Clinical trial results:
Dipeptidyl peptidase-4 Inhibition and Narrow-band Ultraviolet-B light in Psoriasis (DINUP): A Randomised Clinical Trial.

Summary

EudraCT number	2012-005483-10
Trial protocol	IE
Global end of trial date	01 December 2016

Results information

Result version number	v1 (current)
This version publication date	25 August 2019
First version publication date	25 August 2019

Trial information

Trial identification

Sponsor protocol code	DPIP-2012-02

Additional study identifiers

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

Notes:

Sponsors

Sponsor organisation name	University College Dublin
Sponsor organisation address	Catherine McAuley Centre, 21 Nelson Street, Dublin, Ireland,
Public contact	UCD Clinical Research Centre, University College Dublin, 353 17164593, rabia.hussain@ucd.ie
Scientific contact	UCD Clinical Research Centre, University College Dublin, 353 17164593, rabia.hussain@ucd.ie

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	02 July 2019
Is this the analysis of the primary completion data?	No

Global end of trial reached?	Yes
Global end of trial date	01 December 2016
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

The primary objective of the research project is to determine the change in the psoriasis area and severity index (ΔPASI) during twenty four weeks of treatment with a dipeptidyl peptidase-4 inhibitor (Januvia®, 100mg daily, or 50mg daily for participants with moderate kidney disease) in psoriasis patients undergoing narrow-band ultraviolet-B (NB-UVB) light therapy. This will be compared to the ΔPASI of psoriasis patients undergoing NB-UVB light therapy who are allocated randomly to not receive any additional treatment.

Protection of trial subjects:

Comprehensive assessments of any apparent toxicity experienced by the research participant will be performed throughout the course of the study from the time of participant's signature of informed consent.
The safety of the investigational medicinal products will be assessed through the recording, reporting and analysing of baseline medical conditions, adverse events, vital signs and laboratory tests.
If a participant is noted to score greater than 8 (out of 21) on either the anxiety or the depression components of the HADS, at this or any subsequent study visits, their GP will be advised of this and of the high likelihood of depressive/affective mental illness which may require treatment.

Background therapy: -

Evidence for comparator:

Psoriasis is a chronic, autoimmune skin disease affecting approximately 2% of the world's population. It is characterised by keratinocyte hyperproliferation, by aberrant keratinocyte differentiation and by cutaneous inflammation.
DPP-4 is expressed on keratinocytes and its activity is upregulated in psoriasis. DPP-4 inhibition suppresses keratinocyte proliferation and restores partially keratinocyte differentiation.
Sitagliptin, a DPP-4 inhibitor, is an oral glucose-lowering agent approved for the treatment of type 2 diabetes mellitus. DPP-4 inhibitors prevent the degradation of insulin secretagogues such as glucagon-like peptide-1 thereby ameliorating hyperglycaemia without causing hypoglycaemia. DPP-4 inhibition may have systemic anti-inflammatory effects and a reduction in serum C-reactive protein. This randomised controlled trial assessed the effects of the DPP-4 inhibitor sitagliptin on psoriasis severity, psychological morbidity, cardiovascular disease risk factor profiles and immune parameters.

Actual start date of recruitment	01 July 2013
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	Yes

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	Ireland: 118
Worldwide total number of subjects	118
EEA total number of subjects	118

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)	110
From 65 to 84 years	8
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

All research participants were recruited from St Vincent's University Hospital, Elm Park, Dublin 4. Psoriasis outpatients attending the dermatology clinic who had a psoriasis area and severity index greater than 7 and who were due to undergo NB-UVB light therapy were invited to the screening visit by letter of invitation or during a clinic visit

Pre-assignment

Screening details:

Potentially eligible research participants were identified through use of patient databases in St Vincent's University Hospital and through review of healthcare records in St Vincent's University Hospital

Period 1

Period 1 title	Baseline Period
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Not blinded

Arms

Are arms mutually exclusive?	Yes
Arm title	Sitagliptin

Arm description:

Subjects are given the DPP4 inhibitor sitagliptin

Arm type	Experimental
Investigational medicinal product name	Sitagliptin
Investigational medicinal product code	
Other name	Januvia
Pharmaceutical forms	Tablet
Routes of administration	Oral use

Dosage and administration details:

1 x 50 mg daily (50 mg/day) for subjects with CrCl < 50 ml/min or eGFR < 50 ml/min/1.73m2
2 x 50 mg daily (100 mg/day) for subjects with CrCl ≥ 50 ml/min or eGFR ≥ 50 ml/min/1.73m2

Arm title	No drugs

Arm description:

No drugs were given to subjects

Arm type	No intervention

No investigational medicinal product assigned in this arm

Number of subjects in period 1	Sitagliptin	No drugs
Started	60	58
Completed	60	58

Period 2	
Period 2 title	Trial period
Is this the baseline period?	No
Allocation method	Randomised - controlled
Blinding used	Not blinded

Arms	
Are arms mutually exclusive?	Yes
Arm title	Sitagliptin

Arm description:

