FOR MEDICAL AND TRADE MEDIA ONLY

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JANSSEN RECEIVES POSITIVE CHMP OPINION FOR SPRAVATO® (ESKETAMINE) NASAL SPRAY FOR ADULTS WITH TREATMENT-RESISTANT MAJOR DEPRESSIVE DISORDER

If approved by the European Commission, esketamine nasal spray will offer the first new mechanism of action in 30 years to treat major depressive disorder (MDD)

In the phase III clinical development programme with flexible dosing, esketamine nasal spray and a newly initiated oral antidepressant achieved superior improvement in depression symptoms, and sustained improvement in their symptoms over time compared to adults who received a placebo and an oral antidepressant[1,2]

BEERSE, BELGIUM, OCTOBER 18, 2019 – The Janssen Pharmaceutical Companies of Johnson & Johnson announced today that the Committee for Medicinal Products for Human Use (CHMP) of the European Medicines Agency (EMA) has recommended approval for SPRAVATO® (esketamine) nasal spray, in combination with a selective serotonin reuptake inhibitor (SSRI) or serotonin and norepinephrine reuptake inhibitor (SNRI), for adults living with treatment-resistant major depressive disorder (TRD). Patients are considered to have TRD if they have not responded to at least two different treatments with antidepressants in the current moderate to severe depressive episode.[3]

"MDD affects approximately 40 million people across Europe and is the leading cause of disability worldwide.[4,5] *Of these people, about one third do not respond to currently available treatments,*[6]*"* says Allitia DiBernardo, MD, European Therapeutic Area Lead for Mood Disorders, Janssen-Cilag. *"Janssen is committed to improving outcomes for patients with treatment-resistant major depressive disorder, and we look forward to bringing a new treatment option to people who need it most."*

The European marketing authorisation application was primarily based on safety and efficacy data from five Phase III studies in patients with TRD: three short-term studies, one randomised withdrawal and maintenance of effect study, and one long-term safety study.[1,2,7,8,9] Data from these studies, which included more than 1600 esketamine-treated patients, demonstrated that treatment with esketamine nasal spray plus a newly initiated oral antidepressant, compared to a newly initiated antidepressant plus placebo nasal spray as an active standard of care (SOC) comparator, was associated with a reduction in depressive symptoms, as early as day 2.[1,2,7,8,9]

In the short term (1 month) study, approximately 70 percent of all esketamine-treated patients responded to treatment with a ≥50 percent symptom reduction. Furthermore, approximately half of all treated patients achieved remission, with few, if any, symptoms of depression, which is the ultimate treatment goal.[1] This high degree of efficacy was maintained for the majority of patients and in the maintenance of effect study, continuous treatment with esketamine plus the oral antidepressant reduced the risk of relapse by 51 percent in patients who achieved stable remission, and by 70 percent among patients who achieved stable response, compared with oral antidepressants alone.[8]

The safety of esketamine nasal spray was also evaluated in these five pivotal Phase III studies and one Phase II study, providing insights into the safety profile of esketamine when combined with an oral antidepressant, over the long-term. The data demonstrated a favourable risk/benefit profile, with sustained efficacy and no new safety concerns observed over a period of up to 52 weeks.[1,2,7,8,9,10] The most commonly observed adverse reactions in TRD patients treated with esketamine were dissociation, dizziness, nausea, sedation, headache, vertigo, dysgeusia,

hypoaesthesia, blood pressure increase, anxiety and vomiting.[1,2,7,8,9,10] These side effects were generally mild-to-moderate, transient and happened on the day of dosing.

Esketamine is an antagonist of the N-methyl-D-aspartate (NMDA) glutamate receptor, meaning that it works differently to other currently available therapies for MDD.[11,12] It is thought to help restore synaptic connections between brain cells in people with TRD, allowing for more activity and communication between specific regions of the brain. Based on results from clinical trials, this increase in activity and communication is thought to lead to improvement in the symptoms of depression.[11,12]

The CHMP positive opinion comes after the US Food and Drug Administration's (FDA) approval of esketamine nasal spray in March 2019.[13] It will now be reviewed by the European Commission (EC), which has the authority to grant marketing authorisation for medicines in the European Economic Area. The EC's final decision is anticipated in late 2019.

"We are pleased with CHMP's opinion and their recommendation to approve esketamine nasal spray as a potential therapy for adults living with treatment-resistant major depressive disorder," commented Husseini K. Manji, MD, Global Head, Neuroscience Therapeutic Area, Janssen Research & Development, LCC. *"For decades there have been no new treatment options for these patients. Esketamine nasal spray represents a new way to manage TRD with a unique and novel mode of administration."*

#ENDS#

About Esketamine

Esketamine is an antagonist of the N-methyl-D-aspartate (NMDA) glutamate receptor, which is thought to help restore synaptic connections in brain cells in people with treatment-resistant major depressive disorder (TRD). If approved, esketamine nasal spray will offer the first new mechanism of action in 30 years to treat major depressive disorder (MDD).

Esketamine nasal spray received two breakthrough therapy designations from the US Food and Drug Administration (FDA) in November 2013 for the treatment of TRD and in August 2016 for the treatment of MDD patients presenting with active suicidal ideation with intent.[14]

On 5th March 2019, esketamine nasal spray was granted US marketing authorisation by the FDA under the brand name SPRAVATO® for use in conjunction with an oral antidepressant in adults with TRD.[13]

Janssen filed esketamine nasal spray as a treatment for TRD for regulatory approval by the European Commission in Europe in October 2018.[15]

About Major Depressive Disorder

Major depressive disorder (MDD) affects nearly 40 million people of all ages in Europe and is the leading cause of disability worldwide.[4,5] Individuals with depression, including MDD, experience continuous suffering from a serious, biologically-based disease, which has a significant negative impact on all aspects of life, including quality of life and function. Although currently available antidepressants are effective for many patients, about one third of patients do not respond to treatment, and so are considered to have treatment-resistant depression or "TRD".[3,6] Janssen studies of esketamine nasal spray define "resistance to treatment" as inadequate response to two or more currently available treatments with antidepressants in a single, current episode of moderate-to-severe depression.[1,2,7,8,9,10]

About the Janssen Pharmaceutical Companies of Johnson & Johnson

At the Janssen Pharmaceutical Companies of Johnson & Johnson, we are working to create a world without disease. Transforming lives, by finding new and better ways to prevent, intercept, treat and cure disease, inspires us. We bring together the best minds and pursue the most promising science.

We are Janssen. We collaborate with the world for the health of everyone in it. Learn more at www.janssen.com/emea. Follow us at www.twitter.com/JanssenEMEA. Janssen Research &

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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 of esketamine. 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-Cilag International NV, 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 behaviour and spending patterns of purchasers of healthcare products and services; changes to applicable laws and regulations, including global healthcare reforms; and trends toward healthcare 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, 2018, including in the sections captioned "Cautionary Note Regarding Forward-Looking Statements" and "Item 1A. Risk Factors," in the company's most recently filed Quarterly Report on Form 10-Q, and in 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. Neither 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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