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Corporate Release

Takeda and Lundbeck submit New Drug Application (NDA) for vortioxetine in Japan for the treatment of Major Depressive Disorder (MDD)

- *NDA submission highlights four key studies involving approximately 1,400 patients, including the pivotal phase III study conducted in Japan*
- *Pivotal phase III study demonstrated positive results of vortioxetine as compared to placebo for the treatment of MDD in Japanese adults*

Valby, Denmark and Osaka, Japan, 28 September 2018 - H. Lundbeck A/S (Lundbeck) and its partner Takeda Pharmaceutical Company Limited (Takeda) today announced the submission of a New Drug Application ("NDA") to the Japanese Ministry of Health, Labour and Welfare for vortioxetine for the treatment of Major Depressive Disorder (MDD) in adults. MDD is a complex but common disorder with more than 3.5 million cases in Japan, affecting 3% of the population[i].

The NDA filing included data from the pivotal phase III randomized, placebo-controlled study (NCT02389816) in MDD. Approximately 490 Japanese adults with recurrent MDD were randomized to receive vortioxetine (10 and 20 mg), or placebo. The primary endpoint was the change from baseline (i.e. the start of double-blind treatment) in the Montgomery-Åsberg Depression Rating Scale (MADRS) total score after 8 weeks of treatment. The study demonstrated positive results of vortioxetine as compared to placebo for the treatment of MDD in adults. Full results will be presented at a scientific meeting in the future. The regulatory submission also featured data from three other key studies conducted globally (NCT01255787) and in Japan (NCT01355081, NCT01395147).

"*Today's filing for regulatory approval in Japan by our partner Takeda is an important step for Lundbeck and Takeda to bring vortioxetine to patients suffering from major depressive disorder in Japan*", said Jacob Tolstrup, Executive Vice President, Commercial Operations and continues "*Japan is an important strategic market for Lundbeck and we look forward to collaborating with the Japanese Ministry of Health, Labour and Welfare as they review the package*".

"*MDD is a multifaceted condition that has emotional and physical symptoms and can impair cognitive functions. As such, it represents a significant medical need*," says Naoyoshi Hirota, head of Takeda Development Center Japan. "*We are pleased by today's regulatory filing, as it demonstrates our joint*

commitment with Lundbeck, and the belief that vortioxetine has the potential to become a new treatment option for patients in Japan suffering from this serious and complex condition."

Lundbeck and Takeda will co-commercialize vortioxetine in Japan once approved and both companies are currently in the process of evaluating and planning the commercialization strategy.

About Major Depressive Disorder (MDD)

MDD is a complex mental health illness that affects approximately 300 million people globally[ii]. Also known as clinical depression, MDD is the leading cause of disability worldwide and a major contributor to the overall global burden of disease. MDD may trigger emotional, cognitive and physical symptoms, which includes depressed mood, loss of interest or pleasure, significant weight loss or gain or change in appetite, insomnia or hypersomnia, psychomotor agitation or retardation, fatigue or loss of energy, feelings of worthlessness or excessive guilt, diminished ability to think or concentrate, or indecisiveness, and recurrent suicidal ideation.

About vortioxetine

The mechanism of the antidepressant effect of vortioxetine is not fully understood. It is an inhibitor of serotonin (5-HT) reuptake and that is thought to be a mechanism of its action. It is also an agonist at 5-HT_{1A} receptors, a partial agonist at 5-HT_{1B} receptors and an antagonist at 5-HT_3, 5-HT_{1D} and 5-HT_7 receptors. The contribution of each of these activities to vortioxetine's antidepressant effect has not been established. It is considered to be the first and only compound with this combination of pharmacodynamic activity. The clinical relevance of this is unknown.

Vortioxetine was discovered by Lundbeck researchers in Copenhagen, Denmark. The clinical trial program in Japan was conducted by Takeda.

The World Health Organization has issued an Anatomical Therapeutic Chemical (ATC) code for vortioxetine that places it in the category of "Other" antidepressants.

The U.S Food and Drug Administration (FDA) approved vortioxetine (Trintellix®) on 30 September 2013 for the treatment of MDD in adults. Vortioxetine is furthermore approved in 77 countries (including Europe, Australia, Brazil, Canada, Chile, China, Hong Kong, Mexico, Saudi Arabia, Singapore, South Africa, South Korea and Turkey). It is available in more than 60 countries to date. Depending on market vortioxetine is recognized as Trintellix® or Brintellix®.

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About H. Lundbeck A/S

H. Lundbeck A/S (LUN.CO, LUN DC, HLUYY) is a global pharmaceutical company specialized in psychiatric and neurological disorders. For more than 70 years, we have been at the forefront of research within neuroscience. Our key areas of focus are Alzheimer's disease, depression, Parkinson's disease and schizophrenia.

Our approximately 5,000 employees in 55 countries are engaged in the entire value chain throughout research, development, manufacturing, marketing and sales. Our pipeline consists of several late-stage development programmes and our products are available in more than 100 countries. We have production facilities in Denmark, France and Italy. Lundbeck generated revenue of DKK 17.2 billion in 2017 (EUR 2.3 billion; USD 2.6 billion).

For additional information, we encourage you to visit our corporate site www.lundbeck.com and connect with us on Twitter at @Lundbeck.

About Takeda Pharmaceutical Company Limited

Takeda Pharmaceutical Company Limited (TSE: 4502) is a global, research and development-driven pharmaceutical company committed to bringing better health and a brighter future to patients by translating science into life-changing medicines. Takeda focuses its R&D efforts on oncology, gastroenterology and neuroscience therapeutic areas plus vaccines. Takeda conducts R&D both internally and with partners to stay at the leading edge of innovation. Innovative products, especially in oncology and gastroenterology, as well as Takeda’s presence in emerging markets, are currently fueling the growth of Takeda. Approximately 30,000 Takeda employees are committed to improving quality of life for patients, working with Takeda’s partners in health care in more than 70 countries. For more information, visit https://www.takeda.com/newsroom/.

Safe Harbor/Forward-Looking Statements

The above information contains forward-looking statements that provide our expectations or forecasts of future events such as new product introductions, product approvals and financial performance.

Such forward-looking statements are subject to risks, uncertainties and inaccurate assumptions. This may cause actual results to differ materially from expectations and it may cause any or all of our forward-looking statements here or in other publications to be wrong. Factors that may affect future results include interest rate and currency exchange rate fluctuations, delay or failure of development projects, production problems, unexpected contract breaches or terminations, government-mandated or market-driven price decreases for Lundbeck's products, introduction of competing products, Lundbeck's ability to successfully market both new and existing products, exposure to product liability and other lawsuits, changes in reimbursement rules and governmental laws and related interpretation thereof, and unexpected growth in costs and expenses.

Certain assumptions made by Lundbeck are required by Danish Securities Law for full disclosure of material corporate information. Some assumptions, including assumptions relating to sales associated with product that is prescribed for unapproved uses, are made taking into account past performances of other similar drugs for similar disease states or past performance of the same drug in other regions where the product is currently marketed. It is important to note that although physicians may, as part of their freedom to practice medicine in the US, prescribe approved drugs for any use they deem appropriate, including unapproved uses, at Lundbeck, promotion of unapproved uses is strictly prohibited.

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[i] Global Burden of Disease. GHDx. Available at http://ghdx.healthdata.org/gbd-results-tool. Accessed August 29, 2018.

[ii] World Health Organization (WHO). *Depression.* http://www.who.int/news-room/fact-sheets/detail/depression. Accessed on June 4, 2018.