Subjects are given the DPP4 inhibitor sitagliptin

Arm type	Experimental
Investigational medicinal product name	Sitagliptin
Investigational medicinal product code	
Other name	Januvia
Pharmaceutical forms	Tablet
Routes of administration	Oral use

Dosage and administration details:

1 x 50 mg daily (50 mg/day) for subjects with CrCl < 50 ml/min or eGFR < 50 ml/min/1.73m2
2 x 50 mg daily (100 mg/day) for subjects with CrCl ≥ 50 ml/min or eGFR ≥ 50 ml/min/1.73m2

Arm title	No drugs

Arm description:

No drugs were given to subjects

Arm type	No intervention

No investigational medicinal product assigned in this arm

Number of subjects in period 2	Sitagliptin	No drugs
Started	60	58
Completed	48	43
Not completed	12	15
Consent withdrawn by subject	4	1
Adverse event, non-fatal	2	1
Lost to follow-up	6	9
Lack of efficacy	-	4

Baseline characteristics

Reporting groups	
Reporting group title	Sitagliptin
Reporting group description:	
Subjects are given the DPP4 inhibitor sitagliptin	
Reporting group title	No drugs
Reporting group description:	
No drugs were given to subjects	

Reporting group values	Sitagliptin	No drugs	Total
Number of subjects	60	58	118
Age categorical Units: Subjects			
In utero			0
Preterm newborn infants (gestational age < 37 wks)			0
Newborns (0-27 days)			0
Infants and toddlers (28 days-23 months)			0
Children (2-11 years)			0
Adolescents (12-17 years)			0
Adults (18-64 years)			0
From 65-84 years			0
85 years and over			0
Age continuous Units: years			
arithmetic mean	41.86	44.74	
standard deviation	± 13.52	± 13.63	-
Gender categorical Units: Subjects			
Female	24	15	39
Male	36	43	79
Ethnicity Units: Subjects			
Caucasian	60	56	116
African	0	1	1
East Asian	0	1	1
Smoker Units: Subjects			
Former	23	27	50
Current	15	23	38
Never	22	7	29
Unknown	0	1	1
Previous NB-UVB phototherapy Units: Subjects			
No	32	28	60
Yes	28	29	57
Unknown	0	1	1

Previous PUVA phototherapy Units: Subjects			
No	52	53	105
Yes	8	5	13
Chronic kidney disease stage Units: Subjects			
Stage 1	42	33	75
Stage 2	17	20	37
Stage 3a	0	3	3
Unknown	1	2	3
Currently using a topical psoriasis therapy Units: Subjects			
Yes	40	30	70
No	19	28	47
Unknown	1	0	1
Previous use of psoriasis systemic medication Units: Subjects			
No	56	51	107
Yes	4	7	11
Weight Units: kg			
arithmetic mean	80.89	81.28	
standard deviation	± 16.28	± 15.81	-
Height Units: cm			
arithmetic mean	173.1	172.9	
standard deviation	± 8.3	± 8.9	-
BMI Units: kg/m2			
arithmetic mean	27.0	27.2	
standard deviation	± 5.3	± 4.8	-
Duration of psoriasis Units: years			
median	15.0	20.0	
inter-quartile range (Q1-Q3)	6.0 to 20.8	8.0 to 32.8	-
PASI score Units: score			
arithmetic mean	9.4	10.0	
standard deviation	± 2.9	± 3.1	-
Body surface area Units: percent			
median	9	10	
inter-quartile range (Q1-Q3)	7 to 14	8 to 16	-
Total number of NB-UVB exposures Units: exposures			
median	0	0	
inter-quartile range (Q1-Q3)	0 to 24	0 to 44	-
Cumulative NB-UVB dose Units: mJ/cm2			
median	0	0	

inter-quartile range (Q1-Q3)	0 to 19446	0 to 40983	-
Total number of PUVA exposures			
Units: exposures			
median	0	0	
inter-quartile range (Q1-Q3)	0 to 0	0 to 0	-
Cumulative PUVA dose			
Units: J/cm2			
median	0	0	
inter-quartile range (Q1-Q3)	0 to 0	0 to 0	-
Alcohol consumption			
Units: units			
median	6	6	
inter-quartile range (Q1-Q3)	2 to 12	2 to 12	-
DLQI score			
Units: score			
arithmetic mean	9	10	
standard deviation	± 6	± 6	-
HADS anxiety score			
Units: score			
median	4	7	
inter-quartile range (Q1-Q3)	3 to 7	5 to 9	-
HADS depression score			
Units: score			
median	3	3	
inter-quartile range (Q1-Q3)	1 to 5	1 to 5	-
HAQ-8 score			
Units: score			
median	0.00	0.00	
inter-quartile range (Q1-Q3)	0.00 to 0.00	0.00 to 0.00	-
EQ-5D-3L utility score			
Units: score			
median	0.850	0.830	
inter-quartile range (Q1-Q3)	0.730 to 1.000	0.740 to 1.000	-
EQ-5D VAS score			
Units: score			
arithmetic mean	74	75	
standard deviation	± 17	± 17	-
Sitting diastolic blood pressure			
Units: mmHg			
arithmetic mean	83	83	
standard deviation	± 12	± 10	-
Sitting systolic blood pressure			
Units: mmHg			
arithmetic mean	134	133	
standard deviation	± 17	± 13	-
Pulse			
Units: bpm			
arithmetic mean	72	72	
standard deviation	± 12	± 14	-
White Blood Cells			
Units: 10^9/L			
arithmetic mean	6.8	6.9	

