



## Amgen Announces Positive Results At ACC.20/WCC From Phase 3B Study Of Repatha® (Evolocumab) In People Living With HIV Who Have High LDL-Cholesterol

March 28, 2020

### Study Met Primary Endpoint (Change From Baseline in LDL-C) and All Secondary Endpoints Repatha is the First PCSK9 Inhibitor to Demonstrate LDL-C Lowering Results in People Living with HIV

THOUSAND OAKS, Calif., March 28, 2020 /PRNewswire/ -- Amgen (NASDAQ:AMGN) today announced positive results from the Evolocumab Effect on LDL-C Lowering in Subjects with Human Immunodeficiency Virus and Increased Cardiovascular Risk (BEIJERINCK) study evaluating the efficacy and safety of Repatha® (evolocumab) in patients who are human immunodeficiency virus-positive (HIV+) and have high low-density lipoprotein cholesterol (LDL-C) despite stable background lipid-lowering therapy.<sup>1</sup> The study demonstrated that treatment with Repatha significantly reduced LDL-C. The results were featured as an oral presentation during the virtual American College of Cardiology's 69<sup>th</sup> Annual Scientific Session from March 28-30, 2020 with publication in the Journal of the American College of Cardiology (JACC) on March 28, 2020.

"Certain antiretroviral treatments for HIV can increase LDL-C and change the lipid makeup of people living with HIV. This study increases our overall evidence base for Repatha, but also provides us with a better understanding of cholesterol management for this under-represented patient population," said David M. Reese, M.D., executive vice president of Research and Development at Amgen. "These positive results show that Repatha can help these patients lower their LDL-C, one of the most important modifiable risk factors for cardiovascular disease."

Results from the double-blind 24-week study show that in people living with HIV (PLHIV) with hypercholesterolemia or mixed dyslipidemia, monthly treatment with Repatha reduced LDL-C by 56.9% from baseline compared to placebo, meeting its primary endpoint.<sup>1</sup> Patients treated with Repatha also demonstrated improved secondary outcomes versus placebo with 71.9% of patients achieving an LDL-C reduction of more than or equal to 50% from baseline and 65.4% of patients achieving an LDL-C of less than 70 mg/dL.<sup>1</sup> No new safety concerns were identified in the BEIJERINCK trial.<sup>1</sup> The subject incidence of treatment-emergent adverse events was comparable among both groups.<sup>1</sup>

"Professional guidelines, including most recently those from the European Society of Cardiology and the European Atherosclerosis Society, have called for greater research into the efficacy and safety of PCSK9 inhibitors in specific populations, like people living with HIV. The American Heart Association and American College of Cardiology multi-society cholesterol guidelines also identify HIV infection as a cardiovascular risk-enhancing factor," said Professor Franck Boccard, M.D., PhD, cardiologist and primary study investigator, Sorbonne Université, Paris. "This is the first Phase 3 study to demonstrate that a PCSK9 inhibitor can effectively and safely reduce LDL-C in people living with HIV at risk for cardiovascular disease who have high cholesterol level despite statin treatment. Addressing uncontrolled LDL-C in this high-risk patient population is critical to maintain the progress that has been achieved in improving the lives of people living with HIV."

Approximately 38 million individuals live with HIV worldwide, with 1.1 million in the United States.<sup>2,3</sup> Cardiovascular (CV) risk is estimated to be nearly double in PLHIV compared to individuals who don't have HIV, and PLHIV face significant health challenges at earlier ages than people who don't have HIV.<sup>4</sup> The global burden of HIV-associated cardiovascular disease has tripled over the past two decades, and it will continue to increase as the population of individuals living with HIV ages.<sup>5</sup> Today, 75 percent of PLHIV are over age 45.<sup>6</sup>

The Phase 3b BEIJERINCK study is part of Amgen's PROFICIO (Program to Reduce LDL-C and cardiovascular Outcomes Following Inhibition of PCSK9 in different populations) program of clinical and real-world evidence (RWE) studies investigating the impact of Repatha and examining the use of lipid-lowering therapies across different patient populations. To date, the PROFICIO program consists of 35 clinical trials including more than 41,000 patients worldwide and more than 80 real-world evidence studies.

