Lilly Submits New Drug Application to the FDA for Lasmiditan for Acute Treatment of Migraine, Receives Breakthrough Therapy Designation for Emgality™ (galcanezumab-gnlm) for Prevention of Episodic Cluster Headache

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Lilly also plans to submit a supplemental Biologics License Application (sBLA) to the FDA for Emgality for the preventive treatment of episodic cluster headache by the end of the year, reflecting its commitment to disabling headache disorders

INDIANAPOLIS, Nov. 14, 2018 /PRNewswire/ -- Eli Lilly and Company (NYSE: LLY) has announced the submission of a New Drug Application (NDA) to the U.S. Food and Drug Administration (FDA) for lasmiditan for the acute treatment of migraine with or without aura in adults.

Lasmiditan is an investigational, oral, centrally-penetrant, selective serotonin 5-HT_{1F} agonist that is structurally and mechanistically distinct from other approved migraine therapies and lacks vasoconstrictive activity. It is the first and only molecule in the "-ditan" class under evaluation for the acute treatment of migraine in adults. If approved, it could represent the first significant innovation for the acute treatment of migraine in more than two decades.

Lilly also plans to submit an sBLA to the FDA for Emgality for the preventive treatment of episodic cluster headache in adults by the end of the year. The FDA has granted Breakthrough Therapy Designation to Emgality for episodic cluster headache. Breakthrough Therapy Designation is a process that is intended to expedite the development and review of drugs that treat serious or life-threatening diseases and, based on preliminary clinical evidence, may demonstrate substantial improvement over available therapies. Currently, there are no approved preventive treatments for episodic cluster headache in the U.S.

"Headache disorders like migraine and cluster headache affect each person differently, and many patients spend years cycling through different medications to effectively diagnose and treat their symptoms," said Gudarz Davar, M.D., vice president, Neurology Development, Lilly Bio-Medicines. "Lilly has spent the last 25 years researching innovative therapies to treat headache disorders, and we are thrilled to be one step closer to potentially providing new and different options with lasmiditan for the acute treatment of migraine and Emgality for the preventive treatment of episodic cluster headache."

The NDA for lasmiditan includes data from two Phase 3 single-attack studies (SAMURAI and SPARTAN), which evaluated the safety and efficacy of lasmiditan for the acute treatment of migraine. In both studies, at two hours following the first dose of lasmiditan, the percentage of patients who were migraine pain-free was significantly greater compared to placebo. These results were significant across all studied doses. Lasmiditan also met the key secondary endpoint, with a significantly greater percentage of patients free of their most bothersome symptom (MBS) compared with placebo at two hours following the first dose. In these studies, patients chose their MBS from sensitivity to light, sensitivity to sound or nausea. The most commonly reported adverse events after lasmiditan dosing were dizziness, paresthesia, somnolence, fatigue, nausea, muscle weakness and numbness. Data from these studies were presented at the American Headache Society (AHS) annual meeting and the American Academy of Neurology (AAN) annual meeting.

"As a caregiver for someone living with chronic migraine, I know firsthand how disabling headache diseases can be," said Kevin Lenaburg, executive director of the Coalition For Headache And Migraine Patients (CHAMP). "We're excited about the new innovations in the acute treatment of migraine and the preventive treatment of migraine and episodic cluster headache, and we're thankful for Lilly's commitment to continue to investigate and hopefully bring these important new therapeutic options to market."

Lasmiditan and Emgality represent two of three treatments in Lilly's pain portfolio. Emgality was approved by the FDA in September 2018 for the preventive treatment of migraine in adults. The portfolio also includes tanezumab, developed in partnership with Pfizer, which is currently being investigated for the treatment of osteoarthritis pain, chronic low back pain and cancer pain.

Indications and Usage for Emgality
Emgality is a calcitonin gene-related peptide (CGRP) antagonist indicated for the preventive treatment of migraine in adults.

Important Safety Information for Emgality

Contraindications
Emgality is contraindicated in patients with serious hypersensitivity to galcanezumab-gnlm or to any of the excipients.
Warnings and Precautions
Hypersensitivity Reactions
Hypersensitivity reactions (e.g., rash, urticaria and dyspnea) have been reported with Emgality in clinical studies. If a serious or severe hypersensitivity reaction occurs, discontinue administration of Emgality and initiate appropriate therapy. Hypersensitivity reactions can occur days after administration and may be prolonged.
Adverse Reactions
The most common adverse reactions (incidence ≥2% and at least 2% greater than placebo) in Emgality clinical studies were injection site reactions.

