval 95%)				
Anti-HBs PRE	59.9 (40.3 to 89.1)	46.9 (32.8 to 67.2)	61.9 (42.2 to 91)	88.5 (60.7 to 129)
Anti-HBs POST	2713.4 (1846.9 to 3986.2)	2395.1 (1630 to 3519.4)	3992.8 (2747.2 to 5803.1)	3484.3 (2452.2 to 4950.8)

Statistical analyses

No statistical analyses for this end point

Secondary: NUMBER OF SEROPROTECTED SUBJECTS AGAINST ANTI-POLYRIBOSIL-RIBITOL-PHOSPHATE (ANTI-PRP)

End point title	NUMBER OF SEROPROTECTED SUBJECTS AGAINST ANTI-POLYRIBOSIL-RIBITOL-PHOSPHATE (ANTI-PRP)
End point description:	
Seroprotection was defined as anti-PRP antibody concentration ≥ 0.15 micrograms per milliliter ($\mu\text{g/mL}$).	
End point type	Secondary
End point timeframe:	
At Month 0 (PRE) and Month 1 (POST)	

End point values	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3	Zilbrix/HIB/Polio- rix Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	78	78	78	77
Units: Subjects				
Anti-PRP PRE	28	27	30	35
Anti-PRP POST	77	76	71	76

Statistical analyses

No statistical analyses for this end point

Secondary: ANTI-PRP CONCENTRATIONS

End point title	ANTI-PRP CONCENTRATIONS
End point description:	
End point type	Secondary
End point timeframe:	
At Month 0 (PRE) and Month 1 (POST)	

End point values	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3	Zilbrix/HIB/Poliorix Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	78	78	78	77
Units: µg/mL				
geometric mean (confidence interval 95%)				
Anti-PRP PRE	0.134 (0.109 to 0.166)	0.137 (0.11 to 0.172)	0.152 (0.118 to 0.197)	0.171 (0.13 to 0.226)
Anti-PRP POST	2.871 (1.797 to 4.587)	2.243 (1.52 to 3.31)	1.575 (1.065 to 2.33)	3.305 (2.373 to 4.603)

Statistical analyses

No statistical analyses for this end point

Secondary: NUMBER OF SEROPOSITIVE SUBJECTS FOR ANTI-BORDETELLA PERTUSSIS (ANTI-BPT)

End point title	NUMBER OF SEROPOSITIVE SUBJECTS FOR ANTI-BORDETELLA PERTUSSIS (ANTI-BPT)
End point description:	
Sepositvity was defined as anti-BPT antibody concentration ≥15 ELISA units per milliliter (EL.U/mL).	
End point type	Secondary
End point timeframe:	
At Month 0 (PRE) and Month 1 (POST)	

End point values	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3	Zilbrix/HIB/Poliorix Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	76	78	78	77
Units: Subjects				
Anti-BPT PRE [N=76;78;78;77]	50	50	51	49
Anti-BPT POST [N=76;74;77;75]	76	73	77	75

Statistical analyses

No statistical analyses for this end point

Secondary: ANTI-BPT CONCENTRATIONS

End point title ANTI-BPT CONCENTRATIONS

End point description:

End point type Secondary

End point timeframe:

At Month 0 (PRE) and Month 1 (POST)

End point values	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3	Zilbrix/HIB/Polio rix Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	76	78	78	77
Units: EL.U/mL				
geometric mean (confidence interval 95%)				
Anti-BPT PRE [N=76;78;78;77]	19.6 (16.4 to 23.6)	20.1 (16.5 to 24.5)	18.9 (15.9 to 22.4)	19.5 (16 to 23.9)
Anti-BPT POST [N=76;74;77;75]	161.8 (143.6 to 182.3)	182.9 (158 to 211.9)	211 (190.1 to 234.2)	194.7 (170.6 to 222.4)

Statistical analyses

No statistical analyses for this end point

Secondary: NUMBER OF SUBJECTS WITH A BOOSTER RESPONSE FOR ANTI-BPT

End point title NUMBER OF SUBJECTS WITH A BOOSTER RESPONSE FOR ANTI-BPT

End point description:

Booster response defined as:

For initially seronegative subjects, antibody concentration ≥ 15 EL.U/mL one month after the booster dose;

For initially seropositive subjects: antibody concentration one month after the booster dose ≥ 2 fold the pre-booster antibody concentration.