standard deviation	± 3.4	± 1.9	-
Platelets			
Units: 10^9/L			
arithmetic mean	252	245	
standard deviation	± 53	± 60	-
Haemoglobin			
Units: g/dL			
arithmetic mean	14.7	15.2	
standard deviation	± 1.3	± 1.0	-
HbA1c			
Units: mmol/mol			
arithmetic mean	35	36	
standard deviation	± 5	± 4	-
Glucose			
Units: mmol/L			
arithmetic mean	4.9	5.0	
standard deviation	± 0.6	± 0.6	-
Cholesterol			
Units: mmol/L			
arithmetic mean	5.0	5.1	
standard deviation	± 1.0	± 1.0	-
HDL			
Units: mmol/L			
arithmetic mean	1.57	1.50	
standard deviation	± 0.61	± 0.50	-
LDL			
Units: mmol/L			
arithmetic mean	2.91	2.96	
standard deviation	± 0.88	± 0.92	-
Triglycerides			
Units: mmol/L			
arithmetic mean	1.25	1.42	
standard deviation	± 0.62	± 0.80	-
Creatinine			
Units: µmol/L			
arithmetic mean	74	77	
standard deviation	± 13	± 11	-
C-reactive protein			
Units: mg/L			
arithmetic mean	7.3	3.4	
standard deviation	± 24.6	± 4.8	-
ALT			
Units: U/L			
arithmetic mean	26	27	
standard deviation	± 15	± 13	-

End points

End points reporting groups	
Reporting group title	Sitagliptin
Reporting group description: Subjects are given the DPP4 inhibitor sitagliptin	
Reporting group title	No drugs
Reporting group description: No drugs were given to subjects	
Reporting group title	Sitagliptin
Reporting group description: Subjects are given the DPP4 inhibitor sitagliptin	
Reporting group title	No drugs
Reporting group description: No drugs were given to subjects	

Primary: Difference in PASI scores at 24 weeks	
End point title	Difference in PASI scores at 24 weeks
End point description:	
End point type	Primary
End point timeframe: 24 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: score				
arithmetic mean (confidence interval 95%)	3.7 (3.0 to 4.3)	4.7 (4.0 to 5.5)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.044
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-1

Confidence interval	
level	95 %
sides	2-sided
lower limit	-2
upper limit	0

Secondary: Difference in PASI scores at 36 weeks

End point title	Difference in PASI scores at 36 weeks
End point description:	

End point type	Secondary
End point timeframe:	
36 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: score				
arithmetic mean (confidence interval 95%)	4.6 (3.9 to 5.3)	5.9 (4.9 to 6.8)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.091
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-1.1
Confidence interval	
level	95 %
sides	2-sided
lower limit	-2.4
upper limit	0.2

Secondary: Difference in DLQI scores at 24 weeks

End point title	Difference in DLQI scores at 24 weeks

End point description:

End point type	Secondary

End point timeframe:

24 weeks

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: change from baseline score				
arithmetic mean (confidence interval 95%)	-6 (-8 to -5)	-6 (-8 to -4)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.238
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-1
Confidence interval	
level	95 %
sides	2-sided
lower limit	-3
upper limit	1

Secondary: Difference in DLQI scores at 36 weeks

End point title	Difference in DLQI scores at 36 weeks

End point description:

End point type	Secondary

End point timeframe:

36 weeks

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: difference from baseline score				
arithmetic mean (confidence interval 95%)	-5 (-7 to -3)	-5 (-7 to -3)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.383
Method	Regression, Linear
Parameter estimate	Median difference (net)
Point estimate	-1
Confidence interval	
level	95 %
sides	2-sided
lower limit	-3
upper limit	1

Secondary: Difference in HADS scores at 24 weeks

End point title	Difference in HADS scores at 24 weeks
End point description:	

End point type	Secondary
End point timeframe:	
24 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: score				
arithmetic mean (confidence interval 95%)	5 (4 to 6)	8 (6 to 9)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.002
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-2
Confidence interval	
level	95 %
sides	2-sided
lower limit	-4
upper limit	-1

Secondary: Difference in HADS scores at 36 weeks

End point title	Difference in HADS scores at 36 weeks
End point description:	
End point type	Secondary
End point timeframe:	
36 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: score				
arithmetic mean (confidence interval 95%)	5 (3 to 6)	8 (7 to 10)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.006
Method	Regression, Linear
Parameter estimate	Median difference (net)
Point estimate	-3

Confidence interval	
level	95 %
sides	2-sided
lower limit	-5
upper limit	-1

Secondary: Difference in EQ-5D scores at 24 weeks

End point title	Difference in EQ-5D scores at 24 weeks
End point description:	

