



Clinical trial results:

A phase IIIB, open, long term extension study to evaluate the persistence of immune responses and the safety of GSK Biologicals' Herpes Zoster subunit (HZ/su) vaccine 1437173A, at Months 108 and 120 post-vaccination and the assessment of re-vaccination with two additional doses administered at 10 years after the initial vaccination in study ZOSTER-003 in healthy subjects aged 60 years of age and older

Summary

EudraCT number	2015-004400-30
Trial protocol	SE DE CZ
Global end of trial date	08 October 2018

Results information

Result version number	v1
This version publication date	24 October 2019
First version publication date	24 October 2019

Trial information

Trial identification

Sponsor protocol code	204926
-----------------------	--------

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT02735915
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	GlaxoSmithKline
Sponsor organisation address	Rue de l'Institut 89, Rixensart, Belgium, B-1330
Public contact	GSK Response Center, GlaxoSmithKline, 044 2089-904466, GSKClinicalSupportHD@gsk.com
Scientific contact	GSK Response Center, GlaxoSmithKline, 044 2089-904466, 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?	No

Notes:

Results analysis stage

Analysis stage	Final
Date of interim/final analysis	27 March 2019
Is this the analysis of the primary completion data?	Yes
Primary completion date	27 August 2017
Global end of trial reached?	Yes
Global end of trial date	08 October 2018
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

To evaluate persistence of humoral and cell mediated immune responses overall at Months 108 and 120 post first dose of initial vaccination course in study ZOSTER-003.

Protection of trial subjects:

The subjects were observed closely for at least 30 minutes following the administration of vaccine(s), with appropriate medical treatment readily available in case of a rare anaphylactic reaction.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	11 April 2016
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	No

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	Czech Republic: 15
Country: Number of subjects enrolled	Germany: 34
Country: Number of subjects enrolled	Sweden: 21
Worldwide total number of subjects	70
EEA total number of subjects	70

Notes:

Subjects enrolled per age group

In utero	0
Preterm newborn - gestational age < 37 wk	0
Newborns (0-27 days)	0
Infants and toddlers (28 days-23 months)	0
Children (2-11 years)	0
Adolescents (12-17 years)	0
Adults (18-64 years)	11
From 65 to 84 years	59
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

Subjects who participated in the parent study Zoster-003 (NCT00434577), in GSK1437173A _MD Group and received a complete vaccination course (2 doses of 50 µg GSK1437173A) were offered participation in this Long Term Follow-Up study. A total of 70 subjects met the eligibility criteria and consent to participate in Germany, Sweden and Czech Republic.

Pre-assignment

Screening details:

Out of 70 subjects originally enrolled (Total enrolled cohort for persistence phase) into the study, 8 subjects were eliminated as subject number was allocated without vaccine administration. Only 62 subjects were vaccinated with at least one dose, forming the Total vaccinated cohort (TVc) for re-vaccination phase.

Period 1

Period 1 title	Persistence phase-Total Enrolled Cohort
Is this the baseline period?	Yes
Allocation method	Not applicable
Blinding used	Not blinded

Arms

Arm title	GSK1437173A vaccine Group
-----------	---------------------------

Arm description:

Subjects who completed vaccination course of 2 doses of HZ/su vaccine (group 50 µg gE/AS01B) in the study Zoster-003 (NCT00434577) were included in this study. 62 of these subjects further received 1 or 2 additional doses of HZ/su vaccine in the revaccination phase of this study

Arm type	Experimental
Investigational medicinal product name	Herpes Zoster Vaccine GSK1437173A
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection
Routes of administration	Intramuscular use

Dosage and administration details:

1 or 2 doses of the vaccine administered intramuscularly

Number of subjects in period 1	GSK1437173A vaccine Group
Started	70
Completed	62
Not completed	8
Not vaccinated but subject ID assigned	8

Period 2

Period 2 title	Revaccination phase-TVc
Is this the baseline period?	No
Allocation method	Not applicable
Blinding used	Not blinded

Arms

Arm title	GSK1437173A vaccine Group
------------------	---------------------------

Arm description:

