



## Amgen And UCB Submit Biologics License Application For Romosozumab To The FDA

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### Based on Phase 3 FRAME Study in Postmenopausal Women With Osteoporosis

THOUSAND OAKS, Calif. and BRUSSELS, July 21, 2016 /PRNewswire/ -- Amgen (NASDAQ:AMGN) and UCB (Euronext Brussels: UCB) today announced the submission of a Biologics License Application (BLA) to the U.S. Food and Drug Administration (FDA) for romosozumab, an investigational monoclonal antibody for the treatment of osteoporosis in postmenopausal women at increased risk of fracture. Romosozumab works by binding and inhibiting sclerostin, a protein naturally occurring in the bone, thereby increasing bone formation and decreasing bone resorption.

"Osteoporosis is a large public health problem yet is often overlooked, even in patients who have already experienced an osteoporotic fracture,"<sup>1,2</sup> said Sean E. Harper, M.D., executive vice president of Research and Development at Amgen. "This BLA submission is an exciting milestone; romosozumab has the potential to reduce the risk of fractures and help patients suffering from this serious disease."

The BLA for romosozumab is based on data from the pivotal Phase 3 placebo-controlled **FR**acture study in postmenopausal wo**M**en with osteo**P**orosis (FRAME) in approximately 7,200 patients. Amgen and UCB plan to present results from the FRAME clinical trial at an upcoming medical congress.

"Osteoporosis is a chronic disease, largely asymptomatic, and often undetected until a fragility fracture occurs.<sup>1,3,4</sup> Many patients often view fragility fractures as part of aging,<sup>5</sup> but these fractures are an indication of a weakened skeleton and a signal for intervention with medication," said Dr. Pascale Richetta, head of bone and executive vice president, UCB. "We are pleased to submit the first regulatory submission for romosozumab and are committed to seeking global regulatory approvals in the hopes of making this important therapy available for appropriate patients at increased risk of fracture."

Osteoporosis-related fragility fractures are common.<sup>1,6</sup> In the United States, one in two women over the age of 50 will experience an osteoporotic fracture.<sup>7</sup> Data shows that only 20 percent of women who have experienced a fracture receive any type of osteoporosis treatment during the first year post fracture.<sup>1</sup>

#### About Romosozumab

Romosozumab is an investigational bone-forming agent and is not approved by any regulatory authority for the treatment of osteoporosis. It is designed to work by inhibiting the protein sclerostin, and has a dual effect on bone, both increasing bone formation and decreasing bone breakdown. Romosozumab is being studied for its potential to reduce the risk of fractures in an extensive global Phase 3 program. This program includes two large fracture trials comparing romosozumab to either placebo or active comparator in more than 10,000 postmenopausal women with osteoporosis. Amgen and UCB are co-developing romosozumab.

#### About the FRAME study

FRAME is a multi-center, international, randomized, double-blind, placebo-controlled, parallel-group study in postmenopausal women with osteoporosis, defined as low bone mineral density at the total hip or femoral neck. The study evaluated the effectiveness of romosozumab treatment, compared with placebo, in reducing the risk of new vertebral fractures through 12 months. The study also further evaluated if romosozumab treatment for 12 months followed by denosumab treatment for 12 months, compared with placebo followed by denosumab treatment, was effective in reducing the risk of new vertebral fractures through 24 months. In addition, clinical fracture (a composite endpoint of non-vertebral and symptomatic vertebral fractures) risk reduction, non-vertebral fracture (fractures outside of the spine, excluding sites that are not considered osteoporotic, fractures due to high trauma or pathologic fractures) risk reduction and other endpoints were assessed at 12 and 24 months. The most common adverse reactions (greater than or equal to 10 percent) reported in the Phase 3 FRAME study were arthralgia and nasopharyngitis.

7,180 patients were randomized 1:1 to receive either 210 mg romosozumab subcutaneous (SC) monthly (QM) or placebo SC QM for the 12-month double-blind study period. After the placebo-controlled study period, patients entered the open-label phase where all patients received 60 mg denosumab SC every six months (Q6M) for 12 months, while remaining blinded to initial treatment. An additional 12 month extension period of open-label 60 mg denosumab SC Q6M is currently ongoing.

