Study Published in New England Journal of Medicine Shows Nplate(R) Significantly Reduces Treatment Failure and Splenectomy Rate in Patients With Chronic ITP

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THOUSAND OAKS, Calif., Nov. 10, 2010 /PRNewswire via COMTEX/ --

Amgen Inc. (Nasdaq: AMGN) today announced the publication of results from the first open-label study to compare Nplate(R) (romiplostim) treatment to standard of care therapies (SOC) in non-splenectomized adult patients with chronic immune thrombocytopenia (ITP). The study results, which were published today in the *New England Journal of Medicine* (NEJM), show that both the incidence of treatment failure and need for splenectomy were reduced among the Nplate-treated patients. Data also showed that patients receiving SOC therapies required splenectomies earlier when compared with patients treated with Nplate. Additionally, patients in the Nplate group experienced increased platelet counts, higher platelet response rates, less bleeding, and fewer blood transfusions compared to patients in the SOC group. Adverse events associated with Nplate treatment were similar to those in previous studies, were generally mild or moderate in severity, and did not result in treatment discontinuation. Headache and fatigue were the most commonly reported adverse events.

"This is the first study to compare a variety of ITP treatments and demonstrated that Nplate not only maintained platelet counts more effectively than standard medical treatments, but also reduced overall treatment failure and splenectomies," said Dr. David J. Kuter, head of Hematology, Massachusetts General Hospital, Boston, and lead investigator and study author.

Chronic ITP is a serious autoimmune disorder characterized by low platelet counts in the blood (thrombocytopenia), which can lead to serious bleeding events.

Nplate Study Meets Co-Primary Endpoints

The year-long, open-label study had two co-primary endpoints: the incidence of treatment failure and the incidence of splenectomy.

- **Incidence of Treatment Failure:** The Nplate group had a significantly lower incidence of treatment failure. Results showed that 11 percent of Nplate patients (18/157) experienced treatment failure compared with 30 percent of SOC patients (23/77) (p=0.001; odds ratio 0.31, 95 percent CI, 0.15-0.61).
- Treatment failures were defined as patients having platelet counts less than or equal to 20,000 platelets per microliter for four consecutive weeks at the highest recommended dose and schedule, a major bleeding event, and/or a change in therapy due to intolerable side effects or bleeding symptoms. Patients who required a splenectomy due to intolerable side effects or bleeding symptoms were also counted as treatment failures.
- **Incidence of Splenectomy:** Nplate patients had a significantly lower incidence of splenectomy. Nine percent of Nplate patients (14/157) underwent splenectomy compared with 36 percent of patients (28/77) in the SOC group (p<0.001, odds ratio 0.17, 95 percent CI, 0.08-0.35).

Patients were enrolled into the study from North America, Europe, and Australia. Geographical regions had no effect on either incidence of treatment failure or splenectomy.

Nplate Study Meets Secondary Endpoints

Secondary endpoints of the study included time to splenectomy, platelet counts, and platelet response.

- **Time to Splenectomy:** Patients receiving Nplate experienced a significantly longer time to splenectomy than did SOC-treated patients (p<0.001).
- **Platelet Count:** The mean platelet count was higher in the Nplate group than the SOC group throughout the treatment period.
- **Platelet Response:** The platelet response rate (a weekly platelet count greater than 50,000 platelets per microliter) was 2.3 times greater in Nplate-treated patients than in SOC-treated patients (p<0.001).
- Between weeks two and 52, the percentage of patients with a platelet response ranged from 71 percent (108/152) to 92 percent (127/138) in the Nplate group (median platelet count: 108,000 to 176,000 platelets per microliter) and between 26 percent (16/62) and 51 percent (26/51) in the SOC group (median platelet count: 35,000 to 52,000 platelets per microliter).

"For many adult chronic ITP patients, the side effects of some SOC treatments, including splenectomies, are often more debilitating than the disease itself," said Professor Mathias Rummel, head of hematology at the Hospital of the Justus-Liebig University, Giessen, Germany. "Nplate may offer the potential for long-term effective treatment in patients who wish either to avoid or defer a splenectomy."

Nplate Study Shows Favorable Benefit: Risk Profile for Chronic ITP Patients

The safety profile was also comparable between patients receiving Nplate and those receiving SOC according to results from the study.

- **Bleeding Events:** There was a statistically significant lower exposure-adjusted incidence of overall bleeding events (p=0.001) and lower incidence of bleeding events with a severity grade of three or greater (p=0.02) in patients treated with Nplate compared to the SOC group.

- **Blood Transfusions**: Forty-one blood transfusions were administered to 8 percent of Nplate patients (12/154) compared to 76 transfusions to 16 percent of SOC patients (12/75).

More than 90 percent of patients in both groups reported at least one adverse event during the treatment period. Headache and fatigue were the most commonly reported adverse events. Fewer patients in the Nplate group experienced a serious adverse event than the SOC group. Serious adverse events occurred in 23 percent (35/154) of patients who received Nplate and 37 percent (28/75) of patients who received SOC. Likewise, treatment-related serious adverse events occurred in fewer Nplate-treated patients (5 percent, 7/154) compared with 8 percent (6/75) of the SOC-treated patients. The most common serious adverse event was thrombocytopenia which occurred in 3 percent (5/154) of Nplate-treated patients and 12 percent (9/75) of SOC-treated patients. Two hematologic malignancies occurred in SOC-treated patients.

