

# A Randomized, Double-Blind, Placebo-Controlled, Parallel Group Study to Evaluate the Efficacy and Safety of Alirocumab in Insulin Treated Patients with Type 1 or Type 2 Diabetes and With Hypercholesterolemia at High Cardiovascular Risk Not Adequately Controlled on Maximally Tolerated LDL-C Lowering Therapy.

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1) To demonstrate the superiority of alirocumab in comparison with placebo in the reduction of calculated low-density lipoproteincholesterol (LDL-C) after 24 weeks of treatment in patients with diabetes treated with insulin and with...

<b>Ethical review</b>	Approved WMO
<b>Status</b>	Recruitment stopped
<b>Health condition type</b>	Coronary artery disorders
<b>Study type</b>	Interventional

## Summary

### ID

NL-OMON42569

### Source

ToetsingOnline

### Brief title

LPS14355

## Condition

- Coronary artery disorders
- Glucose metabolism disorders (incl diabetes mellitus)

### Synonym

hypercholesterolemia-high cholesterol

### Research involving

Human

## Sponsors and support

**Primary sponsor:** Sanofi-aventis

**Source(s) of monetary or material Support:** Sanofi-aventis BV

## Intervention

**Keyword:** diabetes, insulin, LDL-C

## Outcome measures

### Primary outcome

- Percent change in calculated LDL-C from baseline to Week 24 in the intent-to-treat (ITT) population.
- Safety parameters, adverse events of special interest, product complaints, laboratory data, vital signs.

### Secondary outcome

- Percent change in calculated LDL-C from baseline to Week 24, using all LDL-C values during the efficacy treatment period.
- Absolute change in HbA1c/FGP/insuline use from baseline to Weeks 12 and 24

## Study description

### Background summary

More than 380 million people worldwide have diabetes, most of whom will die from cardiovascular disease (CVD). Compared to people without diabetes, those with diabetes are at higher risk of developing CVD, develop associated clinical complications and at an earlier age, and have shortened life expectancy by about 6 to 7 years. In addition to the high human cost of disease, CVD contributes greatly to the overall healthcare expenditure in these patients. Dyslipidemia is a major risk factor for macrovascular complications in individuals with diabetes.

Especially a high level of LDL-cholesterol contributes significantly to an increased risk of CVD in diabetics compared to healthy individuals. The LDL-cholesterol is therefore selected as a primary endpoint for cholesterol, and is widely accepted as a valid surrogate endpoint.

Research showed that the number of CVDs is reduced significantly when LDL-cholesterol levels are lowered in diabetics. Guidelines recommend a values below 1.8 mmol/l in type 1 and type 2 diabetics with a high CVD risk; a value that is not reached in many patients even though therapy is maximized.

Because of this issue potentially many patients experience additional CVDs. Therefore blocking PCSK9 binding to the LDL-Receptor can potentially benefit diabetics with hypercholesterolemia by decreasing their plasma LDL-C levels. In this high risk group, and besides the Odyssey Outcomes trial, the safety and efficacy of alirocumab in insulin treated patients is explored.

## **Study objective**

1) To demonstrate the superiority of alirocumab in comparison with placebo in the reduction of calculated low-density lipoprotein cholesterol (LDL-C) after 24 weeks of treatment in patients with diabetes treated with insulin and with hypercholesterolemia at high cardiovascular risk not adequately controlled on maximally tolerated LDL-C lowering therapy

2) To evaluate the safety and tolerability of alirocumab in patients with diabetes treated with insulin

## **Study design**

A randomized, double-blind, placebo controlled parallel-group study.

## **Intervention**

- Alirocumab starting dose of 75 mg every 2 weeks until week 12. After week 12 (and if LDL levels not reached) every 2 weeks 150 mg.
- placebo every 2 weeks.

## **Study burden and risks**

The most common side effects of alirocumab reported in previous completed

studies of alirocumab in patients who received at least one dose of alirocumab include: injection site reactions, itching and flu (upper respiratory symptoms). None occurred in more than 6% of the 4700 patients.

## Contacts

### Public

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### Scientific

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## Trial sites

### Listed location countries

Netherlands

## Eligibility criteria

### Age

Adults (18-64 years)

Elderly (65 years and older)

### Inclusion criteria

I 01. Patients with Type 1 or Type 2 diabetes treated with insulin with LDL  $\geq 70$  mg/dL, not adequately controlled by a stable, maximum dose/regimen of statin that is tolerated by the patient .

I 02. Patients  $\geq 18$  years of age..

I 03. Patients diagnosed with Type 1 or Type 2 diabetes at least one year prior to the screening visit (Week -3).

I 04. Glycosylated hemoglobin (HbA1c) <10% (Week -3)

I 05. Patients with documented history of CVD (including CHD and/or CHD risk equivalents) and/or at least one additional CV risk factor.

## Exclusion criteria

- Plans to initiate new LMT during the course of the study or to modify the dose of the current LMT.
- Not on a stable dose of LMT for at least 4 weeks prior to the screening visit or from screening to randomization.
- Use of nutraceutical products or over-the-counter therapies that may affect lipids which have not been at a stable dose for at least 4 weeks prior to the screening visit or between screening and randomization visits.
- Use of red yeast rice products within 4 weeks of the screening visit or between screening and randomization visits.
- Not on a stable insulin dose for at least 3 months prior to screening.

## Study design

### Design

Study phase:	3
Study type:	Interventional
Intervention model:	Parallel
Allocation:	Randomized controlled trial
Masking:	Double blinded (masking used)
Control:	Placebo
Primary purpose:	Treatment

### Recruitment

NL	
Recruitment status:	Recruitment stopped
Start date (anticipated):	23-02-2016
Enrollment:	20
Type:	Actual

## Medical products/devices used

Product type:	Medicine
Brand name:	praluent
Generic name:	alirocumab
Registration:	Yes - NL outside intended use

## Ethics review

Approved WMO	
Date:	27-10-2015
Application type:	First submission
Review commission:	TWOR: Toetsingscommissie Wetenschappelijk Onderzoek Rotterdam e.o. (Rotterdam)

Approved WMO	
Date:	04-12-2015
Application type:	First submission
Review commission:	TWOR: Toetsingscommissie Wetenschappelijk Onderzoek Rotterdam e.o. (Rotterdam)

Approved WMO	
Date:	06-01-2016
Application type:	Amendment
Review commission:	TWOR: Toetsingscommissie Wetenschappelijk Onderzoek Rotterdam e.o. (Rotterdam)

Approved WMO	
Date:	28-01-2016
Application type:	Amendment
Review commission:	TWOR: Toetsingscommissie Wetenschappelijk Onderzoek Rotterdam e.o. (Rotterdam)

Approved WMO	
Date:	25-02-2016
Application type:	Amendment
Review commission:	TWOR: Toetsingscommissie Wetenschappelijk Onderzoek Rotterdam e.o. (Rotterdam)

Approved WMO	
Date:	22-06-2016
Application type:	Amendment

Review commission:	TWOR: Toetsingscommissie Wetenschappelijk Onderzoek Rotterdam e.o. (Rotterdam)
Approved WMO	
Date:	23-06-2016
Application type:	Amendment
Review commission:	TWOR: Toetsingscommissie Wetenschappelijk Onderzoek Rotterdam e.o. (Rotterdam)

## Study registrations

### Followed up by the following (possibly more current) registration

No registrations found.

### Other (possibly less up-to-date) registrations in this register

No registrations found.

### In other registers

Register	ID
EudraCT	EUCTR2015-000799-92-NL
CCMO	NL55043.101.15
Other	U1111-1172-4772