# Clinical trial results:
# A phase III open study to assess the safety, reactogenicity and immunogenicity following booster administration of GlaxoSmithKline (GSK) Biologicals´ 10-valent pneumococcal conjugate vaccine, co-administered with a booster dose of DTPa-IPV/Hib (Infanrix-IPV/Hib) vaccine in preterm born children at 16-18 months of age following primary immunisation in study 10PN-PD-DIT-015 (107737).

## Summary

| | |
|---|---|
| EudraCT number | 2007-000596-42 |
| Trial protocol | GR ES |
| Global end of trial date | 30 March 2009 |

**Results information**

| | |
|---|---|
| Result version number | v2 (current) |
| This version publication date | 19 April 2023 |
| First version publication date | 14 June 2015 |
| Version creation reason | • Correction of full data set<br>Correction of full data set and alignment between registries. |

## Trial information

**Trial identification**

| | |
|---|---|
| Sponsor protocol code | 109621 |

**Additional study identifiers**

| | |
|---|---|
| ISRCTN number | - |
| ClinicalTrials.gov id (NCT number) | NCT00609492 |
| 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) | 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 | 28 April 2009 |
| Is this the analysis of the primary completion data? | No |

| | |
|---|---|
| Global end of trial reached? | Yes |
| Global end of trial date | 30 March 2009 |
| Was the trial ended prematurely? | No |

Notes:

## General information about the trial

Main objective of the trial:

To evaluate the safety and reactogenicity of a booster dose of GSK Biologicals´ 10-valent pneumococcal conjugate vaccine co-administered with a booster dose of DTPa-IPV/Hib vaccine in preterm born children at 16-18 months of age.

Protection of trial subjects:

In the purely scientific application of medical research carried out on a human being, it was the duty of the physician to remain the protector of the life and health of that person on whom biomedical research is being carried out.
All subjects were supervised closely for at least 30 minutes following vaccination with appropriate medical treatment readily available. Vaccines were administered by qualified and trained personnel. Vaccines were administered only to eligible subjects that had no contraindications to any components of the vaccines. Subjects were followed-up from the time the subject consents to participate in the study until she/he is discharged.

Background therapy: -

Evidence for comparator: -

| | |
|---|---|
| Actual start date of recruitment | 03 January 2008 |
| Long term follow-up planned | Yes |
| Long term follow-up rationale | Safety |
| Long term follow-up duration | 6 Months |
| Independent data monitoring committee (IDMC) involvement? | No |

Notes:

## Population of trial subjects

### Subjects enrolled per country

| | |
|---|---|
| Country: Number of subjects enrolled | Spain: 167 |
| Country: Number of subjects enrolled | Greece: 78 |
| Worldwide total number of subjects | 245 |
| EEA total number of subjects | 245 |

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) | 245 |
| 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 | Active Phase (overall period) |
| Is this the baseline period? | Yes |
| Allocation method | Non-randomised - controlled |
| Blinding used | Not blinded |

### Arms

| | |
|---|---|
| Are arms mutually exclusive? | Yes |
| **Arm title** | Preterm I Group |

Arm description:

Children born after a gestation period of 27-30 weeks (189-216 days) who were previously primed with three doses of 10Pn-PD-DiT (Synflorix) co-administered with DTPa-HBV-IPV/Hib (Infanrix hexa) in the primary vaccination study 10PN-PD-DIT-015.

| | |
|---|---|
| Arm type | Experimental |
| Investigational medicinal product name | 10-valent streptococcus pneumoniae conjugate vaccine |
| Investigational medicinal product code | |
| Other name | 10Pn-PD-DiT vaccine, Synflorix |
| Pharmaceutical forms | Suspension for injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

Single booster dose, administered intramuscularly in the right thigh or right deltoid, at 16-18 months of age, following the primary vaccination administered in the study 10PN-PD-DIT-015(107737).

| | |
|---|---|
| Investigational medicinal product name | Infanrix IPV/Hib |
| Investigational medicinal product code | |
| Other name | DTPa –IPV/Hib |
| Pharmaceutical forms | Powder and solvent for suspension for injection in pre-filled syringe |
| Routes of administration | Intramuscular use |

Dosage and administration details:

Single dose, administered intramuscularly in the left thigh or left deltoid.

| | |
|---|---|
| **Arm title** | Preterm II Group |

Arm description:

Children born after a gestation period of 31-36 weeks (217-258 days) who were previously primed with three doses of Synflorix co-administered with DTPa-HBV-IPV/Hib (Infanrix hexa) in the primary vaccination study 10PN-PD-DIT-015.

| | |
|---|---|
| Arm type | Experimental |
| Investigational medicinal product name | 10-valent streptococcus pneumoniae conjugate vaccine |
| Investigational medicinal product code | |
| Other name | 10Pn-PD-DiT vaccine |
| Pharmaceutical forms | Suspension for injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

Single booster dose, administered intramuscularly in the right thigh or right deltoid, at 16-18 months of age, following the primary vaccination administered in the study 10PN-PD-DIT-015(107737).

| | |
|---|---|
| Investigational medicinal product name | Infanrix IPV/Hib |
| Investigational medicinal product code | |
| Other name | DTPa –IPV/Hib |
| Pharmaceutical forms | Powder and solvent for suspension for injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

Single dose, administered intramuscularly in the left thigh or left deltoid.

| | |
|---|---|
| **Arm title** | Full term Group |

Arm description:

Children born after a gestation period of more than 36 weeks (more than 258 days) who were previously primed with three doses of Synflorix co-administered with DTPa-HBV-IPV/Hib (Infanrix hexa) in the primary vaccination study 10PN-PD-DIT-015.

| | |
|---|---|
| Arm type | Experimental |
| Investigational medicinal product name | 10-valent streptococcus pneumoniae conjugate vaccine |
| Investigational medicinal product code | |
| Other name | 10Pn-PD-DiT vaccine |
| Pharmaceutical forms | Suspension for injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

Single booster dose, administered intramuscularly in the right thigh or right deltoid, at 16-18 months of age, following the primary vaccination administered in the study 10PN-PD-DIT-015(107737).

| | |
|---|---|
| Investigational medicinal product name | Infanrix IPV/Hib |
| Investigational medicinal product code | |
| Other name | DTPa –IPV/Hib |
| Pharmaceutical forms | Powder and solvent for suspension for injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

Single dose, administered intramuscularly in the left thigh or left deltoid.

| **Number of subjects in period 1** | Preterm I Group | Preterm II Group | Full term Group |
|---|---|---|---|
| Started | 44 | 72 | 129 |
| Completed | 43 | 69 | 122 |
| Not completed | 1 | 3 | 7 |
| Consent withdrawn by subject | - | 2 | 3 |
| Lost to follow-up | 1 | 1 | 4 |

