



News Release

Media Contacts:

Suzanne Frost
Phone: +1 416-317-0304

Ania DiAntonio
Phone: +1 215-620-9717

Investor Relations:

Jennifer McIntyre
Phone: +1 732-524-3922

U.S. Medical Inquiries:

+1 800-526-7736

Janssen Presents Phase 1 Results for RYBREVANT™ (amivantamab-vmjw) in the Treatment of Patients with Advanced Non-Small Cell Lung Cancer with MET Exon 14 Skipping Mutations

Oral presentation at the International Association for the Study of Lung Cancer's (IASLC) 2021 World Conference on Lung Cancer (WCLC) shows evidence that the bispecific mechanism of action for RYBREVANT™ can provide anti-tumor activity against either EGFR-mutated or MET-mutated non-small cell lung cancer

August 19, 2021 (RARITAN, N.J.) – The Janssen Pharmaceutical Companies of Johnson & Johnson today announced preliminary data from the Phase 1 CHRYSALIS study evaluating RYBREVANT™ (amivantamab-vmjw) for the treatment of patients with non-small cell lung cancer (NSCLC) with mesenchymal-epithelial transition (MET) exon 14 skipping (METex14) mutations. The initial data showed anti-tumor activity in patients with METex14 mutations and a safety profile consistent with reported experience at the approved CHRYSALIS Phase 2 dose (RYBREVANT™ 1050 mg [<80 kg] / 1400 mg [≥ 80 kg]).¹ These findings will be featured at the virtual International Association for the Study of Lung Cancer's (IASLC) 2021 World Conference on Lung Cancer (WCLC) taking place from September 8-14 in Denver as an oral presentation (Abstract #OA15.03).

METex14 mutations are found in approximately three percent of patients with NSCLC.² These genetic alterations result in hyperactivation of the MET receptor with corresponding cancer cell

growth.³ While MET inhibitors have recently received accelerated approval in this setting in some regions, the vast majority of patients eventually acquire resistance to these therapies, thus underscoring the need for new treatment options.^{4,5,6}

“Newer treatment advances for non-small cell lung cancer provide benefit to patients with MET exon 14 skipping mutations, but because they are effective for only a finite period of time, patients ultimately find themselves in need of new therapies,” said Alexander Spira, M.D., Ph.D., FACP, Director of the Virginia Cancer Specialists Research Institute, Co-Chair U.S. Oncology Thoracic Program and presenting study investigator[†]. “We look forward to sharing these latest results for amivantamab that suggest its novel mechanism of action may be of benefit to people living with this type of lung cancer.”

In the METex14 cohort of the Phase 1 CHRYSALIS study, 19 patients with this genetic alteration received intravenous RYBREVANT™ 1050 mg (for patients who weigh <80 kg) or 1400 mg (for patients who weigh ≥80 kg).¹ Disease response was evaluated using overall response rate (ORR), per Response Evaluation Criteria in Solid Tumors Version 1.1* (RECIST v1.1) as the primary endpoint.¹ Of the 14 response-evaluable patients, partial responses were observed in 64 percent with four patients pending confirmation.¹ Activity was observed in treatment-naïve and previously-treated patients, including four of seven patients previously treated with MET tyrosine kinase inhibitors (TKIs).¹ The median time to first response was 4.1 months (range, 1.6–9.9).¹

The majority of treatment-related adverse events (AEs) were Grade 1-2.¹ Treatment-related Grade ≥3 AEs were observed in three patients (16 percent), which included dyspnea (N=1), hypoalbuminemia (N=1) and rash (N=1).¹ The incidence of treatment-related AEs leading to dose reduction and discontinuation was 11 percent and five percent, respectively.¹ Dose interruptions occurred in 32 percent of patients.¹

In May 2021, RYBREVANT™ received U.S. Food and Drug Administration (FDA) approval for patients with locally advanced or metastatic NSCLC with epidermal growth factor receptor (EGFR) exon 20 insertion mutations, based on data showing an ORR of 40 percent (95 percent CI, 29 – 51) and median duration of response of 11.1 months (95 percent CI, 6.9 – NE).⁷