Subjects who completed vaccination course of 2 doses of HZ/su vaccine (group 50 µg gE/AS01B) in the study Zoster-003 (NCT00434577) were included in this study. 62 of these subjects further received 1 or 2 additional doses of HZ/su vaccine in the revaccination phase of this study

Arm type	Experimental
Investigational medicinal product name	Herpes Zoster Vaccine GSK1437173A
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection
Routes of administration	Intramuscular use

Dosage and administration details:

1 or 2 doses of the vaccine administered intramuscularly

Number of subjects in period 2	GSK1437173A vaccine Group
Started	62
Completed	59
Not completed	3
Consent withdrawn by subject	1
Withdrawal following a SAE	2

Baseline characteristics

Reporting groups

Reporting group title	GSK1437173A vaccine Group
-----------------------	---------------------------

Reporting group description:

Subjects who completed vaccination course of 2 doses of HZ/su vaccine (group 50 µg gE/AS01B) in the study Zoster-003 (NCT00434577) were included in this study. 62 of these subjects further received 1 or 2 additional doses of HZ/su vaccine in the revaccination phase of this study

Reporting group values	GSK1437173A vaccine Group	Total	
Number of subjects	70	70	
Age categorical			
The baseline measure here corresponds to persistence phase			
Units: Subjects			
In utero	0	0	
Preterm newborn infants (gestational age < 37 wks)	0	0	
Newborns (0-27 days)	0	0	
Infants and toddlers (28 days-23 months)	0	0	
Children (2-11 years)	0	0	
Adolescents (12-17 years)	0	0	
Adults (60-69) years	13	13	
Adults (70 years and above)	57	57	
Age Continuous			
The baseline measure here corresponds to persistence phase			
Units: years			
arithmetic mean	72.3		
standard deviation	± 4.3	-	
Sex: Female, Male			
The baseline measure here corresponds to persistence phase			
Units: Subjects			
Female	43	43	
Male	27	27	
Race/Ethnicity, Customized			
Units: Subjects			
White-Caucasian/European Heritage	70	70	

Subject analysis sets

Subject analysis set title	GSK1437173A vaccine 60-69 YOA Sub-group
----------------------------	---

Subject analysis set type	Sub-group analysis
---------------------------	--------------------

Subject analysis set description:

Subjects of 60-69 YOA at the time of initial vaccination, who completed vaccination course of 2 doses of HZ/su vaccine (50 µg) in Zoster-003 (NCT00434577) study.

Subject analysis set title	GSK1437173A vaccine ≥ 70 YOA Sub-group
----------------------------	--

Subject analysis set type	Sub-group analysis
---------------------------	--------------------

Subject analysis set description:

Subjects aged 70 or more than 70 YOA at the time of initial vaccination, who completed vaccination course of 2 doses of HZ/su vaccine (50 µg) in Zoster-003 (NCT00434577) study.

Reporting group values	GSK1437173A vaccine 60-69 YOA Sub-group	GSK1437173A vaccine ≥ 70 YOA Sub-group	
Number of subjects	13	57	
Age categorical			
The baseline measure here corresponds to persistence phase			
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 (60-69) years Adults (70 years and above)			
Age Continuous			
The baseline measure here corresponds to persistence phase			
Units: years			
arithmetic mean	65.5	73.9	
standard deviation	± 2.5	± 2.9	
Sex: Female, Male			
The baseline measure here corresponds to persistence phase			
Units: Subjects			
Female	8	35	
Male	5	22	
Race/Ethnicity, Customized			
Units: Subjects			
White-Caucasian/European Heritage	13	57	

