



AMGEN PRESENTS LATE-BREAKING PHASE 2 OLPASIRAN DATA AT ESC 2023

August 26, 2023

Amgen is Changing the Cardiovascular Disease Treatment Landscape With New Research on Innovative Lipid Management

New Olpasiran Phase 2 Data Demonstrates Continued Reduction of Lp(a) Nearly a Year After the Last Dose

Amgen Convenes First LDL Awareness to Action Implementation Consortium

THOUSAND OAKS, Calif., Aug. 26, 2023 /PRNewswire/ -- Amgen (NASDAQ:AMGN) today announced data from the final analysis of the Phase 2 OCEAN(a)-DOSE study of olpasiran, a small interfering RNA (siRNA) during the Late-Breaking Science Session at the European Society of Cardiology (ESC) Annual Meeting being held in Amsterdam. In the off-treatment extension period, olpasiran showed a lasting effect on Lp(a) reduction nearly a year after the last dose.

Results from the OCEAN(a)-DOSE Phase 2 study announced in November of 2022 showed that doses of olpasiran ≥ 75 mg Q12W reduced patients' Lp(a) by $>95\%$ at week 36. The results from the off-treatment extension period show that patients previously dosed with ≥ 75 mg of olpasiran sustained a $\sim 40\text{-}50\%$ placebo-adjusted percent reduction in Lp(a) nearly a year after the last dose. No new safety concerns were identified during the off-treatment extension period.

"We are dedicated to reducing LDL cholesterol levels in people globally and continuing to pioneer ways to address the greatest risk factors in cardiovascular disease, including Lp(a). Worldwide, millions of people are at an increased risk of cardiovascular events due to elevated Lp(a) levels. Unfortunately, there are no approved medicines," said Paul Burton, senior vice president and chief medical officer at Amgen. "Data from the off-treatment extension period provide additional evidence of olpasiran's lasting effect in reducing Lp(a) levels. We are quickly advancing the Phase 3 cardiovascular outcome trial."

Additionally, this study was the first to explore the effects of olpasiran on a key biomarker strongly associated with atherosclerosis, pro-atherogenic OxPL-apoB [Oxidized Phospholipids (Ox-PL) on apoB-100 (apoB)]. During the treatment period, olpasiran showed a dose-dependent reduction in pro-atherogenic OxPL-apoB.

"Additional results from the OCEAN(a)-DOSE study continue to be encouraging, as they tell us olpasiran not only robustly reduces Lp(a) levels, but that it has a long-lasting effect on this important risk factor for ASCVD," said Michelle L. O'Donoghue, MD, MPH, associate professor, Harvard Medical School, Cardiovascular Medicine and lead investigator of the OCEAN(a)-DOSE study. "Additionally, we were able to show that olpasiran reduced OxPL-apoB, further adding to the potential of RNA interference with olpasiran as a promising treatment approach to reducing elevated Lp(a)."

LDL Awareness to Action Implementation Consortium

Amgen is committed to working with stakeholders to achieve the goal of reducing cardiovascular disease globally and, this year at ESC, convened a new LDL Awareness to Action Implementation Consortium (LATAIC). LATAIC is focused on improving LDL-C testing and evidence-based treatment through identification of opportunities to accelerate efficiency and impact of the translation of evidence-based research into clinical practice. The consortium is comprised of leading CV institutions, including Duke, Harvard's BAIM Institute, Johns Hopkins, Geisinger, University of Colorado, St. Luke's, Brigham and Women's Hospital, Providence, Yale and UT Southwestern.

"I am proud to be working alongside Amgen and other cross disciplinary leaders in the cardiovascular space to increase LDL-C testing and implementation of evidence-based treatment, in order to tackle the urgent public health crisis of cardiovascular disease," said C. Michael Gibson, M.D., chief executive officer at the non-profit BAIM Institute of Clinical Research, and professor of medicine, Harvard. "We hope to enable scalable action to address unmet LDL needs, drive efficiency, and improve quality of care for patients by expanding LATAIC to include other CVD industry stakeholders."