#### About BEIJERINCK Study Design

Evolocumab Effect on LDL-C Lowering in Subjects with Human Immunodeficiency Virus and Increased Cardiovascular Risk (BEIJERINCK) is a double-blind, randomized, placebo-controlled study designed to evaluate the efficacy and safety of 420 mg once-monthly treatment with evolocumab in HIV+ patients with hyperlipidemia or mixed dyslipidemia over 24 weeks. The study enrolled 467 adults with known HIV infection who have received stable HIV therapy for six months or more prior to randomization and have also been treated with maximally tolerated lipid-lowering therapy for four weeks or longer prior to randomization. Both background therapies were not expected to change during the duration of study participation. Statin-intolerant patients were also eligible for the study. Evolocumab-treated patients who completed the 24-week double-blind treatment period were enrolled in an open-label period through the end of the study at week 52.

#### About Repatha® (evolocumab)

Repatha is a human monoclonal antibody that inhibits proprotein convertase subtilisin/kexin type 9 (PCSK9). Repatha binds to PCSK9 and inhibits circulating PCSK9 from binding to the low-density lipoprotein (LDL) receptor (LDLR), preventing PCSK9-mediated LDLR degradation and permitting LDLR to recycle back to the liver cell surface. By inhibiting the binding of PCSK9 to LDLR, Repatha increases the number of LDLRs available to clear LDL from the blood, thereby lowering LDL-C levels.<sup>7</sup>

Repatha is approved in more than 70 countries, including the U.S., Japan, Canada and in all 28 countries that are members of the European Union. Applications in other countries are pending.

#### Important U.S. Product Information

Repatha is a PCSK9 (proprotein convertase subtilisin/kexin type 9) inhibitor antibody indicated:

- to reduce the risk of myocardial infarction, stroke, and coronary revascularization in adults with established cardiovascular disease.

- as an adjunct to diet, alone or in combination with other lipid-lowering therapies (e.g., statins, ezetimibe), for treatment of adults with primary hyperlipidemia (including heterozygous familial hypercholesterolemia [HeFH]) to reduce low-density lipoprotein cholesterol (LDL-C).
- as an adjunct to diet and other LDL-lowering therapies (e.g., statins, ezetimibe, LDL apheresis) in patients with homozygous familial hypercholesterolemia (HoFH) who require additional lowering of LDL-C.

The safety and effectiveness of Repatha have not been established in pediatric patients with HoFH who are younger than 13 years old or in pediatric patients with primary hyperlipidemia or HeFH.

### Important U.S. Safety Information

**Contraindication:** Repatha is contraindicated in patients with a history of a serious hypersensitivity reaction to Repatha. Serious hypersensitivity reactions including angioedema have occurred in patients treated with Repatha.

**Allergic reactions:** Hypersensitivity reactions (e.g. angioedema, rash, urticaria) have been reported in patients treated with Repatha, including some that led to discontinuation of therapy. If signs or symptoms of serious allergic reactions occur, discontinue treatment with Repatha, treat according to the standard of care, and monitor until signs and symptoms resolve.

**Adverse reactions:** The most common adverse reactions (>5% of patients treated with Repatha and occurring more frequently than placebo) were: nasopharyngitis, upper respiratory tract infection, influenza, back pain, and injection site reactions.

From a pool of the 52-week trial and seven 12-week trials: Local injection site reactions occurred in 3.2% and 3.0% of Repatha-treated and placebo-treated patients, respectively. The most common injection site reactions were erythema, pain, and bruising.

Allergic reactions occurred in 5.1% and 4.7% of Repatha-treated and placebo-treated patients, respectively. The most common allergic reactions were rash (1.0% versus 0.5% for Repatha and placebo, respectively), eczema (0.4% versus 0.2%), erythema (0.4% versus 0.2%), and urticaria (0.4% versus 0.1%).

