

## Biotechnology — Initiation of Coverage

### Synergy Pharmaceuticals (SGYP)

March 22, 2012

#### Initiation of Coverage with BUY Rating: Second but Potentially Best-in-Class

#### Compound for CIC and IBS-C

Recommendation: BUY

Price Target: \$9.00

Ling Wang

212-209-3867

[lingw@ssrp.com](mailto:lingw@ssrp.com)



Source: StockCharts.com

#### Stock Data – (NASDAQ:SGYP)

Price: \$4.15  
52-week high: \$5.24  
52-week low: \$1.86  
Shares out: 54.31MM

#### Valuation Metrics

Market cap: \$225.4MM  
Enterprise value: \$212.1MM

#### Financial Highlights (December:2011)

Cash/equivalents: \$13.2MM  
Debt: \$0

	4Q11A	2011A	1Q12E	2012E
Revs	--	--	--	--
Prior	--	--	--	--
EPS	(\$0.12)	(\$0.30)	(\$0.15)	(\$0.61)
Prior	--	--	--	--
P/E	--	--	--	--

#### Company Description

Synergy Pharmaceuticals, Inc., is a New York-based biopharmaceutical company focusing on the development of drugs to treat gastrointestinal disorders and diseases. Its leading compound, plecanatide, is being evaluated in a phase II/III trial (ongoing) in patients with chronic idiopathic constipation and in patients with constipation-predominant irritable bowel syndrome (phase IIb planned). The second compound, SP-333, a second-generation GC-C receptor analog, expects to have an IND submitted for treating ulcerative colitis in 3Q12.

- **We are initiating coverage of Synergy Pharmaceuticals with a BUY rating and 12-month price target of \$9.** We believe SGYP's lead compound, plecanatide, has great potential to become the second, but best-in-class, guanylate cyclase-C (GC-C) receptor agonist for treating chronic idiopathic constipation (CIC) and irritable bowel syndrome with constipation (IBS-C). We expect potentially positive topline data from an ongoing phase II/III CIC trial, which is expected in 4Q12, to provide significant upside in the near term.
- **Expect positive data from a plecanatide phase II/III trial in CIC to drive upside.** We expect the ongoing phase II/III CIC trial of plecanatide to report positive data by 4Q12, which should serve as a key near-term value driver for SGYP shares. Our optimism on this program is based on promising preliminary efficacy of plecanatide demonstrated in a randomized, placebo-controlled phase IIa trial in CIC patients (that appears highly competitive with competing drug linaclotide), a validated mechanism of action of plecanatide (it is second in class after linaclotide), and a potentially improved safety profile of linaclotide with minimal diarrhea. In our view, positive phase II/III data would not only de-risk the CIC program, but also allow investors to better assess the drug's potential in IBS-C, a larger market opportunity.
- **Plecanatide's potential success in IBS-C to significantly expand the market opportunity.** SGYP plans to initiate a randomized phase IIb trial evaluating plecanatide in patients with IBS-C in 3Q12, with the potential to report topline data in 3Q13. Given the validated mechanism of action of this class of compound in IBS-C and preliminary efficacy of plecanatide in improving abdomen symptoms/discomfort in the phase IIa trial in CIC patients, we believe there is great potential for plecanatide to demonstrate proof of concept in the phase II IBS-C patients as well.
- **Plecanatide addresses a significant unmet medical need with large market opportunity.** Assuming success, we believe plecanatide has the potential to become a best-in-class oral treatment for both CIC and IBS-C. We believe CIC and IBS-C are large unmet medical needs that are not sufficiently served with current therapies. Although linaclotide is likely two to three years ahead of plecanatide, we believe the market is big enough to allow room for several players. In addition, we expect the market to further expand with more patients seeking treatment, driven by Ironwood (IRWD-\$13.26-NR) and Forest Labs' (FRX-\$33.34-NR) marketing effort for a novel effective compound, linaclotide. Moreover, plecanatide's potential side effect advantage of minimal diarrhea might offer it a significant competitive advantage over linaclotide. Assuming modest peak penetration of 5% in addressable CIC patients and 15% in IBS-C, we estimate plecanatide's peak sales potential in the US alone at \$650MM+ and a risk-adjusted net present value of ~\$478MM with a combined probability of success of ~60%.
- **SP-333 potentially adds an additional value driver.** SP-333 is an internally developed second-generation GC-C agonist designed to be stable in the colon area for a longer period of time. SGYP plans to initiate a phase I trial in healthy volunteers in 3Q12 before testing it in patients with ulcerative colitis. We expect potential proof of concept to drive upside for the share.
- **A potential acquisition target.** While not our main thesis, we believe SGYP is an attractive acquisition target with plecanatide as a potential best-in-class compound targeting large unmet medical needs, full worldwide rights for all its compounds, and a novel drug discovery engine to replenish its pipeline.

