



## **Alkermes Announces Positive Topline Results from Complete Six-Month Phase 2 Clinical Trial of ALKS 3831 in Schizophrenia**

April 6, 2015

*— Treatment With Once-Daily, Oral Antipsychotic Candidate Demonstrated Durability of Efficacy for Treatment of Schizophrenia Symptoms and Beneficial Weight Effect Over Six Months —*

*— Data From Second Three-Month Period Extend Findings From First Three Months of Treatment and Provide First Evidence of Beneficial Weight Effect for Patients Switching From Olanzapine to ALKS 3831 —*

*— Company on Track to Initiate Pivotal Development Program in 2015 —*

DUBLIN--(BUSINESS WIRE)--Apr. 6, 2015-- [Alkermes plc](#) (NASDAQ: ALKS) today announced positive topline results from the complete, six-month, randomized, dose-ranging phase 2 study of ALKS 3831, an investigational, novel, oral atypical antipsychotic drug candidate designed to be a broad-spectrum treatment for schizophrenia. The study was designed in two stages: for the initial three months, patients were randomized to receive olanzapine or one of three doses of ALKS 3831, and antipsychotic efficacy and weight gain were assessed. Positive topline data from this stage were announced in January 2015, showing that ALKS 3831 met the study's primary endpoint, demonstrating antipsychotic efficacy equivalent to olanzapine, as well as key secondary endpoints showing ALKS 3831's favorable effects on weight gain compared to olanzapine. For the second three months, all patients who received ALKS 3831 during the initial three months continued to receive ALKS 3831, and patients who had received olanzapine were switched to ALKS 3831. Data from the completed study support and extend the initial positive results showing ALKS 3831's favorable efficacy and mean weight gain profile and show for the first time that switching patients from olanzapine to ALKS 3831 resulted in a cessation of mean weight gain.

"This second three-month stage of the phase 2 study provided further confirmation of the positive weight effects and strong efficacy of ALKS 3831 for the treatment of schizophrenia over the complete six-month study and provided exciting new data relating to patients switching from olanzapine," said Elliot Ehrich, M.D., Chief Medical Officer of Alkermes. "ALKS 3831 is a new antipsychotic designed with the real-world needs of patients in mind, and introduces a novel and expanded pharmacologic approach to the treatment of schizophrenia. We look forward to advancing ALKS 3831 into pivotal development later this year, as we work to bring this medication to the patients and physicians who need new treatment options for this serious, chronic disease."

For patients who received ALKS 3831 throughout the entire six-month treatment period, efficacy, as evaluated by the reduction from baseline in Positive and Negative Syndrome Scale (PANSS) total scores, was equivalent to olanzapine during the initial three-month stage and this efficacy was maintained throughout the second three-month stage (change in PANSS total score from Week 12 to Week 24 was -1.7 points, 95% confidence interval (CI): (-2.7, -0.7)). The beneficial effect on weight gain observed during the initial three months was also maintained during the second three-month stage. Mean percent change in body weight, from Week 12 to Week 24, was 0.5%, 95% CI: (-0.2%, 1.2%), indicating a consistent and durable blockade of olanzapine-induced weight gain.

Patients who received olanzapine in the initial three-month stage were transitioned to receive ALKS 3831 for the second three-month stage. For these patients, efficacy as evaluated by PANSS scores was maintained (change in PANSS total score from Week 12 to Week 24 was -1.3 points, 95% CI: (-3.3, 0.7)). During the initial three-month stage, this patient population experienced significant weight gain, consistent with previously reported studies of olanzapine (mean percent change in body weight from baseline was 4.3%, 95% CI: (2.4%, 6.2%)). When these patients were transitioned to ALKS 3831 in the second three-month stage, overall no further weight gain was observed (mean percent change in body weight from Week 12 to Week 24 was 0.1%, 95% CI: (-1.0%, 1.2%)).

ALKS 3831 was generally well tolerated in the six-month study. For the initial three-month, active-controlled stage of the study, the most common adverse events in the ALKS 3831 treatment groups relative to olanzapine were somnolence, sedation and dizziness. Alkermes will present comprehensive safety and efficacy data from the phase 2 study at an upcoming medical meeting and submit the results for publication in a peer-reviewed journal. Alkermes plans to meet with the U.S. Food and Drug Administration (FDA) for an End-of-Phase 2 meeting and advance ALKS 3831 into a pivotal development program in 2015.

### **Phase 2 Study Design**

The six-month randomized, multicenter, dose-ranging phase 2 study consisted of two three-month stages. The initial three-month stage was a double-blind, active-controlled study designed to assess the efficacy, safety and tolerability of ALKS 3831, as well as evaluate the impact of ALKS 3831 on weight and other metabolic factors in comparison to olanzapine alone in adult patients with stable schizophrenia. A total of 309 patients were randomized in the study, and the 300 patients who had at least one post baseline PANSS assessment were included in the full study population. In the study, following a one-week oral lead-in of olanzapine, patients were randomly assigned to treatment with olanzapine or one of three different doses of ALKS 3831 (olanzapine + 5 mg, 10 mg or 20 mg samidorphan) for a period of three months. The primary efficacy endpoint of the initial three-month stage of the phase 2 study was the change from baseline at Week 12 in PANSS total score, to assess equivalence of ALKS 3831 to olanzapine using a Mixed-Effect Model Repeated Measure (MMRM) model. Secondary endpoints evaluated the effects of ALKS 3831 on weight gain and other metabolic factors.