“While the recent FDA approval of RYBREVANT was an important milestone for patients with non-small cell lung cancer with EGFR exon 20 insertion mutations, there continues to be a lack of long-term treatment options for patients with other mutations, including MET exon 14 skipping mutations,” said Kiran Patel, M.D., Vice President, Clinical Development, Solid Tumors, Janssen Research & Development, LLC. “We are encouraged by these data showing evidence that RYBREVANT™ can lead to broad activity against both EGFR and MET-driven tumors.”

About RYBREVANT™

RYBREVANT™ (amivantamab-vmjw) [received](#) accelerated approval by the U.S. FDA for the treatment of adult patients with locally advanced or metastatic NSCLC with EGFR exon 20 insertion mutations, as detected by an FDA-approved test, whose disease has progressed on or after platinum-based chemotherapy in May 2021.⁷ Janssen has filed regulatory submissions for RYBREVANT™ with health authorities in [Europe](#) and other markets. RYBREVANT™ is being studied in multiple clinical trials, including a Phase 1/1b study, CHRYSALIS-2 ([NCT04077463](#)) to examine the combination in patients who have progressed after treatment with osimertinib and chemotherapy; as first-line therapy in untreated advanced EGFR-mutated NSCLC in the Phase 3 MARIPOSA ([NCT04487080](#)) study assessing amivantamab in combination with lazertinib**; the planned Phase 3 MARIPOSA-2 ([NCT04988295](#)) study assessing the efficacy of lazertinib, amivantamab, carboplatin-pemetrexed vs. with carboplatin-pemetrexed in patients with locally advanced or metastatic EGFR exon 19 deletion or exon 21 L858R substitution NSCLC after osimertinib failure; the Phase 3 PAPHILLON ([NCT04538664](#)) study assessing RYBREVANT™ in combination with carboplatin-pemetrexed for patients with advanced or metastatic EGFR-mutated NSCLC and exon 20 insertion mutations; and the Phase 1 PALOMA ([NCT04606381](#)) study assessing the feasibility of subcutaneous (SC) administration of RYBREVANT™ based on safety and pharmacokinetics and to determine a dose, dose regimen and formulation for RYBREVANT™ SC delivery.^{8,9,10,11,12}

**In 2018, Janssen Biotech, Inc. entered into a license and collaboration agreement with Yuhan Corporation for the development of lazertinib.

About the CHRYSALIS Study

CHRYSALIS ([NCT02609776](#)) is a Phase 1 open-label, multicenter, first-in-human study to evaluate the safety, pharmacokinetics and preliminary efficacy of RYBREVANT™ as a monotherapy and in combinations including with lazertinib, a novel third-generation EGFR TKI¹³, in adults with advanced NSCLC.¹¹ The study consists of two parts: RYBREVANT™ monotherapy and combination-dose escalations and RYBREVANT™ monotherapy and combination-dose expansions.¹¹

About Non-Small Cell Lung Cancer (NSCLC)

Worldwide, lung cancer is one of the most common cancers, and NSCLC makes up 80 to 85 percent of all lung cancers.^{14,15} The main subtypes of NSCLC are adenocarcinoma, squamous cell carcinoma and large cell carcinoma.¹⁵ Among the most common driver mutations in NSCLC are alterations in EGFR, which is a receptor tyrosine kinase supporting cell growth and division.¹⁶ EGFR mutations are present in 10 to 15 percent^{17,18,19,20,21} of people with NSCLC

adenocarcinoma and occur in 40 to 50 percent of Asians.^{22,23} METex14 mutations are found in approximately three percent of patients with NSCLC.²

RYBREVANT™ IMPORTANT SAFETY INFORMATION⁷

WARNINGS AND PRECAUTIONS

Infusion Related Reactions⁷

RYBREVANT™ can cause infusion related reactions (IRR); signs and symptoms of IRR include dyspnea, flushing, fever, chills, nausea, chest discomfort, hypotension, and vomiting.