Please see Full Prescribing Information, including Patient Information, for Emgality. See Instructions for Use included with the pen and prefilled syringe.

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About Migraine
Migraine is a disabling, neurologic disease characterized by recurrent episodes of severe headache accompanied by other symptoms including nausea, vomiting, sensitivity to light and sound, and changes in vision.[1,2] More than 30 million American adults have migraine, with three times more women affected by migraine compared to men.[3,4,5,6]According to the Medical Expenditures Panel Survey, the total unadjusted cost associated with migraine in the U.S. is estimated to be as high as $56 billion annually, yet migraine remains under-recognized and under-treated.[3,7,8]

About Cluster Headache
Cluster headache is a disabling primary headache disorder composed of recurrent "attacks" of intense headaches on one side of the head, frequently associated with pain behind or around one eye, restlessness and agitation.[9,10] Cluster headache attacks typically last between 15 to 180 minutes, occurring near daily to multiple times daily during a cluster period.[9] It is estimated that 85 to 90 percent of cluster headache cases are classified as "episodic," while the remaining 10 to 15 percent are classified as "chronic." Diagnostically, episodic cluster headache and chronic cluster headache are differentiated based on the duration of remission periods.[9]

About Lasmiditan
Lasmiditan is an investigational, first-in-class molecule under evaluation for the acute treatment of migraine. Lasmiditan uses a novel mechanism of action which selectively targets 5-HT_{1F} receptors, including those expressed in the trigeminal pathway, and has been designed for the acute treatment of migraine without the vasoconstrictor activity associated with some migraine therapies. Data from two Phase 3 single-attack studies (SAMURAI and SPARTAN) have been presented at the American Headache Society (AHS) annual meeting and the American Academy of Neurology (AAN) annual meeting. In March 2017, Lilly completed the acquisition of CoLucid Pharmaceuticals, including lasmiditan, which was originally discovered at Lilly.

About Emgality
Emgality is a humanized monoclonal antibody that binds to calcitonin gene-related peptide (CGRP) and blocks its binding to the receptor. Emgality offers a once-monthly, self-administered, subcutaneous injection.

About Lilly's Commitment to Headache Disorders
For over 25 years, Lilly has been committed to helping people suffering from headache disorders, investigating more than a dozen different compounds for the treatment of migraine, cluster headache and other disabling headache disorders. These research programs have accelerated the understanding of these diseases and furthered the advancement of Lilly's comprehensive late-stage development programs studying galcanezumab-gnlm for prevention of migraine and cluster headache, and lasmiditan for the acute treatment of migraine. Our goal is to make life better for people with headache disorders by offering comprehensive solutions to prevent or stop these disabling diseases. The combined clinical, academic and professional experience of our experts helps us to build our research portfolio, identify challenges for healthcare providers and pinpoint the needs of patients living with migraine and cluster headache.

About Eli Lilly and Company
Lilly is a global healthcare leader that unites caring with discovery to make life better for people around the world. We were founded more than a century ago by a man committed to creating high-quality medicines that meet real needs, and today we remain true to that mission in all our work. Across the globe, Lilly employees work to discover and bring life-changing medicines to those who need them, improve the understanding and management of disease, and give back to communities through philanthropy and volunteerism. To learn more about Lilly, please visit us at www.lilly.com and www.lilly.com/newsroom/social-channels. P-LLY

This press release contains forward-looking statements (as that term is defined in the Private Securities Litigation Reform Act of 1995) about Emgality (galcanezumab-gnlm) as a treatment for patients with migraine and as a potential treatment for patients with episodic cluster headaches; lasmiditan as a potential treatment for patients with migraine; and tanezumab as a potential treatment for patients with osteoarthritis, chronic low back pain and cancer pain and reflects Lilly's current belief. However, as with any pharmaceutical product, there are substantial risks and uncertainties in the process of development and commercialization. Among other things, there can be no guarantee that Emgality, lasmiditan or tanezumab will receive additional regulatory approvals. There can also be no guarantee that any of these molecules will be commercially successful. For further discussion of these and other risks and uncertainties, see Lilly's most recent Form 10-K and Form 10-Q filings with the United States Securities and Exchange Commission. Except as required by law, Lilly undertakes no duty to update forward-looking statements to reflect events after the date of this release.

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