



Denosumab Demonstrated Superiority Over Zometa(R) in Delay of Complications Due to Bone Metastases in Advanced Prostate Cancer

June 5, 2010

The Third Of Three Pivotal Head-To-Head Trials Submitted To FDA For Treatment Of Patients With Bone Metastases

THOUSAND OAKS, Calif., June 5, 2010 /PRNewswire via COMTEX/ --Amgen (Nasdaq: AMGN) today announced detailed results from a Phase 3, head-to-head trial which compared the efficacy and safety of denosumab versus Zometa(R) (zoledronic acid) in 1,901 patients with hormone-refractory prostate cancer and bone metastases. The study met its primary and secondary endpoints and demonstrated denosumab's superiority over Zometa in delaying or preventing skeletal related events (SREs). These statistically significant results will be presented in an oral session on June 6, 2010 at the American Society of Clinical Oncology (ASCO) 2010 Annual Meeting in Chicago (Late Breaking Abstract Number #LBA4507).

In patients with skeletal metastases, the growing cancer cells weaken and destroy the bone around the tumor. This can result in a number of serious complications, collectively called SREs, comprising fracture, radiation to bone, surgery to bone or spinal cord compression. All can be serious complications for advanced cancer patients.

In this study, denosumab was superior to Zometa in significantly delaying the time to first on-study SRE (hazard ratio 0.82, 95 percent CI: 0.71, 0.95; P = 0.008) with a median time to first on-study SRE of 20.7 months versus 17.1 months for Zometa. Denosumab was also superior to Zometa in significantly delaying the development of multiple SREs (time to first and subsequent on-study SRE) (hazard ratio 0.82, 95 percent CI: 0.71, 0.94; P = 0.004).

"Bone metastases are debilitating complications of prostate cancer, affecting up to 75 percent of advanced prostate cancer patients," said Karim Fizazi, M.D., Ph.D., Head of the Department of Medical Oncology, Institut Gustave-Roussy, Villejuif, France. "Denosumab showed superior efficacy in preventing skeletal complications, and was generally well tolerated. These results in conjunction with the convenient subcutaneous dosing and without the need for renal monitoring, show that denosumab has the potential to be a meaningful advance over current treatments."

Overall rates of adverse events (AEs) and serious adverse events, including infections, were generally similar between the two arms. Osteonecrosis of the jaw (ONJ) was infrequent (22 patients receiving denosumab (2.3 percent) as compared with 12 patients receiving Zometa (1.3 percent)); the incidence of ONJ was not significantly different between treatment arms. As with previous studies in advanced cancer patients, hypocalcemia was more frequent in the denosumab arm. Both overall survival (hazard ratio 1.03, 95 percent CI: 0.91, 1.17; P=0.65) and the time to cancer progression (hazard ratio 1.06, 95 percent CI: 0.95, 1.18; P=0.30) were balanced between treatment arms. The most common AEs for denosumab were anemia, back pain, and nausea, and the most common AEs for Zometa were anemia, back pain, and decreased appetite.

This study is the final of three pivotal trials involving over 5,700 advanced cancer patients that explored the potential of denosumab to treat bone metastases. These three studies form the basis of the clinical evidence package for denosumab in advanced cancer, and were submitted to regulatory authorities in the United States (U.S.) and in the European Union (EU).

Study Design

This study was an international, Phase 3, randomized, double-blind study comparing denosumab with Zometa in the treatment of bone metastases in patients with advanced prostate cancer. Patients enrolled in the study were randomized in a one-to-one ratio to receive either 120 mg of denosumab subcutaneously every four weeks (Q4W) or Zometa administered intravenously as at least a 15 minute infusion at a dose of 4 mg every four weeks as per the labeled instructions. The study consisted of 1,901 patients, mean age of 71, who had bone metastases from hormone-refractory prostate cancer.

In clinical trials testing new medications for bone metastases, treatment success has been measured by whether the bone complications, or SREs, caused by the bone metastases are reduced or delayed. The primary and secondary endpoints of the denosumab bone metastases studies used a composite endpoint of four SREs - fracture, radiation to bone, surgery to bone, and spinal cord compression - to measure the effectiveness of denosumab versus Zometa.

The primary endpoint was to evaluate if denosumab is non-inferior to Zometa with respect to the first on-study SRE in patients with advanced prostate cancer and bone metastases. Secondary endpoints were to evaluate if denosumab was superior to Zometa with respect to the first on-study SRE, as well as first-and-subsequent on-study SREs, and to assess the safety and tolerability of denosumab compared with Zometa.

Webcast Information

Amgen will hold an analyst/investor event at a local venue in Chicago on Monday, June 7 at 7:30 p.m. Central Time to discuss data presented at ASCO. A webcast of the event can be found on Amgen's website at <http://www.amgen.com/>, under Investors. The audio webcast will be archived and available for replay for at least 72 hours.

Bone Metastases: Prevalence and Impact

Bone metastases occur in more than 1.5 million patients with cancer worldwide and are most commonly associated with cancers of the prostate, lung, and breast, with incidence rates as high as 75 percent of patients with metastatic disease. [i]

The economic burden of U.S. patients with bone metastases is significant and is estimated to be \$12.6 billion annually[ii]. Patients with bone metastases who experience an SRE incur significantly higher medical costs compared with those who do not experience an SRE [iii].

About Denosumab and Amgen's Research in Bone Biology

Denosumab is the first fully human monoclonal antibody in late stage clinical development that specifically targets RANK Ligand, the essential

regulator of osteoclasts (the cells that break down bone). The denosumab development program is the largest ever initiated by Amgen. This broad and deep development program demonstrates Amgen's commitment to researching and delivering pioneering medicines to patients with unmet medical needs. Amgen is studying denosumab in numerous tumor types across the spectrum of cancer-related bone diseases. Over 11,000 patients have been enrolled in the denosumab oncology clinical trials, testing the drug for the reduction of SREs in patients with breast and prostate cancer, as well as other solid tumors and multiple myeloma, for the amelioration of treatment-induced bone loss in patients with non-metastatic breast or prostate cancers, and for its potential to delay bone metastases in prostate cancer.

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 <http://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 June 5, 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 health care 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

Lisa Rooney: + 1 (805) 559-0739 (media)

Arvind Sood: +1 (805) 447-1060 (investors)

[i] Coleman RE. Skeletal complications of malignancy. *Cancer Suppl.* 1997; 80(8):1588

[ii] Schulman K and Kohles J. *Cancer.* 2007;109:2334-2342.

[iii] GVD/Barber ISPOR 2008 Poster; Schulman 2007; Delea et al. 2006.

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

SOURCE Amgen