#### 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.

For more information, visit [www.amgen.com](http://www.amgen.com) and follow us on [www.twitter.com/amgen](https://www.twitter.com/amgen).

#### About UCB

UCB, Brussels, Belgium ([www.ucb.com](http://www.ucb.com)) is a global biopharmaceutical company focused on the discovery and development of innovative medicines and solutions to transform the lives of people living with severe diseases of the immune system or of the central nervous system. With more than 7,700 people in approximately 40 countries, the company generated revenue of € 3.9 billion in 2015. UCB is listed on Euronext Brussels (symbol: UCB). Follow us on Twitter: @UCB\_news

#### 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 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 reports filed by Amgen, including our most recent annual report on Form 10-K and any subsequent periodic reports on Form 10-Q and 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 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. 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 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 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. 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. 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 acquire other companies or products and to integrate the operations of companies we have acquired may not be successful. We may not be able to access the capital and credit markets on terms that are favorable to us, or at all. We are increasingly dependent on information technology systems, infrastructure and data security. 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.

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, and no conclusions can or should be drawn regarding the safety or effectiveness of the product candidates.


### **UCB Forward-Looking Statements**


This press release contains forward-looking statements based on current plans, estimates and beliefs of management. 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 information, expected legal, political, regulatory or clinical results and other such estimates and results. By their nature, such forward-looking statements are not guarantees of future performance and are subject to risks, uncertainties and assumptions which could cause actual results to differ materially from those that may be implied by such forward-looking statements contained in this press release. Important factors that could result in such differences include: changes in general economic, business and competitive conditions, the inability to obtain necessary regulatory approvals or to obtain them on acceptable terms, costs associated with research and development, changes in the prospects for products in the pipeline or under development by UCB, effects of future judicial decisions or governmental investigations, product liability claims, challenges to patent protection for products or product candidates, changes in laws or regulations, exchange rate fluctuations, changes or uncertainties in tax laws or the administration of such laws and hiring and retention of its employees. UCB is providing this information as of the date of this press release and expressly disclaims any duty to update any information contained in this press release, either to confirm the actual results or to report a change in its expectations.


There is no guarantee that new product candidates in the pipeline will progress to product approval or that new indications for existing products will be developed and approved. Products or potential products which are the subject of partnerships, joint ventures or licensing collaborations may be subject to differences between the partners. Also, UCB or others could discover safety, side effects or manufacturing problems with its products after they are marketed.

Moreover, sales may be impacted by international and domestic trends toward managed care and health care cost containment and the reimbursement policies imposed by third-party payers as well as legislation affecting biopharmaceutical pricing and reimbursement.

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<sup>1</sup> Reginster JY, Burlet N. Osteoporosis: A still increasing prevalence. *Bone*. 2006 Feb;38 (2 Suppl 1):S4-9.

<sup>2</sup> Wilk A et al. Post-fracture pharmacotherapy for women with osteoporotic fracture: analysis of a managed care population in the USA. *Osteoporosis Int*. 2014;25(12):2777-2786.

<sup>3</sup> International Osteoporosis Foundation. The Global Burden of Osteoporosis. What you need to know. Available at: <http://www.iofbonehealth.org/data-publications/fact-sheets/what-you-need-know-about-osteoporosis>. Accessed July 14, 2016.

<sup>4</sup> International Osteoporosis Foundation. Who's at Risk? 2015. Available at: <https://www.iofbonehealth.org/whos-risk>. Accessed July 15, 2016.

<sup>5</sup> National Osteoporosis Foundation. What Women Need To Know. Available at: [www.nof.org/prevention/general-facts/what-women-need-to-know](http://www.nof.org/prevention/general-facts/what-women-need-to-know). Accessed July 15, 2016.

<sup>6</sup> American Academy of Orthopaedic Surgeons. Position Statement: Osteoporosis/Bone Health in Adults as a National Public Health Priority. December 2014. Available at: [www.aaos.org/about/papers/position/1113.asp](http://www.aaos.org/about/papers/position/1113.asp). Accessed July 14, 2016.

<sup>7</sup> National Osteoporosis Foundation. What Is Osteoporosis and What Causes It? Available at: <https://www.nof.org/patients/what-is-osteoporosis>. Accessed July 15, 2016.



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