

Genmab Announces European Conditional Marketing Authorization for DARZALEX® (daratumumab) for Multiple Myeloma

Company Announcement

- **DARZALEX (daratumumab) receives European conditional marketing authorization for heavily pre-treated or double refractory multiple myeloma**
- **First CD38 monoclonal antibody approved in Europe**

Copenhagen, Denmark; May 23, 2016 – Genmab A/S (Nasdaq Copenhagen: GEN) announced today that the European Commission (EC) has granted a conditional marketing authorization for first-in-class CD38 antibody DARZALEX® (daratumumab). The conditional approval is for the use of DARZALEX® as monotherapy for the treatment of adult patients with relapsed and refractory multiple myeloma, whose prior therapy included a proteasome inhibitor (PI) and an immunomodulatory agent and who have demonstrated disease progression on the last therapy. The EC approval follows a positive opinion issued for DARZALEX by the Committee for Medicinal Products for Human Use (CHMP) of the European Medicines Agency (EMA) in April 2016. Conditional marketing authorizations are granted by the EMA for medicines where the benefit of immediate availability outweighs the risk of less comprehensive data than normally required. Continued approval for this indication may be contingent upon verification and description of clinical benefit in confirmatory trials.

DARZALEX is the first human CD38 monoclonal antibody (mAb) approved in Europe. The European approval follows the November 2015 U.S. Food and Drug Administration (FDA) approval of DARZALEX for the treatment of patients with multiple myeloma who have received at least three prior lines of therapy, including a PI and an immunomodulatory agent, or who are double-refractory to a PI and an immunomodulatory agent. In August 2012, Genmab granted Janssen Biotech, Inc. an exclusive worldwide license to develop, manufacture and commercialize DARZALEX.

The marketing authorization was based on data from the Phase II study (SIRIUS MMY2002, published in *The Lancet* in [January 2016](#)), the Phase I/II GEN501 monotherapy study (published in *The New England Journal of Medicine* in [August 2015](#)) and data from three additional supportive studies. These studies included heavily pre-treated patients with relapsed and refractory multiple myeloma who had exhausted other approved treatment options and whose disease was progressive at enrolment. Findings from a combined efficacy analysis of the GEN501 and MMY2002 (SIRIUS) trials demonstrated that after a mean follow-up of 14.8 months, the estimated median overall survival (OS) for single-agent daratumumab (16 mg/kg) in these heavily pre-treated patients was 20 months (95 percent Confidence Interval, 15 months to not yet estimable). The overall response rate (ORR) for the combined analysis was 31 percent, and 83 percent of patients achieved stable disease or better.¹

“At Genmab we are driven by a desire to improve the quality of life for cancer patients and their families. The approval of the marketing application for DARZALEX provides the opportunity to do just that for multiple myeloma patients living in the EU and represents a landmark event for these patients and their families, as well as for Genmab and Janssen,” said Jan van de Winkel, Ph.D., Chief Executive Officer of Genmab.

Daratumumab demonstrated a clinically manageable safety profile. The most commonly occurring adverse reactions (in 20 percent or more of patients in three pooled clinical studies) were infusion-related reactions (IRRs), fatigue, pyrexia, cough, nausea, back pain, upper respiratory tract infection, anemia, neutropenia (abnormally low levels of neutrophils, a type of white blood cell) and thrombocytopenia (abnormally low levels of platelets in the blood).²

In data from three pooled clinical studies including a total of 156 patients, four percent of patients discontinued treatment due to adverse reactions, none of which were considered drug-related. IRRs were reported in approximately half of all patients treated with DARZALEX, the majority of which (91 percent)

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occurred during the first infusion. Seven percent of patients had an IRR at more than one infusion. Common (≥ 5 percent) symptoms of IRRs included nasal congestion, chills, cough, allergic rhinitis, throat irritation, dyspnea, and nausea, and these were mild to moderate in severity.² Severe IRRs (4 percent), including bronchospasm (1.3 percent), hypertension (1.3 percent), and hypoxia, or decreased oxygen supply to the tissues (0.6 percent), were also reported.²