Important Disclosures and Disclaimers Can Be Viewed at <http://www.ssrp.com> and on Page 5 of This Report

## INVESTMENT SUMMARY

We are initiating coverage of Synergy Pharmaceuticals with a BUY rating and 12-month price target of \$9. We believe SGYP's lead compound, plecanatide, has great potential to become the second, but best-in-class, guanylate cyclase-C (GC-C) receptor agonist for treating chronic idiopathic constipation (CIC) and irritable bowel syndrome with constipation (IBS-C). We expect potentially positive topline data from an ongoing phase II/III CIC trial in 4Q12 to drive significant share appreciation. Our optimism is based on promising preliminary efficacy of plecanatide demonstrated in a randomized, placebo-controlled phase IIa CIC trial, a validated mechanism of action of GC-C receptor agonist class established by Ironwood (IRWD) and Forest Laboratory's (FRX) linaclotide, and a potentially improved safety profile of linaclotide with minimal diarrhea. Additionally, we expect potentially successful proof of concept of plecanatide in IBS-C (phase IIb trial planned in 3Q12) to significantly expand plecanatide's market opportunity. Assuming success, we expect plecanatide to potentially become a best-in-class oral treatment for both CIC and IBS-C, two large unmet medical needs that are not sufficiently served with available therapies. Although linaclotide, a first-in-class GC-C receptor agonist, is likely two to three years ahead of plecanatide, we believe the market is big enough to allow room for several players. Additionally, we expect IRWD and FRX's active marketing effort to further expand the current CIC and IBS-C market. Moreover, plecanatide's potential side effect advantage of causing less diarrhea might offer it a significant competitive advantage.

SGYP's second compound, SP-333, is a second-generation GC-C agonist designed to be stable in the colon area for a longer period of time. SGYP plans to initiate a phase I trial in healthy volunteers in 3Q12 before testing it in patients with ulcerative colitis. We expect potential proof of concept to drive upside for the shares.

While not our main thesis, we believe SGYP is an attractive acquisition target with plecanatide as a potential best-in-class compound targeting the large unmet medical needs of CIC and IBS-C, full worldwide rights for all its compounds, and a novel drug discovery engine to replenish its pipeline.

## VALUATION

We use a sum-of-the parts analysis to value SGYP shares. Our 12-month target price of \$9 is derived by summing up SGYP's development programs: the risk-adjusted NPV of plecanatide at ~\$477MM, SP-333 at \$35MM, and the company's technology and discovery engine at \$80MM (Figure 1). Key assumptions in deriving the risk-adjusted NPV of plecanatide are summarized in Figure 2.

**Figure 1. Sum-of-the-Parts Analysis**

Plecanatide	\$	476,984
SP-333	\$	35,000
Technology	\$	80,000
<b>Fair value</b>	<b>\$</b>	<b>591,984</b>
<b>Fair value / share</b>	<b>\$</b>	<b>9.2</b>

**Figure 2. Key Assumptions on Plecanatide**

	Plecanatide
Approval year	2015
Peak sales potential in CIC (U.S.)	\$ 238,368
Peak sales potential in IBS-C (U.S.)	\$ 420,649
Peak revenue multiple	5
Peak year	2021
Peak penetration in CIC	15%
Peak penetration in IBS-C	5%
Peak sale potential in ex-US market	70% of sales in the U.S.
Discount rate	25.0%