The most common adverse reactions in the Cardiovascular Outcomes Trial (>5% of patients treated with Repatha and occurring more frequently than placebo) were: diabetes mellitus (8.8% Repatha, 8.2% placebo), nasopharyngitis (7.8% Repatha, 7.4% placebo), and upper respiratory tract infection (5.1% Repatha, 4.8% placebo).

Among the 16,676 patients without diabetes mellitus at baseline, the incidence of new-onset diabetes mellitus during the trial was 8.1% in patients assigned to Repatha compared with 7.7% in those assigned to placebo.

**Homozygous Familial Hypercholesterolemia (HoFH):** The adverse reactions that occurred in at least two patients treated with Repatha and more frequently than placebo were: upper respiratory tract infection, influenza, gastroenteritis, and nasopharyngitis.

**Immunogenicity:** Repatha is a human monoclonal antibody. As with all therapeutic proteins, there is a potential for immunogenicity with Repatha.

Please contact Amgen Medinfo at 800-77-AMGEN (800-772-6436) or 844-REPATHA (844-737-2842) regarding Repatha® availability or find more information, including full [Prescribing Information](#), at [www.amgen.com](http://www.amgen.com) and [www.Repatha.com](http://www.Repatha.com).

### About Amgen in the Cardiovascular Therapeutic Area

Building on more than three decades of experience in developing biotechnology medicines for patients with serious illnesses, Amgen is dedicated to addressing important scientific questions to advance care and improve the lives of patients with cardiovascular disease, the leading cause of morbidity and mortality worldwide. Amgen's research into cardiovascular disease, and potential treatment options, is part of a growing competency at Amgen that utilizes human genetics to identify and validate certain drug targets. Through its own research and development efforts, as well as partnerships, Amgen is building a robust cardiovascular portfolio consisting of several approved and investigational molecules in an effort to address a number of today's important unmet patient needs, such as high cholesterol and heart failure.

### 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 biologics manufacturing 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 the world's largest independent biotechnology company, has reached millions of patients around the world and is developing a pipeline of medicines with breakaway potential.

For more information, visit [www.amgen.com](http://www.amgen.com) and follow us on [www.twitter.com/amgen](https://www.twitter.com/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 with any other company, including BeiGene, Ltd., or the Otezla® (apremilast) acquisition, including anticipated Otezla sales growth and the timing of non-GAAP EPS accretion, 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 such as the ongoing COVID-19 pandemic on our business, 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 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. A breakdown, cyberattack or information security breach 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 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.

The scientific information discussed in this news release relating to any 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.

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## References

1. Bocarra F., et al. Evolocumab Use in Patients With Human Immunodeficiency Virus and Dyslipidemia: Primary Results of a Double-Blind, Placebo-Controlled Study (BEIJERINCK). To be presented at ACC Scientific Sessions, Abstract Number 913-08 (2020).
2. World Health Organization. HIV/AIDS. Available at: <https://www.who.int/gho/hiv/en/>. Accessed February 2020.
3. Centers for Disease Control and Prevention. HIV Surveillance Report, 2018 (Preliminary); vol. 30. Available at: <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Accessed February 2020.
4. Centers for Disease Control and Prevention. Estimated HIV incidence and prevalence in the United States, 2010–2016. HIV Surveillance Supplemental Report 2019;24(No. 1). Available at: <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Accessed February 2020.
5. Shah AS., et al. Global Burden of Atherosclerotic Cardiovascular Disease in People Living With HIV. *Circulation*. 2018;138:1100–1112.
6. American Heart Association. People living with HIV face premature heart disease and barriers to care. Available at: <https://newsroom.heart.org/news/people-living-with-hiv-face-premature-heart-disease-and-barriers-to-care>. Accessed February 2020.
7. Repatha Prescribing Information; Amgen, Thousand Oaks, CA, 2018.



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