About multiple myeloma

Multiple myeloma is an incurable blood cancer that starts in the bone marrow and is characterized by an excess proliferation of plasma cells.³ Multiple myeloma is the third most common blood cancer in the U.S., after leukemia and lymphoma.⁴ Approximately 26,850 new patients were estimated to be diagnosed with multiple myeloma and approximately 11,240 people would die from the disease in the U.S. in 2015.⁵ Globally, it was estimated that 124,225 people would be diagnosed and 87,084 would die from the disease in 2015.⁶ While some patients with multiple myeloma have no symptoms at all, most patients are diagnosed due to symptoms which can include bone problems, low blood counts, calcium elevation, kidney problems or infections.⁷ Patients who relapse after treatment with standard therapies, including proteasome inhibitors or immunomodulatory agents, have poor prognoses and few treatment options.⁸

About DARZALEX® (daratumumab)

DARZALEX® (daratumumab) injection for intravenous infusion is indicated in the United States for the treatment of patients with multiple myeloma who have received at least three prior lines of therapy, including a proteasome inhibitor (PI) and an immunomodulatory agent, or who are double-refractory to a PI and an immunomodulatory agent.² DARZALEX is the first monoclonal antibody (mAb) to receive U.S. Food and Drug Administration (FDA) approval to treat multiple myeloma. DARZALEX is indicated in Europe for use as monotherapy for the treatment of adult patients with relapsed and refractory multiple myeloma, whose prior therapy included a PI and an immunomodulatory agent and who have demonstrated disease progression on the last therapy. For more information, visit www.DARZALEX.com.

Daratumumab is a human IgG1k monoclonal antibody (mAb) that binds with high affinity to the CD38 molecule, which is highly expressed on the surface of multiple myeloma cells. It is believed to induce rapid tumor cell death through programmed cell death, or apoptosis,^{2,9} and multiple immune-mediated mechanisms, including complement-dependent cytotoxicity,^{2,9} antibody-dependent cellular phagocytosis^{10,11} and antibody-dependent cellular cytotoxicity.^{2,9} In addition, daratumumab therapy results in a reduction of immune-suppressive myeloid derived suppressor cells (MDSCs) and subsets of regulatory T cells (Tregs) and B cells (Bregs), all of which express CD38. These reductions in MDSCs, Tregs and Bregs were accompanied by increases in CD4+ and CD8+ T cell numbers in both the peripheral blood and bone marrow.²

Daratumumab is being developed by Janssen Biotech, Inc. under an exclusive worldwide license to develop, manufacture and commercialize daratumumab from Genmab. Five Phase III clinical studies with daratumumab in relapsed and frontline settings are currently ongoing, and additional studies are ongoing or planned to assess its potential in other malignant and pre-malignant diseases on which CD38 is expressed, such as smoldering myeloma, non-Hodgkin's lymphoma and a solid tumor.

About Genmab

Genmab is a publicly traded, international biotechnology company specializing in the creation and development of differentiated antibody therapeutics for the treatment of cancer. Founded in 1999, the company has two approved antibodies, Arzerra® (ofatumumab) for the treatment of certain chronic lymphocytic leukemia indications and DARZALEX® (daratumumab) for the treatment of heavily pretreated or double refractory multiple myeloma. Daratumumab is in clinical development for additional multiple myeloma indications and for non-Hodgkin's lymphoma. Genmab also has a broad clinical and pre-clinical product pipeline. Genmab's technology base consists of validated and proprietary next generation antibody technologies - the DuoBody® platform for generation of bispecific antibodies, and the

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HexaBody® platform which creates effector function enhanced antibodies. The company intends to leverage these technologies to create opportunities for full or co-ownership of future products. Genmab has alliances with top tier pharmaceutical and biotechnology companies. For more information visit www.genmab.com.