End points

End points reporting groups

Reporting group title	GSK1437173A vaccine Group
Reporting group description: Subjects who completed vaccination course of 2 doses of HZ/su vaccine (group 50 µg gE/AS01B) in the study Zoster-003 (NCT00434577) were included in this study. 62 of these subjects further received 1 or 2 additional doses of HZ/su vaccine in the revaccination phase of this study	
Reporting group title	GSK1437173A vaccine Group
Reporting group description: Subjects who completed vaccination course of 2 doses of HZ/su vaccine (group 50 µg gE/AS01B) in the study Zoster-003 (NCT00434577) were included in this study. 62 of these subjects further received 1 or 2 additional doses of HZ/su vaccine in the revaccination phase of this study	
Subject analysis set title	GSK1437173A vaccine 60-69 YOA Sub-group
Subject analysis set type	Sub-group analysis
Subject analysis set description: Subjects of 60-69 YOA at the time of initial vaccination, who completed vaccination course of 2 doses of HZ/su vaccine (50 µg) in Zoster-003 (NCT00434577) study.	
Subject analysis set title	GSK1437173A vaccine ≥ 70 YOA Sub-group
Subject analysis set type	Sub-group analysis
Subject analysis set description: Subjects aged 70 or more than 70 YOA at the time of initial vaccination, who completed vaccination course of 2 doses of HZ/su vaccine (50 µg) in Zoster-003 (NCT00434577) study.	

Primary: Anti-glycoprotein (gE) specific Antibody (Ab) concentrations

End point title	Anti-glycoprotein (gE) specific Antibody (Ab) concentrations ^[1]
End point description: Anti-glycoprotein E (gE) Ab concentrations were determined by Enzyme-Linked Immunosorbent Assay (ELISA), presented as geometric mean concentrations (GMCs) and expressed in micro international units per milliliter (mIU/mL). The analysis was performed on the According-to-protocol (ATP) cohort analysis of immunogenicity at Year 9 from persistence phase, which included subjects who complied with the protocol criteria and had immunogenicity results available up to the timepoint considered.	
End point type	Primary
End point timeframe: At Month 108 post first dose of initial vaccination course in study Zoster-003 (NCT00434577).	
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 scope of this endpoint was descriptive. No statistical analyses were performed for this endpoint.	

End point values	GSK1437173A vaccine Group			
Subject group type	Reporting group			
Number of subjects analysed	68			
Units: mIU/mL				
geometric mean (confidence interval 95%)	9122.9 (7775.2 to 10704.1)			

Statistical analyses

No statistical analyses for this end point

Primary: Anti-glycoprotein (gE) specific Antibody (Ab) concentrations

End point title	Anti-glycoprotein (gE) specific Antibody (Ab) concentrations ^[2]
-----------------	---

End point description:

Anti-gE Ab concentrations were determined by ELISA, presented as GMCs and expressed in mIU/mL. The analysis was performed on the ATP cohort analysis of immunogenicity at Year 10 from persistence phase, which included subjects who complied with the protocol criteria and had immunogenicity results available up to the timepoint considered.

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

End point timeframe:

At Month 120 post first dose of initial vaccination course in study Zoster-003 (NCT00434577).

Notes:

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

Justification: The scope of this endpoint was descriptive. No statistical analyses were performed for this endpoint.

End point values	GSK1437173A vaccine Group			
Subject group type	Reporting group			
Number of subjects analysed	61			
Units: mIU/mL				
geometric mean (confidence interval 95%)	7384.0 (6202.8 to 8790.1)			

Statistical analyses

No statistical analyses for this end point

Primary: Frequencies of gE (glycoprotein)-specific cluster of differentiation (CD4) (2+) T-cells.

End point title	Frequencies of gE (glycoprotein)-specific cluster of differentiation (CD4) (2+) T-cells. ^[3]
-----------------	---

End point description:

gE specific CD4 (2+) T-cells expressing at least 2 activation markers among IFN- γ , IL-2, TNF- α and CD40L, were determined by means of Intracellular Cytokine Staining (ICS) and expressed in T-cells/million cells. The analysis was performed on the ATP cohort analysis of immunogenicity at Year 9 from persistence phase, which included subjects who complied with the protocol criteria and had immunogenicity results available up to the timepoint considered.

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

End point timeframe:

At Month 108 post first dose of initial vaccination course in study Zoster-003 (NCT00434577).

Notes:

[3] - 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 scope of this endpoint was descriptive. No statistical analyses were performed for this endpoint.

End point values	GSK1437173A vaccine Group			
Subject group type	Reporting group			
Number of subjects analysed	66			
Units: CD4 T-cells/million cells				
median (inter-quartile range (Q1-Q3))	414.0 (220.9 to 796.5)			

Statistical analyses

No statistical analyses for this end point

Primary: Frequencies of gE (glycoprotein)-specific cluster of differentiation (CD4) (2+) T-cells.

