Amgen Announces Top-Line Results Of Phase 3 Aranesp® (darbepoetin alfa) RED-HF® Trial

January 16, 2013

THOUSAND OAKS, Calif., Jan. 16, 2013 /PRNewswire/ -- Amgen (NASDAQ:AMGN) today announced top-line results of the Phase 3 Aranesp® (darbepoetin alfa) RED-HF® (Reduction of Events With Darbepoetin Alfa in Heart Failure) Trial. The trial was initiated in 2006, and a total of 2,278 patients with symptomatic systolic heart failure and anemia (hemoglobin levels ranging from 9.0-12.0 g/dL) were randomized to receive either treatment with Aranesp to achieve a target hemoglobin of at least 13.0 g/dL (not to exceed 14.5 g/dL), or placebo. The study did not meet its primary endpoint of reducing the composite endpoint of time to death from any cause or first hospital admission for worsening heart failure (Hazard Ratio 1.01, 95 percent CI 0.90, 1.13).

"The RED-HF Trial was designed and powered to evaluate whether the treatment of anemia could improve morbidity and mortality in systolic heart failure patients," said Michael Severino, M.D., senior vice president of Global Development and corporate chief medical officer at Amgen. "While the study did not meet its key endpoints, we thank the patients and investigators who participated in RED-HF and helped answer this important question."

There were no new safety findings identified in the study. The most frequently reported adverse events in the study were cardiac failure, dyspnea, diarrhea, congestive heart failure and dizziness.

These summary results will be followed by full efficacy and safety analyses, which will be shared and discussed with global regulatory agencies and submitted for presentation at an upcoming medical meeting.

Aranesp is indicated for the treatment of anemia due to chronic kidney disease in patients on dialysis and not on dialysis, and for the treatment of anemia in patients with non-myeloid malignancies where anemia is due to the effect of concomitant myelosuppressive chemotherapy, and upon initiation, there is a minimum of two additional months of planned chemotherapy. Aranesp has not been shown to improve quality of life, fatigue or patient well-being.

RED-HF Trial Design

The RED-HF Trial is a large, event-driven, global, randomized, double-blind, placebo-controlled, Phase 3 study designed and powered to evaluate the effect of treatment with Aranesp on mortality and heart failure hospitalization. The primary endpoint of the study was the composite of time to death from any cause or first hospital admission for worsening heart failure in patients with symptomatic left ventricular systolic dysfunction and anemia. Secondary endpoints include time to death from any cause; time to cardiovascular death or first hospital admission for worsening heart failure, whichever occurs first; change from baseline to month 6 in Kansas City Cardiomyopathy Questionnaire (KCCQ) Overall Summary Score; and change from baseline in KCCQ Symptom Frequency Score.

Patients with New York Heart Association (NYHA) class II, III or IV heart failure, left ventricular ejection fraction less than or equal to 40 percent, and hemoglobin greater than or equal to 9.0 g/dL and less than or equal to 12.0 g/dL were randomized 1:1 to receive subcutaneous Aranesp or placebo. The dose of Aranesp was titrated to gradually achieve and maintain a hemoglobin concentration of at least 13.0 g/dL, not to exceed 14.5 g/dL. Investigational product was administered initially every two weeks and extended to every month when patients were stable in the hemoglobin target range. The RED-HF Trial was monitored by an independent Data Monitoring Committee, which reviewed the study data on a quarterly basis throughout the duration of the trial.

About Aranesp

Aranesp was approved by the U.S. Food and Drug Administration (FDA) in 2001 for the treatment of anemia associated with chronic renal failure (CRF) for patients on dialysis and patients not on dialysis. The European Commission granted marketing authorization for the same indication in 2001 and subsequently updated it for CRF patients with symptomatic anemia in 2008.

In 2002, the FDA approved Aranesp for the treatment of anemia caused by concomitantly administered chemotherapy in patients with non-myeloid malignancies.

The European Commission authorized the treatment of anemia caused by concomitantly administered chemotherapy in patients with non-haematological malignancies in 2002 and extended it to include non-myeloid malignancies in patients receiving chemotherapy in 2003.

For full prescribing information outside of the U.S., including important safety information, please refer to local product labeling.

Important U.S. Aranesp Product Safety Information

Aranesp is indicated for the treatment of anemia due to chronic kidney disease in patients on dialysis and not on dialysis, and for the treatment of anemia in patients with non-myeloid malignancies where anemia is due to the effect of concomitant myelosuppressive chemotherapy, and upon initiation, there is a minimum of two additional months of planned chemotherapy. Aranesp has not been shown to improve quality of life, fatigue, or patient well-being. It is not indicated in patients with cancer receiving hormonal agents, biologic products, or radiotherapy, unless also receiving concomitant myelosuppressive chemotherapy; in patients with cancer receiving myelosuppressive chemotherapy when the anticipated outcome is cure or as a substitute for RBC transfusions in patients who require immediate correction of anemia.

