

For Immediate Release

Johnson & Johnson submits application to the European Medicines Agency for DARZALEX® (daratumumab)-based quadruplet therapy for the treatment of patients with transplant-eligible, newly diagnosed multiple myeloma

Submission supported by data from Phase 3 PERSEUS study, which showed the daratumumab subcutaneous formulation-based regimen significantly reduced the risk of progression or death, compared to standard of care regimen.¹

BEERSE, BELGIUM (04 March 2024) – Janssen-Cilag International NV, a Johnson & Johnson company, today announced the submission of a Type II variation application to the European Medicines Agency (EMA). The submission is seeking approval for an indication extension of DARZALEX® (daratumumab) subcutaneous (SC) formulation in combination with bortezomib, lenalidomide, and dexamethasone (D-VRd) for the treatment of adult patients with newly diagnosed multiple myeloma who are eligible for autologous stem cell transplant (ASCT).

“Despite significant advances, multiple myeloma remains an incurable disease affecting more than 35,000 people each year in Europe alone,” said Edmond Chan, MBChB, M.D. (Res), EMEA Therapeutic Area Lead Haematology, Johnson & Johnson Innovative Medicine. “We know response to first-line therapy is vital to improve patients’ long-term outcomes, which is why we are proud of today’s submission and the potential of this daratumumab subcutaneous-based, quadruplet therapy to achieve deep and durable responses in patients with newly diagnosed multiple myeloma.”

The submission to the EMA is supported by data from the Phase 3 PERSEUS ([NCT03710603](#)) study,² evaluating D-VRd induction and consolidation therapy, ASCT, and daratumumab with lenalidomide (D-R) maintenance therapy, compared to VRd, ASCT and R maintenance.¹ Results from the primary analysis showed that the study met its primary endpoint of progression-free survival (PFS), with a significant reduction in the risk of disease progression or death of 58 percent at a median follow-up of 47.5 months (Hazard Ratio [HR], 0.42; 95 percent Confidence Interval [CI] 0.30-0.59; P<0.0001), compared to the control arm.¹ Treatment with D-VRd and ASCT followed by D-R maintenance also significantly increased the depth of response, with higher rates of complete response (CR) or better, stringent CR (sCR) and minimal residual disease (MRD) negativity compared to treatment with VRd, ASCT and R maintenance.¹ Overall, 64 percent of patients who entered the maintenance phase in the D-VRd arm were able to discontinue treatment with daratumumab SC after achieving a CR or better and sustained MRD negativity, for 12 months or longer, following at least two years of D-R maintenance in accordance with the trial protocol.¹ The overall safety profile of D-VRd followed by D-R maintenance was consistent with the known safety profiles for daratumumab SC, VRd and R.¹

Data from the PERSEUS study were [featured](#) as a late-breaking oral presentation at the 2023 American Society of Hematology (ASH) Annual Meeting³ and were simultaneously published in *The New England Journal of Medicine*.¹

“The impressive results from the PERSEUS study highlight the potential of this daratumumab subcutaneous-based regimen to transform patient outcomes and provide an effective therapy option in newly diagnosed, transplant-eligible multiple myeloma,” said Craig Tendler, M.D., Vice President, Clinical Development, Diagnostics, and Global Medical Affairs, Johnson & Johnson Innovative Medicine. “We are committed to advancing innovative regimens, such as D-VRd, as we strive towards the elimination of this complex disease. We now look forward to working with the EMA on the review of this submission.”

About the PERSEUS Study

The PERSEUS study is being conducted in collaboration with the European Myeloma Network (EMN) as a sponsor. PERSEUS is an ongoing, randomised, open-label, Phase 3 study comparing the efficacy and safety of D-VRd followed by D-R maintenance versus VRd followed by R maintenance in 709 patients with transplant-eligible newly diagnosed multiple myeloma.² The primary endpoint was PFS, and secondary endpoints included overall CR or better rate, overall MRD negativity (in patients with CR or better), and overall survival (OS).¹ The median age is 61.0 (32-70) years for patients in the D-VRd arm and 59.0 (31-70) years for patients in the VRd arm.¹ The study is being conducted in 14 countries across Europe and Australia.²

About daratumumab and daratumumab SC

Johnson & Johnson is committed to exploring the potential of daratumumab for patients with multiple myeloma across the spectrum of the disease. Daratumumab has been approved in eight indications for multiple myeloma, three of which are in the frontline setting, including newly diagnosed patients who are transplant-eligible and ineligible.⁴

In [August 2012](#), Janssen Biotech, Inc., a Johnson & Johnson company and Genmab A/S entered a worldwide agreement, which granted Johnson & Johnson an exclusive licence to develop, manufacture and commercialise daratumumab. Since launch, daratumumab has become a foundational therapy in the treatment of multiple myeloma, having been used in the treatment of more than 484,000 patients worldwide.⁵ Daratumumab is the only CD38-directed antibody approved to be given subcutaneously to treat patients with multiple myeloma.⁴ Daratumumab SC is co-formulated with recombinant human hyaluronidase PH20 (rHuPH20), Halozyme's ENHANZE[®] drug delivery technology.⁶