Based on the safety population, IRR occurred in 66% of patients treated with RYBREVANT™. Among patients receiving treatment on Week 1 Day 1, 65% experienced an IRR, while the incidence of IRR was 3.4% with the Day 2 infusion, 0.4% with the Week 2 infusion, and cumulatively 1.1% with subsequent infusions. Of the reported IRRs, 97% were Grade 1-2, 2.2% were Grade 3, and 0.4% were Grade 4. The median time to onset was 1 hour (range 0.1 to 18 hours) after start of infusion. The incidence of infusion modifications due to IRR was 62% and 1.3% of patients permanently discontinued RYBREVANT™ due to IRR.

Premedicate with antihistamines, antipyretics, and glucocorticoids and infuse RYBREVANT™ as recommended. Administer RYBREVANT™ via a peripheral line on Week 1 and Week 2. Monitor patients for any signs and symptoms of infusion reactions during RYBREVANT™ infusion in a setting where cardiopulmonary resuscitation medication and equipment are available. Interrupt infusion if IRR is suspected. Reduce the infusion rate or permanently discontinue RYBREVANT™ based on severity.

Interstitial Lung Disease/Pneumonitis⁷

RYBREVANT™ can cause interstitial lung disease (ILD)/pneumonitis. Based on the safety population, ILD/pneumonitis occurred in 3.3% of patients treated with RYBREVANT™, with 0.7% of patients experiencing Grade 3 ILD/pneumonitis. Three patients (1%) discontinued RYBREVANT™ due to ILD/pneumonitis.

Monitor patients for new or worsening symptoms indicative of ILD/pneumonitis (e.g., dyspnea, cough, fever). Immediately withhold RYBREVANT™ in patients with suspected ILD/pneumonitis and permanently discontinue if ILD/pneumonitis is confirmed.

Dermatologic Adverse Reactions⁷

RYBREVANT™ can cause rash (including dermatitis acneiform), pruritus and dry skin. Based on the safety population, rash occurred in 74% of patients treated with RYBREVANT™, including

Grade 3 rash in 3.3% of patients. The median time to onset of rash was 14 days (range: 1 to 276 days). Rash leading to dose reduction occurred in 5% of patients, and RYBREVANT™ was permanently discontinued due to rash in 0.7% of patients.

Toxic epidermal necrolysis occurred in one patient (0.3%) treated with RYBREVANT™.

Instruct patients to limit sun exposure during and for 2 months after treatment with RYBREVANT™. Advise patients to wear protective clothing and use broad spectrum UVA/UVB sunscreen. Alcohol free emollient cream is recommended for dry skin.

If skin reactions develop, start topical corticosteroids and topical and/or oral antibiotics. For Grade 3 reactions, add oral steroids and consider dermatologic consultation. Promptly refer patients presenting with severe rash, atypical appearance or distribution, or lack of improvement within 2 weeks to a dermatologist. Withhold, dose reduce or permanently discontinue RYBREVANT™ based on severity.

Ocular Toxicity⁷

RYBREVANT™ can cause ocular toxicity including keratitis, dry eye symptoms, conjunctival redness, blurred vision, visual impairment, ocular itching, and uveitis. Based on the safety population, keratitis occurred in 0.7% and uveitis occurred in 0.3% of patients treated with RYBREVANT™. All events were Grade 1-2. Promptly refer patients presenting with eye symptoms to an ophthalmologist. Withhold, dose reduce or permanently discontinue RYBREVANT™ based on severity.

Embryo Fetal Toxicity⁷

Based on its mechanism of action and findings from animal models, RYBREVANT™ can cause fetal harm when administered to a pregnant woman. Advise females of reproductive potential of the potential risk to the fetus. Advise female patients of reproductive potential to use effective contraception during treatment and for 3 months after the final dose of RYBREVANT™.