## Baseline characteristics

| Reporting groups | |
|---|---|
| Reporting group title | Preterm I Group |
| Reporting group description: | |
| Children born after a gestation period of 27-30 weeks (189-216 days) who were previously primed with three doses of 10Pn-PD-DiT (Synflorix) co-administered with DTPa-HBV-IPV/Hib (Infanrix hexa) in the primary vaccination study 10PN-PD-DIT-015. | |
| Reporting group title | Preterm II Group |
| Reporting group description: | |
| Children born after a gestation period of 31-36 weeks (217-258 days) who were previously primed with three doses of Synflorix co-administered with DTPa-HBV-IPV/Hib (Infanrix hexa) in the primary vaccination study 10PN-PD-DIT-015. | |
| Reporting group title | Full term Group |
| Reporting group description: | |
| Children born after a gestation period of more than 36 weeks (more than 258 days) who were previously primed with three doses of Synflorix co-administered with DTPa-HBV-IPV/Hib (Infanrix hexa) in the primary vaccination study 10PN-PD-DIT-015. | |

| Reporting group values | Preterm I Group | Preterm II Group | Full term Group |
|---|---|---|---|
| Number of subjects | 44 | 72 | 129 |
| Age categorical<br>Units: Subjects | | | |
| In utero | 0 | 0 | 0 |
| Preterm newborn infants (gestational age < 37 wks) | 0 | 0 | 0 |
| Newborns (0-27 days) | 0 | 0 | 0 |
| Infants and toddlers (28 days-23 months) | 44 | 72 | 129 |
| Children (2-11 years) | 0 | 0 | 0 |
| Adolescents (12-17 years) | 0 | 0 | 0 |
| Adults (18-64 years) | 0 | 0 | 0 |
| From 65-84 years | 0 | 0 | 0 |
| 85 years and over | 0 | 0 | 0 |
| Age continuous<br>Units: months | | | |
| arithmetic mean | 16.8 | 17.2 | 16.6 |
| standard deviation | ± 0.63 | ± 0.68 | ± 0.73 |
| Gender categorical<br>Units: Subjects | | | |
| Female | 16 | 29 | 50 |
| Male | 28 | 43 | 79 |

| Reporting group values | Total | | |
|---|---|---|---|
| Number of subjects | 245 | | |
| Age categorical<br>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) | 245 | | |
| 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 | | | |
| standard deviation | - | | |
| Gender categorical | | | |
| Units: Subjects | | | |
| Female | 95 | | |
| Male | 150 | | |

## End points

### End points reporting groups

| Reporting group title | Preterm I Group |
|---|---|

Reporting group description:

Children born after a gestation period of 27-30 weeks (189-216 days) who were previously primed with three doses of 10Pn-PD-DiT (Synflorix) co-administered with DTPa-HBV-IPV/Hib (Infanrix hexa) in the primary vaccination study 10PN-PD-DIT-015.

| Reporting group title | Preterm II Group |
|---|---|

Reporting group description:

Children born after a gestation period of 31-36 weeks (217-258 days) who were previously primed with three doses of Synflorix co-administered with DTPa-HBV-IPV/Hib (Infanrix hexa) in the primary vaccination study 10PN-PD-DIT-015.

| Reporting group title | Full term Group |
|---|---|

Reporting group description:

Children born after a gestation period of more than 36 weeks (more than 258 days) who were previously primed with three doses of Synflorix co-administered with DTPa-HBV-IPV/Hib (Infanrix hexa) in the primary vaccination study 10PN-PD-DIT-015.

| Subject analysis set title | Preterm Group |
|---|---|
| Subject analysis set type | Sub-group analysis |

Subject analysis set description:

Pooled group with subjects of the Preterm I Group and the Preterm II Group.

### Primary: Number of subjects reporting fever with rectal temperature above (>) 39.0 degrees Celsius (°C)

| End point title | Number of subjects reporting fever with rectal temperature above (>) 39.0 degrees Celsius (°C)[1][2] |
|---|---|

End point description:

Fever was measured as rectal temperature. Assessment of occurrences of fever > 39.0 °C was performed within 4-days (Days 0-3) after booster vaccination of Synflorix and Infanrix-IPV/Hib vaccine.

| End point type | Primary |
|---|---|

End point timeframe:

Within 4-days (Days 0-3) after booster vaccination

Notes:

[1] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.
Justification: The analysis of the primary endpoint was descriptive i.e. no statistical hypothesis test was performed.
[2] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint is only reporting values for the Full term Group and the Preterm Group.

| End point values | Full term Group | Preterm Group | | |
|---|---|---|---|---|
| Subject group type | Reporting group | Subject analysis set | | |
| Number of subjects analysed | 122 | 112 | | |
| Units: Subjects | | | | |
| Fever>39°C | 6 | 8 | | |

## Statistical analyses

No statistical analyses for this end point

## Secondary: Number of subjects with any and Grade 3 solicited local symptoms

| End point title | Number of subjects with any and Grade 3 solicited local symptoms[3] |
|---|---|

End point description:

Solicited local symptoms assessed include pain, redness and swelling. Grade 3 pain was defined as crying when limb was moved/spontaneously painful. Grade 3 swelling/redness was defined as swelling/redness larger than (>) 30 millimeters (mm). "Any" is defined as incidence of the specified symptom regardless of intensity.

| End point type | Secondary |
|---|---|

End point timeframe:

Within 4-days (Days 0-3) after booster vaccination

Notes:

[3] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint is only reporting values for the Full term Group and the Preterm Group.

| End point values | Full term Group | Preterm Group | | |
|---|---|---|---|---|
| Subject group type | Reporting group | Subject analysis set | | |
| Number of subjects analysed | 122 | 112 | | |
| Units: Subjects | | | | |
| Any Pain | 67 | 47 | | |
| Grade 3 Pain | 4 | 5 | | |
| Any Redness | 65 | 35 | | |
| Grade 3 Redness | 19 | 3 | | |
| Any Swelling | 55 | 27 | | |
| Grade 3 Swelling | 14 | 1 | | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Number of subjects with any and Grade 3 solicited general symptoms

| End point title | Number of subjects with any and Grade 3 solicited general symptoms[4] |
|---|---|

End point description:

Solicited general symptoms assessed include drowsiness, fever (defined as rectal temperature ≥38.0°C), irritability, and loss of appetite. Grade 3 drowsiness = drowsiness which prevented normal everyday activities. Grade 3 fever = fever above (>) 40.0 degree Celsius (°C). Grade 3 irritability = crying that could not be comforted/preventing normal activity. Grade 3 loss of appetite = the subject not eating at all. "Any" is defined as incidence of the specified symptom regardless of intensity or relationship to study vaccination.

| End point type | Secondary |
|---|---|

End point timeframe:

Within 4-days (Days 0-3) after booster vaccination

Notes:

[4] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint is only reporting values for the Full term Group and the Preterm Group.

| End point values | Full term Group | Preterm Group | | |
|---|---|---|---|---|
| Subject group type | Reporting group | Subject analysis set | | |
| Number of subjects analysed | 122 | 112 | | |
| Units: Subjects | | | | |
| Any Drowsiness | 33 | 21 | | |
| Grade 3 Drowsiness | 1 | 1 | | |
| Any Fever | 39 | 34 | | |
| Grade 3 Fever | 1 | 0 | | |
| Any Irritability | 49 | 36 | | |
| Grade 3 Irritability | 2 | 2 | | |
| Any Loss of appetite | 35 | 26 | | |
| Grade 3 Loss of appetite | 1 | 0 | | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Number of subjects with unsolicited adverse events (AEs)

| End point title | Number of subjects with unsolicited adverse events (AEs)[5] |
|---|---|

End point description:

An AE is any untoward medical occurrence in a clinical investigation subject, temporally associated with the use of a medicinal product, whether or not considered related to the medicinal product. "Any" is defined as incidence of an unsolicited AE regardless of intensity or relationship to study vaccination.

