



# FDA Grants Approval for BAVENCIO® (avelumab), the First Immunotherapy Approved for Metastatic Merkel Cell Carcinoma

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Only FDA-approved treatment for metastatic Merkel cell carcinoma, a rare and aggressive skin cancer      First indication for BAVENCIO, a human anti-PD-L1 antibody

EMD Serono, the biopharmaceutical business of Merck KGaA, Darmstadt, Germany in the US and Canada, and Pfizer Inc. (NYSE: PFE) today announced that the US Food and Drug Administration (FDA) has approved BAVENCIO® (avelumab) Injection 20 mg/mL, for intravenous use, for the treatment of adults and pediatric patients 12 years and older with metastatic Merkel cell carcinoma (mMCC). This indication is approved under accelerated approval based on tumor response and duration of response. Continued approval for this indication may be contingent upon verification and description of clinical benefit in confirmatory trials.<sup>1</sup> BAVENCIO was developed, reviewed and approved through the FDA's Breakthrough Therapy Designation and Priority Review programs.

BAVENCIO, a human anti-PD-L1 antibody, is the first FDA-approved therapy for patients with mMCC.<sup>2</sup> Metastatic MCC is a rare and aggressive skin cancer, with fewer than half of patients surviving more than one year and fewer than 20% surviving beyond five years.<sup>3</sup>

“At the heart of this FDA approval is our drive to make a meaningful difference for patients with hard-to-treat cancers like metastatic Merkel cell carcinoma,” said Belén Garijo, CEO Healthcare and Member of the Executive Board of Merck KGaA,

Darmstadt, Germany. “BAVENCIO's journey has included years of hard work – from the scientists who discovered this molecule in our labs, to our alliance with Pfizer and to the

study participants and investigators worldwide. We are grateful to all who have made it possible for us to bring this important new treatment option to patients.”

“Today is a significant milestone for people fighting metastatic Merkel cell carcinoma, who until now have not had any options beyond chemotherapy,” said Albert Bourla, Group President, Pfizer Innovative Health. “This approval demonstrates the power of collaboration to accelerate meaningful new choices for cancer patients.”

“Merkel cell carcinoma is rarer than some of the more well-known skin cancers, however, it’s very aggressive and the proportion of people who die from MCC is much higher than that of people with melanoma,” said Deborah S. Sarnoff, MD, President of the Skin Cancer Foundation. “With this approval, I believe there is new hope for people and their families touched by this rare form of skin cancer.”

The efficacy and safety of BAVENCIO was demonstrated in the JAVELIN Merkel 200 trial, an open-label, single-arm, multi-center study conducted in 88 patients with histologically confirmed metastatic MCC whose disease had progressed on or after chemotherapy administered for distant metastatic disease. Sixty-five percent of patients were reported to have had one prior anti-cancer therapy for metastatic MCC and 35% had two or more prior therapies. The major efficacy outcome measures were confirmed overall response rate (ORR) according to Response Evaluation Criteria in Solid Tumors (RECIST) v1.1 as assessed by a blinded independent central review committee (IRC) and IRC-assessed duration of response.

The overall response rate (ORR) was 33% (95% confidence interval [CI]: 23.3- 43.8%).<sup>1</sup> Eleven percent of patients experienced a complete response (95% CI: 6.6- 19.9%) and 22% of patients experienced a partial response (95% CI: 13.5-31.7%). Tumor responses were durable, with 86% of responses lasting for at least six months (n=25).<sup>1</sup> Forty-five percent of responses lasted at least 12 months (n=13).<sup>1</sup> Duration of response ranged from 2.8 to over 23.3 months.

The warnings and precautions for BAVENCIO include immune-mediated adverse reactions (such as pneumonitis, hepatitis, colitis, endocrinopathies, nephritis and renal dysfunction, and other adverse reactions), infusion-related reactions and embryo-fetal toxicity. The most common adverse reactions (reported in at least 20% of patients) included fatigue (50%), musculoskeletal pain (32%), diarrhea (23%), nausea (22%), infusion-related reactions (22%), rash (22%), decreased appetite (20%) and peripheral edema (20%).<sup>1</sup> For more information, please see Important Safety Information for BAVENCIO below.