Adverse Reactions⁷

The most common adverse reactions ($\geq 20\%$) were rash, IRR, paronychia, musculoskeletal pain, dyspnea, nausea, fatigue, edema, stomatitis, cough, constipation, and vomiting. The most common Grade 3 or 4 laboratory abnormalities ($\geq 2\%$) were decreased lymphocytes, decreased albumin, decreased phosphate, decreased potassium, increased alkaline phosphatase, increased glucose, increased gamma-glutamyl transferase, and decreased sodium.

Please click [here](#) to see the full Prescribing Information

About the Janssen Pharmaceutical Companies of Johnson & Johnson

At Janssen, we're creating a future where disease is a thing of the past. We're the Pharmaceutical Companies of Johnson & Johnson, working tirelessly to make that future a reality for patients everywhere by fighting sickness with science, improving access with ingenuity and healing hopelessness with heart. We focus on areas of medicine where we can make the biggest difference: Cardiovascular & Metabolism, Immunology, Infectious Diseases & Vaccines, Neuroscience, Oncology and Pulmonary Hypertension.

Learn more at www.janssen.com. Follow us at [@JanssenUS](https://twitter.com/JanssenUS) and [@JanssenGlobal](https://twitter.com/JanssenGlobal). Janssen Research & Development, LLC and Janssen Biotech, Inc. are part of the Janssen Pharmaceutical Companies of Johnson & Johnson.

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[†]Dr. Spira has been a paid consultant to Janssen; he has not been paid for any media work.

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 RYBREVANT™ (amivantamab-vmjw). 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 materialize, actual results could vary materially from the expectations and projections of Janssen Research & Development, LLC, Janssen Biotech, Inc., or any of the other Janssen Pharmaceutical Companies 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; manufacturing difficulties and delays; competition, including technological advances, new products and patents attained by competitors; challenges to patents; product efficacy or safety concerns resulting in product recalls or regulatory action; changes in behavior 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 January 3, 2021, including in the sections captioned "Cautionary Note Regarding Forward-Looking Statements" and "Item 1A. Risk Factors," and in the company's most recently filed Quarterly Report on Form 10-Q, and the company's subsequent filings with the Securities and Exchange Commission. Copies of these filings are available online at www.sec.gov, www.jnj.com or on

request from Johnson & Johnson. None of the Janssen Pharmaceutical Companies nor Johnson & Johnson undertakes to update any forward-looking statement as a result of new information or future events or developments.