For more information about the ESC abstracts, see below.

Amgen Abstracts

- **RNA inhibition of Lp(a) with Olpasiran: Effects on Oxidized Phospholipids and Primary Results of the OCEAN(a)-DOSE Extension Program on Long-Term Efficacy and Safety**
[Late-breaker](#), Saturday, Aug. 26, 4:45-5:00 pm CEST
- **Cardiovascular Outcomes in Patients with Coronary Artery Disease and Elevated Lipoprotein(a): Implications for the OCEAN(a)-Outcomes Trial Population.**
[Oral Presentation](#), Sunday, Aug. 27, 10:55-11:05 am CEST
- **Characteristics of patients initiating PCSK9i mAb following myocardial infarction and comparability of treatment groups in the Netherlands.**
[Moderated poster](#), Monday, Aug. 28, 2:15-3:00 pm CEST
- **Improving risk stratification of recurrent myocardial infarction in a large real-world dataset using machine learning.**
[Moderated poster](#), Saturday, Aug. 26, 11:15-12:00 pm CEST

Investigator-Sponsored Studies (ISS)

- **Randomised trial of cholesterol lowering with EVOLocumab to prevent cardiac allograft Vasculopathy in De-novo heart transplant recipients.**
[Late-breaker](#), Monday, Aug. 28, 11:30-11:45 am CEST
- **Effect of evolocumab on platelet function in patients with acute coronary syndromes: An analysis of the randomized, double-blind, placebo-controlled EVOPACS Trial.**
[Moderated poster](#), Monday, Aug. 28, 5:15-6:00 pm CEST
- **PCSK9 inhibition with evolocumab decreases myocardial inflammation in individuals with acute coronary syndrome [EVACS data].**
[Oral presentation](#), Saturday, Aug. 26, 2:00-2:10 pm CEST
- **Lipoprotein(a) and the risk of Major Adverse Limb Events in Patients with Stable Atherosclerotic Vascular Disease [FOURIER/no evo data].**
[Moderated poster](#), Saturday, Aug. 26, 11:15-12:00 pm CEST

About Lp(a)

Lp(a) is genetically determined¹⁻⁵ and a presumed independent risk factor for cardiovascular disease (CVD). Although an agreed-upon threshold for elevated Lp(a) is not firmly established, approximately 20% of adults have Lp(a) >125 nmol/L (or approximately 50 mg/dL).^{3,4} Evidence has emerged from pathophysiological, epidemiologic, and genetic studies on the potential role of elevated Lp(a) in contributing to myocardial infarction, stroke, and peripheral arterial disease.⁵

About OCEAN(a)

The OCEAN(a) (Olpasiran Trials of Cardiovascular Events And Lipoprotein(a) Reduction) clinical program for Amgen's investigational olpasiran is designed to treat patients with atherosclerotic cardiovascular disease (ASCVD) and elevated Lp(a) levels to reduce the risk of cardiovascular events. The OCEAN(a)-DOSE trial is a multicenter, randomized, double-blind, placebo-controlled dose-finding Phase 2 study in 281 patients with ASCVD and Lp(a) >150 nmol/L. Patients were randomly assigned to one of four active subcutaneous doses of olpasiran (10 mg Q12 weeks, 75 mg Q12 weeks, 225 mg Q12 weeks or 225 mg Q24 weeks) or placebo. The primary endpoint is percent change from baseline in Lp(a) at 36 weeks. A secondary endpoint is percent change from baseline in Lp(a) at 48 weeks. For the off-treatment extension period, patients were followed for a minimum of 24 weeks. A biomarker discovery analysis was performed on the percent change from baseline in OxPL-apoB [Oxidized Phospholipids (Ox-PL) on apoB-100 (apoB)] at weeks 36 and 48.

About Amgen

Amgen is committed to unlocking the potential of biology for patients suffering from serious illnesses by discovering, developing, manufacturing and delivering innovative human therapeutics. This approach begins by using tools like advanced human genetics to unravel the complexities of disease and understand the fundamentals of human biology.