End point type	Secondary
End point timeframe:	
24 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: change from baseline score				
arithmetic mean (confidence interval 95%)	0.108 (0.057 to 0.159)	0.045 (-0.018 to 0.108)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.036
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	0.061
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.005
upper limit	0.117

Secondary: Difference in EQ-5D scores at 36 weeks

End point title	Difference in EQ-5D scores at 36 weeks

End point description:

End point type	Secondary

End point timeframe:

36 weeks

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: change from baseline score				
arithmetic mean (confidence interval 95%)	0.083 (0.020 to 0.145)	-0.016 (-0.096 to 0.064)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	No drugs v Sitagliptin
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.023
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	0.096
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.015
upper limit	0.178

Secondary: Difference in Visual Analogue Scale scores at 24 weeks

End point title	Difference in Visual Analogue Scale scores at 24 weeks

End point description:

End point type	Secondary

End point timeframe:

24 weeks

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: score				
arithmetic mean (confidence interval 95%)	81 (77 to 85)	84 (81 to 87)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.269
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-3
Confidence interval	
level	95 %
sides	2-sided
lower limit	-7
upper limit	2

Secondary: Difference in Visual Analogue Scale scores at 36 weeks

End point title	Difference in Visual Analogue Scale scores at 36 weeks
End point description:	
End point type	Secondary
End point timeframe:	
36 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: score				
arithmetic mean (confidence interval 95%)	78 (74 to 83)	79 (73 to 84)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.939
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	0
Confidence interval	
level	95 %
sides	2-sided
lower limit	-7
upper limit	7

Secondary: Difference in HAQ-8 scores at 24 weeks

End point title	Difference in HAQ-8 scores at 24 weeks
End point description:	
End point type	Secondary
End point timeframe:	
24 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: change from baseline score				
arithmetic mean (confidence interval 95%)	-0.01 (-0.07 to 0.05)	0.07 (0.01 to 0.14)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.229
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-0.05

Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.14
upper limit	0.04

Secondary: Difference in HAQ-8 scores at 36 weeks

End point title	Difference in HAQ-8 scores at 36 weeks
End point description:	
End point type	Secondary
End point timeframe:	
36 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: change from baseline score				
arithmetic mean (confidence interval 95%)	-0.01 (-0.04 to 0.01)	0.04 (0.00 to 0.08)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.172
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-0.03
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.08
upper limit	0.01

Secondary: Difference in cumulative narrow-band UVB dose by 36 weeks

End point title	Difference in cumulative narrow-band UVB dose by 36 weeks

End point description:

End point type	Secondary

End point timeframe:

36 weeks

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: natural log transformed cumulative dose				
arithmetic mean (confidence interval 95%)	10.036 (9.873 to 10.199)	10.102 (9.911 to 10.293)		

Statistical analyses

Statistical analysis title	Difference log means adjusted to baseline measure
Comparison groups	No drugs v Sitagliptin
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.74
Method	Lognormal regression
Parameter estimate	Log mean difference
Point estimate	-0.044
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.308
upper limit	0.22

Secondary: Difference in number of narrow-band UVB exposures by 36 weeks

End point title	Difference in number of narrow-band UVB exposures by 36 weeks

End point description:

End point type	Secondary

End point timeframe:

36 weeks

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: exposures				
arithmetic mean (confidence interval 95%)	28 (27 to 29)	27 (26 to 28)		

Statistical analyses

Statistical analysis title	Incident rate ratio
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.307
Method	Poisson regression
Parameter estimate	Incident rate ratio
Point estimate	1.04
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.96
upper limit	1.12

Secondary: Proportion of cases that reach PASI-50 by 36 weeks

End point title	Proportion of cases that reach PASI-50 by 36 weeks
End point description:	
End point type	Secondary
End point timeframe:	
36 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	48	43		
Units: cases that reach PASI-50 by 36 weeks	22	18		

Statistical analyses

Statistical analysis title	Difference in proportions
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	91
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.703
Method	Chi-squared
Parameter estimate	Odds ratio (OR)
Point estimate	1.18
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.51
upper limit	2.7

Secondary: Proportion of cases that reach PASI-75 by 36 weeks	
End point title	Proportion of cases that reach PASI-75 by 36 weeks
End point description:	
End point type	Secondary
End point timeframe:	
36 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	48	43		
Units: cases that reach PASI-75 by 36 weeks	13	4		

Statistical analyses

Statistical analysis title	Difference in proportions
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	91
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.03
Method	Chi-squared
Parameter estimate	Odds ratio (OR)
Point estimate	3.62

Confidence interval	
level	95 %
sides	2-sided
lower limit	1.08
upper limit	12.14

Secondary: Proportion of cases that relapse (PASI greater than 50% of original value) within 36 weeks

End point title	Proportion of cases that relapse (PASI greater than 50% of original value) within 36 weeks
End point description:	
End point type	Secondary
End point timeframe:	
36 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	46	42		
Units: cases that relapse	27	26		