End point title	Frequencies of gE (glycoprotein)-specific cluster of differentiation (CD4) (2+) T-cells. ^[4]
-----------------	---

End point description:

gE specific CD4 (2+)T-cells expressing at least 2 activation markers among IFN- γ , IL-2, TNF- α and CD40L were determined by means of ICS and expressed in T-cells/million cells. The analysis was performed on the ATP cohort analysis of immunogenicity at Year 10 from persistence phase, which included subjects who complied with the protocol criteria and had immunogenicity results available up to the timepoint considered.

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

End point timeframe:

At Month 120 post first dose of initial vaccination course in study Zoster-003 (NCT00434577).

Notes:

[4] - 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 scope of this endpoint was descriptive. No statistical analyses were performed for this endpoint.

End point values	GSK1437173A vaccine Group			
Subject group type	Reporting group			
Number of subjects analysed	57			
Units: CD4 T-cells/million cells				
median (inter-quartile range (Q1-Q3))	401.9 (298.1 to 901.9)			

Statistical analyses

No statistical analyses for this end point

Secondary: Anti-glycoprotein (gE) specific Antibody (Ab) concentrations by each age category

End point title	Anti-glycoprotein (gE) specific Antibody (Ab) concentrations by each age category
-----------------	---

End point description:

Anti-gE Ab concentrations as determined by ELISA by each age category (60-69 years of age [YOA] and ≥ 70 YOA at the time of initial vaccination). Antibody concentrations were presented as GMCs and expressed in mIU/mL. The analysis was performed on the ATP cohort analysis of immunogenicity at Years 9 and 10 from persistence phase, which included subjects who complied with the protocol criteria

and had immunogenicity results available at the time points considered.

End point type	Secondary
End point timeframe:	
At Months 108 and 120 post first dose of initial vaccination course in study Zoster-003 (NCT00434577).	

End point values	GSK1437173A vaccine 60-69 YOA Sub-group	GSK1437173A vaccine ≥ 70 YOA Sub-group		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	13	55		
Units: mIU/mL				
geometric mean (confidence interval 95%)				
Anti-gE, Month 108(N-13, 55)	8566.4 (5697.1 to 12880.9)	9259.6 (7741.6 to 11075.2)		
Anti-gE, Month 120(N-11, 50)	7401.4 (4894.2 to 11193.1)	7380.2 (6048.9 to 9004.4)		

Statistical analyses

No statistical analyses for this end point

Secondary: Frequencies of antigen-specific CD4 (2+) T-cells by each age category

End point title	Frequencies of antigen-specific CD4 (2+) T-cells by each age category
-----------------	---

End point description:

Antigen specific CD4 (2+) T-cells as determined by means of ICS and expressed in T-cells/million cells, by each age category (60-69 YOA and ≥ 70 YOA at the time of initial vaccination).The analysis was performed on the ATP cohort analysis of immunogenicity at Years 9 and 10 from persistence phase, which included subjects who complied with the protocol criteria and had immunogenicity results available at the timepoints considered.

End point type	Secondary
End point timeframe:	
At Months 108 and 120 post first dose of initial vaccination course in study Zoster-003 (NCT00434577).	

End point values	GSK1437173A vaccine 60-69 YOA Sub-group	GSK1437173A vaccine ≥ 70 YOA Sub-group		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	13	53		
Units: CD4 T-cells/million cells				
median (inter-quartile range (Q1-Q3))				
CD4(2+), Month 108 (N-13, 53)	453.8 (233.2 to 577.6)	398.9 (220.9 to 811.3)		
CD4(2+), Month 120 (N-11, 46)	359.2 (254.9 to 885.0)	429.4 (298.1 to 940.1)		

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects with any serious adverse events (SAEs) related to study participation or to a concurrent GSK medication/vaccine (including GSK1437173A administered during the Zoster-003 [NCT00434577] study).