| End point type | Secondary |
|---|---|

End point timeframe:

Within 31-days (Days 0-30) after booster vaccination

Notes:

[5] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint is only reporting values for the Full term Group and the Preterm Group.

| End point values | Full term Group | Preterm Group | | |
|---|---|---|---|---|
| Subject group type | Reporting group | Subject analysis set | | |
| Number of subjects analysed | 129 | 116 | | |
| Units: Subjects | | | | |
| Any AE(s) | 24 | 17 | | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Number of subjects with serious adverse events (SAEs)

| End point title | Number of subjects with serious adverse events (SAEs)[6] |
|---|---|

End point description:

Serious adverse events (SAEs) assessed include medical occurrences that result in death, are life threatening, require hospitalization or prolongation of hospitalization or result in disability/incapacity.

| End point type | Secondary |
|---|---|

End point timeframe:

Throughout the active phase of the study (Month 0 to Month 1)

Notes:

[6] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint is only reporting values for the Full term Group and the Preterm Group.

| **End point values** | Full term Group | Preterm Group | | |
|---|---|---|---|---|
| Subject group type | Reporting group | Subject analysis set | | |
| Number of subjects analysed | 129 | 116 | | |
| Units: Subjects | | | | |
| Any SAE(s) | 0 | 0 | | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Number of subjects with serious adverse events (SAEs)

| End point title | Number of subjects with serious adverse events (SAEs)[7] |
|---|---|

End point description:

Serious adverse events (SAEs) assessed include medical occurrences that result in death, are life threatening, require hospitalization or prolongation of hospitalization or result in disability/incapacity.

| End point type | Secondary |
|---|---|

End point timeframe:

Throughout the entire study period starting from Month 0 up to the end of the extended safety follow-up (Month 6)

Notes:

[7] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint is only reporting values for the Full term Group and the Preterm Group.

| **End point values** | Full term Group | Preterm Group | | |
|---|---|---|---|---|
| Subject group type | Reporting group | Subject analysis set | | |
| Number of subjects analysed | 129 | 116 | | |
| Units: Subjects | | | | |
| Any SAE(s) | 1 | 3 | | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Number of subjects with anti-pneumococcal serotypes 1, 4, 5, 6B, 7F, 9V, 14, 18C, 19F and 23F antibody concentrations above or equal to (≥) 0.20 microgram per millilitre (µg/mL)

| End point title | Number of subjects with anti-pneumococcal serotypes 1, 4, 5, 6B, 7F, 9V, 14, 18C, 19F and 23F antibody concentrations above or equal to (≥) 0.20 microgram per millilitre (µg/mL) |
|---|---|

End point description:

A seroprotected subject was defined as a subject who had anti-pneumococcal serotypes antibody concentrations greater than or equal to (≥) the threshold value of 0.20 micrograms per milliliter (µg/mL). The anti-pneumococcal serotypes assessed were 1, 4, 5, 6B, 7F, 9V, 14, 18C, 19F and 23F.

| End point type | Secondary |
|---|---|

End point timeframe:

Prior to (Pre-booster) and one month after (Post-booster) the administration of the booster dose of Synflorix vaccine co-administered with the booster dose of Infanrix-IPV/Hib vaccine

| **End point values** | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 43 | 69 | 125 | |
| Units: Subjects | | | | |
| Anti-1, Pre-booster [N=43;66;121] | 16 | 28 | 53 | |
| Anti-1, Post-booster [N=43;66;119] | 43 | 66 | 118 | |
| Anti-4, Pre-booster [N=43;69;123] | 23 | 40 | 82 | |
| Anti-4, Post-booster [N=43;66;119] | 43 | 66 | 119 | |
| Anti-5, Pre-booster [N=43;68;124] | 27 | 43 | 105 | |
| Anti-5, Post-booster [N=43;66;119] | 43 | 66 | 119 | |
| Anti-6B, Pre-booster [N=43;67;124] | 28 | 41 | 99 | |
| Anti-6B, Post-booster [N=42;66;119] | 42 | 65 | 119 | |
| Anti-7F, Pre-booster [N=43;65;123] | 34 | 56 | 115 | |
| Anti-7F, Post-booster [N=43;66;118] | 43 | 66 | 118 | |
| Anti-9V, Pre-booster [N=43;69;123] | 39 | 59 | 115 | |
| Anti-9V, Post-booster [N=43;66;119] | 43 | 66 | 119 | |
| Anti-14, Pre-booster [N=43;68;124] | 41 | 55 | 105 | |
| Anti-14, P-booster [N=43;66;119] | 43 | 66 | 119 | |
| Anti-18C, Pre-booster [N=43;68;125] | 36 | 60 | 106 | |
| Anti-18C, Post-booster [N=43;66;119] | 43 | 66 | 118 | |
| Anti-19F, Pre-booster [N=43;68;125] | 38 | 66 | 120 | |
| Anti-19F, Post-booster [N=43;66;119] | 43 | 66 | 119 | |
| Anti-23F, Pre-booster [N=43;69;123] | 30 | 45 | 99 | |
| Anti-23F, Post-booster [N=42;66;119] | 41 | 66 | 118 | |

## Statistical analyses

No statistical analyses for this end point

## Secondary: Anti-pneumococcal serotypes 1, 4, 5, 6B, 7F, 9V, 14, 18C, 19F and 23F antibody concentrations

| End point title | Anti-pneumococcal serotypes 1, 4, 5, 6B, 7F, 9V, 14, 18C, 19F and 23F antibody concentrations |
|---|---|

End point description:

Seropositivity status, defined as anti-pneumococcal serotypes 1, 4, 5, 6B, 7F, 9V, 14, 18C, 19F and 23F antibody concentrations >= 0.05 microgram per millilitre (µg/mL). Antibody concentrations were measured by 22F enzyme-linked immunosorbent assay (ELISA), presented as geometric mean concentrations (GMCs).

| End point type | Secondary |
|---|---|

End point timeframe:

Prior to (Pre-booster) and one month after (Post-booster) the administration of the booster dose of Synflorix vaccine co-administered with the booster dose of Infanrix-IPV/Hib vaccine