Statistical analyses

Statistical analysis title	Difference in proportions
Comparison groups	No drugs v Sitagliptin
Number of subjects included in analysis	88
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.759
Method	Chi-squared
Parameter estimate	Odds ratio (OR)
Point estimate	0.87
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.37
upper limit	2.06

Secondary: Time taken to achieve PASI-50

End point title	Time taken to achieve PASI-50

End point description:

End point type	Secondary

End point timeframe:

36 weeks

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	57		
Units: weeks				
median (confidence interval 95%)	6.29 (5.86 to 10.57)	6.29 (6.00 to 11.29)		

Statistical analyses

Statistical analysis title	Difference in hazard rate
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	117
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.361
Method	Regression, Cox
Parameter estimate	Hazard ratio (HR)
Point estimate	1.2
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.81
upper limit	1.75

Secondary: Time taken to achieve PASI-75

End point title	Time taken to achieve PASI-75

End point description:

End point type	Secondary

End point timeframe:

36 weeks

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	57		
Units: weeks				
median (confidence interval 95%)	12.86 (11.86 to 99999999)	13.14 (12.14 to 99999999)		

Statistical analyses

Statistical analysis title	Difference in hazard rate
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	117
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.443
Method	Regression, Cox
Parameter estimate	Hazard ratio (HR)
Point estimate	1.21
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.75
upper limit	1.94

Secondary: Difference in systolic blood pressure at 24 weeks

End point title	Difference in systolic blood pressure at 24 weeks
End point description:	
End point type	Secondary
End point timeframe:	
24 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: mmHg				
arithmetic mean (confidence interval 95%)	130 (126 to 133)	129 (126 to 132)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.912
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-0.23
Confidence interval	
level	95 %
sides	2-sided
lower limit	-4.29
upper limit	3.84

Secondary: Difference in systolic blood pressure at 36 weeks

End point title	Difference in systolic blood pressure at 36 weeks
End point description:	
End point type	Secondary
End point timeframe:	
36 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: mmHg				
arithmetic mean (confidence interval 95%)	131 (128 to 134)	132 (128 to 135)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.426
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-1.61

Confidence interval	
level	95 %
sides	2-sided
lower limit	-5.66
upper limit	2.45

Secondary: Difference in diastolic blood pressure at 24 weeks

End point title	Difference in diastolic blood pressure at 24 weeks
End point description:	

End point type	Secondary
End point timeframe:	
24 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: mmHg				
arithmetic mean (confidence interval 95%)	80 (77 to 83)	81 (78 to 83)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.683
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-0.69
Confidence interval	
level	95 %
sides	2-sided
lower limit	-4.11
upper limit	2.72

Secondary: Difference in diastolic blood pressure at 36 weeks

End point title	Difference in diastolic blood pressure at 36 weeks

End point description:

End point type	Secondary

End point timeframe:

36 weeks

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: mmHg				
arithmetic mean (confidence interval 95%)	81 (79 to 83)	82 (79 to 85)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.417
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-1.2
Confidence interval	
level	95 %
sides	2-sided
lower limit	-4.14
upper limit	1.75

Secondary: Difference in pulse at 24 weeks

End point title	Difference in pulse at 24 weeks

End point description:

End point type	Secondary

End point timeframe:

24 weeks

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: bpm				
arithmetic mean (confidence interval 95%)	73 (70 to 76)	70 (67 to 74)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	No drugs v Sitagliptin
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.318
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	2
Confidence interval	
level	95 %
sides	2-sided
lower limit	-2
upper limit	6

Secondary: Difference in pulse at 36 weeks

End point title	Difference in pulse at 36 weeks
End point description:	

End point type	Secondary
End point timeframe:	
36 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: bpm				
arithmetic mean (confidence interval 95%)	76 (72 to 79)	72 (68 to 75)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.074
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	4
Confidence interval	
level	95 %
sides	2-sided
lower limit	0
upper limit	8

Secondary: Difference in LDL cholesterol at 24 weeks

End point title	Difference in LDL cholesterol at 24 weeks
End point description:	
End point type	Secondary
End point timeframe:	
24 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: mmol/L				
arithmetic mean (confidence interval 95%)	2.85 (2.63 to 3.07)	2.95 (2.70 to 3.19)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.649
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-0.05

Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.26
upper limit	0.16

Secondary: Difference in LDL cholesterol at 36 weeks

End point title	Difference in LDL cholesterol at 36 weeks
End point description:	

End point type	Secondary
End point timeframe:	
36 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: mmol/L				
arithmetic mean (confidence interval 95%)	2.86 (2.63 to 3.09)	2.95 (2.72 to 3.18)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.756
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-0.04
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.27
upper limit	0.2

Secondary: Difference in HDL cholesterol at 24 weeks

End point title	Difference in HDL cholesterol at 24 weeks

End point description:

End point type	Secondary

End point timeframe:

24 weeks

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: mmol/L				
arithmetic mean (confidence interval 95%)	1.60 (1.46 to 1.74)	1.50 (1.36 to 1.63)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.688
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	0.02
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.09
upper limit	0.14

