

Study to Evaluate Efficacy and Safety of Inclisiran in Adolescents With Heterozygous Familial Hypercholesterolemia

11/09/2025 17:10:26

Main Information

Primary registry identifying number

LBCTR2021034776

MOH registration number

Study registered at the country of origin

Type of registration

Prospective

Date of registration in national regulatory agency

Primary sponsor

Novartis Pharma Services inc.

Date of registration in primary registry

29/07/2021

Public title

Study to Evaluate Efficacy and Safety of Inclisiran in Adolescents With Heterozygous Familial Hypercholesterolemia

Scientific title

Two Part (Double-blind Inclisiran Versus Placebo [Year 1] Followed by Open-label Inclisiran [Year 2]) Randomized Multicenter Study to Evaluate Safety, Tolerability, and Efficacy of Inclisiran in Adolescents (12 to Less Than 18 Years) With Heterozygous Familial Hypercholesterolemia and Elevated LDL-cholesterol (ORION-16)

Brief summary of the study: English

This is a pivotal phase III study designed to evaluate safety, tolerability, and efficacy of inclisiran in adolescents with heterozygous familial hypercholesterolemia (HeFH) and elevated low density lipoprotein cholesterol (LDL-C).

This is a two-part (1 year double-blind inclisiran versus placebo / 1 year open-label inclisiran) multicenter study designed to evaluate safety, tolerability, and efficacy of inclisiran in adolescents with heterozygous familial hypercholesterolemia (HeFH) and elevated low density lipoprotein cholesterol (LDL-C) on stable standard of care background lipid-lowering therapy. The primary objective is to demonstrate superiority of inclisiran compared to placebo in reducing LDL-C (percent change) at Day 330.

Brief summary of the study: Arabic

] يتبعه إنكليسيران مفتوح اللصاقة 1 دراسة متعددة المراكز، عشوائيّة التوزيع من قسمين (إنكليسيران مزدوج التعمية مقابل الدواء الوهمي [السنة سنة) المصابين بفرط كوليسترول الدم العائلي18 إلى أقل من 12]) لتقييم سلامة إنكليسيران وقدرة تحمّله وفعاليّته لدى المراهقين (من 2السنة] (ORION-16) أ16 مَتَّغَايِر الزيَّجوت وبارتفاع الكوليسترول الضَّار (أوريون-

Health conditions/problem studied: Specify

Protocol number

CKJX839C12301

Study registered at the country of origin: Specify

Type of registration: Justify

N/A

Primary sponsor: Country of origin

Novartis Pharmaceuticals

Date of registration in national regulatory agency

Acronym

Acronym



Heterozygous Familial Hypercholesterolemia

Interventions: Specify

Drug: Inclisiran Drug: Placebo

Key inclusion and exclusion criteria: Inclusion criteria

Heterozygous Familial Hypercholesterolemia (HeFH) diagnosed either by genetic testing or on phenotypic criteria

Fasting LDL-C >130 mg/dL (3.4 mmol/L) at screening

Fasting triglycerides <400 mg/dL (4.5 mmol/L) at screening

On maximally tolerated dose of statin (investigator's discretion) with or without other lipid-lowering therapy; stable for ≥ 30 days before

screening

Estimated glomerular filtration rate (eGFR) >30 mL/min/1.73 m2 at screening

Key inclusion and exclusion criteria: Gender Key inclusion and exclusion criteria: Specify gender

Both

Key inclusion and exclusion criteria: Age minimum Key inclusion and exclusion criteria: Age maximum

17

Key inclusion and exclusion criteria: Exclusion criteria

Homozygous familial hypercholesterolemia (HoFH)

Active liver disease

Secondary hypercholesterolemia, e.g. hypothyroidism or nephrotic syndrome

Major adverse cardiovascular events within 3 months prior to randomization

Previous treatment with monoclonal antibodies directed towards PCSK9 (within 90 days of screening)

Recent and/or planned use of other investigational medicinal products or devices

Other protocol-defined inclusion/exclusion criteria may apply

Type of study

Interventional

Type of intervention Type of intervention: Specify type

Pharmaceutical

Trial scope Trial scope: Specify scope

Therapy

Study design: Allocation Study design: Masking Randomized controlled trial

Study design: Control

Placebo

Study design: Purpose

Treatment

Study design: Assignment

Parallel

IMP has market authorization

Yes. Worldwide

Name of IMP

inclisiran

Type of IMP

Others

Pharmaceutical class

N/A

N/A

Blinded (masking used)

Study phase

Study design: Specify purpose

Study design: Specify assignment

N/A

IMP has market authorization: Specify

European Union, United Arab Emirates, Great Britain

Year of authorization Month of authorization



cholesterol-lowering small interfering ribonucleic acid (siRNA) that inhibits the production of proprotein convertase subtilisin/kexin type 9

Therapeutic indication

heterozygous familial hypercholesterolemia (HeFH) and elevated low density lipoprotein cholesterol (LDL-C)

Therapeutic benefit

to demonstrate superiority of inclisiran compared to placebo in reducing LDL-C (percent change) at Day 330 in adolescents (12 to less than 18 years) with heterozygous familial hypercholesterolemia and elevated LDL-cholesterol

Study model Study model: Explain model

N/A N/A

Study model: Specify model

N/A

Time perspective Time perspective: Explain time perspective

N/A N/A

Time perspective: Specify perspective

N/A

Target follow-up duration Target follow-up duration: Unit

Number of groups/cohorts

Biospecimen retention Biospecimen description

Samples with DNA** Blood samples collected will be analyzed at Medpace

Laboratories, central lab

Target sample size Actual enrollment target size

Date of first enrollment: Type Date of first enrollment: Date

Anticipated 30/04/2021

Date of study closure: Type Date of study closure: Date

Anticipated 16/08/2023

Recruitment status **Recruitment status: Specify**

Pending

Date of completion

29/07/2021

IPD sharing statement plan IPD sharing statement description

Yes





Novartis is committed to sharing with qualified external researchers, access to patient-level data and supporting clinical documents from eligible studies. These requests are reviewed and approved by an independent review panel on the basis of scientific merit. All data provided is anonymized to respect the privacy of patients who have participated in the trial in line with applicable laws and regulations.

This trial data availability is according to the criteria and process described on www.clinicalstudydatarequest.com.

Additional data URL

https://clinicaltrials.gov/ct2/show/NCT04652726?cond=heterozygous+familial+hypercholesterolemia&draw=2&rank=2

Admin comments

Trial status

Approved

Secondary Identifying Numbers	
Full name of issuing authority	Secondary identifying number
NCT04652726	Clinical trials.gov

Sources of Monetary or Material Support

Name

Novartis Pharma Services inc.

Secondary Sponsors

Name

NA

Contact for Public/Scientific Queries						
Contact type	Contact full name	Address	Country	Telephone	Email	Affiliation
Public	Selim Jambart	Beirut	Lebanon	961 3 406 001	sjambart@dm.ne t.lb	Hotel Dieu De France
Scientific	Hind Khairallah	Sinelfil	Lebanon	01512002# 271	Hind.khairallah@ fattal.com.lb	Khalil Fattal et Fils s.a.l.
Public	Hala Tfayli	Beirut	Lebanon	71729759	HT31@AUB .ED U .LB	American University of Beirut Medical Center



Centers/Hospitals Involved in the Study			
Center/Hospital name	Name of principles investigator Principles investigator speciality		Ethical approval
Hotel Dieu De France	Selim Jambart	Endocrinology	Approved
American University of Beirut Medical Center	Hala Tfayli	Pediatric Endocrinology	Approved

Ethics Review				
Ethics approval obtained	Approval date	Contact name	Contact email	Contact phone
Hotel Dieu de France	21/12/2020	Sami Richa	cue@usj.edu.lb	961421229
American University of Beirut Medical Center	28/06/2021	Fuad Ziyadeh	irb@aub.edu.lb	00961 -1-350000 or 1 374374, ext: 5445

Countries of Recruitment
Name
Lebanon
Australia
Germany
Hungary
Norway
Spain
United States of America

Health Conditions or Problems Studied		
Condition Code Keyword		
heterozygous familial hypercholesterolemia	Hyperlipidaemia, unspecified (E78.5)	heterozygous familial hypercholesterolemia

Interventions		
Intervention	Description	Keyword
Informed Consent/assent form discussion; Inclusion/exclusion assessment; physical examination; neurological examination; blood and urine samples collection; IMP dispensation	Informed Consent/assent form discussion; Inclusion/exclusion assessment; physical examination; neurological examination; blood and urine samples collection; IMP dispensation	ICF, IMP , Lab tests, physical exams



Primary Outcomes		
Name	Time Points	Measure
Percentage (%) change in low-density lipoprotein cholesterol (LDL-C)	baseline to Day 330	baseline to Day 330
Demonstrate superiority of inclisiran compared to placebo in reducing LDL-C [percent change]	Day 330 (Year 1)	Day 330 (Year 1)

Key Secondary Outcomes			
Name	Time Points	Measure	
Time-adjusted % change in LDL-C from baseline	Baseline, after Day 90 up to Day 330	Baseline, after Day 90 up to Day 330	
Absolute change in LDL-C from baseline to Day 330	Baseline and Day 330	Baseline and Day 330	
% change in apolipoprotein B (Apo B), lipoprotein (a) [Lp(a)], non-high density lipoprotein cholesterol (non-HDL-C), and total cholesterol from baseline to Day 330	Baseline and Day 330	Baseline and Day 330	
% change and absolute change in LDL-C from baseline up to Day 720	Baseline, up to Day 720	Baseline, up to Day 720	
% change and absolute change in other lipoproteins and lipid parameters	Baseline, up to Day 720	Baseline, up to Day 720	
% change and absolute change in proprotein convertase subtilisin/kexin type 9 (PCSK9)	Baseline, up to Day 720	Baseline, up to Day 720	



Trial Results	
Summary results	
Study results globally	
Date of posting of results summaries	Date of first journal publication of results
Results URL link	
Baseline characteristics	
Participant flow	
Adverse events	
Outcome measures	
URL to protocol files	