End point title	Number of subjects with any serious adverse events (SAEs) related to study participation or to a concurrent GSK medication/vaccine (including GSK1437173A administered during the Zoster-003 [NCT00434577] study).
-----------------	--

End point description:

SAEs assessed include medical occurrences that result in death, are life threatening, require hospitalization or prolongation of hospitalization or result in disability/incapacity. The analysis was performed on the Total enrolled cohort which included all subjects enrolled into the current study [ZOSTER-060 (NCT02735915)].

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

End point timeframe:

Between Months 108 and 120 post first dose of initial vaccination course in study Zoster-003 (NCT00434577).

End point values	GSK1437173A vaccine Group			
Subject group type	Reporting group			
Number of subjects analysed	70			
Units: Participants	0			

Statistical analyses

No statistical analyses for this end point

Secondary: Anti-gE specific Antibody (Ab) concentrations

End point title	Anti-gE specific Antibody (Ab) concentrations
-----------------	---

End point description:

Anti-gE antibody concentrations were determined by ELISA in all subjects, presented as GMCs and expressed in mIU/mL. The analysis was performed on the ATP cohort analysis of immunogenicity after re-vaccination, which included subjects who complied with the protocol criteria, have received at least one dose from the re-vaccination schedule and had immunogenicity results available at the timepoints considered.

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

End point timeframe:

At 1 month post each re-vaccination dose (i.e. Month 121 and Month 123) and at 1 year post last re-vaccination dose (i.e., Month 134).

End point values	GSK1437173A vaccine Group			
Subject group type	Reporting group			
Number of subjects analysed	54			
Units: mIU/mL				
geometric mean (confidence interval 95%)				
Anti-gE, Month 121	108199.6 (87154.2 to 134326.8)			
Anti-gE, Month 123	90003.6 (76754.3 to 105539.9)			
Anti-gE, Month 134 (N-52)	30066.2 (25810.3 to 35023.8)			

Statistical analyses

No statistical analyses for this end point

Secondary: Frequencies of antigen-specific CD4 (2+) T-cells, post re-vaccination course.

End point title	Frequencies of antigen-specific CD4 (2+) T-cells, post re-vaccination course.
-----------------	---

End point description:

Antigen specific CD4 (2+)T cells were determined by means of ICS and expressed in T-cells/million cells. The analysis was performed on the ATP cohort analysis of immunogenicity after re-vaccination, which included subjects who complied with the protocol criteria, have received at least one dose from the re-vaccination schedule and had immunogenicity results available at the timepoints considered.

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

End point timeframe:

At 1 month post each re-vaccination dose (i.e. Month 121 and Month 123) and at 1 year post last re-vaccination dose (i.e., Month 134).

End point values	GSK1437173A vaccine Group			
Subject group type	Reporting group			
Number of subjects analysed	50			
Units: CD4 T-cells/million cells				
median (inter-quartile range (Q1-Q3))				
CD4(2+), Month 121 (N- 48)	2563.9 (1219.9 to 4127.4)			
CD4(2+), Month 123	1775.5 (1181.4 to 3077.8)			

CD4(2+), Month 134 (N- 48)	1196.3 (680.8 to 1850.8)			
----------------------------	--------------------------	--	--	--

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.
-----------------	---

End point description:

Assessed solicited local symptoms included: pain, redness and swelling at injection site. Any = occurrence of the symptom regardless of intensity grade. Grade 3 pain = significant pain at rest, prevented normal every day activities. Grade 3 redness/swelling = symptoms spreading beyond a surface of (>) 100 millimeters (mm).The analysis was performed on the Total vaccinated cohort for re-vaccination course, which included all subjects with at least one dose of GSK1437173A vaccine in the current ZOSTER-060 (NCT02735915) study, who had their symptom sheets filled in.

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

End point timeframe:

Within 7 days (Days 0-6) after each vaccination and across doses, in the current study.