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- ¹ Spira et al. Amivantamab in Non-small Cell Lung Cancer (NSCLC) with MET Exon 14 Skipping (METex14) Mutation: Initial Results from CHRYSALIS. IASLC 2021 WCLC.
- ² Frampton Cancer Discov 5:850;
- ³ DeMello et al. The Role of MET Inhibitor Therapies in the Treatment of Advanced Non-Small Cell Lung Cancer. *J Clin Med.* 2020 Jun; 9(6): 1918.
- ⁴ Capmatinib Prescribing Information 2020
- ⁵ Tepotinib Prescribing Information 2020
- ⁶ Recondo, G et al. Molecular Mechanisms of Acquired Resistance to MET Tyrosine Kinase Inhibitors in Patients with MET Exon 14-Mutant NSCLC. *Clinical Cancer Research.* 2020. 26 (11): 2615-2625.
- ⁷ RYBREVANT™ Prescribing Information. Horsham, PA: Janssen Biotech, Inc.
- ⁸ ClinicalTrials.gov. A Study of Amivantamab and Lazertinib Combination Therapy Versus Osimertinib in Locally Advanced or Metastatic Non-Small Cell Lung Cancer (MARIPOSA). Available at: <https://clinicaltrials.gov/ct2/show/NCT04487080>. Accessed August 2021.
- ⁹ ClinicalTrials.gov. A Study of Combination Amivantamab and Carboplatin-Pemetrexed Therapy, Compared With Carboplatin-Pemetrexed, in Participants With Advanced or Metastatic Non-Small Cell Lung Cancer Characterized by Epidermal Growth Factor Receptor (EGFR) Exon 20 Insertions (PAPILLON). Available at: <https://clinicaltrials.gov/ct2/show/NCT04538664?term=PAPILLON&cond=NSCLC&draw=2&rank=1>. Accessed August 2021.
- ¹⁰ ClinicalTrials.gov. A Study of Amivantamab Subcutaneous (SC) Administration for the Treatment of Advanced Solid Malignancies. Available at: <https://clinicaltrials.gov/ct2/show/NCT04606381>. Accessed August 2021.
- ¹¹ ClinicalTrials.gov. Study of JNJ-61186372, a Human Bispecific EGFR and cMet Antibody, in Participants With Advanced Non-Small Cell Lung Cancer. Available at: <https://clinicaltrials.gov/ct2/show/NCT02609776>. Accessed August 2021.
- ¹² ClinicalTrials.gov. A Study of Amivantamab and Lazertinib in Combination With Platinum-Based Chemotherapy Compared With Platinum-Based Chemotherapy in Patients With Epidermal Growth Factor Receptor (EGFR)-Mutated Locally Advanced or Metastatic Non-Small Cell Lung Cancer After Osimertinib Failure (MARIPOSA-2). <https://clinicaltrials.gov/ct2/show/NCT04988295>. Accessed August 2021.
- ¹³ Ahn, J. et al. Lazertinib in patients with EGFR mutation-positive advanced non-small-cell lung cancer: results from the dose escalation and dose expansion parts of a first-in-human, open-label, multicentre, phase 1–2 study. *Lancet Oncology.* 2019. 20 (12): 1681-1690.
- ¹⁴ The World Health Organization. Cancer. <https://www.who.int/news-room/fact-sheets/detail/cancer>. Accessed August 2021.
- ¹⁵ American Cancer Society. What is Lung Cancer? <https://www.cancer.org/content/cancer/en/cancer/lung-cancer/about/what-is.html>. Accessed August 2021.
- ¹⁶ Remon, J et al. EGFR exon 20 insertions in advanced non-small cell lung cancer: A new history begins. *Cancer Treatment Reviews.* 90 (2020).
- ¹⁷ Oxnard, JR et. al. Natural history and molecular characteristics of lung cancers harboring EGFR exon 20 insertions. *J Thorac Oncol.* 2013 Feb;8(2):179-84. doi: 10.1097/JTO.0b013e3182779d18.
- ¹⁸ Bauml, JM, et al. Underdiagnosis of EGFR Exon 20 Insertion Mutation Variants: Estimates from NGS-based Real World Datasets. WCLC Poster #3399. January 2021.
- ¹⁹ Riess JW, Gandara DR, Frampton GM, et al. Diverse EGFR exon 20 insertions and co-occurring molecular alterations identified by comprehensive genomic profiling of NSCLC. *J Thorac Oncol.* 2018;13(10):1560-1568. doi:10.1016/j.jtho.2018.06.019
- ²⁰ Pennell, NA et al. A phase II trial of adjuvant erlotinib in patients with resected epidermal growth factor receptor-mutant non-small cell lung cancer. *J Clin Oncol.* 37:97-104.
- ²¹ Burnett H, Emich H, Carroll C, Stapleton N, Mahadevia P, Li T. Epidemiological and clinical burden of EGFR exon 20 insertion in advanced non-small cell lung cancer: a systematic literature review. Abstract presented at: World Conference on Lung Cancer Annual Meeting; January 29, 2021; Singapore.
- ²² Zhang et al 2016 (*Oncotarget*, Vol. 7, No. 48) study which estimated prevalence of EGFR mutations across various patient subgroups, including Asians.
- ²³ Midha et al. EGFR mutation incidence in non-small-cell lung cancer of adenocarcinoma histology: a systematic review and global map by ethnicity. *Am J Cancer Res.* 2015;5(9):2892-2911