Secondary: Difference in HDL cholesterol at 36 weeks

End point title	Difference in HDL cholesterol at 36 weeks

End point description:

End point type	Secondary

End point timeframe:

36 weeks

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: mmol/L				
arithmetic mean (confidence interval 95%)	1.65 (1.48 to 1.82)	1.49 (1.35 to 1.63)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.39
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	0.08
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.1
upper limit	0.26

Secondary: Difference in triglycerides at 24 weeks

End point title	Difference in triglycerides at 24 weeks
End point description:	

End point type	Secondary
End point timeframe:	
24 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: mmol/L				
arithmetic mean (confidence interval 95%)	1.14 (0.99 to 1.29)	1.37 (1.16 to 1.59)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.281
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-0.11
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.32
upper limit	0.1

Secondary: Difference in triglycerides at 36 weeks

End point title	Difference in triglycerides at 36 weeks
End point description:	
End point type	Secondary
End point timeframe:	
36 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: mmol/L				
arithmetic mean (confidence interval 95%)	1.27 (1.10 to 1.44)	1.39 (1.21 to 1.58)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.875
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	0.01

Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.16
upper limit	0.19

Secondary: Difference in glucose at 24 weeks

End point title	Difference in glucose at 24 weeks
End point description:	

End point type	Secondary
End point timeframe:	
24 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: mmol/L				
arithmetic mean (confidence interval 95%)	4.9 (4.7 to 5.0)	5.0 (4.8 to 5.2)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.463
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-0.1
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.3
upper limit	0.1

Secondary: ifference in glucose at 36 weeks

End point title	ifference in glucose at 36 weeks

End point description:

End point type	Secondary
End point timeframe: 36 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	57		
Units: mmol/L				
arithmetic mean (confidence interval 95%)	5.1 (4.7 to 5.4)	4.9 (4.7 to 5.0)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	117
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.201
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	0.2
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.1
upper limit	0.6

Secondary: Difference in HbA1c at 24 weeks	
End point title	Difference in HbA1c at 24 weeks
End point description:	

End point type	Secondary
End point timeframe: 24 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: mmol/mol				
arithmetic mean (confidence interval 95%)	34 (33 to 35)	36 (35 to 37)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.008
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-1
Confidence interval	
level	95 %
sides	2-sided
lower limit	-2
upper limit	0

Secondary: Difference in HbA1c at 36 weeks

End point title	Difference in HbA1c at 36 weeks
End point description:	
End point type	Secondary
End point timeframe:	
36 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: mmol/mol				
arithmetic mean (confidence interval 95%)	34 (33 to 36)	35 (34 to 36)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.49
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	0
Confidence interval	
level	95 %
sides	2-sided
lower limit	-1
upper limit	1

Secondary: Difference in haemoglobin at 24 weeks

End point title	Difference in haemoglobin at 24 weeks
End point description:	
End point type	Secondary
End point timeframe:	
24 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: g/dL				
arithmetic mean (confidence interval 95%)	14.5 (14.2 to 14.8)	15.0 (14.7 to 15.3)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.483
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-0.1

Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.4
upper limit	0.2

Secondary: Difference in haemoglobin at 36 weeks

End point title	Difference in haemoglobin at 36 weeks
End point description:	

End point type	Secondary
End point timeframe:	
36 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: g/dL				
arithmetic mean (confidence interval 95%)	14.6 (14.3 to 15.0)	15.0 (14.7 to 15.3)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.628
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	0.1
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.3
upper limit	0.4

Secondary: Difference in creatinine at 24 weeks

End point title	Difference in creatinine at 24 weeks

End point description:

End point type	Secondary

End point timeframe:

24 weeks

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: µmol/L				
arithmetic mean (confidence interval 95%)	76 (72 to 80)	76 (73 to 79)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.168
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	2
Confidence interval	
level	95 %
sides	2-sided
lower limit	-1
upper limit	5

Secondary: Difference in creatinine at 36 weeks

End point title	Difference in creatinine at 36 weeks

End point description:

End point type	Secondary

End point timeframe:

36 weeks

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: µmol/L				
arithmetic mean (confidence interval 95%)	74 (71 to 77)	77 (74 to 80)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.269
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-1
Confidence interval	
level	95 %
sides	2-sided
lower limit	-4
upper limit	1

Secondary: Difference in white blood cell count at 24 weeks

End point title	Difference in white blood cell count at 24 weeks
End point description:	

End point type	Secondary
End point timeframe:	
24 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: 10^9/L				
arithmetic mean (confidence interval 95%)	6.8 (6.2 to 7.4)	6.5 (5.9 to 7.0)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.232
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	0.4
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.2
upper limit	0.9

Secondary: Difference in white blood cell count at 36 weeks

End point title	Difference in white blood cell count at 36 weeks
End point description:	
End point type	Secondary
End point timeframe:	
36 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: 10^9/L				
arithmetic mean (confidence interval 95%)	6.4 (5.7 to 7.2)	6.9 (6.3 to 7.5)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.221
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-0.4