About the Study

The open-label study enrolled a total of 234 patients and assessed the efficacy and safety of Nplate compared to SOC treatments for adult patients with chronic ITP. SOC treatments were prescribed by the investigator according to standard institutional practices or therapeutic guidelines; the only treatments not allowed were investigational agents or other thrombopoietic agents. Although not FDA or European Medicines Agency-approved for treatment of chronic ITP, rituximab was allowed as it has compendia listing and is widely regarded as a SOC treatment for chronic ITP. The most commonly used treatments in the SOC arm were: glucocorticoids (63 percent), immunoglobulins (33 percent), rituxumab (20 percent), azathioprine (9 percent), and danazol (7 percent).

About Adult ITP

In patients with ITP, platelets - blood elements needed to prevent bleeding - are destroyed by the patient's own immune system. Recent data also suggest that low platelet counts in the blood may be caused by the inability of the body's natural processes to produce platelets. Low platelet counts leave adult ITP patients open to sudden serious bleeding events. The risk for serious bleeding events increases when platelet counts drop to less than 30,000 platelets per microliter; normal counts range from 150,000 to 400,000 platelets per microliter. ITP has historically been considered a disease of platelet destruction although recent data suggest that the body's natural platelet production processes in ITP are unable to compensate for low levels of platelets in the blood. Increasing the rate of platelet production may address low platelet levels associated with ITP.

Some other available treatments (e.g., corticosteroids, immunoglobulins) are often unsuitable for long-term use due to tolerability issues and poor predictability of response.Surgical therapy (removal of the spleen) can be an option for many adult patients with chronic ITP, but does not work in all cases, and can be contraindicated in certain cases.Currently, there are approximately 90,000 adult chronic ITP patients in Europe and the United States (U.S.). ITP affects about twice as many adult women as men.

Nplate is only indicated to treat adult chronic ITP. Nplate is currently under investigation for children ages 12 months to 18 years old with persistent severe thrombocytopenia.

About Nplate

Nplate is the first platelet producer approved in the European Union (EU), Canada, Australia, Russia, Mexico and the U.S. Nplate also has received orphan designation for chronic ITP in the U.S. (2003), the EU (2005), Switzerland (2005), Japan (2006) and Mexico (2010).

Nplate is the first treatment specifically developed for adult chronic ITP. It is also being investigated for potential use in pediatric ITP, myelodysplastic syndromes (MDS) and chemotherapy-induced thrombocytopenia (CIT).

Nplate was named as a recipient of the U.S. Prix Galien2009 "Best Biotechnology Product" award and also received the 2009 Scrip Awards for "Best New Drug." Nplate has also been honored with numerous awards throughout the EU, including a 2010 Prix Galien in France in the category of "Drugs for Rare Diseases." Most recently, Nplate was awarded the 2010 International Prix Galien Award for Best Pharmaceutical Research and Development.

For more information about Nplate, please visit www.Nplate.com.

U.S. Nplate Indication

In the U.S., Nplate is indicated for the treatment of thrombocytopenia in patients with chronic immune ITP who have had an insufficient response to corticosteroids, immunoglobulins or splenectomy. Nplate should be used only in patients with ITP whose degree of thrombocytopenia and clinical condition increases the risk for bleeding. Nplate should not be used in an attempt to normalize platelet counts.

EU Nplate Indication

In the EU, Nplate is indicated for the treatment of splenectomized adult chronic ITP patients who are refractory to other treatments (e.g. corticosteroids, immunoglobulins). Nplate may be considered as a second-line treatment for adult non-splenectomized ITP patients for whom surgery is contraindicated.

Important U.S. Nplate Safety Information

Serious adverse reactions associated with Nplate in clinical studies were bone marrow reticulin deposition and worsening thrombocytopenia after Nplate discontinuation. Additional risks include bone marrow fibrosis, thrombotic/thromboembolic complications, lack or loss of response to Nplate, and hematological malignancies and progression of malignancy in patients with a pre-existing hematological malignancy or MDS. Nplate is not indicated for the treatment of thrombocytopenia due to MDS or any cause of thrombocytopenia other than chronic ITP.

In the U.S., Nplate is available only through a restricted distribution program called Nplate(R) NEXUS (Network of Experts Understanding and Supporting Nplate and Patients) Program.

In the placebo-controlled studies, headache was the most commonly reported adverse drug reaction.

Important EU Nplate Safety Information

The most common side effects are headache, fatigue, arthralgia, myalgia, injection site bruising, injection site pain, oedema peripheral, dizziness, muscle spasms, nausea, contusion, diarrhea, bone marrow disorder, influenza-like illness, insomnia and pruritus.

Reoccurrence of thrombocytopenia and bleeding after cessation of treatment and increased bone marrow reticulin have been associated with Nplate treatment in the clinical trials. Thrombotic/thromboembolic complications, progression of existing hematopoietic malignancies or MDS, and effects on red and white blood cells are all potential risks associated with Nplate treatment. As with all therapeutic proteins, patients may develop antibodies to the therapeutic protein.

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 and 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 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 our vital medicines, visit www.amgen.com.

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 Nov. 10, 2010 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 related to our product candidates is preliminary and investigative. Such product candidates are not approved by the U.S. Food and Drug Administration (FDA), and no conclusions can or should be drawn regarding the safety or effectiveness of the product candidates. Only the FDA can determine whether the product candidates are safe and effective for the use(s) being investigated. Further, 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 theinvestigational use(s) discussed in this news release, and no conclusions can or should be drawn regarding the safety or effectiveness of the products for theseuses. Only the FDA can determine whether the products are safe and effective for these uses. Healthcareprofessionals shouldrefer to and rely upon the FDA-approved labeling for the products, and not the information discussed in this news release.

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