BAVENCIO is designed to potentially engage both the adaptive and innate immune systems. By binding to PD-L1, BAVENCIO is thought to prevent tumor cells from using PD-L1 for protection against white blood cells, such as T-cells, exposing them to anti-tumor responses.<sup>1</sup> BAVENCIO has been shown to induce antibody-dependent cell-mediated cytotoxicity (ADCC) in vitro.<sup>1</sup>

BAVENCIO is available for order now.

The alliance is committed to providing industry-leading patient access and reimbursement support through its CoverOne™ program. This program provides a spectrum of patient access and reimbursement support services intended to help patients receive appropriate access to BAVENCIO in the United States. CoverOne may be reached by phone at 844-8COVER1 (844-826-8371) or online at [www.CoverOne.com](http://www.CoverOne.com).

### **About JAVELIN Merkel 200**

The efficacy and safety of BAVENCIO was demonstrated in the JAVELIN Merkel 200 trial, an open-label, single-arm, multi-center study conducted in 88 patients with histologically confirmed metastatic MCC whose disease had progressed on or after chemotherapy administered for distant metastatic disease. Sixty-five percent of patients were reported to have had one prior anti-cancer therapy for metastatic MCC and 35% had two or more prior therapies. The major efficacy outcome measures were confirmed overall response rate (ORR) according to Response Evaluation Criteria in Solid Tumors (RECIST) v1.1 as assessed by a blinded independent central review committee (IRC) and IRC-assessed duration of response.

The trial excluded patients with autoimmune disease; medical conditions requiring systemic immunosuppression; prior organ or allogenic stem cell transplantation; prior treatment with anti-PD-1, anti-PD-L1 or anti-CTLA-4 antibodies; CNS metastases; infection with HIV, hepatitis B or hepatitis C; or ECOG performance score greater than or equal to two. Patients received BAVENCIO 10 mg/kg as an intravenous infusion over 60 minutes every two weeks until disease progression or unacceptable toxicity.

The international clinical development program for avelumab, known as JAVELIN, involves at least 30 clinical programs, including nine Phase III trials, and more than 4,000 patients across more than 15 tumor types. In October 2016, the alliance announced the European Medicines Agency accepted the Marketing Authorisation Application for avelumab for the proposed indication of metastatic MCC.

For full prescribing information and medication guide for BAVENCIO, please see [www.BAVENCIO.com](http://www.BAVENCIO.com) or the FDA website.

## **IMPORTANT SAFETY INFORMATION and INDICATION**

BAVENCIO can cause **immune-mediated pneumonitis**, including fatal cases. Monitor patients for signs and symptoms of pneumonitis and evaluate suspected cases with radiographic imaging. Administer corticosteroids for Grade 2 or greater pneumonitis. Withhold BAVENCIO for moderate (Grade 2) and permanently discontinue for severe (Grade 3), life-threatening (Grade 4), or recurrent moderate (Grade 2) pneumonitis. Pneumonitis occurred in 1.2% (21/1738) of patients, including one (0.1%) patient with Grade 5, one (0.1%) with Grade 4, and five (0.3%) with Grade 3.

BAVENCIO can cause **immune-mediated hepatitis**, including fatal cases. Monitor patients for abnormal liver tests prior to and periodically during treatment. Administer corticosteroids for Grade 2 or greater hepatitis. Withhold BAVENCIO for moderate (Grade 2) immune-mediated hepatitis until resolution and permanently discontinue for severe (Grade 3) or life-threatening (Grade 4) immune-mediated hepatitis. Immune-mediated hepatitis was reported in 0.9% (16/1738) of patients, including two (0.1%) patients with Grade 5 and 11 (0.6 %) with Grade 3.

BAVENCIO can cause **immune-mediated colitis**. Monitor patients for signs and symptoms of colitis. Administer corticosteroids for Grade 2 or greater colitis. Withhold BAVENCIO until resolution for moderate or severe (Grade 2 or 3) colitis and permanently discontinue for life-threatening (Grade 4) or recurrent (Grade 3) colitis upon re-initiation of BAVENCIO. Immune-mediated colitis occurred in 1.5% (26/1738) of patients, including seven (0.4%) with Grade 3.