Following the completion of the initial three-month stage, patients who received ALKS 3831 continued on the same dose, and patients in the olanzapine group were assigned in a double-blind fashion to ALKS 3831 20 mg for an additional three months. The objective of the second three-month stage was to assess the safety and long-term durability of effect of ALKS 3831 on PANSS total scores and attenuation of weight gain. A total of 187 patients completed the six-month treatment period.

## About ALKS 3831

ALKS 3831 is a proprietary, investigational medicine designed as a broad-spectrum antipsychotic for the treatment of schizophrenia. ALKS 3831 is composed of samidorphan, a novel, potent mu-opioid antagonist, in combination with the established antipsychotic drug, olanzapine. ALKS 3831 is designed to attenuate olanzapine-induced metabolic side effects, including weight gain, in patients with schizophrenia and to have utility in the treatment of schizophrenia in patients with alcohol use.

The ALKS 3831 comprehensive phase 2 clinical program is comprised of two separate studies, including this study focused on the attenuation of weight gain associated with olanzapine. Weight gain is a common and clinically relevant metabolic side effect of atypical antipsychotic medications, and olanzapine has one of the highest incidences and greatest amounts of weight gain among the widely prescribed products in this class of drugs.<sup>1</sup> The second phase 2 study, initiated in June 2014, is investigating the potential utility of ALKS 3831 for the large number of patients with schizophrenia whose disease is exacerbated by alcohol use – a group representing over one-third of patients with schizophrenia.<sup>2</sup>

## About Schizophrenia

Schizophrenia is a chronic, severe and disabling brain disorder. The disease is marked by positive symptoms (hallucinations and delusions) and negative symptoms (depression, blunted emotions and social withdrawal), as well as by disorganized thinking. An estimated 2.4 million American adults have schizophrenia,<sup>3</sup> with men and women affected equally. Worldwide, it is estimated that one person in every 100 develops schizophrenia, which is one of the most serious types of mental illness.

## About Alkermes

Alkermes plc is a fully integrated, global biopharmaceutical company developing innovative medicines for the treatment of central nervous system (CNS) diseases. The company has a diversified commercial product portfolio and a substantial clinical pipeline of product candidates for chronic diseases that include schizophrenia, depression, addiction and multiple sclerosis. Headquartered in Dublin, Ireland, Alkermes plc has an R&D center in Waltham, Massachusetts; a research and manufacturing facility in Athlone, Ireland; and manufacturing facilities in Gainesville, Georgia and Wilmington, Ohio. For more information, please visit Alkermes' website at [www.alkermes.com](http://www.alkermes.com).

## Note Regarding Forward-Looking Statements

Certain statements set forth in this press release constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including, but not limited to, statements concerning: the therapeutic value, development plans and commercial potential of ALKS 3831. You are cautioned that forward-looking statements are inherently uncertain. Although the company believes that such statements are based on reasonable assumptions within the bounds of its knowledge of its business and operations, the forward-looking statements are neither promises nor guarantees and they are necessarily subject to a high degree of uncertainty and risk. Actual performance and results may differ materially from those expressed or implied in the forward-looking statements due to various risks and uncertainties. These risks and uncertainties include, among others: whether preclinical and clinical results for ALKS 3831 will be predictive of future clinical study results; whether ongoing or future clinical trials for ALKS 3831 will be initiated or completed on time or at all; potential changes in cost, scope and duration of the ALKS 3831 clinical development program; whether ALKS 3831 could be shown ineffective or unsafe during clinical studies; and those risks described in the Alkermes plc Annual Report on Form 10-K for the fiscal year ended Dec. 31, 2014, and in other subsequent filings made by the company with the U.S. Securities and Exchange Commission (SEC), which are available on the SEC's website at [www.sec.gov](http://www.sec.gov). The information contained in this press release is provided by the company as of the date hereof, and, except as required by law, the company disclaims any intention or responsibility for updating or revising any forward-looking information contained in this press release.

<sup>1</sup>Komossa K, Rummel-Kluge C, Hunger H, Schmid F, Schwarz S, Duggan L, Kissling W, Leucht S. Olanzapine versus other atypical antipsychotics for schizophrenia. *Cochrane Database of Systematic Reviews*. 2010, Issue 3. Art. No.: CD006654.

<sup>2</sup>Regier D, Farmer M, Rae D, Locke B, Keith S, Judd L, Goodwin F. Comorbidity of Mental Disorders With Alcohol and Other Drug Abuse. *JAMA*. 1990, 264: 2511-2518.

<sup>3</sup>National Institutes of Health. Accessed on April 3, 2015 from <http://report.nih.gov/NIHfactsheets/ViewFactSheet.aspx?csid=67&key=S#S>.

Source: Alkermes plc

Alkermes plc

For Investors:

Rebecca Peterson, +1 781-609-6378

or

For Media:

Jennifer Snyder, +1 781-609-6166