WARNINGS: ESAs INCREASE THE RISK OF DEATH, MYOCARDIAL INFARCTION, STROKE, VENOUS THROMBOEMBOLISM, THROMBOSIS OF VASCULAR ACCESS AND TUMOR PROGRESSION OR RECURRENCE.

Chronic Kidney Disease:

- **In controlled trials, patients experienced greater risks for death, serious adverse cardiovascular reactions, and**

stroke when administered erythropoiesis-stimulating agents (ESAs) to target a hemoglobin level of greater than 11 g/dL.

- **No trial has identified a hemoglobin target level, Aranesp® dose, or dosing strategy that does not increase these risks.**
- **Use the lowest Aranesp® dose sufficient to reduce the need for red blood cell (RBC) transfusions.**

Cancer:

- **ESAs shortened overall survival and/or increased the risk of tumor progression or recurrence in clinical studies of patients with breast, non-small cell lung, head and neck, lymphoid, and cervical cancers.**
- **Because of these risks, prescribers and hospitals must enroll in and comply with the ESA APPRISE Oncology Program to prescribe and/or dispense Aranesp® to patients with cancer. To enroll in the ESA APPRISE Oncology Program, visit www.esa-apprise.com or call 1-866-284-8089 for further assistance.**
- **To decrease these risks, as well as the risk of serious cardiovascular and thromboembolic reactions, use the lowest dose needed to avoid RBC transfusions.**
- **Use ESAs only for anemia from myelosuppressive chemotherapy.**
- **ESAs are not indicated for patients receiving myelosuppressive chemotherapy when the anticipated outcome is cure.**
- **Discontinue following the completion of a chemotherapy course.**

For the full U.S. prescribing information, click here.

About Amgen

Amgen discovers, develops, manufactures and delivers innovative human therapeutics. A biotechnology pioneer since 1980, Amgen was one of the first companies to realize the new science's promise by bringing safe, effective medicines from lab to manufacturing plant to patient. Amgen therapeutics have changed the practice of medicine, helping millions of people around the world in the fight against cancer, kidney disease, rheumatoid arthritis, bone disease and other serious illnesses. With a deep and broad pipeline of potential new medicines, Amgen remains committed to advancing science to dramatically improve people's lives. To learn more about our pioneering science and vital medicines, visit www.amgen.com. Follow us on www.twitter.com/amgen.

Forward-Looking Statements

This news release contains forward-looking statements that are based on management's current expectations and beliefs and are subject to a number of risks, uncertainties and assumptions that could cause actual results to differ materially from those described. All statements, other than statements of historical fact, are statements that could be deemed forward-looking statements, including 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 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 (SEC) reports filed by Amgen, including Amgen's most recent annual report on Form 10-K and most recent periodic reports on Form 10-Q and Form 8-K. Please refer to Amgen's most recent Forms 10-K, 10-Q and 8-K for additional information on the uncertainties and risk factors related to our business. Unless otherwise noted, Amgen is providing this information as of Jan. 16, 2013 and expressly disclaims any duty to update information contained in this news release.

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. 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 after they are on the market. Our business may be impacted by government investigations, litigation and products liability claims. We depend on third parties for a significant portion of our manufacturing capacity for the supply of certain of our current and future products and limits on supply may constrain sales of certain of our current products and product candidate development.

In addition, sales of our products are affected by the reimbursement policies imposed by third-party payors, 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 as well as U.S. legislation affecting pharmaceutical pricing and reimbursement. Government and others' regulations and reimbursement policies may affect the development, usage and pricing of our products. In addition, we compete with other companies with respect to some of our marketed products as well as for the discovery and development of new products. We believe that some of our newer products, product candidates or new indications for existing products, may face competition when and as they are approved and marketed. Our products may compete against products that have lower prices, established reimbursement, superior performance, are easier to administer, or that are otherwise competitive with our products. In addition, 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 and there can be no guarantee of our ability to obtain or maintain patent protection for our products or product candidates. We cannot guarantee that we will be able to produce commercially successful products or maintain the commercial success of our existing products. Our stock price may be affected by actual or perceived market opportunity, competitive position, and success or failure of our products or product candidates. Further, 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.

The 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 (FDA) 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. Only the FDA can determine whether the products are safe and effective for these uses. Healthcare professionals should refer to and rely upon the FDA-approved labeling for the products, and not the information discussed in this news release.

CONTACT: Amgen, Thousand Oaks
Ashleigh Koss, 805-313-6151 (media)
Arvind Sood, 805-447-1060 (investors)

(Logo: http://photos.prnewswire.com/prnh/20081015/AMGENLOGO)

SOURCE Amgen