BAVENCIO can cause **immune-mediated endocrinopathies**, including adrenal insufficiency, thyroid disorders, and type 1 diabetes mellitus. Monitor patients for signs and symptoms of **adrenal insufficiency** during and after treatment and administer corticosteroids as appropriate. Withhold BAVENCIO for severe (Grade 3) or life-threatening (Grade 4) adrenal insufficiency. Adrenal insufficiency was reported in 0.5% (8/1738) of patients, including one (0.1%) with Grade 3.

**Thyroid disorders** can occur at any time during treatment. Monitor patients for changes in thyroid function at the start of treatment, periodically during treatment, and as indicated based on clinical evaluation. Manage hypothyroidism with hormone replacement therapy and hyperthyroidism with medical management. Withhold BAVENCIO for severe (Grade 3) or life threatening (Grade 4) thyroid disorders. Thyroid

disorders including hypothyroidism, hyperthyroidism, and thyroiditis were reported in 6% (98/1738) of patients, including three (0.2%) with Grade 3.

**Type 1 diabetes mellitus**, including diabetic ketoacidosis: Monitor patients for hyperglycemia or other signs and symptoms of diabetes. Withhold BAVENCIO and administer antihyperglycemics or insulin in patients with severe or life-threatening (Grade 3 or greater) hyperglycemia and resume treatment when metabolic control is achieved. Type 1 diabetes mellitus without an alternative etiology occurred in 0.1% (2/1738) of patients, including two cases of Grade 3 hyperglycemia.

BAVENCIO can cause **immune-mediated nephritis and renal dysfunction**. Monitor patients for elevated serum creatinine prior to and periodically during treatment. Administer corticosteroids for Grade 2 or greater nephritis. Withhold BAVENCIO for moderate (Grade 2) or severe (Grade 3) nephritis until resolution to Grade 1 or lower. Permanently discontinue BAVENCIO for life-threatening (Grade 4) nephritis. Immune-mediated nephritis occurred in 0.1% (1/1738) of patients.

BAVENCIO can result in other **severe and fatal immune-mediated adverse reactions** involving any organ system during treatment or after treatment discontinuation. For suspected immune-mediated adverse reactions evaluate to confirm or rule out an immune-mediated adverse reaction and to exclude other causes. Depending on the severity of the adverse reaction, withhold or permanently discontinue BAVENCIO, administer high-dose corticosteroids, and initiate hormone replacement therapy if appropriate. Resume BAVENCIO when the immune-mediated adverse reaction remains at Grade 1 or lower following a corticosteroid taper. Permanently discontinue BAVENCIO for any severe (Grade 3) immune-mediated adverse reaction that recurs and for any life-threatening (Grade 4) immune-mediated adverse reaction. The following clinically significant immune-mediated adverse reactions occurred in less than 1% of 1738 patients treated with BAVENCIO: myocarditis with fatal cases, myositis, psoriasis, arthritis, exfoliative dermatitis, erythema multiforme, pemphigoid, hypopituitarism, uveitis, Guillain-Barré syndrome, and systemic inflammatory response.

BAVENCIO can cause severe (Grade 3) or life-threatening (Grade 4) **infusion-related reactions**. Patients should be premedicated with an antihistamine and acetaminophen prior to the first 4 infusions and for subsequent doses based upon clinical judgment and presence/severity of prior infusion reactions. Monitor patients for signs and symptoms of infusion-related reactions, including pyrexia, chills, flushing, hypotension, dyspnea, wheezing, back pain, abdominal pain, and urticaria. Interrupt or slow the rate of infusion for mild (Grade 1) or moderate (Grade 2) infusion-related reactions. Permanently

discontinue BAVENCIO for severe (Grade 3) or life-threatening (Grade 4) infusion-related reactions. Infusion-related reactions occurred in 25% (439/1738) of patients, including three (0.2%) patients with Grade 4 and nine (0.5%) with Grade 3.

