Synergy Pharmaceuticals Announces Positive Results in the Second Phase 3 Trial of Plecanatide in Patients with Chronic Idiopathic Constipation (CIC)

NEW YORK-- Synergy Pharmaceuticals Inc. (NASDAQ:SGYP) today announced positive top-line results from the second of two pivotal phase 3 clinical trials evaluating the efficacy and safety of two different plecanatide treatment doses (3.0 mg and 6.0 mg), taken as a tablet once-a-day, in 1337 adult patients with chronic idiopathic constipation (CIC).

Preliminary analysis of the data indicates that both plecanatide 3.0 mg and 6.0 mg doses met the study’s primary endpoint and demonstrated statistical significance in the proportion of patients in the intention-to-treat population who were durable overall responders compared to placebo during the 12-week treatment period (20.1% in 3.0 mg and 20.0% in 6.0 mg dose groups compared to 12.8% in placebo; p=0.004 for both doses). The durable overall responder endpoint is the current FDA endpoint required for US approval in CIC. Importantly, plecanatide was safe and well tolerated at both doses; the most common adverse event was diarrhea, which occurred in 3.2% of patients in 3.0 mg and 4.5% of patients in 6.0 mg dose groups compared to 1.3% of placebo-treated patients.

“Chronic constipation is a very complex and debilitating disease that often impacts patients on a daily basis,” said Philip B. Miner Jr., MD, President and Medical Director at Oklahoma Foundation for Digestive Research. “These individuals need treatment options that are not only effective in alleviating constipation but also provide the safety and tolerability features that are absolutely critical for daily use. I am very encouraged by these latest plecanatide data and the excellent potential it has to address the unmet needs of millions of patients suffering from this chronic GI condition.”

“We are thrilled with the positive results of this trial,” said Gary S. Jacob, Ph.D., Chairman and CEO of Synergy. “We now have successfully completed the two largest phase 3 trials ever conducted in CIC and plecanatide’s treatment effect and tolerability profile have been remarkably consistent. We look forward to filing our first NDA with plecanatide in the CIC indication and the opportunity to bring this novel treatment to market.”

Stool consistency was the key secondary endpoint reported with top-line analyses; both 3.0 mg and 6.0 mg plecanatide doses showed statistically significant improvement from baseline in Bristol Stool Form Scale (BSFS) scores compared to placebo (mean increase of 1.49 in 3.0 mg and 1.50 in 6.0 mg dose groups compared to a mean increase of 0.87 in placebo; p<0.001 for both doses). The observed improvements began at Week 1,
continued throughout the 12-week treatment period, and returned towards baseline with no indication of an exaggerated or rebound effect following discontinuation of treatment.

20 patients in the trial (1.4%) experienced serious adverse events but there was no imbalance across treatment groups in either incidences or individual serious adverse events. Overall, the rates of withdrawal from treatment because of an adverse event were low (3.2% in 3.0 mg and 3.8% in 6.0 mg dose groups compared to 3.0% in placebo) and discontinuations due to diarrhea were infrequent (1.1% in 3.0 mg and 1.1% in 6.0 mg dose groups compared to 0.4% in placebo).

No clinically relevant abnormalities were observed in serum chemistries, hematology, urinalysis, ECG or vital signs measurements.

Synergy plans to present additional data results from both phase 3 CIC trials at appropriate scientific conferences. The company plans to file its first new drug application (NDA) with plecanatide in the CIC indication in January 2016.

**The Plecanatide Phase 3 CIC Program**

**Design**

The plecanatide phase 3 CIC program included two randomized, 12-week, double-blind, placebo-controlled pivotal trials that evaluated the efficacy and safety of two different plecanatide treatment doses (3.0 mg and 6.0 mg), taken as a tablet once-a-day, in patients with CIC. Both trials included a two-week pre-treatment baseline period, a 12-week treatment period, and a two-week post-treatment period. The phase 3 CIC program was designed to support regulatory submission in the U.S.

The second phase 3 CIC trial was conducted in the United States and assessed 1337 adult patients (21.6% males and 78.4% females) that were randomly assigned to take 3.0 mg or 6.0 mg plecanatide or placebo once-a-day during the 12 week treatment period (443 patients in the 3.0 mg dose group, 449 patients in the 6.0 mg dose group and 445 patients in the placebo group).