Confidence interval	
level	95 %
sides	2-sided
lower limit	-1.1
upper limit	0.3

Secondary: Difference in platelet count at 24 weeks

End point title	Difference in platelet count at 24 weeks
End point description:	

End point type	Secondary
End point timeframe:	
24 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: 10^9/L				
arithmetic mean (confidence interval 95%)	242 (229 to 254)	245 (230 to 260)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.305
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-6
Confidence interval	
level	95 %
sides	2-sided
lower limit	-19
upper limit	6

Secondary: Difference in platelet count at 36 weeks

End point title	Difference in platelet count at 36 weeks

End point description:

End point type	Secondary
End point timeframe: 36 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: 10^9/L				
arithmetic mean (confidence interval 95%)	252 (238 to 266)	246 (228 to 264)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.779
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	2
Confidence interval	
level	95 %
sides	2-sided
lower limit	-14
upper limit	19

Secondary: Difference in C-reactive protein at 24 weeks	
End point title	Difference in C-reactive protein at 24 weeks
End point description:	

End point type	Secondary
End point timeframe: 24 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: mg/L				
arithmetic mean (confidence interval 95%)	2.9 (2.1 to 3.7)	2.8 (2.1 to 3.5)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.748
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	0.2
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.9
upper limit	1.3

Secondary: Difference in C-reactive protein at 36 weeks

End point title	Difference in C-reactive protein at 36 weeks
End point description:	

End point type	Secondary
End point timeframe:	
36 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: mg/L				
arithmetic mean (confidence interval 95%)	3.1 (2.0 to 4.2)	5.9 (0.8 to 11.0)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.288
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-2.8
Confidence interval	
level	95 %
sides	2-sided
lower limit	-8
upper limit	2.4

Secondary: Difference in ALT at 24 weeks	
End point title	Difference in ALT at 24 weeks
End point description:	
End point type	Secondary
End point timeframe:	
24 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: U/L				
arithmetic mean (confidence interval 95%)	25 (21 to 29)	27 (24 to 30)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	Sitagliptin v No drugs
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.43
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-1

Confidence interval	
level	95 %
sides	2-sided
lower limit	-5
upper limit	2

Secondary: Difference in ALT at 36 weeks

End point title	Difference in ALT at 36 weeks
End point description:	

End point type	Secondary
End point timeframe:	
36 weeks	

End point values	Sitagliptin	No drugs		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	60	58		
Units: U/L				
arithmetic mean (confidence interval 95%)	27 (21 to 32)	29 (22 to 37)		

Statistical analyses

Statistical analysis title	Difference in means adjusted to baseline measure
Comparison groups	No drugs v Sitagliptin
Number of subjects included in analysis	118
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.709
Method	Regression, Linear
Parameter estimate	Mean difference (net)
Point estimate	-2
Confidence interval	
level	95 %
sides	2-sided
lower limit	-11
upper limit	7

Adverse events

Adverse events information

Timeframe for reporting adverse events:

Adverse events were monitored during 36 weeks of the study and reported at each scheduled and unscheduled study visit.

Assessment type	Systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	22.0

Reporting groups

Reporting group title	Sitagliptin

Reporting group description:

Subjects are given the DPP4 inhibitor sitagliptin

Reporting group title	No drugs

Reporting group description:

No drugs were given to subjects

Serious adverse events	Sitagliptin	No drugs	
Total subjects affected by serious adverse events			
subjects affected / exposed	1 / 60 (1.67%)	6 / 58 (10.34%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	
Surgical and medical procedures			
Ovariectomy			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Nervous system disorders			
CVA			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Pregnancy, puerperium and perinatal conditions			
Ectopic pregnancy			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gastrointestinal disorders			

Abdominal pain			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Duodenal ulcer perforation			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gastritis			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Renal and urinary disorders			
Postoperative bleeding			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	

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

Non-serious adverse events	Sitagliptin	No drugs	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	52 / 60 (86.67%)	47 / 58 (81.03%)	
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Ovarian cyst			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Premalignant skin lesion			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Surgical and medical procedures			
Cystocele repair			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Hip replacement			

subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Tonsillectomy			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Tooth extraction			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
General disorders and administration site conditions			
Fatigue			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Reproductive system and breast disorders			
Per vaginal bleeding			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Respiratory, thoracic and mediastinal disorders			
Allergic rhinitis			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Lower respiratory tract infection			
subjects affected / exposed	2 / 60 (3.33%)	0 / 58 (0.00%)	
occurrences (all)	2	0	
Sore throat			
subjects affected / exposed	1 / 60 (1.67%)	1 / 58 (1.72%)	
occurrences (all)	1	1	
Psychiatric disorders			
Anxiety			
subjects affected / exposed	0 / 60 (0.00%)	2 / 58 (3.45%)	
occurrences (all)	0	2	
Depression			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Injury, poisoning and procedural complications			