BAVENCIO can cause **fetal harm** when administered to a pregnant woman. Advise patients of the potential risk to a fetus including the risk of fetal death. Advise females of childbearing potential to use effective contraception during treatment with BAVENCIO and for at least one month after the last dose of BAVENCIO. It is not known whether BAVENCIO is excreted in human milk. Advise a lactating woman **not to breastfeed** during treatment and for at least one month after the last dose of BAVENCIO due to the potential for serious adverse reactions in breastfed infants.

**The most common adverse reactions** (all grades, greater than or equal to 20%) in patients with metastatic MCC were fatigue (50%), musculoskeletal pain (32%), diarrhea (23%), nausea (22%), infusion-related reactions (22%), rash (22%), decreased appetite (20%), and peripheral edema (20%). The most common adverse reaction requiring dose interruption was anemia.

**Selected treatment-emergent laboratory abnormalities** (all grades, greater than or equal to 20%) in patients with metastatic MCC were lymphopenia (49%), anemia (35%), increased aspartate aminotransferase (34%), thrombocytopenia (27%), and increased alanine aminotransferase (20%). **Selected treatment-emergent Grade 3-4 laboratory abnormalities** (greater than or equal to 2%) were lymphopenia (19%), anemia (9%), hyperglycemia (7%), increased alanine aminotransferase (5%), and increased lipase (4%).

**INDICATION** BAVENCIO is indicated for the treatment of adults and pediatric patients 12 years and older with metastatic Merkel cell carcinoma (MCC). This indication is approved under accelerated approval based on tumor response and duration of response. Continued approval for this indication may be contingent upon verification and description of clinical benefit in confirmatory trials.

Please see full Prescribing Information and Medication Guide.

**About BAVENCIO® (avelumab)** BAVENCIO is a human programmed death ligand-1 (PD-L1) blocking antibody indicated in the US for the treatment of adults and pediatric patients 12 years of age and older with metastatic Merkel cell carcinoma.<sup>1</sup> This indication is approved under accelerated approval based on tumor response and duration of response. Continued approval for this indication may be contingent upon verification and description of clinical benefit in confirmatory trials.

BAVENCIO is not approved in any market outside the US.

**Alliance between Merck KGaA, Darmstadt, Germany, and Pfizer Inc., New York, US** Immuno-oncology is a top priority for Merck KGaA, Darmstadt, Germany, and Pfizer Inc. The global strategic alliance between Merck KGaA, Darmstadt, Germany, and Pfizer Inc., New York, US, enables the companies to benefit from each other's strengths and capabilities and further explore the therapeutic potential of avelumab, an anti-PD-L1 antibody initially discovered and developed by Merck KGaA, Darmstadt, Germany. The immuno-oncology alliance will jointly develop and commercialize avelumab and advance Pfizer's PD-1 antibody. The alliance is focused on developing high-priority international clinical programs to investigate avelumab as a monotherapy, as well as in combination regimens, and is striving to find new ways to treat cancer.

**About EMD Serono, Inc.** EMD Serono is the biopharmaceutical business of Merck KGaA, Darmstadt, Germany – a leading science and technology company – in the US and Canada, focused exclusively on specialty care. For more than 40 years, the business has integrated cutting-edge science, innovative products and industry-leading patient support and access programs. EMD Serono has deep expertise in neurology, fertility and endocrinology, as well as a robust pipeline of potential therapies in oncology, immuno-oncology and immunology as R&D focus areas. Today, the business has 1,200 employees around the country with commercial, clinical and research operations based in the company's home state of Massachusetts.

[www.emdserono.com](http://www.emdserono.com)

**About Merck KGaA, Darmstadt, Germany** All Merck KGaA, Darmstadt, Germany Press Releases are distributed by e-mail at the same time they become available on the Merck KGaA, Darmstadt, Germany Website. Please go to [www.emdgroup.com/subscribe](http://www.emdgroup.com/subscribe) to register online, change your selection or discontinue this service.

Merck KGaA, Darmstadt, Germany, is a leading science and technology company in healthcare, life science and performance materials. Around 50,000 employees work to further develop technologies that improve and enhance life – from biopharmaceutical therapies to treat cancer or multiple sclerosis, cutting-edge systems for scientific research and production, to liquid crystals for smartphones and LCD televisions. In 2016, Merck KGaA, Darmstadt, Germany, generated sales of €15.0 billion in 66 countries.

