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Press release

JAMA Internal Medicine publishes positive Phase 3 pivotal study results for Camurus' long-acting buprenorphine depots for opioid use disorder

Head-to-head, Phase 3 study of weekly and monthly buprenorphine depots (CAM2038) vs standard treatment with daily sublingual buprenorphine/naloxone.

CAM2038 met the primary endpoint of non-inferiority and demonstrated superiority for the first secondary endpoint.

Lund — 14 May 2018 — Camurus AB (Nasdaq STO, CAMX) announced today the publication in the *Journal of the American Medical Association (JAMA) Internal Medicine* of positive Phase 3 pivotal study results for the company's weekly and monthly subcutaneous (SC) buprenorphine depots (CAM2038), supporting efficacy and potential clinical advantages of the investigational medical product for the treatment of opioid use disorder (OUD). [1] Designed to reflect real-world flexible and individualized dosing guidelines, this active-controlled study randomized 428 OUD patients to double-blind, double-dummy treatment with weekly and monthly CAM2038 or daily sublingual buprenorphine/naloxone (SL BPN/NX). Study participants in the CAM2038 group were initiated with the weekly depot and SL placebo and treated for 12 weeks and were then transitioned to treatment with the monthly formulation an SL placebo for an additional 12 weeks.

"Today's publication of the Phase 3 results suggests that treatment of opioid use disorder (OUD) with buprenorphine can be improved with weekly and monthly depot formulations, CAM2038. The Day 1 initiation of dosing combined with flexible dose options of CAM2038, without need for additional buprenorphine prescription, responds to real-world patient and provider treatment needs, enabling clinicians to individualize the treatment to the patients in accordance with current clinical guidelines and worry less about medication non-adherence," said Dr. Michelle Lofwall, Assoc. Professor of Behavioral Science and Psychiatry at the University of Kentucky Center on Drug and Alcohol Research and Primary Investigator in the study. "The Phase 3 data showed that patients treated with CAM2038 were significantly less likely to use illicit opioids on a critical secondary outcome compared to those on standard daily buprenorphine/naloxone treatment. CAM2038 also had a favorable safety profile with no reported drug overdoses, and fewer serious adverse events. These results, combined with the previously published Phase 2 study results in JAMA Psychiatry in 2017 [2] that demonstrated that CAM2038 provides complete blockade of illicit opioid effects, are incredibly exciting because they suggest that this investigational medicine may be a highly effective new treatment option for OUD."

"The Phase 3 publication in JAMA Internal Medicine represents another significant milestone in the CAM2038 clinical program, contributing to the growing evidence base for our long-acting buprenorphine injections for the initiation and maintenance treatment of opioid use disorder." said Fredrik Tiberg, President and CEO of Camurus. "The Phase 3 publication, the first of a long-acting buprenorphine injectable, provides important information about a potential new treatment option for opioid use disorder, for which treatment alternatives are scarce. We will continue to work closely together with regulatory agencies to make CAM2038 available to patients as quickly as possible."

The Phase 3 pivotal study results published online today in JAMA Internal Medicine [1] represent a key component of the CAM2038 marketing authorization applications under review by healthcare authorities in the EU and Australia, and new drug applications submitted to US Food and Drug Administration by Camurus' US partner Braeburn Pharmaceuticals.

About the Phase 3 study

Designed to reflect real-world flexible and individualized dosing guidelines, this outpatient, randomized, double-blind, double-dummy Phase 3 study (NCT02651584) of CAM2038 versus daily SL BPN/NX enrolled 428 patients with moderate-to-severe OUD, including those with concomitant use of other illicit substances at baseline. [1] 165 were women [38.6%] and 263 were men [61.4%]. The mean age of the participants was 38.4 years and the average time since the first OUD diagnosis was 4.5 years. Patients were randomized and initiated on daily SL placebo and weekly CAM2038 on Day 1 of treatment, continuing for the first 12 weeks, and monthly CAM2038 during the last 12 weeks, or daily SL BPN/NX and corresponding weekly or monthly placebo injections.

The study met the primary non-inferiority endpoints with a positive treatment difference between CAM2038 and SL BPN/NX of 3.0% (95%CI, -4.0% to 9.9%; $p < 0.001$) for the responder rate (primary endpoint for the FDA) and 6.7% (95%CI, -0.1% to 13.6%; $p < 0.001$) for the mean percentage of urine drug samples negative for illicit opioids (primary endpoint for the EU). Statistical superiority was demonstrated for the first secondary endpoint of the cumulative distribution function (CDF) for the percentage opioid-free urine samples supported by self-reports weeks 4 through 24 [1], with a difference in medians of 26.7% between CAM2038 and SL BPN/NX ($p = 0.004$). Sensitivity analyses reinforced the main study findings. CAM2038 was started on the first day of treatment and produced a rapid and sustained suppression of opioid withdrawal and cravings, which continued across the 24-week treatment period. The CAM2038 safety profile was consistent with that of SL BPN/NX, with the exception of some mild-to-moderate injection-site reactions. Non-fatal overdoses were reported for 5 patients, all of whom were in the SL BPN/NX group. [1]

About opioid use disorder (opioid dependence)

Opioid use disorder and opioid-related overdose deaths are escalating global health problems [3, 4], contributing to significant mental, physical, and social adverse consequences that include transmission of infectious diseases, unintentional overdose, criminal activity, and incarceration. [5, 6, 7] According to the World Drug Report, approximately 33 million individuals globally use opioids for nonmedical purposes. [8] Opioids top the list of drugs that cause the greatest burden of disease and drug-related

deaths worldwide. An estimated 2.6 million people in the United States have an OUD, and more than 44 000 opioid-involved overdose deaths occur annually. [4, 8] In the European Union, an estimated 1.3 million people engage in high-risk opioid use. [9]

About CAM2038

CAM2038 are investigational weekly and monthly buprenorphine injection depots in late-stage clinical development for the treatment of opioid dependence, as a part of a comprehensive treatment plan to include counseling and psychosocial support. The products do not require refrigeration or mixing and are designed for flexible and individualized treatment from day 1 of treatment initiation, early stabilization and longer-term maintenance therapy, providing sustained buprenorphine release and efficacy for 1 week and 1 month, respectively. CAM2038 is intended as a stand-alone treatment, obviating the need for additional transmucosal buprenorphine prescriptions. Administration by healthcare professionals increases medication adherence, while minimizing risks of diversion, misuse, and accidental exposure to children, teenagers and pets. CAM2038 has been successfully evaluated in five Phase 1 and 2 clinical studies, as well as in two pivotal Phase 3 efficacy and long-term safety studies.

CAM2038 depots are presented ready for use in prefilled syringes for weekly or monthly administration by a healthcare professional as small dose volume (about 0.6 mL) subcutaneous injection though a thin, 23-gauge needle. CAM2038 is developed for room temperature storage, avoiding the need for cold chain distribution and refrigerator storage. No mixing steps or room temperature conditioning is required prior to administration.

About Camurus

Camurus is a Swedish research-based pharmaceutical company committed to developing and commercialising innovative and differentiated medicines for the treatment of severe and chronic conditions. New drug products with best-in-class potential are conceived based on the proprietary FluidCrystal® drug delivery technologies and an extensive R&D expertise. Camurus' clinical pipeline includes products for treatment of cancer, endocrine diseases, pain and addiction, developed in-house and in collaboration with international pharmaceutical companies. The company's shares are listed on Nasdaq Stockholm under the ticker "CAMX". For more information, visit www.camurus.com.

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