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This Company Announcement contains forward looking statements. The words "believe", "expect", "anticipate", "intend" and "plan" and similar expressions identify forward looking statements. Actual results or performance may differ materially from any future results or performance expressed or implied by such statements. The important factors that could cause our actual results or performance to differ materially include, among others, risks associated with pre-clinical and clinical development of products, uncertainties related to the outcome and conduct of clinical trials including unforeseen safety issues, uncertainties related to product manufacturing, the lack of market acceptance of our products, our inability to manage growth, the competitive environment in relation to our business area and markets, our inability to attract and retain suitably qualified personnel, the unenforceability or lack of protection of our patents and proprietary rights, our relationships with affiliated entities, changes and developments in technology which may render our products obsolete, and other factors. For a further discussion of these risks, please refer to the risk management sections in Genmab's most recent financial reports, which are available on www.genmab.com. Genmab does not undertake any obligation to update or revise forward looking statements in this Company Announcement nor to confirm such statements in relation to actual results, unless required by law.

Genmab A/S and its subsidiaries own the following trademarks: Genmab®, the Y-shaped Genmab logo®, Genmab in combination with the Y-shaped Genmab logo™; the DuoBody logo®, the HexaBody logo™; HuMax®, HuMax-CD20®, DuoBody®, HexaBody® and UniBody®. Arzerra® is a trademark of Novartis AG or its affiliates. DARZALEX® is a trademark of Janssen Biotech, Inc.

¹ Usmani S, Weiss B, Bahlis NJ, et al. Clinical efficacy of daratumumab monotherapy in patients with heavily pretreated relapsed or refractory multiple myeloma. *Blood*. 2015;126(23):abstract 29.

² DARZALEX US Prescribing Information, November 2015.

³ American Cancer Society. "Multiple Myeloma Overview." Available at <http://www.cancer.org/cancer/multiplemyeloma/detailedguide/multiple-myeloma-what-is-multiple-myeloma>. Accessed February 2016.

⁴ National Cancer Institute. "A Snapshot of Myeloma." Available at www.cancer.gov/research/progress/snapshots/myeloma. Accessed February 2016.

⁵ American Cancer Society. "What are the key statistics about multiple myeloma?" <http://www.cancer.org/cancer/multiplemyeloma/detailedguide/multiple-myeloma-key-statistics>. Accessed September 2015.

⁶ GLOBOCAN 2012: Estimated Cancer Incidence, Mortality and Prevalence Worldwide: Number of New Cancers in 2015. Available at: http://globocan.iarc.fr/old/burden.asp?selection_pop=224900&Text-p=World&selection_cancer=17270&Text-c=Multiple+myeloma&pYear=3&type=0&window=1&submit=%C2%A0Execute. Accessed September 2015.

⁷ American Cancer Society. "How is Multiple Myeloma Diagnosed?" <http://www.cancer.org/cancer/multiplemyeloma/detailedguide/multiple-myeloma-diagnosis>. Accessed February 2016.

⁸ Kumar, SK et al. Risk of progression and survival in multiple myeloma relapsing after last therapy with IMiDs and bortezomib: a multicenter international myeloma working group study. *Leukemia*. 2012; 26:149-57.

⁹ De Weers, M et al. Daratumumab, a Novel Therapeutic Human CD38 Monoclonal Antibody, Induces Killing of Multiple Myeloma and Other Hematological Tumors. *The Journal of Immunology*. 2011; 186: 1840-1848.

¹⁰ Overdijk, MB, et al. Antibody-mediated phagocytosis contributes to the anti-tumor activity of the therapeutic antibody daratumumab in lymphoma and multiple myeloma. *MAbs*. 2015; 7: 311-21.

¹¹ Khagi, Y and Mark, TM. Potential role of daratumumab in the treatment of multiple myeloma. *Onco Targets Ther*. 2014; 7: 1095–1100.