CD38 is a surface protein that is present in high numbers on multiple myeloma cells, regardless of the stage of disease.⁴ Daratumumab binds to CD38 and inhibits tumour cell growth causing myeloma cell death.² Daratumumab may also have an effect on normal cells.⁴ Data across nine Phase 3 clinical trials, in both the frontline and relapsed settings, have shown that daratumumab-based regimens resulted in significant improvement in PFS and/or OS.^{7,8,9,10,11,12,13,14}

For further information on daratumumab, please see the Summary of Product Characteristics at: https://www.ema.europa.eu/en/documents/product-information/darzalex-epar-product-information_en.pdf.

About Multiple Myeloma

Multiple myeloma is currently an incurable blood cancer that affects a type of white blood cell called plasma cells, which are found in the bone marrow.^{15,16} In multiple myeloma, these malignant plasma cells continue to proliferate, accumulating in the body and crowding out normal blood cells, as well as often causing bone destruction and other serious complications.¹⁶ In the European Union, it is estimated that more than 35,000 people were diagnosed with multiple myeloma in 2022, and more than 22,700 patients died.¹⁷ While some patients with multiple myeloma initially have no symptoms, others can have common signs and symptoms of the disease, which can include bone fracture or pain, low red blood cell counts, fatigue, high calcium levels, infections, or kidney damage.¹⁸

About Johnson & Johnson

At Johnson & Johnson, we believe health is everything. Our strength in healthcare innovation empowers us to build a world where complex diseases are prevented, treated, and cured, where treatments are smarter and less invasive, and solutions are personal. Through our expertise in Innovative Medicine and MedTech, we are uniquely positioned to innovate across the full spectrum of healthcare solutions today to deliver the breakthroughs of tomorrow, and profoundly impact health for humanity.

Learn more at www.janssen.com/emea. Follow us at www.linkedin.com/janssenEMEA. Janssen Pharmaceutica NV, Janssen-Cilag Limited, Janssen Biotech, Inc., and Janssen Research & Development, LLC are Johnson & Johnson companies.

Cautions Concerning Forward-Looking Statements

This press release contains "forward-looking statements" as defined in the Private Securities Litigation Reform Act of 1995 regarding product development and the potential benefits and treatment impact of daratumumab. The reader is cautioned not to rely on these forward-looking statements. These statements are based on current expectations of future events. If underlying assumptions prove inaccurate or known or unknown risks or uncertainties materialise, actual results could vary materially from the expectations and projections of Janssen Pharmaceutica NV, Janssen-Cilag Limited, Janssen Biotech, Inc., Janssen Research & Development, LLC and/or Johnson & Johnson. Risks and uncertainties include, but are not limited to: challenges and uncertainties inherent in product research and development, including the uncertainty of clinical success and of obtaining regulatory approvals; uncertainty of commercial success; competition, including technological advances, new products and patents attained by competitors; challenges to patents; changes in behaviour and spending patterns of purchasers of health care products and services; changes to applicable laws and regulations, including global health care reforms; and trends toward health care cost containment. A further list and descriptions of these risks, uncertainties and other factors can be found in Johnson & Johnson's Annual Report on Form 10-K for the fiscal year ended December 31, 2023, including in the sections captioned "Cautionary Note Regarding Forward-Looking Statements" and "Item 1A. Risk Factors," and in Johnson & Johnson's subsequent Quarterly Reports on Form 10-Q and other filings with the Securities and Exchange Commission. Copies of these filings are available online at <http://www.sec.gov/>, <http://www.jnj.com/> or on request from Johnson & Johnson. None of Janssen Pharmaceutica NV, Janssen-Cilag Limited, Janssen Biotech, Inc., Janssen Research & Development, LLC nor Johnson & Johnson undertakes to update any forward-looking statement as a result of new information or future events or developments.

¹ Sonneveld P, et al. Daratumumab, Bortezomib, Lenalidomide, and Dexamethasone for Multiple Myeloma. *N Engl J Med* 2024; 390:301-313. DOI: 10.1056/NEJMoa2312054.

² ClinicalTrials.gov. Identifier: NCT03710603. Available at: <https://clinicaltrials.gov/study/NCT03710603?term=PERSEUS&intr=Daratumumab&rank=1>. Last accessed: March 2024.

³ Sonneveld P, et al. Phase 3 randomized study of daratumumab + bortezomib, lenalidomide, and dexamethasone (VRd) versus VRd alone in patients with newly diagnosed multiple myeloma who are eligible for autologous stem cell transplantation. Presented at the December 2023 ASH Annual Meeting & Exposition. Abstract LBA-1.