Amgen focuses on areas of high unmet medical need and leverages its expertise to strive for solutions that improve health outcomes and dramatically improve people's lives. A biotechnology pioneer since 1980, Amgen has grown to be one of the world's leading independent biotechnology companies, has reached millions of patients around the world and is developing a pipeline of medicines with breakaway potential.

Amgen is one of the 30 companies that comprise the Dow Jones Industrial Average and is also part of the Nasdaq-100 index. In 2023, Amgen was named one of "America's Greatest Workplaces" by Newsweek and one of "America's Climate Leaders" by USA Today.

For more information, visit [Amgen.com](https://www.amgen.com) and follow us on [Twitter](#), [LinkedIn](#), [Instagram](#), [TikTok](#), [YouTube](#) and [Threads](#).

Amgen Forward-Looking Statements

This news release contains forward-looking statements that are based on the current expectations and beliefs of Amgen. All statements, other than statements of historical fact, are statements that could be deemed forward-looking statements, including any statements on the outcome, benefits and synergies of collaborations, or potential collaborations, with any other company (including BeiGene, Ltd. or Kyowa-Kirin Co., Ltd.), the performance of Otezla[®] (apremilast) (including anticipated Otezla sales growth and the timing of non-GAAP EPS accretion), the Tenebio, Inc. acquisition, the ChemoCentryx, Inc. acquisition, or the proposed acquisition of Horizon Therapeutics plc (including the potential outcome of any litigation with the Federal Trade Commission, prospective performance and outlook of Horizon's business, performance and opportunities and any potential strategic benefits, synergies or opportunities expected as a result of such acquisition), as well as estimates of revenues, operating margins, capital expenditures, cash, other financial metrics, expected legal, arbitration, political, regulatory or clinical results or practices, customer and prescriber patterns or practices, reimbursement activities and outcomes, effects of pandemics or other widespread health problems on our business, outcomes, progress, and other such estimates and results. Forward-looking statements involve significant risks and uncertainties, including those discussed below and more fully described in the Securities and Exchange Commission reports filed by Amgen, including our most recent annual report on Form 10-K and any subsequent periodic reports on Form 10-Q and current reports on Form 8-K. Unless otherwise noted, Amgen is providing this information as of the date of this news release and does not undertake any obligation to update any forward-looking statements contained in this document as a result of new information, future events or otherwise.

No forward-looking statement can be guaranteed and actual results may differ materially from those we project. Discovery or identification of new product candidates or development of new indications for existing products cannot be guaranteed and movement from concept to product is uncertain; consequently, there can be no guarantee that any particular product candidate or development of a new indication for an existing product will be successful and become a commercial product. Further, preclinical results do not guarantee safe and effective performance of product candidates in humans. The complexity of the human body cannot be perfectly, or sometimes, even adequately modeled by computer or cell culture systems or animal models. The length of time that it takes for us to complete clinical trials and obtain regulatory approval for product marketing has in the past varied and we expect similar variability in the future. Even when clinical trials are successful, regulatory authorities may question the sufficiency for approval of the trial endpoints we have selected. We develop product candidates internally and through licensing collaborations, partnerships and joint

ventures. Product candidates that are derived from relationships may be subject to disputes between the parties or may prove to be not as effective or as safe as we may have believed at the time of entering into such relationship. Also, we or others could identify safety, side effects or manufacturing problems with our products, including our devices, after they are on the market.

