A Study to Test the Effectiveness and Safety of MK0893 in Combination With Other Drugs Used to Treat Type 2 Diabetes (0893-015)

This study has been completed.

Sponsor:
Merck Sharp & Dohme Corp.

Information provided by (Responsible Party):
Merck Sharp & Dohme Corp.

ClinicalTrials.gov Identifier:
NCT00631488

First received: February 21, 2008
Last updated: February 4, 2015
Last verified: February 2015
History of Changes

Purpose

This study will test the effectiveness and safety of treatment with MK-0893 in combination with other drugs commonly used to treat type 2 diabetes for a duration up to 13 weeks.

Condition	Intervention	Phase
Diabetes Mellitus, Type 2	Drug: MK-0893 Drug: Sitagliptin Drug: Metformin Drug: Placebo for MK-0893 Drug: Placebo for Sitagliptin Drug: Placebo for Metformin	Phase 2

Study Type: Interventional
Study Design: Allocation: Randomized
Endpoint Classification: Safety/Efficacy Study
Intervention Model: Parallel Assignment
Masking: Double Blind (Subject, Investigator)
Primary Purpose: Treatment

Official Title: A Phase IIa, Multicenter, Double-Blind, Randomized, Active Comparator-Controlled Clinical Trial to Study the Efficacy and Safety of MK0893 in Combination With Sitagliptin or in Combination With Metformin in Patients With Type 2 Diabetes Mellitus Who Have Inadequate Glycemic Control

Resource links provided by NLM:

MedlinePlus related topics: Diabetes Type 2

Drug Information available for: Metformin Metformin hydrochloride Sitagliptin Sitagliptin phosphate

U.S. FDA Resources

Further study details as provided by Merck Sharp & Dohme Corp.:

Primary Outcome Measures:

- Change From Baseline (BL) to Week 4 in 24-hour Weighted Mean Glucose (WMG) Levels [Time Frame: BL, 4 weeks (end of double-blind treatment period)] [Designated as safety issue: No]

Secondary Outcome Measures:

- Change From BL to Week 4 in Fasting Plasma Glucose (FPG) [Time Frame: BL, 4 weeks (end of double-blind treatment period)] [Designated as safety issue: No]
- Change From BL to Week 4 in 2-hr Glucose Area Under The Curve (AUC) [Time Frame: BL, 4 weeks (end of double-blind treatment period)] [Designated as safety issue: No]
- Change From BL to Week 4 in the 2-Hour Total GLP-1 Total AUC [Time Frame: BL, 4 weeks (end of double-blind treatment period)] [Designated as safety issue: No]

  Glucagon-Like Peptide-1 (GLP-1) is an incretin hormone that acts as a potent insulin secretegogue in response to nutrient ingestion and stimulates glucose disposition. The total AUC of Total GLP-1 levels was calculated from blood sample data measured after the morning meal.

- Change From BL to Week 4 in the 2-Hour Active GLP-1 Total AUC [Time Frame: BL, 4 weeks (end of double-blind treatment period)] [Designated as safety issue: No]

  GLP-1 is cleaved from proglucagon to form the active peptide GLP-1. The active form promotes suppression of glucagon secretion. The total AUC of Active GLP-1 levels was calculated from blood sample data measured after the morning meal.

Enrollment:	146
Study Start Date:	February 2008
Study Completion Date:	January 2009
Primary Completion Date:	January 2009 (Final data collection date for primary outcome measure)

Arms	Assigned Interventions
Experimental: MK-0893 + Sitagliptin	Drug: MK-0893 Initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 administered orally as 40 mg tablets daily throughout the double-blind treatment period (4 weeks). Drug: Sitagliptin Sitagliptin Phosphate administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period (4 weeks). Other Names: • JANUVIA™ • MK0431 Drug: Placebo for Metformin Metformin-matched placebo taken orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin-matched placebo then administered throughout the double-blind treatment period (4 weeks).
Experimental: MK-0893 + Metformin	Drug: MK-0893 Initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 administered orally as 40 mg tablets daily throughout the double-blind treatment period (4 weeks). Drug: Metformin Metformin taken orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin then administered throughout the double-blind treatment period (4 weeks). Other Name: GLUCOPHAGE® Drug: Placebo for Sitagliptin Matching placebo for Sitagliptin (100 mg) administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period (4 weeks).
Active	Drug: Sitagliptin

Comparator: Sitagliptin + Metformin	Sitagliptin Phosphate administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period (4 weeks). Other Names: • JANUVIA™ • MK0431 Drug: Metformin Metformin taken orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin then administered throughout the double-blind treatment period (4 weeks). Other Name: GLUCOPHAGE® Drug: Placebo for MK-0893 Matching placebo for MK-0893 was orally administered for the loading dose (200 mg) and for the following daily treatment (40 mg) over the 4 week double blind treatment period.