The first phase 3 CIC trial was conducted in North America and assessed 1,346 adult patients (19.2% males and 80.8% females) that were randomly assigned to take 3.0 mg or 6.0 mg plecanatide or placebo once-a-day during the 12 week treatment period (453 patients in the 3 mg dose group, 441 patients in the 6.0 mg dose group and 452 patients in the placebo group).

**Primary Endpoint**

The primary endpoint for both trials was the proportion of durable overall responders (%), which is the current regulatory endpoint required for U.S. approval in CIC. The FDA has defined a durable overall responder as a patient who fulfills both ≥ 3 complete spontaneous bowel movements (CSBMs) per week plus an increase of ≥ 1 CSBM from baseline in the same week, for 9 out of the 12 treatment weeks. In addition, the same patient must be an overall responder for at least 3 of the last 4 treatment weeks in order to be considered a **durable** overall responder. Plecanatide would be the first drug approved
for CIC using the more stringent regulatory requirement for durability in the response.

**Patient Population**

Patients were selected using Rome 3 criteria modified for CIC and had (1) fewer than 3 defecations per week, (2) loose stools occurring rarely without laxatives, (3) inadequate criteria for irritable bowel syndrome with constipation (IBS-C), and (4) at least two of the following applied to at least 25% of defeacations: (a) straining during evacuation, (b) lumpy or hard stools, (c) sensation of anorectal obstruction or blockage. Rome 3 requires patients to fulfill the criteria for the last 3 months with symptom onset at least 6 months prior to diagnosis.

**About Plecanatide**

Plecanatide is Synergy’s lead uroguanylin analogue in pivotal phase 3 clinical development to treat patients with CIC and IBS-C. Uroguanylin is a naturally occurring gastrointestinal (GI) peptide produced by humans in the small intestine and plays a key role in regulating normal GI activity. Orally administered plecanatide is designed to mimic uroguanylin's natural activity and regulate the movement of fluid required for normal digestion.

**About Synergy Pharmaceuticals Inc.**

Synergy Pharmaceuticals (NASDAQ: SGYP) is a biopharmaceutical company focused on the development of novel therapies to treat GI diseases and disorders. Synergy’s proprietary platform of uroguanylin analogues includes two late-stage clinical assets, plecanatide and dolcanatide (SP-333). Dolcanatide has successfully completed a phase 2 study in patients with opioid-induced constipation and is currently being evaluated for the treatment of ulcerative colitis. For more information, please visit www.synergypharma.com.

**Forward-Looking Statements**

Certain statements in this press release are forward-looking within the meaning of the Private Securities Litigation Reform Act of 1995. These statements may be identified by the use of forward-looking words such as "anticipate," "planned," "believe," "forecast," "estimated," "expected," and "intend," among others. These forward-looking statements are based on Synergy's current expectations and actual results could differ materially. There are a number of factors that could cause actual events to differ materially from those indicated by such forward-looking statements. These factors include, but are not limited to, substantial competition; our ability to continue as a going concern; our need for additional financing; uncertainties of patent protection and litigation; uncertainties of government or third party payer reimbursement; limited sales and marketing efforts and dependence upon third parties; and risks related to failure to obtain FDA clearances or approvals and noncompliance with FDA regulations. As with any pharmaceutical under development, there are significant risks in the development, regulatory approval and commercialization of new products. There are no guarantees that future clinical trials discussed in this press release will be completed or successful or that any product will receive regulatory approval for any indication or prove to be commercially successful. Investors should read the risk factors set forth in Synergy’s Form 10-K for the year ended
December 31, 2014 and other periodic reports filed with the Securities and Exchange Commission. While the list of factors presented here is considered representative, no such list should be considered to be a complete statement of all potential risks and uncertainties. Unlisted factors may present significant additional obstacles to the realization of forward-looking statements. Forward-looking statements included herein are made as of the date hereof, and Synergy does not undertake any obligation to update publicly such statements to reflect subsequent events or circumstances.

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