Knee injury			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	2	
Cardiac disorders			
Hypercholesterolaemia			
subjects affected / exposed	9 / 60 (15.00%)	11 / 58 (18.97%)	
occurrences (all)	9	12	
Hypertension			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Hypertriglyceridaemia			
subjects affected / exposed	2 / 60 (3.33%)	0 / 58 (0.00%)	
occurrences (all)	2	0	
Vasovagal symptoms			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Nervous system disorders			
Headache			
subjects affected / exposed	3 / 60 (5.00%)	1 / 58 (1.72%)	
occurrences (all)	3	1	
Lightheadedness			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Migraine			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Paresthesia upper limb			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Blood and lymphatic system disorders			
Hemoglobin increased			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Leukopenia			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Platelets decreased			

subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Ear and labyrinth disorders			
Earache			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Gastrointestinal disorders			
Abdominal pain			
subjects affected / exposed	4 / 60 (6.67%)	2 / 58 (3.45%)	
occurrences (all)	5	2	
C.difficile colitis			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Diarrhoea			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Gastritis			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Gastroenteritis			
subjects affected / exposed	2 / 60 (3.33%)	1 / 58 (1.72%)	
occurrences (all)	2	1	
Gastroesophageal reflux			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Nausea			
subjects affected / exposed	1 / 60 (1.67%)	2 / 58 (3.45%)	
occurrences (all)	1	2	
Rectal bleeding			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Hepatobiliary disorders			
Elevated triglycerides			
subjects affected / exposed	0 / 60 (0.00%)	2 / 58 (3.45%)	
occurrences (all)	0	2	
Fatty liver			

subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Liver enzyme abnormal			
subjects affected / exposed	2 / 60 (3.33%)	5 / 58 (8.62%)	
occurrences (all)	2	5	
Skin and subcutaneous tissue disorders			
Eczema			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Erythema			
subjects affected / exposed	9 / 60 (15.00%)	18 / 58 (31.03%)	
occurrences (all)	12	22	
Hematoma			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Polymorphic light eruption			
subjects affected / exposed	1 / 60 (1.67%)	1 / 58 (1.72%)	
occurrences (all)	1	1	
Pruritus			
subjects affected / exposed	2 / 60 (3.33%)	2 / 58 (3.45%)	
occurrences (all)	2	2	
Rash			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Seborrhoeic dermatitis			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Renal and urinary disorders			
Creatinine increased			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Flank pain			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Renal function abnormal			

subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Urine colour abnormal			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Endocrine disorders			
Blood glucose increased			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Diabetes mellitus			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Impaired fasting glucose			
subjects affected / exposed	2 / 60 (3.33%)	3 / 58 (5.17%)	
occurrences (all)	2	3	
Musculoskeletal and connective tissue disorders			
Back injury			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Back pain			
subjects affected / exposed	2 / 60 (3.33%)	1 / 58 (1.72%)	
occurrences (all)	2	1	
Cervical radiculopathy			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Chest pain			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Compound fracture - tibia			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Foot pain			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Fracture			

subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Fractured ribs			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Knee pain			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Lateral epicondylitis			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Musculoskeletal chest pain			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Sciatica			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Shoulder pain			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Infections and infestations			
Abscess breast			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Dental abscess			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Ear infection			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Flu-like symptoms			
subjects affected / exposed	1 / 60 (1.67%)	2 / 58 (3.45%)	
occurrences (all)	1	2	
Herpes Simplex Virus			
subjects affected / exposed	1 / 60 (1.67%)	1 / 58 (1.72%)	
occurrences (all)	1	1	

Herpes zoster			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Influenza			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Insect bite NOS			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Nasopharyngitis			
subjects affected / exposed	4 / 60 (6.67%)	5 / 58 (8.62%)	
occurrences (all)	4	5	
Pharyngitis			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	2	0	
Respiratory tract infection			
subjects affected / exposed	1 / 60 (1.67%)	1 / 58 (1.72%)	
occurrences (all)	1	1	
Sinusitis			
subjects affected / exposed	4 / 60 (6.67%)	2 / 58 (3.45%)	
occurrences (all)	4	2	
Skin and soft tissue infection			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Skin infection			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Throat infection			
subjects affected / exposed	2 / 60 (3.33%)	0 / 58 (0.00%)	
occurrences (all)	2	0	
Tinea corporis			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Tinea pedis			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	

Tonsillitis			
subjects affected / exposed	2 / 60 (3.33%)	1 / 58 (1.72%)	
occurrences (all)	3	1	
Tooth abscess			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Toothache			
subjects affected / exposed	0 / 60 (0.00%)	1 / 58 (1.72%)	
occurrences (all)	0	1	
Upper respiratory tract infection			
subjects affected / exposed	12 / 60 (20.00%)	11 / 58 (18.97%)	
occurrences (all)	13	13	
Urinary tract infections			
subjects affected / exposed	3 / 60 (5.00%)	2 / 58 (3.45%)	
occurrences (all)	3	2	
Viral gastroenteritis			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	
Viral infection			
subjects affected / exposed	1 / 60 (1.67%)	0 / 58 (0.00%)	
occurrences (all)	1	0	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? No

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported

Online references

http://www.ncbi.nlm.nih.gov/pubmed/26767505