⁴ European Medicines Agency. DARZALEX Summary of Product Characteristics. Available at: https://www.ema.europa.eu/en/documents/product-information/darzalex-epar-product-information_en.pdf. Last accessed: March 2024.

⁵ Janssen [data on file]. RF-403164. Number of patients treated with DARZALEX worldwide as of 31 December 2023.

⁶ Janssen EMEA. European Commission Grants Marketing Authorisation for DARZALEX[®] (Daratumumab) Subcutaneous Formulation for All Currently Approved Daratumumab Intravenous Formulation Indications. Available at: www.businesswire.com/news/home/20200604005487/en/European-Commission-GrantsMarketingAuthorisation-for-DARZALEX%C2%AE%E2%96%BC-daratumumab-SubcutaneousFormulation-for-all-CurrentlyApproved-Daratumumab-Intravenous-Formulation-Indications. Last accessed: March 2024.

⁷ Moreau P, et al. Bortezomib, thalidomide, and dexamethasone with or without daratumumab before and after autologous stem-cell transplantation for newly diagnosed multiple myeloma (CASSIOPEIA): a randomised, open-label, phase 3 study. *Lancet*. 2019;394(10192):29-38.

⁸ Facon T, et al. MAIA Trial Investigators. Daratumumab plus Lenalidomide and Dexamethasone for Untreated Myeloma. *N Engl J Med*. 2019;380(22):2104-2115.

⁹ Mateos MV, et al. Overall survival with daratumumab, bortezomib, melphalan, and prednisone in newly diagnosed multiple myeloma (ALCYONE): a randomised, open-label, phase 3 trial. *The Lancet*. 2020;395:P132-141.

¹⁰ Dimopoulos MA, et al. APOLLO Trial Investigators. Daratumumab plus pomalidomide and dexamethasone versus pomalidomide and dexamethasone alone in previously treated multiple myeloma (APOLLO): an open-label, randomised, phase 3 trial. *Lancet Oncol*. 2021;22(6):801-812.

¹¹ Palladini G, et al. Daratumumab plus CyBORd for patients with newly diagnosed AL amyloidosis: safety run-in results of ANDROMEDA. *Blood*. 2020;2;136(1):71-80.

¹² Chari A, et al. Daratumumab plus pomalidomide and dexamethasone in relapsed and/or refractory multiple myeloma. *Blood*. 2017;130(8):974-981.

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- ¹³ Bahlis NJ, et al. Daratumumab plus lenalidomide and dexamethasone in relapsed/refractory multiple myeloma: extended follow-up of POLLUX, a randomized, open-label, phase 3 study. *Leukemia*. 2020;34(7):1875-1884.
- ¹⁴ Mateos MV, et al. Daratumumab, Bortezomib, and Dexamethasone Versus Bortezomib and Dexamethasone in Patients With Previously Treated Multiple Myeloma: Three-year Follow-up of CASTOR. *Clin Lymphoma Myeloma Leuk*. 2020;20(8):509-518.
- ¹⁵ Abdi J, et al. Drug resistance in multiple myeloma: latest findings on molecular mechanisms. *Oncotarget*. 2013;4(12):2186-2207.
- ¹⁶ American Society of Clinical Oncology. Multiple myeloma: introduction. Available at: <https://www.cancer.net/cancer-types/multiple-myeloma/introduction>. Last accessed: March 2024.
- ¹⁷ ECIS - European Cancer Information System. Estimates of cancer incidence and mortality in 2022, by country. Multiple myeloma. Available at: [https://ecis.irc.ec.europa.eu/explorer.php?\\$0-0\\$1-All\\$2-All\\$4-1,2\\$3-51\\$6-0.85\\$5-2022,2022\\$7-7\\$CEstByCountry\\$X0_8-3\\$X0_19-AE27\\$X0_20-No\\$CEstBySexByCountry\\$X1_8-3\\$X1_19-AE27\\$X1_-1-1\\$CEstByIndiByCountry\\$X2_8-3\\$X2_19-AE27\\$X2_20-No\\$CEstRelative\\$X3_8-3\\$X3_9-AE27\\$X3_19-AE27\\$CEstByCountryTable\\$X4_19-AE27](https://ecis.irc.ec.europa.eu/explorer.php?$0-0$1-All$2-All$4-1,2$3-51$6-0.85$5-2022,2022$7-7$CEstByCountry$X0_8-3$X0_19-AE27$X0_20-No$CEstBySexByCountry$X1_8-3$X1_19-AE27$X1_-1-1$CEstByIndiByCountry$X2_8-3$X2_19-AE27$X2_20-No$CEstRelative$X3_8-3$X3_9-AE27$X3_19-AE27$CEstByCountryTable$X4_19-AE27). Last accessed: March 2024.
- ¹⁸ American Cancer Society. Multiple myeloma: early detection, diagnosis and staging. Available at: <https://www.cancer.org/content/dam/CRC/PDF/Public/8740.00.pdf>. Last accessed: March 2024.