Our results may be affected by our ability to successfully market both new and existing products domestically and internationally, clinical and regulatory developments involving current and future products, sales growth of recently launched products, competition from other products including biosimilars, difficulties or delays in manufacturing our products and global economic conditions. In addition, sales of our products are affected by pricing pressure, political and public scrutiny and reimbursement policies imposed by third-party payers, including governments, private insurance plans and managed care providers and may be affected by regulatory, clinical and guideline developments and domestic and international trends toward managed care and healthcare cost containment. Furthermore, our research, testing, pricing, marketing and other operations are subject to extensive regulation by domestic and foreign government regulatory authorities. Our business may be impacted by government investigations, litigation and product liability claims. In addition, our business may be impacted by the adoption of new tax legislation or exposure to additional tax liabilities. If we fail to meet the compliance obligations in the corporate integrity agreement between us and the U.S. government, we could become subject to significant sanctions. Further, while we routinely obtain patents for our products and technology, the protection offered by our patents and patent applications may be challenged, invalidated or circumvented by our competitors, or we may fail to prevail in present and future intellectual property litigation. We perform a substantial amount of our commercial manufacturing activities at a few key facilities, including in Puerto Rico, and also depend on third parties for a portion of our manufacturing activities, and limits on supply may constrain sales of certain of our current products and product candidate development. An outbreak of disease or similar public health threat, such as COVID-19, and the public and governmental effort to mitigate against the spread of such disease, could have a significant adverse effect on the supply of materials for our manufacturing activities, the distribution of our products, the commercialization of our product candidates, and our clinical trial operations, and any such events may have a material adverse effect on our product development, product sales, business and results of operations. We rely on collaborations with third parties for the development of some of our product candidates and for the commercialization and sales of some of our commercial products. In addition, we compete with other companies with respect to many of our marketed products as well as for the discovery and development of new products. Further, some raw materials, medical devices and component parts for our products are supplied by sole third-party suppliers. Certain of our distributors, customers and payers have substantial purchasing leverage in their dealings with us. The discovery of significant problems with a product similar to one of our products that implicate an entire class of products could have a material adverse effect on sales of the affected products and on our business and results of operations. Our efforts to collaborate with or acquire other companies, products or technology, and to integrate the operations of companies or to support the products or technology we have acquired, may not be successful. There can be no guarantee that we will be able to realize any of the strategic benefits, synergies or opportunities arising from the Horizon acquisition, and such benefits, synergies or opportunities may take longer to realize than expected. We may not obtain regulatory clearance to acquire Horizon or be able to successfully integrate Horizon, and such acquisition or integration may take longer, be more difficult or cost more than expected. A breakdown, cyberattack or information security breach of our information technology systems could compromise the confidentiality, integrity and availability of our systems and our data. Our stock price is volatile and may be affected by a number of events. Our business and operations may be negatively affected by the failure, or perceived failure, of achieving our environmental, social and governance objectives. The effects of global climate change and related natural disasters could negatively affect our business and operations. Global economic conditions may magnify certain risks that affect our business. Our business performance could affect or limit the ability of our Board of Directors to declare a dividend or our ability to pay a dividend or repurchase our common stock. We may not be able to access the capital and credit markets on terms that are favorable to us, or at all.

Any scientific information discussed in this news release relating to new indications for our products is preliminary and investigative and is not part of the labeling approved by the U.S. Food and Drug Administration for the products. The products are not approved for the investigational use(s) discussed in this news release, and no conclusions can or should be drawn regarding the safety or effectiveness of the products for these uses.

CONTACT: Amgen, Thousand Oaks
Elissa Snook, 609-251-1407 (media)
Jessica Akopyan, 805-440-5721 (media)
Justin Claeys, 805-313-9775 (investors)

¹ Wilson DP, et al. Clin Lipidol. 2019;13(3):374-92.

² Reyes-Soffer G, et al. Arterioscler Thromb Vasc Biol. 2022;42(1):e48-e60.

³ Kronenberg F, et al. Eur Heart J. 2022;43(39):3925-3946.

⁴ Tsimikas S, Stroes ESG. Atherosclerosis. 2020;300:1-9.

⁵ Tsimikas S, et al. J Am Coll Cardiol. 2018;71(2):177-192.



View original content to download multimedia:<https://www.prnewswire.com/news-releases/amgen-presents-late-breaking-phase-2-olpasiran-data-at-esc-2023-301910436.html>

SOURCE Amgen