Eligibility

Ages Eligible for Study: 21 Years to 65 Years
Genders Eligible for Study: Both
Accepts Healthy Volunteers: No

Criteria

Inclusion Criteria:

- Participants who have Type 2 Diabetes Mellitus, with suboptimal glucose control, while either not on AHA (antihyperglycemic agent) therapy or on monotherapy or on low-dose combination therapy

Exclusion Criteria:

- Participants have a history of Type 1 Diabetes Mellitus
- Participants taking insulin or thiazolidinediones (TZDs: peroxisome proliferator-activated receptor [PPAR]-gamma agonists)
- Participants who have a contraindication to metformin or sitagliptin

Contacts and Locations

Choosing to participate in a study is an important personal decision. Talk with your doctor and family members or friends about deciding to join a study. To learn more about this study, you or your doctor may contact the study research staff using the Contacts provided below. For general information, see Learn About Clinical Studies.

Please refer to this study by its ClinicalTrials.gov identifier: NCT00631488

Sponsors and Collaborators

Merck Sharp & Dohme Corp.

Investigators

Study Director: Medical Monitor Merck Sharp & Dohme Corp.

More Information

Responsible Party: Merck Sharp & Dohme Corp.
ClinicalTrials.gov Identifier: NCT00631488 History of Changes
Other Study ID Numbers: 0893-015 2007_646
Study First Received: February 21, 2008
Results First Received: October 7, 2011
Last Updated: February 4, 2015
Health Authority: United States: Food and Drug Administration

Additional relevant MeSH terms:

Diabetes Mellitus
Diabetes Mellitus, Type 2
Endocrine System Diseases
Glucose Metabolism Disorders
Metabolic Diseases
Metformin
Sitagliptin
Dipeptidyl-Peptidase IV Inhibitors
Enzyme Inhibitors
Hormones
Hormones, Hormone Substitutes, and Hormone Antagonists
Hypoglycemic Agents
Incretins
Molecular Mechanisms of Pharmacological Action
Pharmacologic Actions
Physiological Effects of Drugs
Protease Inhibitors

ClinicalTrials.gov processed this record on April 14, 2016

TO TOP

For Patients and Families | For Researchers | For Study Record Managers

HOME RSS FEEDS SITE MAP TERMS AND CONDITIONS DISCLAIMER CONTACT NLM HELP DESK

A Study to Test the Effectiveness and Safety of MK0893 in Combination With Other Drugs Used to Treat Type 2 Diabetes (0893-015)

This study has been completed.

Sponsor:
Merck Sharp & Dohme Corp.

Information provided by (Responsible Party):
Merck Sharp & Dohme Corp.

ClinicalTrials.gov Identifier:
NCT00631488

First received: February 21, 2008
Last updated: February 4, 2015
Last verified: February 2015
History of Changes

Results First Received: October 7, 2011

Study Type:	Interventional
Study Design:	Allocation: Randomized; Endpoint Classification: Safety/Efficacy Study; Intervention Model: Parallel Assignment; Masking: Double Blind (Subject, Investigator); Primary Purpose: Treatment
Condition:	Diabetes Mellitus, Type 2
Interventions:	Drug: MK-0893 Drug: Sitagliptin Drug: Metformin Drug: Placebo for MK-0893 Drug: Placebo for Sitagliptin Drug: Placebo for Metformin

Participant Flow

Hide Participant Flow

Recruitment Details

Key information relevant to the recruitment process for the overall study, such as dates of the recruitment period and locations
No text entered.

Pre-Assignment Details

Significant events and approaches for the overall study following participant enrollment, but prior to group assignment

Participants received matching placebos to MK-0893, Sitagliptin, and Metformin during a 2-week run-in period.

Reporting Groups

	Description
MK-0893 + Sitagliptin	Participants received an initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 administered orally as 40 mg tablets daily throughout the double-blind treatment period. Sitagliptin was administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period.
MK-0893 + Metformin	Participants received an initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 orally (40 mg tablets) administered daily throughout the double-blind treatment period. Participants received Metformin orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin was then administered throughout the double-blind treatment period.
Sitagliptin + Metformin	Sitagliptin was administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period. Participants received Metformin orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin was then administered throughout the double-blind treatment period.