End point values	GSK1437173A vaccine Group			
Subject group type	Reporting group			
Number of subjects analysed	62			
Units: Participants				
Any Pain, Dose 1	41			
Grade 3 Pain, Dose 1	1			
Any Redness, Dose 1	19			
>100 mm Redness, Dose 1	0			
Any Swelling, Dose 1	11			
>100 mm Swelling, Dose 1	0			
Any Pain, Dose 2 (N-56)	26			
Grade 3 Pain, Dose 2(N-56)	2			
Any Redness, Dose 2(N-56)	17			
>100 mm Redness, Dose 2(N-56)	0			
Any Swelling, Dose 2(N-56)	7			
>100 mm Swelling, Dose 2(N-56)	0			
Any Pain, Across doses	46			
Grade 3 Pain, Across doses	2			
Any Redness, Across doses	27			
>100 mm Redness, Across doses	0			
Any Swelling, Across doses	16			
> 100 mm Swelling, Across doses	0			

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects with any, Grade 3 and related solicited general symptoms.

End point title	Number of subjects with any, Grade 3 and related solicited general symptoms.
End point description:	
Assessed solicited general symptoms included: fatigue, gastrointestinal symptoms [nausea, vomiting, diarrhoea and/or abdominal pain], headache, myalgia, shivering and temperature [higher than or equal to (\geq) 37.5 degrees Celsius ($^{\circ}\text{C}$) for axillary, oral or tympanic route] and $\geq 38.0^{\circ}\text{C}$ for rectal route. Grade 3 fatigue, gastrointestinal symptoms, headache, myalgia, shivering = symptoms that prevented normal activity. Grade 3 temperature = defined as fever higher than ($>$) 39.0°C , regardless of the route used. The analysis was performed on the Total vaccinated cohort for re-vaccination course, which included all subjects with at least one dose of GSK1437173A vaccine in the current ZOSTER-060 (NCT02735915) study, who had their symptom sheets filled in.	
End point type	Secondary
End point timeframe:	
Within 7 days (Days 0-6) after each vaccination and across doses, in the current study.	

End point values	GSK1437173A vaccine Group			
Subject group type	Reporting group			
Number of subjects analysed	62			
Units: Participants				
Any Fatigue, Dose 1	25			
Grade 3 Fatigue, Dose 1	3			
Related Fatigue, Dose 1	25			
Any Gastrointestinal symptoms, Dose 1	7			
Grade 3 Gastrointestinal symptoms, Dose 1	0			
Related Gastrointestinal symptoms, Dose 1	7			
Any Headache, Dose 1	12			
Grade 3 Headache, Dose 1	3			
Related Headache, Dose 1	12			
Any Myalgia, Dose 1	20			
Grade 3 Myalgia, Dose 1	1			
Related Myalgia, Dose 1	19			
Any Shivering, Dose 1	12			
Grade 3 Shivering, Dose 1	2			
Related Shivering, Dose 1	12			
Any Temperature, Dose 1	9			
$>39.0^{\circ}\text{C}$ Temperature, Dose 1	0			
Related Temperature, Dose 1	8			
Any Fatigue, Dose 2 (N- 56)	15			
Grade 3 Fatigue, Dose 2(N- 56)	1			
Related Fatigue, Dose 2(N- 56)	14			
Any Gastrointestinal symptoms, Dose 2(N- 56)	7			
Grade 3 Gastrointestinal symptoms, Dose 2(N- 56)	0			

Related Gastrointestinal symptoms, Dose 2(N- 56)	5			
Any Headache, Dose 2(N- 56)	12			
Grade 3 Headache, Dose 2(N- 56)	1			
Related Headache, Dose 2(N- 56)	12			
Any Myalgia, Dose 2(N- 56)	15			
Grade 3 Myalgia, Dose 2(N- 56)	2			
Related Myalgia, Dose 2(N- 56)	14			
Any Shivering, Dose 2(N- 56)	8			
Grade 3 Shivering, Dose 2(N- 56)	2			
Related Shivering, Dose 2(N- 56)	8			
Any Temperature, Dose 2(N- 56)	8			
>39.0°C Temperature, Dose 2(N- 56)	0			
Related Temperature, Dose 2(N- 56)	7			
Any Fatigue, Across doses	31			
Grade 3 Fatigue, Across doses	3			
Related Fatigue, Across doses	31			
Any Gastrointestinal symptoms, Across doses	11			
Grade 3 Gastrointestinal symptoms, Across doses	0			
Related Gastrointestinal symptoms, Across doses	10			
Any Headache, Across doses	18			
Grade 3 Headache, Across doses	4			
Related Headache, Across doses	18			
Any Myalgia, Across doses	29			
Grade 3 Myalgia, Across doses	3			
Related Myalgia, Across doses	27			
Any Shivering, Across doses	16			
Grade 3 Shivering, Across doses	4			
Related Shivering, Across doses	16			
Any Temperature, Across doses	15			
>39.0°C Temperature, Across doses	0			
Related Temperature, Across doses	13			