End point type Secondary

End point timeframe:

At Month 1 (POST)

End point values	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3	Zilbrix/HIB/Polio Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	74	74	77	75
Units: Subjects				
Anti-BPT (POST)	72	72	77	72

Statistical analyses

No statistical analyses for this end point

Secondary: NUMBER OF SUBJECTS WITH ANY SOLICITED LOCAL AND GENERAL SYMPTOMS

End point title	NUMBER OF SUBJECTS WITH ANY SOLICITED LOCAL AND GENERAL SYMPTOMS
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End point description:

Solicited local symptoms assessed were pain, redness and swelling. Solicited general symptoms assessed were drowsiness, fever (37.5 C), irritability, loss of appetite.

End point type	Secondary
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End point timeframe:

During the 8-day (Day 0-Day 7) follow-up period after vaccination.

End point values	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3	Zilbrix/HIB/Polio Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	78	78	78	78
Units: Subjects				
Pain	67	65	66	68
Redness	28	29	35	35
Swelling	33	32	36	35
Drowsiness	43	42	46	41
Fever	59	60	57	63
Irritability	53	60	57	65
Loss of appetite	33	36	36	38

Statistical analyses

No statistical analyses for this end point

Secondary: NUMBER OF SUBJECTS WITH ANY UNSOLICITED ADVERSE EVENTS (AES)

End point title	NUMBER OF SUBJECTS WITH ANY UNSOLICITED ADVERSE EVENTS (AES)
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End point description:

End point type	Secondary
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End point timeframe:

During the 31-day (Day 0-Day 30) follow-up period after vaccination

End point values	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3	Zilbrix/HIB/Polio rix Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	78	78	78	78
Units: Subjects				
AE(s)	30	44	30	40

Statistical analyses

No statistical analyses for this end point

Secondary: NUMBER OF SUBJECTS WITH ANY SERIOUS ADVERSE EVENTS (SAES)

End point title	NUMBER OF SUBJECTS WITH ANY SERIOUS ADVERSE EVENTS (SAES)
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End point description:

End point type	Secondary
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End point timeframe:

During the entire study period (from Month 0 to Month 1).

End point values	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3	Zilbrix/HIB/Polio rix Group
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	78	78	78	78
Units: Subjects				
SAE(s)	1	3	2	1

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

Solicited local/general symptoms: During the 8-day (Day 0-Day 7) follow-up period after vaccination.

Unsolicited AE(s): During the 31-day (Day 0-Day 30) follow-up period after vaccination. SAE(s): During the entire study period (from Month 0 to Month 1)

Adverse event reporting additional description:

The number of occurrences reported for solicited symptoms, adverse events, and serious adverse events were not available for posting. The number of subjects affected by each specific event was indicated as the number of occurrences.

Assessment type	Systematic
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Dictionary used

Dictionary name	MedDRA
Dictionary version	16.0

Reporting groups

Reporting group title	GSK2036874A Group 1
Reporting group description: -	
Reporting group title	GSK2036874A Group 2
Reporting group description: -	
Reporting group title	GSK2036874A Group 3
Reporting group description: -	
Reporting group title	Zilbrix/HIB/Poliorix Group
Reporting group description: -	

Serious adverse events	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3
Total subjects affected by serious adverse events			
subjects affected / exposed	1 / 78 (1.28%)	3 / 78 (3.85%)	2 / 78 (2.56%)
number of deaths (all causes)	0	0	0
number of deaths resulting from adverse events			
Nervous system disorders			
Febrile convulsion			
subjects affected / exposed	0 / 78 (0.00%)	3 / 78 (3.85%)	1 / 78 (1.28%)
occurrences causally related to treatment / all	0 / 0	0 / 3	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Infections and infestations			
Pneumonia			
subjects affected / exposed	1 / 78 (1.28%)	0 / 78 (0.00%)	1 / 78 (1.28%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Urinary tract infection			