Participant Flow: Overall Study

	MK-0893 + Sitagliptin	MK-0893 + Metformin	Sitagliptin + Metformin
STARTED	**48**	**49**	**49**
Completed Post-Treatment Period	**44**	**47**	**47**
COMPLETED	**44**	**47**	**47**
NOT COMPLETED	**4**	**2**	**2**
Adverse Event	**1**	**0**	**0**
Lost to Follow-up	**2**	**2**	**0**
Physician Decision	**1**	**0**	**1**
Protocol Violation	**0**	**0**	**1**

Baseline Characteristics

Hide Baseline Characteristics

Population Description

Explanation of how the number of participants for analysis was determined. Includes whether analysis was per protocol, intention to treat, or another method. Also provides relevant details such as imputation technique, as appropriate.

No text entered.

Reporting Groups

	Description
MK-0893 + Sitagliptin	Participants received an initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 administered orally as 40 mg tablets daily throughout the double-blind treatment period. Sitagliptin was administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period.
MK-0893 + Metformin	Participants received an initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 orally (40 mg tablets) administered daily throughout the double-blind treatment period. Participants received Metformin orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin was then administered

	throughout the double-blind treatment period.
Sitagliptin + Metformin	Sitagliptin was administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period. Participants received Metformin orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin was then administered throughout the double-blind treatment period.
Total	Total of all reporting groups

Baseline Measures

	MK-0893 + Sitagliptin	MK-0893 + Metformin	Sitagliptin + Metformin	Total
Number of Participants [units: participants]	**48**	**49**	**49**	**146**
Age [units: years] Mean (Standard Deviation)	**53.6 (8.0)**	**52.0 (9.7)**	**53.8 (8.7)**	**53.2 (8.8)**
Gender [units: participants]				
Female	**16**	**26**	**15**	**57**
Male	**32**	**23**	**34**	**89**

Outcome Measures

Hide All Outcome Measures

1. Primary: Change From Baseline (BL) to Week 4 in 24-hour Weighted Mean Glucose (WMG) Levels [Time Frame: BL, 4 weeks (end of double-blind treatment period)]

Measure Type	Primary
Measure Title	Change From Baseline (BL) to Week 4 in 24-hour Weighted Mean Glucose (WMG) Levels
Measure Description	No text entered.
Time Frame	BL, 4 weeks (end of double-blind treatment period)
Safety Issue	No

Population Description

Explanation of how the number of participants for analysis was determined. Includes whether analysis was per protocol, intention to treat, or another method. Also provides relevant details such as imputation technique, as appropriate.
Full Analysis Set Population

Reporting Groups

	Description
MK-0893 + Sitagliptin	Participants received an initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 administered orally as 40 mg tablets daily throughout the double-blind treatment period. Sitagliptin was administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period.
MK-0893 + Metformin	Participants received an initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 orally (40 mg tablets) administered daily throughout the double-blind treatment period. Participants received Metformin orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin was then administered throughout the double-blind treatment period.

Sitagliptin + Metformin	Sitagliptin was administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period. Participants received Metformin orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin was then administered throughout the double-blind treatment period.

Measured Values

	MK-0893 + Sitagliptin	MK-0893 + Metformin	Sitagliptin + Metformin
Number of Participants Analyzed [units: participants]	**48**	**49**	**49**
Change From Baseline (BL) to Week 4 in 24-hour Weighted Mean Glucose (WMG) Levels [units: mg/dL] Least Squares Mean (Standard Error)	**-85.7 (4.6)**	**-117.4 (4.6)**	**-99.6 (4.6)**

Statistical Analysis 1 for Change From Baseline (BL) to Week 4 in 24-hour Weighted Mean Glucose (WMG) Levels

Groups [1]	MK-0893 + Sitagliptin vs. Sitagliptin + Metformin
Method [2]	Longitudinal Data Analysis
P Value [3]	0.002
Mean Difference (Final Values) [4]	13.9
95% Confidence Interval	5.2 to 22.7

[1]	Additional details about the analysis, such as null hypothesis and power calculation:
	Hypothesis: After 4 weeks of treatment, MK-0893+sitagliptin provide greater reduction in 24-hour WMG than sitagliptin+metformin. Using a standard deviation (SD) of 23.5 mg/dL, a sample size of 40 participants per group had 80% power to detect a true difference of 15 mg/dL in the mean change from BL in 24-hour WMG between any 2 treatment groups for a two-sided test at alpha=0.05, with a half-width of 10.3 mg/dL around the 95% confidence interval (CI) for the between group difference.
[2]	Other relevant method information, such as adjustments or degrees of freedom:
	No text entered.
[3]	Additional information, such as whether or not the p-value is adjusted for multiple comparisons and the a priori threshold for statistical significance:
	No text entered.
[4]	Other relevant estimation information:
	No text entered.