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects with any, Grade 3 and related unsolicited adverse events (AEs) according to the Medical Dictionary for Regulatory Activities (MedDRA) classification in all subjects.

End point title	Number of subjects with any, Grade 3 and related unsolicited adverse events (AEs) according to the Medical Dictionary for Regulatory Activities (MedDRA) classification in all subjects.
-----------------	--

End point description:

An unsolicited AE covers 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 and reported in addition to those solicited during the clinical study and any solicited symptom with onset outside the specified period of follow-up for solicited symptoms. Any is defined as the occurrence of any unsolicited AE regardless of intensity grade or relation to vaccination. Grade 3 AE = an AE which prevented normal, everyday activities. Related = AE assessed by the investigator as related

to the vaccination. The analysis was performed on the Total vaccinated cohort for re-vaccination course, which included all subjects with at least one dose of GSK1437173A vaccine in the current ZOSTER-060 (NCT02735915) study.

End point type	Secondary
End point timeframe:	
Within 30 days (Days 0-29) after each vaccination in the current study.	

End point values	GSK1437173A vaccine Group			
Subject group type	Reporting group			
Number of subjects analysed	62			
Units: Participants				
Any AEs	14			
Any Grade 3 AEs	1			
Any Related AEs	5			

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects with any, related and fatal SAEs.

End point title	Number of subjects with any, related and fatal SAEs.
End point description:	
SAEs assessed include medical occurrences that resulted in death, were life threatening, required hospitalization or prolongation of hospitalization or resulted in disability/incapacity. The analysis was performed on the Total vaccinated cohort for re-vaccination course, which included all subjects with at least one dose of GSK1437173A vaccine in the current ZOSTER-060 (NCT02735915) study.	
End point type	Secondary
End point timeframe:	
From Dose 1 of re-vaccination (Month 120) until study end (Month 134).	

End point values	GSK1437173A vaccine Group			
Subject group type	Reporting group			
Number of subjects analysed	62			
Units: Participants				
Any SAEs	7			
Related SAEs	0			
Any Fatal SAEs	0			

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects with any and related potential immune-mediated diseases (pIMDs).

End point title	Number of subjects with any and related potential immune-mediated diseases (pIMDs).
-----------------	---

End point description:

pIMDs assessed includes AEs that were autoimmune diseases and other inflammatory and/or neurologic disorders of interest which may or may not have an autoimmune aetiology. Related pIMDs= pIMDs assessed by the investigator as related to the vaccination. The analysis was performed on the Total vaccinated cohort for re-vaccination course, which included all subjects with at least one dose of GSK1437173A vaccine in the current ZOSTER-060 (NCT02735915) study.

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

End point timeframe:

From Dose 1 of re-vaccination (Month 120) until study end (Month 134).

End point values	GSK1437173A vaccine Group			
Subject group type	Reporting group			
Number of subjects analysed	62			
Units: Participants				
Any pIMDs	0			
Related pIMDs	0			

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

Solicited symptoms: During the 7 day (Day 0-6) post vaccination. Unsolicited symptoms: during the 30-day (Days 0-29) post-vaccination period; SAEs: From study start (Month 108) up to study end (Month 134).