| **End point values** | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 43 | 69 | 125 | |
| Units: µg/mL | | | | |
| geometric mean (confidence interval 95%) | | | | |
| Anti-1, Pre-booster [N=43;66;121] | 0.15 (0.11 to 0.2) | 0.14 (0.11 to 0.18) | 0.17 (0.15 to 0.21) | |
| Anti-1, Post-booster [N=43;66;119] | 1.57 (1.2 to 2.05) | 1.74 (1.41 to 2.15) | 1.98 (1.66 to 2.37) | |
| Anti-4, Pre-booster [N=43;69;123] | 0.25 (0.18 to 0.35) | 0.24 (0.2 to 0.3) | 0.3 (0.25 to 0.35) | |
| Anti-4, Post-booster [N=43;66;119] | 2.98 (2.31 to 3.85) | 3.67 (3.07 to 4.39) | 4.23 (3.67 to 4.88) | |
| Anti-5, Pre-booster [N=43;68;124] | 0.24 (0.18 to 0.33) | 0.27 (0.21 to 0.34) | 0.4 (0.34 to 0.48) | |
| Anti-5, Post-booster [N=43;66;119] | 1.84 (1.43 to 2.38) | 2.38 (1.93 to 2.94) | 2.58 (2.2 to 3.02) | |
| Anti-6B, Pre-booster [N=43;67;124] | 0.28 (0.21 to 0.38) | 0.3 (0.23 to 0.37) | 0.37 (0.31 to 0.45) | |
| Anti-6B, Post-booster [N=42;66;119] | 2.44 (1.87 to 3.17) | 2.46 (1.97 to 3.06) | 2.67 (2.27 to 3.13) | |
| Anti-7F, Pre-booster [N=43;65;123] | 0.42 (0.31 to 0.56) | 0.46 (0.37 to 0.58) | 0.66 (0.57 to 0.77) | |
| Anti-7F, Post-booster [N=43;66;118] | 3.11 (2.48 to 3.9) | 4.16 (3.52 to 4.9) | 3.93 (3.45 to 4.47) | |
| Anti-9V, Pre-booster [N=43;69;123] | 0.51 (0.39 to 0.67) | 0.42 (0.35 to 0.52) | 0.59 (0.51 to 0.69) | |
| Anti-9V, Post-booster [N=43;66;119] | 2.87 (2.23 to 3.7) | 3.47 (2.86 to 4.2) | 4.17 (3.6 to 4.83) | |
| Anti-14, Pre-booster [N=43;68;124] | 0.78 (0.54 to 1.11) | 0.48 (0.37 to 0.61) | 0.68 (0.55 to 0.84) | |
| Anti-14, P-booster [N=43;66;119] | 4.88 (3.42 to 6.98) | 5.14 (4.22 to 6.25) | 5.98 (5.1 to 7.02) | |
| Anti-18C, Pre-booster [N=43;68;125] | 0.58 (0.42 to 0.8) | 0.56 (0.45 to 0.7) | 0.6 (0.49 to 0.73) | |
| Anti-18C, Post-booster [N=43;66;119] | 9.51 (7.36 to 12.29) | 13.2 (10.97 to 15.89) | 12.38 (10.21 to 15) | |
| Anti-19F, Pre-booster [N=43;68;125] | 0.86 (0.58 to 1.3) | 1.07 (0.78 to 1.46) | 1.27 (1.02 to 1.59) | |
| Anti-19F, Post-booster [N=43;66;119] | 6.83 (5.24 to 8.89) | 9.78 (8.19 to 11.68) | 9.72 (8.38 to 11.29) | |
| Anti-23F, Pre-booster [N=43;69;123] | 0.27 (0.2 to 0.36) | 0.3 (0.24 to 0.38) | 0.42 (0.35 to 0.51) | |
| Anti-23F, Post-booster [N=42;66;119] | 2.7 (1.91 to 3.81) | 3.45 (2.93 to 4.06) | 3.3 (2.74 to 3.99) | |

## Statistical analyses

No statistical analyses for this end point

## Secondary: Antibody concentrations against pneumococcal cross-reactive serotypes 6A and 19A

| End point title | Antibody concentrations against pneumococcal cross-reactive serotypes 6A and 19A |
|---|---|

End point description:

Seropositivity status, defined as anti-pneumococcal cross-reactive serotypes 6A and 19A antibody concentrations ≥0.05 microgram per millilitre (µg/mL).

| End point type | Secondary |
|---|---|

End point timeframe:

Prior to (Pre-booster) and one month after (Post-booster) the administration of the booster dose of Synflorix  vaccine co-administered with the booster dose of Infanrix-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 43 | 67 | 122 | |
| Units: µg/mL | | | | |
| geometric mean (confidence interval 95%) | | | | |
| Anti-6A, Pre-booster [N=42;67;122] | 0.12 (0.08 to 0.17) | 0.12 (0.09 to 0.16) | 0.14 (0.12 to 0.18) | |
| Anti-6A, Post-booster [N=42;66;118] | 0.7 (0.47 to 1.05) | 0.77 (0.55 to 1.07) | 0.79 (0.61 to 1.02) | |
| Anti-19A, Pre-booster [N=43;67;121] | 0.14 (0.08 to 0.24) | 0.15 (0.1 to 0.22) | 0.16 (0.12 to 0.22) | |
| Anti-19A, Post-booster [N=42;66;118] | 0.65 (0.4 to 1.04) | 0.93 (0.64 to 1.37) | 1.1 (0.82 to 1.47) | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Antibody concentrations to protein D (Anti-PD)

| End point title | Antibody concentrations to protein D (Anti-PD) |
|---|---|

End point description:

Seropositivity status, defined as anti-PD antibody concentrations ≥ 100 ELISA units per millilitre (EL.U/mL). Antibody concentrations were measured by 22F enzyme-linked immunosorbent assay (ELISA), presented as geometric mean concentrations (GMCs).

| End point type | Secondary |
|---|---|

End point timeframe:

Prior to (Pre-booster) and one month after (Post-booster) the administration of the booster dose of 10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 43 | 67 | 123 | |
| Units: EL.U/mL | | | | |
| geometric mean (confidence interval 95%) | | | | |
| Anti-PD Pre-booster [N=42;67;123] | 478.3 (361.4 to 633.1) | 340 (258.1 to 447.9) | 383.7 (317.6 to 463.5) | |
| Anti-PD Post-booster [N=43;66;118] | 1892.9 (1415.1 to 2532.2) | 1576.5 (1232.7 to 2016.1) | 1533.6 (1278.2 to 1840.1) | |

## Statistical analyses

No statistical analyses for this end point

## Secondary: Anti-diphtheria (Anti-DT) and anti-tetanus toxoids (Anti-TT) antibody concentrations

| End point title | Anti-diphtheria (Anti-DT) and anti-tetanus toxoids (Anti-TT) antibody concentrations |
|---|---|

End point description:

Seroprotection status, defined as anti-diphtheria toxoid or anti-tetanus toxoid antibody concentrations ≥0.1 IU/mL. Antibody concentrations were measured by 22F enzyme-linked immunosorbent assay (ELISA), presented as geometric mean concentrations (GMCs).

| End point type | Secondary |
|---|---|

End point timeframe:

Prior to (Pre-booster) and one month after (Post-booster) the administration of the booster dose of 10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 23 | 34 | 60 | |
| Units: IU/mL | | | | |
| geometric mean (confidence interval 95%) | | | | |
| Anti-DT Pre-booster [N=23;31;59] | 0.381 (0.21 to 0.689) | 0.674 (0.38 to 1.196) | 0.481 (0.324 to 0.716) | |
| Anti-DT Post-booster [N=21;34;60] | 6.252 (4.572 to 8.551) | 9.982 (7.392 to 13.478) | 6.73 (5.254 to 8.62) | |
| Anti-TT Pre-booster [N=23;32;59] | 0.821 (0.591 to 1.141) | 0.726 (0.601 to 0.877) | 0.918 (0.711 to 1.184) | |
| Anti-TT Post-booster [N=21;34;60] | 12.374 (9.629 to 15.903) | 14.392 (11.717 to 17.676) | 13.026 (11.176 to 15.183) | |

## Statistical analyses

No statistical analyses for this end point

## Secondary: Anti-polyribosyl-ribitol-phosphate (Anti-PRP) antibody concentrations

| End point title | Anti-polyribosyl-ribitol-phosphate (Anti-PRP) antibody concentrations |
|---|---|