Statistical Analysis 2 for Change From Baseline (BL) to Week 4 in 24-hour Weighted Mean Glucose (WMG) Levels

Groups [1]	MK-0893 + Metformin vs. Sitagliptin + Metformin
Method [2]	Longitudinal Data Analysis
P Value [3]	<0.001
Mean Difference (Final Values) [4]	-17.8
95% Confidence Interval	-26.5 to -9.2

[1]	Additional details about the analysis, such as null hypothesis and power calculation:

	Hypothesis: After 4 weeks of treatment, MK-0893+metformin provide greater reduction in 24-hour WMG than sitagliptin+metformin. Using a standard deviation (SD) of 23.5 mg/dL, a sample size of 40 participants per group had 80% power to detect a true difference of 15 mg/dL in the mean change from BL in 24-hour WMG between any 2 treatment groups for a two-sided test at alpha=0.05, with a half-width of 10.3 mg/dL around the 95% confidence interval for the between group difference.
[2]	Other relevant method information, such as adjustments or degrees of freedom:
	No text entered.
[3]	Additional information, such as whether or not the p-value is adjusted for multiple comparisons and the a priori threshold for statistical significance:
	No text entered.
[4]	Other relevant estimation information:
	No text entered.

2. Secondary: Change From BL to Week 4 in Fasting Plasma Glucose (FPG) [Time Frame: BL, 4 weeks (end of double-blind treatment period)]

Measure Type	Secondary
Measure Title	Change From BL to Week 4 in Fasting Plasma Glucose (FPG)
Measure Description	No text entered.
Time Frame	BL, 4 weeks (end of double-blind treatment period)
Safety Issue	No

Population Description

Explanation of how the number of participants for analysis was determined. Includes whether analysis was per protocol, intention to treat, or another method. Also provides relevant details such as imputation technique, as appropriate.
Full Analysis Set Population

Reporting Groups

	Description
MK-0893 + Sitagliptin	Participants received an initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 administered orally as 40 mg tablets daily throughout the double-blind treatment period. Sitagliptin was administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period.
MK-0893 + Metformin	Participants received an initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 orally (40 mg tablets) administered daily throughout the double-blind treatment period. Participants received Metformin orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin was then administered throughout the double-blind treatment period.
Sitagliptin + Metformin	Sitagliptin was administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period. Participants received Metformin orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin was then administered throughout the double-blind treatment period.

Measured Values

	MK-0893 + Sitagliptin	**MK-0893 + Metformin**	**Sitagliptin + Metformin**
Number of Participants Analyzed [units: participants]	**48**	**49**	**49**

Change From BL to Week 4 in Fasting Plasma Glucose (FPG) **[units: mg/dL]** **Least Squares Mean (Standard Error)**	**-73.7 (4.4)**	**-101.9 (4.3)**	**-82.8 (4.3)**

Statistical Analysis 1 for Change From BL to Week 4 in Fasting Plasma Glucose (FPG)

Groups [1]	MK-0893 + Sitagliptin vs. Sitagliptin + Metformin
Method [2]	Longitudinal Data Analysis
P Value [3]	0.050
Mean Difference (Final Values) [4]	9.1
95% Confidence Interval	0.0 to 18.2

[1]	Additional details about the analysis, such as null hypothesis and power calculation:
	Hypothesis: After 4 weeks of treatment, MK-0893+sitagliptin provide greater reduction in 24-hour FPG than sitagliptin+metformin. Using a standard deviation (SD) of 23.5 mg/dL, a sample size of 40 participants per group had 80% power to detect a true difference of 15 mg/dL in the mean change from BL in 24-hour FPG between any 2 treatment groups for a two-sided test at alpha=0.05, with a half-width of 10.3 mg/dL around the 95% confidence interval for the between group difference.
[2]	Other relevant method information, such as adjustments or degrees of freedom:
	No text entered.
[3]	Additional information, such as whether or not the p-value is adjusted for multiple comparisons and the a priori threshold for statistical significance:
	No text entered.
[4]	Other relevant estimation information:
	No text entered.

Statistical Analysis 2 for Change From BL to Week 4 in Fasting Plasma Glucose (FPG)

Groups [1]	MK-0893 + Metformin vs. Sitagliptin + Metformin
Method [2]	Longitudinal Data Analysis
P Value [3]	<0.001
Mean Difference (Final Values) [4]	-19.1
95% Confidence Interval	-28.0 to -10.1

[1]	Additional details about the analysis, such as null hypothesis and power calculation:
	Hypothesis: After 4 weeks of treatment, MK-0893+metformin provide greater reduction in 24-hour FPG than sitagliptin+metformin. Using a standard deviation (SD) of 23.5 mg/dL, a sample size of 40 participants per group had 80% power to detect a true difference of 15 mg/dL in the mean change from BL in 24-hour FPG between any 2 treatment groups for a two-sided test at alpha=0.05, with a half-width of 10.3 mg/dL around the 95% confidence interval for the between group difference.
[2]	Other relevant method information, such as adjustments or degrees of freedom:
	No text entered.
[3]	Additional information, such as whether or not the p-value is adjusted for multiple comparisons and the a priori threshold for statistical significance:
	No text entered.

[4]	Other relevant estimation information:
	No text entered.

3. Secondary: Change From BL to Week 4 in 2-hr Glucose Area Under The Curve (AUC) [Time Frame: BL, 4 weeks (end of double-blind treatment period)]

Measure Type	Secondary
Measure Title	Change From BL to Week 4 in 2-hr Glucose Area Under The Curve (AUC)
Measure Description	No text entered.
Time Frame	BL, 4 weeks (end of double-blind treatment period)
Safety Issue	No

Population Description

Explanation of how the number of participants for analysis was determined. Includes whether analysis was per protocol, intention to treat, or another method. Also provides relevant details such as imputation technique, as appropriate.
Full Analysis Set Population

Reporting Groups

	Description
MK-0893 + Sitagliptin	Participants received an initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 administered orally as 40 mg tablets daily throughout the double-blind treatment period. Sitagliptin was administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period.
MK-0893 + Metformin	Participants received an initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 orally (40 mg tablets) administered daily throughout the double-blind treatment period. Participants received Metformin orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin was then administered throughout the double-blind treatment period.
Sitagliptin + Metformin	Sitagliptin was administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period. Participants received Metformin orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin was then administered throughout the double-blind treatment period.

Measured Values

	MK-0893 + Sitagliptin	**MK-0893 + Metformin**	**Sitagliptin + Metformin**
Number of Participants Analyzed [units: participants]	**48**	**49**	**49**
Change From BL to Week 4 in 2-hr Glucose Area Under The Curve (AUC) [units: mg.h/dL] Least Squares Mean (Standard Error)	**-187.7 (11.4)**	**-254.9 (11.1)**	**-210.3 (11.4)**

Statistical Analysis 1 for Change From BL to Week 4 in 2-hr Glucose Area Under The Curve (AUC)

Groups [1]	MK-0893 + Sitagliptin vs. Sitagliptin + Metformin
Method [2]	Longitudinal Data Analysis

P Value [3]	0.056
Mean Difference (Final Values) [4]	22.6
95% Confidence Interval	-0.6 to 45.8

[1]	Additional details about the analysis, such as null hypothesis and power calculation:
	Hypothesis: After 4 weeks of treatment, MK-0893+sitagliptin provide greater reduction in 2-hr Glucose AUC than sitagliptin+metformin. Using a SD of 23.5 mg/dL, a sample size of 40 participants per group had 80% power to detect a true difference of 15 mg/dL in the mean change from BL in 2-Hour Glucose Total AUC between any 2 treatment groups for a two-sided test at alpha=0.05, with a half-width of 10.3 mg/dL around the 95% confidence interval for the between group difference.
[2]	Other relevant method information, such as adjustments or degrees of freedom:
	No text entered.
[3]	Additional information, such as whether or not the p-value is adjusted for multiple comparisons and the a priori threshold for statistical significance:
	No text entered.
[4]	Other relevant estimation information:
	No text entered.

Statistical Analysis 2 for Change From BL to Week 4 in 2-hr Glucose Area Under The Curve (AUC)

Groups [1]	MK-0893 + Metformin vs. Sitagliptin + Metformin
Method [2]	Longitudinal Data Analysis
P Value [3]	<0.001
Mean Difference (Final Values) [4]	-44.6
95% Confidence Interval	-67.3 to -21.8

[1]	Additional details about the analysis, such as null hypothesis and power calculation:
	Hypothesis: After 4 weeks of treatment, MK-0893+metformin provide greater reduction in 2-hr Glucose AUC than sitagliptin+metformin. Using a SD of 23.5 mg/dL, a sample size of 40 participants per group had 80% power to detect a true difference of 15 mg/dL in the mean change from BL in 2-Hour Glucose Total AUC between any 2 treatment groups for a two-sided test at alpha=0.05, with a half-width of 10.3 mg/dL around the 95% confidence interval for the between group difference.
[2]	Other relevant method information, such as adjustments or degrees of freedom:
	No text entered.
[3]	Additional information, such as whether or not the p-value is adjusted for multiple comparisons and the a priori threshold for statistical significance:
	No text entered.
[4]	Other relevant estimation information:
	No text entered.

4. Secondary: Change From BL to Week 4 in the 2-Hour Total GLP-1 Total AUC [Time Frame: BL, 4 weeks (end of double-blind treatment period)]

Measure Type	Secondary
Measure Title	

	Change From BL to Week 4 in the 2-Hour Total GLP-1 Total AUC
Measure Description	Glucagon-Like Peptide-1 (GLP-1) is an incretin hormone that acts as a potent insulin secretegogue in response to nutrient ingestion and stimulates glucose disposition. The total AUC of Total GLP-1 levels was calculated from blood sample data measured after the morning meal.
Time Frame	BL, 4 weeks (end of double-blind treatment period)
Safety Issue	No

Population Description

Explanation of how the number of participants for analysis was determined. Includes whether analysis was per protocol, intention to treat, or another method. Also provides relevant details such as imputation technique, as appropriate.
Full Analysis Set Population

Reporting Groups

	Description
MK-0893 + Sitagliptin	Participants received an initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 administered orally as 40 mg tablets daily throughout the double-blind treatment period. Sitagliptin was administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period.
MK-0893 + Metformin	Participants received an initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 orally (40 mg tablets) administered daily throughout the double-blind treatment period. Participants received Metformin orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin was then administered throughout the double-blind treatment period.
Sitagliptin + Metformin	Sitagliptin was administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period. Participants received Metformin orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin was then administered throughout the double-blind treatment period.

Measured Values

	MK-0893 + Sitagliptin	**MK-0893 + Metformin**	**Sitagliptin + Metformin**
Number of Participants Analyzed [units: participants]	**48**	**49**	**49**
Change From BL to Week 4 in the 2-Hour Total GLP-1 Total AUC [units: pmol*h/L] Least Squares Mean (Standard Error)	**7.4 (1.0)**	**16.4 (1.0)**	**3.2 (1.0)**

Statistical Analysis 1 for Change From BL to Week 4 in the 2-Hour Total GLP-1 Total AUC

Groups [1]	MK-0893 + Sitagliptin vs. Sitagliptin + Metformin
Method [2]	Longitudinal Data Analysis
P Value [3]	0.001
Mean Difference (Final Values) [4]	4.2
95% Confidence Interval	1.7 to 6.7

[1]	Additional details about the analysis, such as null hypothesis and power calculation:
	Hypothesis: After 4 weeks of treatment, MK-0893+sitagliptin provide greater reduction in 2-Hour Total GLP-1 Total AUC than

	sitagliptin+metformin. Using a SD of 23.5 mg/dL, a sample size of 40 participants/group had 80% power to detect a true difference of 15 mg/dL in the mean change from BL in 2-Hour Total GLP-1 Total AUC between any 2 treatment groups for a 2-sided test at alpha=0.05, with a half-width of 10.3 mg/dL around the 95% CI for the between group difference.
[2]	Other relevant method information, such as adjustments or degrees of freedom:
	No text entered.
[3]	Additional information, such as whether or not the p-value is adjusted for multiple comparisons and the a priori threshold for statistical significance:
	No text entered.
[4]	Other relevant estimation information:
	No text entered.

Statistical Analysis 2 for Change From BL to Week 4 in the 2-Hour Total GLP-1 Total AUC

Groups [1]	MK-0893 + Metformin vs. Sitagliptin + Metformin
Method [2]	Longitudinal Data Analysis
P Value [3]	<0.001
Mean Difference (Final Values) [4]	13.2
95% Confidence Interval	10.7 to 15.7

[1]	Additional details about the analysis, such as null hypothesis and power calculation:
	Hypothesis: After 4 weeks of treatment, MK-0893+metformin provide greater reduction in 2-Hour Total GLP-1 Total AUC than sitagliptin+metformin. Using a SD of 23.5 mg/dL, a sample size of 40 participants/group had 80% power to detect a true difference of 15 mg/dL in the mean change from BL in 2-Hour Total GLP-1 Total AUC between any 2 treatment groups for a 2-sided test at alpha=0.05, with a half-width of 10.3 mg/dL around the 95% CI for the between group difference.
[2]	Other relevant method information, such as adjustments or degrees of freedom:
	No text entered.
[3]	Additional information, such as whether or not the p-value is adjusted for multiple comparisons and the a priori threshold for statistical significance:
	No text entered.
[4]	Other relevant estimation information:
	No text entered.

5. Secondary: Change From BL to Week 4 in the 2-Hour Active GLP-1 Total AUC [Time Frame: BL, 4 weeks (end of double-blind treatment period)]

Measure Type	Secondary
Measure Title	Change From BL to Week 4 in the 2-Hour Active GLP-1 Total AUC
Measure Description	GLP-1 is cleaved from proglucagon to form the active peptide GLP-1. The active form promotes suppression of glucagon secretion. The total AUC of Active GLP-1 levels was calculated from blood sample data measured after the morning meal.
Time Frame	BL, 4 weeks (end of double-blind treatment period)
Safety Issue	No

Population Description

Explanation of how the number of participants for analysis was determined. Includes whether analysis was per protocol, intention to treat, or another method. Also provides relevant details such as imputation technique, as appropriate.
Full Analysis Set Population

Reporting Groups

	Description
MK-0893 + Sitagliptin	Participants received an initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 administered orally as 40 mg tablets daily throughout the double-blind treatment period. Sitagliptin was administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period.
MK-0893 + Metformin	Participants received an initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 orally (40 mg tablets) administered daily throughout the double-blind treatment period. Participants received Metformin orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin was then administered throughout the double-blind treatment period.
Sitagliptin + Metformin	Sitagliptin was administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period. Participants received Metformin orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin was then administered throughout the double-blind treatment period.

Measured Values

	MK-0893 + Sitagliptin	MK-0893 + Metformin	Sitagliptin + Metformin
Number of Participants Analyzed [units: participants]	**48**	**49**	**49**
Change From BL to Week 4 in the 2-Hour Active GLP-1 Total AUC [units: pmole*h/L] Least Squares Mean (Standard Error)	**11.0 (1.1)**	**6.3 (1.1)**	**17.6 (1.1)**

Statistical Analysis 1 for Change From BL to Week 4 in the 2-Hour Active GLP-1 Total AUC

Groups [1]	MK-0893 + Sitagliptin vs. Sitagliptin + Metformin
Method [2]	Longitudinal Data Analysis
P Value [3]	<0.001
Mean Difference (Final Values) [4]	-6.7
95% Confidence Interval	-9.5 to -3.8

[1]	Additional details about the analysis, such as null hypothesis and power calculation:
	Hypothesis: After 4 weeks of treatment, MK-0893+sitagliptin provide greater reduction in 2-Hour Active GLP-1 Total AUC than sitagliptin+metformin. Using a SD of 23.5 mg/dL, a sample size of 40 participants/group had 80% power to detect a true difference of 15 mg/dL in the mean change from BL in 2-Hour Active GLP-1 Total AUC between any 2 treatment groups for a 2-sided test at alpha=0.05, with a half-width of 10.3 mg/dL around the 95% CI for the between group difference
[2]	Other relevant method information, such as adjustments or degrees of freedom:
	No text entered.
[3]	Additional information, such as whether or not the p-value is adjusted for multiple comparisons and the a priori threshold for statistical significance:

	No text entered.
[4]	Other relevant estimation information:
	No text entered.

Statistical Analysis 2 for Change From BL to Week 4 in the 2-Hour Active GLP-1 Total AUC

Groups [1]	MK-0893 + Metformin vs. Sitagliptin + Metformin
Method [2]	Longitudinal Data Analysis
P Value [3]	<0.001
Mean Difference (Final Values) [4]	-11.3
95% Confidence Interval	-14.1 to -8.5

[1]	Additional details about the analysis, such as null hypothesis and power calculation:
	Hypothesis: After 4 weeks of treatment, MK-0893+metformin provide greater reduction in 2-Hour Active GLP-1 Total AUC than sitagliptin+metformin. Using a SD of 23.5 mg/dL, a sample size of 40 participants/group had 80% power to detect a true difference of 15 mg/dL in the mean change from BL in 2-Hour Active GLP-1 Total AUC between any 2 treatment groups for a 2-sided test at alpha=0.05, with a half-width of 10.3 mg/dL around the 95% CI for the between group difference.
[2]	Other relevant method information, such as adjustments or degrees of freedom:
	No text entered.
[3]	Additional information, such as whether or not the p-value is adjusted for multiple comparisons and the a priori threshold for statistical significance:
	No text entered.
[4]	Other relevant estimation information:
	No text entered.

Serious Adverse Events

Hide Serious Adverse Events

Time Frame	No text entered.
Additional Description	No text entered.

Reporting Groups

	Description
MK-0893 + Sitagliptin	Participants received an initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 administered orally as 40 mg tablets daily throughout the double-blind treatment period. Sitagliptin was administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period.
MK-0893 + Metformin	Participants received an initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 orally (40 mg tablets) administered daily throughout the double-blind treatment period. Participants received Metformin orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin was then administered throughout the double-blind treatment period.

Sitagliptin + Metformin	Sitagliptin was administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period. Participants received Metformin orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin was then administered throughout the double-blind treatment period.

Serious Adverse Events

	MK-0893 + Sitagliptin	MK-0893 + Metformin	Sitagliptin + Metformin
Total, serious adverse events			
# participants affected / at risk	**0/48 (0.00%)**	**0/49 (0.00%)**	**0/49 (0.00%)**

Other Adverse Events

Hide Other Adverse Events

Time Frame	No text entered.
Additional Description	No text entered.

Frequency Threshold

Threshold above which other adverse events are reported	5.0%

Reporting Groups

	Description
MK-0893 + Sitagliptin	Participants received an initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 administered orally as 40 mg tablets daily throughout the double-blind treatment period. Sitagliptin was administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period.
MK-0893 + Metformin	Participants received an initial loading dose of 200 mg MK-0893 at randomization, followed by MK-0893 orally (40 mg tablets) administered daily throughout the double-blind treatment period. Participants received Metformin orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin was then administered throughout the double-blind treatment period.
Sitagliptin + Metformin	Sitagliptin was administered orally as 100 mg tablets daily before the morning meal throughout the double-blind treatment period. Participants received Metformin orally (500 mg tablets) over an initial 2-week titration period starting at 500 mg administered twice daily before the morning and evening meals, increasing to 1500 mg daily, and ending with 1000 mg twice daily. Metformin was then administered throughout the double-blind treatment period.

Other Adverse Events

	MK-0893 + Sitagliptin	MK-0893 + Metformin	Sitagliptin + Metformin
Total, other (not including serious) adverse events			
# participants affected / at risk	**7/48 (14.58%)**	**10/49 (20.41%)**	**8/49 (16.33%)**
Gastrointestinal disorders			
diarrhoea [1]			
# participants affected / at risk	**1/48 (2.08%)**	**6/49 (12.24%)**	**6/49 (12.24%)**

# events	**1**	**7**	**9**
nausea [1]			
# participants affected / at risk	**2/48 (4.17%)**	**4/49 (8.16%)**	**2/49 (4.08%)**
# events	**2**	**5**	**2**
Infections and infestations			
upper respiratory tract infection [1]			
# participants affected / at risk	**4/48 (8.33%)**	**1/49 (2.04%)**	**1/49 (2.04%)**
# events	**4**	**1**	**1**

1 Term from vocabulary, MedDRA 11.1

Limitations and Caveats

Hide Limitations and Caveats

Limitations of the study, such as early termination leading to small numbers of participants analyzed and technical problems with measurement leading to unreliable or uninterpretable data

No text entered.

More Information

Hide More Information

Certain Agreements:

Principal Investigators are **NOT** employed by the organization sponsoring the study.

There **IS** an agreement between Principal Investigators and the Sponsor (or its agents) that restricts the PI's rights to discuss or publish trial results after the trial is completed.

The agreement is:

☐ The only disclosure restriction on the PI is that the sponsor can review results communications prior to public release and can embargo communications regarding trial results for a period that is **less than or equal to 60 days**. The sponsor cannot require changes to the communication and cannot extend the embargo.

☐ The only disclosure restriction on the PI is that the sponsor can review results communications prior to public release and can embargo communications regarding trial results for a period that is **more than 60 days but less than or equal to 180 days**. The sponsor cannot require changes to the communication and cannot extend the embargo.

☑ Other disclosure agreement that restricts the right of the PI to discuss or publish trial results after the trial is completed.

Restriction Description: The SPONSOR must have the opportunity to review all proposed abstracts, manuscripts, or presentations regarding this study 60 days prior to submission for publication/presentation. Any information identified by the SPONSOR as confidential must be deleted prior to submission. SPONSOR review can be expedited to meet publication guidelines.

Results Point of Contact:

Name/Title: Senior Vice President, Global Clinical Development
Organization: Merck Sharp & Dohme Corp
phone: 1-800-672-6372
e-mail: ClinicalTrialsDisclosure@merck.com

Responsible Party: Merck Sharp & Dohme Corp.
ClinicalTrials.gov Identifier: NCT00631488 History of Changes
Other Study ID Numbers: 0893-015

	2007_646
Study First Received:	February 21, 2008
Results First Received:	October 7, 2011
Last Updated:	February 4, 2015
Health Authority:	United States: Food and Drug Administration

TO TOP

For Patients and Families | **For Researchers** | **For Study Record Managers**

HOME RSS FEEDS SITE MAP TERMS AND CONDITIONS DISCLAIMER CONTACT NLM HELP DESK