

Genmab Announces Phase III Study of Daratumumab in Combination with Carfilzomib in Multiple Myeloma

Company Announcement

- **New Phase III study combining daratumumab, carfilzomib and dexamethasone in relapsed/refractory multiple myeloma – dosing expected in 2017**
- **First study under Clinical Trial Collaboration and Supply Agreement between Janssen and Amgen**
- **Agreement covers all potential opportunities combining daratumumab and carfilzomib to treat cancer**

Copenhagen, Denmark; November 10, 2016 – Genmab A/S (Nasdaq Copenhagen: GEN) announced today that daratumumab (DARZALEX®) will be investigated in a Phase III clinical study in combination with carfilzomib (KYPROLIS®) and dexamethasone in patients with relapsed/refractory multiple myeloma. The study will be conducted under a master clinical trial collaboration and supply agreement between Genmab's licensing partner for daratumumab, Janssen Biotech, Inc., and Onyx Pharmaceuticals, Inc., a wholly-owned subsidiary of Amgen, Inc. The agreement covers all potential opportunities for combining daratumumab and carfilzomib (a proteasome inhibitor) for the treatment of patients with cancer.

The first study under this collaboration agreement will be a 450 patient Phase III, randomized, open-label, registration study that will seek to determine if daratumumab in combination with carfilzomib (56 mg/m² twice weekly) and dexamethasone improves progression-free survival (PFS), compared to carfilzomib and dexamethasone alone in patients with multiple myeloma who have received one to three prior therapies. The study is anticipated to start dosing patients in 2017 and will be sponsored by Amgen.

“The new Phase III study combining daratumumab with carfilzomib and dexamethasone is an exciting addition to the broad and expansive development program for daratumumab and illustrates the strategy to explore as many clinical development opportunities for daratumumab as possible, and potentially establish daratumumab as the backbone treatment in multiple myeloma,” said Jan van de Winkel, Ph.D., Chief Executive Officer of Genmab.

As part of an earlier collaboration agreement between Janssen and Amgen, a separate, ongoing Phase I study (MMY1001 EQUULEUS) is evaluating the safety and pharmacokinetics of daratumumab in combination with a number of backbone multiple myeloma therapies including carfilzomib in newly diagnosed and relapsed/refractory patients with multiple myeloma.

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.¹ Multiple myeloma is the third most common blood cancer in the U.S., after leukemia and lymphoma.² Approximately 30,330 new patients are expected to be diagnosed with multiple myeloma and approximately 12,650 people are expected to die from the disease in the U.S. in 2016.³ Globally, it was estimated that 124,225 people would be diagnosed and 87,084 would die from the disease in 2015.⁴ 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.⁵ Patients who relapse after treatment with standard therapies, including proteasome inhibitors or immunomodulatory agents, have poor prognoses and few treatment options.⁶

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.⁷ DARZALEX is the first monoclonal antibody (mAb) to receive U.S.

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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,^{7,8} and multiple immune-mediated mechanisms, including complement-dependent cytotoxicity,^{7,8} antibody-dependent cellular phagocytosis^{9,10} and antibody-dependent cellular cytotoxicity.^{7,8} 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.^{7,11}

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 solid tumors.

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. A subcutaneous formulation of ofatumumab is in development for relapsing multiple sclerosis. 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 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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- ¹ American Cancer Society. "Multiple Myeloma Overview." Available at <http://www.cancer.org/cancer/multiplemyeloma/detailedguide/multiple-myeloma-what-is-multiple-myeloma>. Accessed June 2016.
- ² National Cancer Institute. "A Snapshot of Myeloma." Available at www.cancer.gov/research/progress/snapshots/myeloma. Accessed June 2016.
- ³ American Cancer Society. "What are the key statistics about multiple myeloma?" <http://www.cancer.org/cancer/multiplemyeloma/detailedguide/multiple-myeloma-key-statistics>. Accessed June 2016.
- ⁴ 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 June 2016.
- ⁵ American Cancer Society. "How is Multiple Myeloma Diagnosed?" <http://www.cancer.org/cancer/multiplemyeloma/detailedguide/multiple-myeloma-diagnosis>. Accessed June 2016.
- ⁶ 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.
- ⁷ DARZALEX US Prescribing Information, November 2015.
- ⁸ 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.
- ⁹ 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.
- ¹⁰ Khagi, Y and Mark, TM. Potential role of daratumumab in the treatment of multiple myeloma. *Onco Targets Ther*. 2014; 7: 1095–1100.
- ¹¹ Krejcik, MD et al. Daratumumab Depletes CD38+ Immune-regulatory Cells, Promotes T-cell Expansion, and Skews T-cell Repertoire in Multiple Myeloma. *Blood*. 2016; 128: 384-94.