Founded in 1668, Merck KGaA, Darmstadt, Germany, is the world's oldest pharmaceutical and chemical company. The founding family remains the majority owner of the publicly listed corporate group. Merck KGaA, Darmstadt, Germany, holds the global rights to the

"Merck" name and brand except in the United States and Canada, where the company operates as EMD Serono, MilliporeSigma and EMD Performance Materials.

**About Pfizer Inc.: Working together for a healthier world®** At Pfizer, we apply science and our global resources to bring therapies to people that extend and significantly improve their lives. We strive to set the standard for quality, safety and value in the discovery, development and manufacture of health care products. Our global portfolio includes medicines and vaccines as well as many of the world's best-known consumer health care products. Every day, Pfizer colleagues work across developed and emerging markets to advance wellness, prevention, treatments and cures that challenge the most feared diseases of our time. Consistent with our responsibility as one of the world's premier innovative biopharmaceutical companies, we collaborate with health care providers, governments and local communities to support and expand access to reliable, affordable health care around the world. For more than 150 years, we have worked to make a difference for all who rely on us. We routinely post information that may be important to investors on our website at [www.pfizer.com](http://www.pfizer.com). In addition, to learn more, please visit us on [www.pfizer.com](http://www.pfizer.com) and follow us on Twitter at @Pfizer and @PfizerNews, LinkedIn, YouTube and like us on Facebook at [Facebook.com/Pfizer](https://www.facebook.com/Pfizer).

**Pfizer Disclosure Notice** The information contained in this release is as of March 23, 2017. Pfizer assumes no obligation to update forward-looking statements contained in this release as the result of new information or future events or developments.

This release contains forward-looking information about BAVENCIO (avelumab), including an indication in the US for BAVENCIO for the treatment of metastatic Merkel cell carcinoma (the Indication), Pfizer's and Merck KGaA, Darmstadt, Germany's immuno-oncology alliance involving anti-PD-L1 and anti-PD-1 therapies, and clinical development plans, including their potential benefits, that involves substantial risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statements. Risks and uncertainties include, among other things, uncertainties regarding the commercial success of BAVENCIO; the uncertainties inherent in research and development, including the ability to meet anticipated clinical study commencement and completion dates and regulatory submission dates, as well as the possibility of unfavorable study results, including unfavorable new clinical data and additional analyses of existing clinical data; risks associated with interim data; the risk that clinical trial data are subject to differing interpretations, and, even when we view data as sufficient to support the safety and/or effectiveness of a product candidate, regulatory authorities may not share our views and may require additional data or may deny approval altogether; whether and when drug applications may be filed in any other jurisdictions for



the Indication or in any jurisdictions for any other potential indications for BAVENCIO, combination therapies or other product candidates; whether and when any such applications (including the pending application for the Indication in the EU) may be approved by regulatory authorities, which will depend on the assessment by such regulatory authorities of the benefit-risk profile suggested by the totality of the efficacy and safety information submitted; decisions by regulatory authorities regarding labeling and other matters that could affect the availability or commercial potential of BAVENCIO, combination therapies or other product candidates; and competitive developments.

A further description of risks and uncertainties can be found in Pfizer's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, and in its subsequent reports on Form 10-Q, including in the sections thereof captioned "Risk Factors" and "Forward-Looking Information and Factors That May Affect

Future Results", as well as in its subsequent reports on Form 8-K, all of which are filed with the U.S. Securities and Exchange Commission and available at [www.sec.gov](http://www.sec.gov) and [www.pfizer.com](http://www.pfizer.com).

**References**

1. BAVENCIO Prescribing Information. Rockland, MA: EMD Serono Inc.; 2017.
2. National Institutes of Health, U.S. National Library of Medicine, Daily Med. Available at <https://dailymed.nlm.nih.gov/dailymed/advanced-search.cfm>. Accessed March 22, 2017.
3. Lemos B, Storer B, Iyer J, et al. Pathologic Nodal Evaluation Improves Prognostic Accuracy in Merkel Cell Carcinoma: Analysis of 5,823 Cases as the Basis of the First Consensus Staging System for this Cancer. *Journal of the American Academy of Dermatology*. 2010;63(5):751- 761.

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