End point description:

Seroprotection status, defined as anti-PRP antibody concentrations ≥0.15 µg/mL and ≥1.0 µg/mL. Antibody concentrations were measured by 22F enzyme-linked immunosorbent assay (ELISA), presented as geometric mean concentrations (GMCs).

| End point type | Secondary |
|---|---|

End point timeframe:

Prior to (Pre-booster) and one month after (Post-booster) the administration of the booster dose of 10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 23 | 34 | 59 | |
| Units: µg/mL | | | | |
| geometric mean (confidence interval 95%) | | | | |
| Anti-PRP Pre-booster [N=23;32;59] | 0.376 (0.196 to 0.719) | 0.509 (0.312 to 0.832) | 0.577 (0.372 to 0.896) | |
| Anti-PRP Post-booster [N=20;34;59] | 33.731 (17.907 to 63.54) | 36.902 (25.148 to 54.148) | 38.713 (27.736 to 54.034) | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Anti-pertussis toxoid (Anti-PT), anti- filamentous haemagglutinin (Anti-FHA) and anti-pertactin (Anti-PRN) antibody concentrations

| End point title | Anti-pertussis toxoid (Anti-PT), anti- filamentous haemagglutinin (Anti-FHA) and anti-pertactin (Anti-PRN) antibody concentrations |
|---|---|

End point description:

Seropositivity status, defined as anti-PT, anti-FHA, anti-PRN antibody concentrations ≥5 EL.U/mL. Antibody concentrations were measured by 22F enzyme-linked immunosorbent assay (ELISA), presented as geometric mean concentrations (GMCs).

| End point type | Secondary |
|---|---|

End point timeframe:

Prior to (Pre-booster) and one month after (Post-booster) the administration of the booster dose of 10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 23 | 34 | 60 | |
| Units: EL.U/mL | | | | |
| geometric mean (confidence interval 95%) | | | | |
| Anti-PT Pre-booster [N=22;32;58] | 5.7 (3.3 to 9.8) | 3.8 (3 to 4.7) | 5.5 (4.4 to 6.9) | |
| Anti-PT Post-booster [N=21;34;59] | 38.4 (29.8 to 49.5) | 32.7 (24.2 to 44.2) | 45.1 (37 to 54.9) | |
| Anti-FHA Pre-booster [N=20;27;47] | 39.4 (18.4 to 84.2) | 13.7 (9.3 to 20.1) | 17 (12.4 to 23.3) | |
| Anti-FHA Post-booster [N=21;34;59] | 250.3 (162.4 to 385.8) | 275.3 (207 to 366.1) | 229 (188.1 to 278.9) | |
| Anti-PRN Pre-booster [N=23;32;59] | 16.7 (9.4 to 29.9) | 10.3 (7.4 to 14.2) | 11.3 (8.7 to 14.8) | |
| Anti-PRN Post-booster [N=21;34;60] | 259.7 (151.5 to 445.2) | 286.5 (192.6 to 426) | 264.5 (200.2 to 349.5) | |

## Statistical analyses

No statistical analyses for this end point

## Secondary: Anti-polio type 1, 2 and 3 antibody titers

| End point title | Anti-polio type 1, 2 and 3 antibody titers |
|---|---|

End point description:

Seroprotection status, defined as Anti-polio type 1, Anti-polio type 2 and Anti-polio type 3 antibody titers ≥ 8 presented as geometric mean titers (GMTs).

| End point type | Secondary |
|---|---|

End point timeframe:

Prior to (Pre-booster) and one month after (Post-booster) the administration of the booster dose of 10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 17 | 29 | 53 | |
| Units: Titers | | | | |
| geometric mean (confidence interval 95%) | | | | |
| Anti-Polio 1 Pre-booster [N=17;29;53] | 52.3 (31.2 to 87.6) | 34.8 (19.4 to 62.7) | 54.7 (37.7 to 79.3) | |
| Anti-Polio 1 Post-booster [N=3;8;20] | 512 (115.3 to 2274) | 1386.7 (456.6 to 4210.9) | 1327.9 (795.4 to 2217.1) | |
| Anti-Polio 2 Pre-booster [N=17;29;53] | 65.2 (37.4 to 113.7) | 47.3 (26.2 to 85.3) | 50.9 (33.7 to 76.6) | |
| Anti-Polio 2 Post-booster [N=3;8;20] | 1290.1 (147.8 to 11259.3) | 2048 (759.7 to 5520.9) | 1116.9 (600.9 to 2076.1) | |
| Anti-Polio 3 Pre-booster [N=17;29;53] | 23 (10 to 53.2) | 31.3 (16.8 to 58.4) | 84.3 (59 to 120.4) | |

| | | | | |
|---|---|---|---|---|
| Anti-Polio 3 Post-booster [N=3;8;20] | 574.7 (36.1 to 9148.9) | 1448.1 (464 to 4519.2) | 1692.5 (1147.7 to 2495.9) | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Number of subjects with anti-pneumococcal serotypes 1, 4, 5, 6B, 7F, 9V, 14, 18C, 19F and 23F antibody concentrations ≥ 0.05 µg/mL

| End point title | Number of subjects with anti-pneumococcal serotypes 1, 4, 5, 6B, 7F, 9V, 14, 18C, 19F and 23F antibody concentrations ≥ 0.05 µg/mL |
|---|---|

End point description:

A seropositive subject was defined as a subject who had the anti-pneumococcal serotypes 1, 4, 5, 6B, 7F, 9V, 14, 18C , 19F and 23F concentrations greater than or equal to (≥) the cut-off value of 0.05 micrograms per milliliter (µg/mL).

| End point type | Secondary |
|---|---|

End point timeframe:

Prior to (Pre-booster) and one month after (Post-booster) the administration of the booster dose of 10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 43 | 69 | 125 | |
| Units: Subjects | | | | |
| Anti-1, Pre-booster [N=43;66;121] | 39 | 56 | 111 | |
| Anti-1, Post-booster [N=43;66;119] | 43 | 66 | 119 | |
| Anti-4, Pre-booster [N=43;69;123] | 40 | 68 | 120 | |
| Anti-4, Post-booster [N=43;66;119] | 43 | 66 | 119 | |
| Anti-5, Pre-booster [N=43;68;124] | 41 | 66 | 122 | |
| Anti-5, Post-booster [N=43;66;119] | 43 | 66 | 119 | |
| Anti-6B, Pre-booster [N=43;67;124] | 41 | 66 | 119 | |
| Anti-6B, Post-booster [N=42;66;119] | 42 | 65 | 119 | |
| Anti-7F, Pre-booster [N=43;65;123] | 42 | 65 | 123 | |
| Anti-7F, Post-booster [N=43;66;118] | 43 | 66 | 118 | |
| Anti-9V, Pre-booster [N=43;69;123] | 43 | 69 | 123 | |
| Anti-9V, Post-booster [N=43;66;119] | 43 | 66 | 119 | |
| Anti-14, Pre-booster [N=43;68;124] | 43 | 68 | 121 | |
| Anti-14, P-booster [N=43;66;119] | 43 | 66 | 119 | |
| Anti-18C, Pre-booster [N=43;68;125] | 43 | 68 | 123 | |
| Anti-18C, Post-booster [N=43;66;119] | 43 | 66 | 118 | |
| Anti-19F, Pre-booster [N=43;68;125] | 43 | 68 | 125 | |
| Anti-19F, Post-booster [N=43;66;119] | 43 | 66 | 119 | |
| Anti-23F, Pre-booster [N=43;69;123] | 41 | 68 | 122 | |
| Anti-23F, Post-booster [N=42;66;119] | 41 | 66 | 118 | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Number of subjects with concentrations of antibodies against cross-reactive pneumococcal serotypes 6A and 19A ≥ 0.05 µg/mL

| End point title | Number of subjects with concentrations of antibodies against cross-reactive pneumococcal serotypes 6A and 19A ≥ 0.05 µg/mL |
|---|---|