subjects affected / exposed	1 / 78 (1.28%)	0 / 78 (0.00%)	0 / 78 (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	Zilbrix/HIB/Poliorix Group		
Total subjects affected by serious adverse events			
subjects affected / exposed	1 / 78 (1.28%)		
number of deaths (all causes)	0		
number of deaths resulting from adverse events			
Nervous system disorders			
Febrile convulsion			
subjects affected / exposed	1 / 78 (1.28%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Infections and infestations			
Pneumonia			
subjects affected / exposed	0 / 78 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		
Urinary tract infection			
subjects affected / exposed	0 / 78 (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	GSK2036874A Group 1	GSK2036874A Group 2	GSK2036874A Group 3
Total subjects affected by non-serious adverse events			
subjects affected / exposed	67 / 78 (85.90%)	65 / 78 (83.33%)	66 / 78 (84.62%)
General disorders and administration site conditions			
Pain			
subjects affected / exposed	67 / 78 (85.90%)	65 / 78 (83.33%)	66 / 78 (84.62%)
occurrences (all)	67	65	66
Redness			

subjects affected / exposed	28 / 78 (35.90%)	29 / 78 (37.18%)	35 / 78 (44.87%)
occurrences (all)	28	29	35
Swelling			
subjects affected / exposed	33 / 78 (42.31%)	32 / 78 (41.03%)	36 / 78 (46.15%)
occurrences (all)	33	32	36
Drowsiness			
subjects affected / exposed	43 / 78 (55.13%)	42 / 78 (53.85%)	46 / 78 (58.97%)
occurrences (all)	43	42	46
Fever			
subjects affected / exposed	59 / 78 (75.64%)	60 / 78 (76.92%)	57 / 78 (73.08%)
occurrences (all)	59	60	57
Irritability			
subjects affected / exposed	53 / 78 (67.95%)	60 / 78 (76.92%)	57 / 78 (73.08%)
occurrences (all)	53	60	57
Loss of appetite			
subjects affected / exposed	33 / 78 (42.31%)	36 / 78 (46.15%)	36 / 78 (46.15%)
occurrences (all)	33	36	36
Respiratory, thoracic and mediastinal disorders			
Cough			
subjects affected / exposed	5 / 78 (6.41%)	10 / 78 (12.82%)	9 / 78 (11.54%)
occurrences (all)	5	10	9
Infections and infestations			
Nasopharyngitis			
subjects affected / exposed	3 / 78 (3.85%)	12 / 78 (15.38%)	11 / 78 (14.10%)
occurrences (all)	3	12	11
Upper respiratory tract infection			
subjects affected / exposed	9 / 78 (11.54%)	12 / 78 (15.38%)	5 / 78 (6.41%)
occurrences (all)	9	12	5
Conjunctivitis bacterial			
subjects affected / exposed	1 / 78 (1.28%)	4 / 78 (5.13%)	0 / 78 (0.00%)
occurrences (all)	1	4	0
Non-serious adverse events	Zilbrix/HIB/Poliorix Group		
Total subjects affected by non-serious adverse events			
subjects affected / exposed	68 / 78 (87.18%)		

General disorders and administration site conditions			
Pain			
subjects affected / exposed	68 / 78 (87.18%)		
occurrences (all)	68		
Redness			
subjects affected / exposed	35 / 78 (44.87%)		
occurrences (all)	35		
Swelling			
subjects affected / exposed	35 / 78 (44.87%)		
occurrences (all)	35		
Drowsiness			
subjects affected / exposed	41 / 78 (52.56%)		
occurrences (all)	41		
Fever			
subjects affected / exposed	63 / 78 (80.77%)		
occurrences (all)	63		
Irritability			
subjects affected / exposed	65 / 78 (83.33%)		
occurrences (all)	65		
Loss of appetite			
subjects affected / exposed	38 / 78 (48.72%)		
occurrences (all)	38		
Respiratory, thoracic and mediastinal disorders			
Cough			
subjects affected / exposed	8 / 78 (10.26%)		
occurrences (all)	8		
Infections and infestations			
Nasopharyngitis			
subjects affected / exposed	13 / 78 (16.67%)		
occurrences (all)	13		
Upper respiratory tract infection			
subjects affected / exposed	9 / 78 (11.54%)		
occurrences (all)	9		
Conjunctivitis bacterial			
subjects affected / exposed	0 / 78 (0.00%)		
occurrences (all)	0		

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