Adverse event reporting additional description:

Adverse events data reported correspond to the revaccination phase

Assessment type	Systematic
-----------------	------------

Dictionary used

Dictionary name	MedDRA
-----------------	--------

Dictionary version	21.0
--------------------	------

Reporting groups

Reporting group title	GSK1437173A vaccine Group
-----------------------	---------------------------

Reporting group description:

Subjects who completed vaccination course of 2 doses of HZ/su vaccine (group 50 µg gE/AS01B) in the study Zoster-003 (NCT00434577) were included in this study. 62 of these subjects further received 1 or 2 additional doses of HZ/su vaccine in the revaccination phase of this study

Serious adverse events	GSK1437173A vaccine Group		
Total subjects affected by serious adverse events			
subjects affected / exposed	7 / 62 (11.29%)		
number of deaths (all causes)	0		
number of deaths resulting from adverse events	0		
Cardiac disorders			
Acute myocardial infarction			
subjects affected / exposed	1 / 62 (1.61%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Atrial fibrillation			
subjects affected / exposed	1 / 62 (1.61%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Atrial flutter			
subjects affected / exposed	1 / 62 (1.61%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Atrial tachycardia			

subjects affected / exposed	1 / 62 (1.61%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Nervous system disorders			
Cerebrovascular accident			
subjects affected / exposed	1 / 62 (1.61%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Reproductive system and breast disorders			
Benign prostatic hyperplasia			
subjects affected / exposed	1 / 62 (1.61%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Gastrointestinal disorders			
Retroperitoneal haematoma			
subjects affected / exposed	1 / 62 (1.61%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Hepatobiliary disorders			
Cholecystitis acute			
subjects affected / exposed	1 / 62 (1.61%)		
occurrences causally related to treatment / all	0 / 2		
deaths causally related to treatment / all	0 / 0		
Infections and infestations			
Septic shock			
subjects affected / exposed	1 / 62 (1.61%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		

Frequency threshold for reporting non-serious adverse events: 0 %

Non-serious adverse events	GSK1437173A vaccine Group		
Total subjects affected by non-serious adverse events			
subjects affected / exposed	53 / 62 (85.48%)		

Injury, poisoning and procedural complications Fall subjects affected / exposed occurrences (all)	1 / 62 (1.61%) 1		
Nervous system disorders Headache subjects affected / exposed occurrences (all)	18 / 62 (29.03%) 24		
General disorders and administration site conditions Chills subjects affected / exposed occurrences (all) Fatigue subjects affected / exposed occurrences (all) Injection site pruritus subjects affected / exposed occurrences (all) Pain subjects affected / exposed occurrences (all) Peripheral swelling subjects affected / exposed occurrences (all) Pyrexia subjects affected / exposed occurrences (all) Swelling subjects affected / exposed occurrences (all)	16 / 62 (25.81%) 20 31 / 62 (50.00%) 40 1 / 62 (1.61%) 1 46 / 62 (74.19%) 67 1 / 62 (1.61%) 1 15 / 62 (24.19%) 17 16 / 62 (25.81%) 18		
Gastrointestinal disorders Gastrointestinal disorder subjects affected / exposed occurrences (all) Nausea	11 / 62 (17.74%) 14		

subjects affected / exposed occurrences (all)	1 / 62 (1.61%) 1		
Skin and subcutaneous tissue disorders Erythema subjects affected / exposed occurrences (all) Rash subjects affected / exposed occurrences (all) Rash pruritic subjects affected / exposed occurrences (all)	27 / 62 (43.55%) 36 1 / 62 (1.61%) 1 1 / 62 (1.61%) 1		
Musculoskeletal and connective tissue disorders Myalgia subjects affected / exposed occurrences (all)	29 / 62 (46.77%) 35		
Infections and infestations Cystitis subjects affected / exposed occurrences (all) Oral herpes subjects affected / exposed occurrences (all) Urinary tract infection subjects affected / exposed occurrences (all)	1 / 62 (1.61%) 1 1 / 62 (1.61%) 1 1 / 62 (1.61%) 2		
Metabolism and nutrition disorders Decreased appetite subjects affected / exposed occurrences (all)	1 / 62 (1.61%) 1		

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
18 August 2017	The protocol was amended to clarify that: All SAEs will be collected and recorded from the time of the first receipt of study vaccine at Visit 2 until the subject is discharged from the study or until the end of the study; All AEs/SAEs leading to withdrawal from the study will be collected and recorded from Visit 1 up to the last study visit at the end of the study

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported