

## Ionis' antisense therapies to be featured at the American Heart Association (AHA) Scientific Sessions 2021

November 12, 2021

- **New data to be presented from multiple ascending dose study for Ionis' novel antisense medicine targeting PCSK9**
- **Data on the effect of olezarsen on a variety of lipoprotein fractions in patients with hypertriglyceridemia to be presented**
- **Ionis to host symposium on lessening the disproportionate impact of transthyretin amyloid cardiomyopathy (ATTR-CM) on Black and African American patients**

CARLSBAD, Calif., Nov. 12, 2021 /PRNewswire/ -- Ionis Pharmaceuticals, Inc. (NASDAQ: IONS), the leader in RNA-targeted therapies, announced today the upcoming presentations of clinical and non-clinical data from its cardiovascular pipeline, including several of its investigational antisense medicines for cardiovascular disease, at the American Heart Association (AHA) Scientific Sessions, to be held virtually Nov. 13-15, 2021.

New data from the Phase 1 multiple ascending dose study for ION449 (also known as AZD8233) will be featured in an oral presentation. ION449, an investigational antisense medicine that uses Ionis' proprietary Ligand-Conjugated Antisense technology (LICA), is designed to reduce the production of PCSK9 and lower the plasma level of low-density lipoprotein-cholesterol (LDL-C) in patients who are at risk of cardiovascular disease due to high levels of LDL-C. Genetic studies have shown that individuals with life-long reduction of LDL-C due to reduced function of PCSK9 have substantially reduced risk of cardiovascular disease. Data to be presented include results from a study evaluating the safety, tolerability, pharmacokinetics and pharmacodynamics of multiple ascending subcutaneous doses of ION449 in patients with dyslipidemia. ION449 is being developed by AstraZeneca as part of a collaboration between Ionis and AstraZeneca.

Ionis will also present data on the effect of olezarsen, formerly known as IONIS-APOCIII-L<sub>Rx</sub>, on a variety of lipoprotein fractions measured by Nuclear Magnetic Resonance (NMR) in patients with cardiovascular disease and hypertriglyceridemia. The apolipoprotein C-III (apoC-III) protein is an independent cardiovascular risk factor that regulates triglyceride metabolism in the blood. Olezarsen is designed to inhibit the production of apoC-III in patients who are at risk for cardiovascular disease due to elevated triglyceride levels. Olezarsen is an investigational antisense medicine that was also developed using Ionis' advanced LICA technology. Olezarsen is currently being evaluated in two phase 3 clinical studies as part of Ionis' broad development [program](#). The CORE study is evaluating olezarsen's potential to treat diseases caused by severe hypertriglyceridemia. BALANCE is a study evaluating olezarsen in people with familial chylomicronemia syndrome or FCS.

In addition, Ionis will host a sponsored symposium, "Hidden in Plain Sight: ATTR-CM in Overlooked Patient Populations" to discuss the prevalence of cardiomyopathy in Blacks and African Americans while addressing biological and genetic differences.

The following is a schedule of the events and presentations of Ionis programs and collaborations.

### **Saturday, Nov. 13, 8:00- 5:30 AM ET (on demand)**

Scientific Session: Unraveling Dyslipidemias: Learning from Basic Science to Improve Treatment. Sotirios "Sam" Tsimikas, M.D., senior vice president and franchise leader of cardiovascular programs at Ionis, who specializes in lipoprotein(a), will present "Basic Science Evidence Based Approaches to Lp(a) Disorders." Lp(a) is a lipoprotein particle assembled in the liver that consists of an LDL-C-like particle and apolipoprotein(a). Lp(a) is considered a key driver for cardiovascular disease due to its association with an increased risk of coronary heart disease. This educational session was planned by the Committee on Scientific Sessions Program and aims to cover the "best of 2020" cutting edge research that have advanced cardiovascular science and approaches to treatment.