End point description:

A seropositive subject was defined as a subject who had the anti-pneumococcal serotypes 6A and 19A concentrations greater than or equal to (≥) the cut-off value of 0.05 micrograms per milliliter (µg/mL).

| End point type | Secondary |
|---|---|

End point timeframe:

Prior to (Pre-booster) and one month after (Post-booster) the administration of the booster dose of 10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 43 | 67 | 122 | |
| Units: Subjects | | | | |
| Anti-6A, Pre-booster [N=42;67;122] | 34 | 51 | 98 | |
| Anti-6A, Post-booster [N=42;66;118] | 41 | 63 | 115 | |
| Anti-19A, Pre-booster [N=43;67;121] | 28 | 49 | 95 | |
| Anti-19A, Post-booster [N=42;66;118] | 40 | 63 | 113 | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Number of subjects with antibody concentrations against protein D (Anti-PD) ≥ 100 EL.U/mL

| End point title | Number of subjects with antibody concentrations against protein D (Anti-PD) ≥ 100 EL.U/mL |
|---|---|

End point description:

A seropositive subject was defined as a subject who had anti-PD concentration greater than or equal to (≥) the value of 100 ELISA units per milliliter (EL.U/mL).

| End point type | Secondary |
|---|---|

End point timeframe:

Prior to (Pre-booster) and one month after (Post-booster) the administration of the booster dose of 10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 43 | 67 | 123 | |
| Units: Subjects | | | | |
| Anti-PD Pre-booster [N=42;67;123] | 39 | 58 | 114 | |
| Anti-PD Post-booster [N=43;66;118] | 43 | 66 | 117 | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Number of subjects with anti-pertussis toxoid (Anti-PT), anti-filamentous haemagglutinin (Anti-FHA) and anti-pertactin (Anti-PRN) antibody concentrations ≥ 5 ELISA units per millilitre (EL.U/mL)

| End point title | Number of subjects with anti-pertussis toxoid (Anti-PT), anti-filamentous haemagglutinin (Anti-FHA) and anti-pertactin (Anti-PRN) antibody concentrations ≥ 5 ELISA units per millilitre (EL.U/mL) |
|---|---|

End point description:

A seropositive subject was defined as a subject who had anti-PT, anti-FHA and anti-PRN concentrations greater than or equal to (≥) the value of 5 ELISA units per milliliter (EL.U/mL).

| End point type | Secondary |
|---|---|

End point timeframe:

Prior to (Pre-booster) and one month after (Post-booster) the administration of the booster dose of 10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 23 | 34 | 60 | |
| Units: Subjects | | | | |
| Anti-PT Pre-booster [N=22;32;58] | 10 | 11 | 30 | |
| Anti-PT Post-booster [N=21;34;59] | 21 | 34 | 59 | |
| Anti-FHA Pre-booster [N=20;27;47] | 19 | 24 | 43 | |
| Anti-FHA Post-booster [N=21;34;59] | 21 | 34 | 59 | |
| Anti-PRN Pre-booster [N=23;32;59] | 20 | 28 | 47 | |
| Anti-PRN Post-booster [N=21;34;60] | 21 | 34 | 60 | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Number of subjects with anti-diphtheria (Anti-DT) and anti-tetanus toxoids (Anti-TT) antibody concentrations ≥ 0.1 international units per mililitre (IU/mL)

| End point title | Number of subjects with anti-diphtheria (Anti-DT) and anti-tetanus toxoids (Anti-TT) antibody concentrations ≥ 0.1 international units per mililitre (IU/mL) |
|---|---|

End point description:

A seroprotected subject was defined as a subject who had anti-DT and anti-TT concentrations greater than or equal to (≥) the value of 0.1 international units per milliliter (IU/mL).

| End point type | Secondary |
|---|---|

End point timeframe:

Prior to (Pre-booster) and one month after (Post-booster) the administration of the booster dose of 10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 23 | 34 | 60 | |
| Units: Subjects | | | | |
| Anti-DT Pre-booster [N=23;31;59] | 20 | 27 | 51 | |
| Anti-DT Post-booster [N=21;34;60] | 21 | 34 | 60 | |
| Anti-TT Pre-booster [N=23;32;59] | 23 | 32 | 59 | |
| Anti-TT Post-booster [N=21;34;60] | 21 | 34 | 60 | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Number of subjects with anti-polyribosyl-ribitol phosphate (anti-PRP) antibody concentration ≥ 0.15 µg/mL

| End point title | Number of subjects with anti-polyribosyl-ribitol phosphate (anti-PRP) antibody concentration ≥ 0.15 µg/mL |
|---|---|

End point description:

A seroprotected subject was defined as a subject who had anti-PRP concentrations greater than or equal to (≥) the value of 0.15 micrograms per milliliter (µg /mL).

| End point type | Secondary |
|---|---|

End point timeframe:

Prior to (Pre-booster) and one month after (Post-booster) the administration of the booster dose of 10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 23 | 34 | 59 | |
| Units: Subjects | | | | |
| Anti-PRP Pre-booster [N=23;32;59] | 16 | 26 | 50 | |
| Anti-PRP Post-booster [N=20;34;59] | 20 | 34 | 59 | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Number of subjects with anti-polyribosyl-ribitol phosphate (anti-PRP) antibody concentration ≥ 1.0 µg/mL

| End point title | Number of subjects with anti-polyribosyl-ribitol phosphate (anti-PRP) antibody concentration ≥ 1.0 µg/mL |
|---|---|

End point description:

The concentration of anti-polyribosyl-ribitol phosphate (Anti-PRP) antibody assessed was greater than or equal to (≥) the value of 1.0 micrograms per milliliter (µg /mL).

| End point type | Secondary |
|---|---|

End point timeframe:

Prior to (Pre-booster) and one month after (Post-booster) the administration of the booster dose of 10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 23 | 34 | 59 | |
| Units: Subjects | | | | |
| Anti-PRP Pre-booster [N=23;32;59] | 6 | 9 | 20 | |
| Anti-PRP Post-booster [N=20;34;59] | 20 | 34 | 59 | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Number of subjects with anti-polio type 1, 2 and 3 (Anti-Polio 1, 2 and 3) antibody titers ≥ 8

| End point title | Number of subjects with anti-polio type 1, 2 and 3 (Anti-Polio 1, 2 and 3) antibody titers ≥ 8 |
|---|---|

End point description:

A seroprotected subject was defined as a subject who had anti-polio types 1, 2 and 3 titers greater than or equal to (≥) the value of 8.

| End point type | Secondary |
|---|---|

End point timeframe:

Prior to (Pre-booster) and one month after (Post-booster) the administration of the booster dose of 10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 17 | 29 | 53 | |
| Units: Subjects | | | | |
| Anti-Polio 1 Pre-booster [N=17;29;53] | 17 | 22 | 49 | |
| Anti-Polio 1 Post-booster [N=3;8;20] | 3 | 8 | 20 | |
| Anti-Polio 2 Pre-booster [N=17;29;53] | 17 | 26 | 47 | |
| Anti-Polio 2 Post-booster [N=3;8;20] | 3 | 8 | 20 | |
| Anti-Polio 3 Pre-booster [N=17;29;53] | 12 | 23 | 51 | |
| Anti-Polio 3 Post-booster [N=3;8;20] | 3 | 8 | 20 | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Number of subjects with vaccine response for anti-PT, anti-FHA and anti-PRN antibodies

| End point title | Number of subjects with vaccine response for anti-PT, anti-FHA and anti-PRN antibodies |
|---|---|

End point description:

Vaccine response defined as :
For initially seronegative subjects(S-)( with concentrations < 5 EL.U/mL), antibody concentration ≥ 5 EL.U/mL at post-Booster
For initially seropositive subjects (S+) (with concentrations ≥ 5 EL.U/mL): antibody concentration at post-Booster ≥ 2 fold the pre-vaccination antibody concentration

| End point type | Secondary |
|---|---|

End point timeframe:

One month after (Post-booster) the administration of the booster dose of 10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 19 | 28 | 45 | |
| Units: Subjects | | | | |
| Anti-PT, S- [N=11;21;27] | 11 | 21 | 27 | |
| Anti-PT, S+ [N=9;11;27] | 9 | 11 | 24 | |
| Anti-FHA, S- [N=1;3;4] | 1 | 3 | 4 | |
| Anti-FHA, S+ [N=17;24;39] | 17 | 24 | 37 | |
| Anti-PRN, S- [N=2;4;11] | 2 | 4 | 11 | |
| Anti-PRN, S+ [N=19;28;45] | 19 | 28 | 44 | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Anti-hepatitis B surface antigen (HBs) antibody concentrations

| End point title | Anti-hepatitis B surface antigen (HBs) antibody concentrations |
|---|---|

End point description:

Seroprotection status, defined as Anti-HBs antibody concentrations ≥ 10 mIU/mL.

| End point type | Secondary |
|---|---|

End point timeframe:

Prior to the administration of the booster dose of 10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 2 | 1 | 12 | |
| Units: mIU/mL | | | | |
| geometric mean (confidence interval 95%) | | | | |
| Anti-HBs | 21.9 (1.9 to 246.8) | 117.2 (117.2 to 117.2) | 37.2 (15.6 to 88.8) | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Opsonophagocytic activity (OPA) titers against pneumococcal serotypes 1, 4, 5, 6B, 7F, 9V, 14, 18C, 19F and 23F

| End point title | Opsonophagocytic activity (OPA) titers against pneumococcal serotypes 1, 4, 5, 6B, 7F, 9V, 14, 18C, 19F and 23F |
|---|---|

End point description:

Seropositivity status, defined as Opsonophagocytic activity against pneumococcal serotypes 1, 4, 5, 6B, 7F, 9V, 14, 18C, 19F and 23F ≥ 8 presented as geometric mean titers (GMTs).

| End point type | Secondary |
|---|---|

End point timeframe:

One month after the administration of the booster dose of 10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 38 | 55 | 100 | |
| Units: Titers | | | | |
| geometric mean (confidence interval 95%) | | | | |

| | | | | |
|---|---|---|---|---|
| OPA Anti-1, [N=37;52;99] | 125 (74.1 to 210.8) | 143.6 (93.1 to 221.3) | 170.9 (124.6 to 234.3) | |
| OPA Anti-4 ,[N=36;55;100] | 971.8 (623.7 to 1514.1) | 1307.2 (1070 to 1596.9) | 1479.3 (1259.6 to 1737.3) | |
| OPA Anti-5,[N=34;50;93] | 69.2 (45 to 106.4) | 120 (81.2 to 177.1) | 176.9 (138.1 to 226.5) | |
| OPA Anti-6B, [N=35;51;98] | 659 (353.9 to 1227.3) | 459.1 (286.7 to 735.3) | 635 (437.3 to 922.1) | |
| OPA Anti-7F, [N=37;49;99] | 6008.9 (4318.7 to 8360.5) | 4851.1 (3954.4 to 5951.1) | 4372.6 (3658.8 to 5225.5) | |
| OPA Anti-9V,[N=38;47;100] | 1666.4 (1218.1 to 2279.6) | 2192.5 (1724.3 to 2787.8) | 1798.8 (1522.8 to 2124.7) | |
| OPA Anti-14,[N=36;52;99] | 1489.5 (980.7 to 2262.3) | 1895.3 (1477.3 to 2431.7) | 1342.7 (1095.4 to 1646) | |
| OPA Anti-18C, [N=37;50;100] | 1656 (1005.6 to 2727) | 1672.4 (1154.4 to 2422.9) | 1561.9 (1251.2 to 1949.8) | |
| OPA Anti-19F,[N=36;52;96] | 379.3 (241.3 to 596.2) | 486.3 (327.9 to 721.3) | 626.8 (473.1 to 830.3) | |
| OPA Anti-23F,[N=37;54;99] | 2881.8 (1956.7 to 4244.3) | 2510.2 (2076.2 to 3035) | 3208.6 (2667.3 to 3859.8) | |

## Statistical analyses

No statistical analyses for this end point

## Secondary: Opsonophagocytic activity (OPA) against pneumococcal cross-reactive serotypes 6A and 19A

| | |
|---|---|
| End point title | Opsonophagocytic activity (OPA) against pneumococcal cross-reactive serotypes 6A and 19A |

End point description:

Seropositivity status, defined as Opsonophagocytic activity against pneumococcal cross-reactive serotypes 6A and 19A ≥ 8 presented as geometric mean titers (GMTs).

| | |
|---|---|
| End point type | Secondary |

End point timeframe:

One month after the administration of the booster dose of 10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 38 | 52 | 95 | |
| Units: Titers | | | | |
| geometric mean (confidence interval 95%) | | | | |
| OPA Anti-6A [N=34;50;95] | 270.6 (152.9 to 478.6) | 218.2 (137.4 to 346.6) | 207.4 (136.8 to 314.4) | |
| OPA Anti-19A [N=38;52;95] | 31.9 (16 to 63.6) | 41.4 (22 to 77.8) | 51.7 (32.1 to 83.5) | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Number of subjects with opsonophagocytic activity (OPA) titers against pneumococcal serotypes 1, 4, 5, 6B, 7F, 9V, 14, 18C, 19F and 23F ≥ 8

| End point title | Number of subjects with opsonophagocytic activity (OPA) titers against pneumococcal serotypes 1, 4, 5, 6B, 7F, 9V, 14, 18C, 19F and 23F ≥ 8 |
|---|---|

End point description:

A seropositive subject was defines as a subject with opsonophagocytic activity cut-off value greater than or equal to (≥) the value of 8. The vaccine pneumococcal serotypes investigated were 1, 4, 5, 6B, 7F, 9V, 14, 18C, 19F and 23F.

| End point type | Secondary |
|---|---|

End point timeframe:

One month after the administration of the booster dose of 10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| End point values | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 38 | 55 | 100 | |
| Units: Subjects | | | | |
| OPA Anti-1,[N=37;52;99] | 34 | 49 | 93 | |
| OPA Anti-4,[N=36;55;100] | 35 | 55 | 100 | |
| OPA Anti-5,[N=34;50;93] | 32 | 48 | 92 | |
| OPA Anti-6B,[N=35;51;98] | 33 | 49 | 92 | |
| OPA Anti-7F,[N=37;49;99] | 37 | 49 | 99 | |
| OPA Anti-9V,[N=38;47;100] | 38 | 47 | 100 | |
| OPA Anti-14,[N=36;52;99] | 36 | 52 | 99 | |
| OPA Anti-18C,[N=37;50;100] | 37 | 50 | 100 | |
| OPA Anti-19F,[N=36;52;96] | 36 | 51 | 96 | |
| OPA Anti-23F,[N=37;54;99] | 37 | 54 | 99 | |

### Statistical analyses

No statistical analyses for this end point

## Secondary: Number of subjects with opsonophagocytic activity (OPA) against pneumococcal cross-reactive serotypes 6A and 19A ≥ 8

| End point title | Number of subjects with opsonophagocytic activity (OPA) against pneumococcal cross-reactive serotypes 6A and 19A ≥ 8 |
|---|---|

End point description:

A seropositive subject was defined as a subject with opsonophagocytic activity against pneumococcal cross-reactive serotypes 6A and 19A greater than or equal to (≥) the cut-off value of 8.

| End point type | Secondary |
|---|---|

End point timeframe:

One month after the administration of the booster dose of 10Pn10Pn-PD-DiT vaccine co-administered with the booster dose of DTPa-IPV/Hib vaccine

| **End point values** | Preterm I Group | Preterm II Group | Full term Group | |
|---|---|---|---|---|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 38 | 52 | 95 | |
| Units: Subjects | | | | |
| OPA Anti-6A ,[N=34;50;95] | 31 | 45 | 79 | |
| OPA Anti-19A,[N=38;52;95] | 23 | 30 | 56 | |

## Statistical analyses

No statistical analyses for this end point

## Adverse events

### Adverse events information

Timeframe for reporting adverse events:

Solicited local and general symptoms: during the 4- days (Days 0-3) after booster vaccination. Unsolicited AEs: within 31- days (Days 0-30) after booster vaccination; SAEs: throughout the entire study period starting from Month 0 up to the end of study

Adverse event reporting additional description:

The occurrence of reported AEs (all/related) was not available and is encoded as equal to the number of subjects affected.

| | |
|---|---|
| Assessment type | Non-systematic |

### Dictionary used

| | |
|---|---|
| Dictionary name | MedDRA |
| Dictionary version | 11.1 |

### Reporting groups

| | |
|---|---|
| Reporting group title | Preterm Group |

Reporting group description: -

| | |
|---|---|
| Reporting group title | Full term Group |

Reporting group description: -

| Serious adverse events | Preterm Group | Full term Group | |
|---|---|---|---|
| Total subjects affected by serious adverse events | | | |
| subjects affected / exposed | 3 / 116 (2.59%) | 1 / 129 (0.78%) | |
| number of deaths (all causes) | 0 | 0 | |
| number of deaths resulting from adverse events | | | |
| Nervous system disorders | | | |
| Febrile convulsion | | | |
| subjects affected / exposed | 1 / 116 (0.86%) | 0 / 129 (0.00%) | |
| occurrences causally related to treatment / all | 0 / 1 | 0 / 0 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Respiratory, thoracic and mediastinal disorders | | | |
| Bronchospasm | | | |
| subjects affected / exposed | 1 / 116 (0.86%) | 0 / 129 (0.00%) | |
| occurrences causally related to treatment / all | 0 / 1 | 0 / 0 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Infections and infestations | | | |
| Latent tuberculosis | | | |
| subjects affected / exposed | 0 / 116 (0.00%) | 1 / 129 (0.78%) | |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 1 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |

| | | | |
|---|---|---|---|
| Pyelonephritis acute | | | |
| subjects affected / exposed | 1 / 116 (0.86%) | 0 / 129 (0.00%) | |
| occurrences causally related to treatment / all | 0 / 1 | 0 / 0 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |

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

| **Non-serious adverse events** | Preterm Group | Full term Group | |
|---|---|---|---|
| Total subjects affected by non-serious adverse events | | | |
| subjects affected / exposed | 71 / 116 (61.21%) | 98 / 129 (75.97%) | |
| General disorders and administration site conditions | | | |
| Pain | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed[1] | 47 / 112 (41.96%) | 67 / 122 (54.92%) | |
| occurrences (all) | 47 | 67 | |
| Redness | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed[2] | 35 / 112 (31.25%) | 65 / 122 (53.28%) | |
| occurrences (all) | 35 | 65 | |
| Swelling | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed[3] | 27 / 112 (24.11%) | 55 / 122 (45.08%) | |
| occurrences (all) | 27 | 55 | |
| Drowsiness | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed[4] | 21 / 112 (18.75%) | 33 / 122 (27.05%) | |
| occurrences (all) | 21 | 33 | |
| Fever (rectal temperature measurement) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed[5] | 34 / 112 (30.36%) | 39 / 122 (31.97%) | |
| occurrences (all) | 34 | 39 | |
| Irritability | | | |
| alternative assessment type: Systematic | | | |

| | | | |
|---|---|---|---|
| subjects affected / exposed[6] | 36 / 112 (32.14%) | 49 / 122 (40.16%) | |
| occurrences (all) | 36 | 49 | |
| Loss of appetite | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed[7] | 26 / 112 (23.21%) | 35 / 122 (28.69%) | |
| occurrences (all) | 26 | 35 | |

Notes:

[1] - The number of subjects exposed to this adverse event is less than the total number of subjects exposed for the reporting group. These numbers are expected to be equal.
Justification: Assessment for this event for this phase was performed solely on subjects with their symptom sheets completed.

[2] - The number of subjects exposed to this adverse event is less than the total number of subjects exposed for the reporting group. These numbers are expected to be equal.
Justification: Assessment for this event for this phase was performed solely on subjects with their symptom sheets completed.

[3] - The number of subjects exposed to this adverse event is less than the total number of subjects exposed for the reporting group. These numbers are expected to be equal.
Justification: Assessment for this event for this phase was performed solely on subjects with their symptom sheets completed.

[4] - The number of subjects exposed to this adverse event is less than the total number of subjects exposed for the reporting group. These numbers are expected to be equal.
Justification: Assessment for this event for this phase was performed solely on subjects with their symptom sheets completed.

[5] - The number of subjects exposed to this adverse event is less than the total number of subjects exposed for the reporting group. These numbers are expected to be equal.
Justification: Assessment for this event for this phase was performed solely on subjects with their symptom sheets completed.

[6] - The number of subjects exposed to this adverse event is less than the total number of subjects exposed for the reporting group. These numbers are expected to be equal.
Justification: Assessment for this event for this phase was performed solely on subjects with their symptom sheets completed.

[7] - The number of subjects exposed to this adverse event is less than the total number of subjects exposed for the reporting group. These numbers are expected to be equal.
Justification: Assessment for this event for this phase was performed solely on subjects with their symptom sheets completed.

## 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