### **Sunday, Nov.14, 7:30-9:00 p.m. ET**

Symposium: Hidden in Plain Sight: ATTR-CM in Overlooked Patient Populations

Transthyretin amyloid cardiomyopathy, or ATTR-CM, is a serious and underdiagnosed type of amyloidosis that primarily affects the heart and leads to heart failure. Ionis will host a symposium focused on the prevalence of ATTR-CM in Blacks and African Americans and in subpopulations with heart failure with preserved ejection fraction (HFpEF), addressing biological and genetically inherited differences, implicit bias, and healthcare challenges that may disproportionately impact the diagnosis and treatment of those groups. Panel includes Dr. Mathew Maurer, Columbia University; Dr. Alanna Morris, Emory University; Dr. Kevin Alexander, Stanford University; and Dr. Keyur Shah, Virginia Commonwealth University.

The following are presentations that will be available on the [AHA Scientific Sessions' website](#).

### **Saturday, Nov. 13, 2021, 8:00 AM - 5:30 PM**

Safety, pharmacokinetics and pharmacodynamics of multiple ascending doses of AZD8233 targeting PCSK9, in patients with dyslipidemia ([Oral presentation 268](#))

FAT's What It's All About! Lipid, Lipid Lowering Agents and PCI

### **Saturday, Nov. 13, 2021, 8:00 AM - 5:30 PM ([ePoster VMP33](#))**

Effect of olezarsen on lipoprotein size and particle numbers measured by NMR in patients with hypertriglyceridemia: Results of the olezarsen trial  
New Mechanisms and Therapeutic Developments in Lipid Metabolism

### **Saturday, Nov. 13, 2021, 8:00-5:30 PM (on demand)**

George Lyman Duff Memorial Lecture: Interventional Hepatic ApoC-III Knockdown Improves Atherosclerotic Plaque Stability and Remodeling via Lowering Remnant Lipoproteins

### **Saturday, Nov. 13, 2021, 2:30-3:30 PM ([ePoster P1104](#))**

Relationship Between Circulating Levels of Angiotensinogen and Hypertension—The Multi-Ethnic Study of Atherosclerosis

### **Saturday, Nov. 13, 2021, 11:00 AM - 12:00 PM ([ePoster P108/1006](#))**

Total lipoprotein lipase deficiency does not impact atherosclerosis development in low density lipoprotein receptor deficient mice  
Lipids and Lipoproteins in Atherosclerosis

Embargoed abstracts and details on presentation times and dates can be found on the AHA 2021 Scientific Session [Online Program Planner](#).

#### **About Ionis Pharmaceuticals, Inc.**


For more than 30 years, Ionis has been the leader in RNA-targeted therapy, pioneering new markets and changing standards of care with its novel antisense technology. Ionis currently has three marketed medicines and a premier late-stage pipeline highlighted by industry-leading neurological and cardiometabolic franchises. Our scientific innovation began and continues with the knowledge that sick people depend on us, which fuels our vision of becoming one of the most successful biotechnology companies.

To learn more about Ionis, visit [www.ionispharma.com](http://www.ionispharma.com) and follow us on twitter @ionispharma.

#### **Ionis' Forward-looking Statement**

This press release includes forward-looking statements regarding Ionis' business, and the therapeutic and commercial potential of Ionis' technologies, ION449, olezarsen and other products in development. Any statement describing Ionis' goals, expectations, financial or other projections, intentions or beliefs is a forward-looking statement and should be considered an at-risk statement. Such statements are subject to certain risks and uncertainties, including those related to the impact COVID-19 could have on our business, and including but not limited to those related to our commercial products and the medicines in our pipeline, and particularly those inherent in the process of discovering, developing and commercializing medicines that are safe and effective for use as human therapeutics, and in the endeavor of building a business around such medicines. Ionis' forward-looking statements also involve assumptions that, if they never materialize or prove correct, could cause its results to differ materially from those expressed or implied by such forward-looking statements.

Although Ionis' forward-looking statements reflect the good faith judgment of its management, these statements are based only on facts and factors currently known by Ionis. As a result, you are cautioned not to rely on these forward-looking statements. These and other risks concerning Ionis' programs are described in additional detail in Ionis' annual report on Form 10-K for the year ended December 31, 2020, and the most recent Form 10-Q quarterly filing, which are on file with the SEC. Copies of these and other documents are available from the Company.

 View original content to download multimedia: <https://www.prnewswire.com/news-releases/ionis-antisense-therapies-to-be-featured-at-the-american-heart-association-aha-scientific-sessions-2021-301422831.html>

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