*Source: Summer Street Research Partners Estimates*

## INVESTMENT RISKS

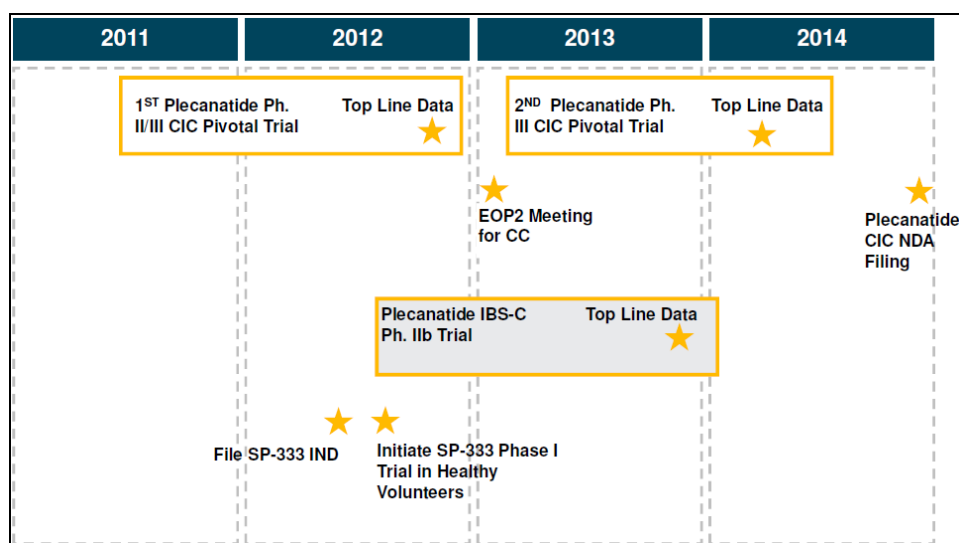
- **Clinical risks associated with plecanatide:** We assign a significant proportion of our projected value to plecanatide. Therefore, if the ongoing phase II/III trial in CIC or future clinical trials in CIC or IBS-C fail to deliver positive results, it would have a negative impact on our projections and target price.
- **Regulatory risks associated with plecanatide:** Plecanatide may not obtain regulatory approval even if it demonstrates positive clinical data. Our model factors in the risk-adjusted sales of plecanatide in CIC and IBS-C. If the drug does not obtain regulatory approval, it will negatively impact our target price.
- **Liquidity and financing risk:** We estimate SGYP's cash position should be sufficient to fund operations into 2H12. There are risks associated with obtaining sufficient funding to sustain operations. The company may need to raise additional capital via equity financing, potentially causing dilution.
- **Commercialization risk:** The market potential of plecanatide in CIC and IBS-C may not be as large as we project.
- **High stock price volatility:** High stock price volatility is common among developmental companies in the biotechnology sector.

## CATALYSTS/UPCOMING MILESTONES

- Complete patient enrollment in the pivotal phase II/III trial of plecanatide in CIC (2Q12)
- Potential to initiate a randomized, placebo-controlled phase IIb trial evaluating plecanatide in patients with IBS-C (3Q12)
- File an IND for SP-333 in patients with ulcerative colitis (3Q12)
- Report topline results from a phase II/III trial of plecanatide in CIC (4Q12)
- Potential to report topline data from the phase IIb trial of plecanatide in patients with IBS-C (3Q13)

## PIPELINE

Figure 3. SGYP's Pipeline



**This is a summary version of Summer Street Research Partners'  
Synergy Pharmaceuticals initiation report.  
To view the full document, please contact 617-532-6423.**

**Important Disclosures and Disclaimers – First Quarter 2012**

**Analyst Certification:** Each research analyst who authored the attached research report certifies the following: 1) All of the views expressed in this research report reflect my personal opinions about the subject company or any company mentioned in this research report; 2) I have not and will not receive compensation in exchange for the recommendation or views in this research report; and 3) Neither I nor the firm that employs me believes or have reason to believe that I have any material conflicts of interest with regard to the subject company or any company mentioned in this research report at the time of its publication.

**Analyst/Firm Financial Interest/Control:** Neither the analyst nor any members of his/her household has a financial interest in the covered company, or companies mentioned in this research report, including the ownership of shares, warrants, or options on the subject company's securities. In addition, neither the analyst nor any member of his/her family is an officer, director or advisory board member of the subject company. At the end of the month immediately preceding the publication of this research report, the firm and/or its affiliates did not beneficially own 1% or more of any class of common equity securities of the subject company, nor any company mentioned in this research report. Summer Street Research Partners ("SSRP" or "the Company") does not make markets in any securities, including those of the subject companies in this research report. The research analysts' compensation is not directly related to the specific recommendations or views expressed in this research report. Research Analyst(s) compensation is however based upon various factors including SSRP's total revenues, a portion of which may in the future be generated by investment-banking related activities.

**Investment Banking and Other Services:** SSRP has not provided investment-banking, advisory or other similar services to the subject companies described in this research report, nor are they clients of the SSRP. Further, the firm and its affiliates have not managed or co-managed a public/private offering of securities for the subject companies in this research report, and have not received compensation for investment-banking services from the subject companies in this research report. We expect to receive or intend to seek compensation from the subject companies for investment-banking related services in three months from the date of this research report. The firm has not received investment-banking revenues or participated in a public/private offering of securities as a manager or co-manager of the subject company's securities in the past 12 month from the date of this research report. Nor has the firm or its research analysts received compensation from the subject company or any company mentioned in this research report for products and services in the past 12 months. In addition, no research analyst, employee or affiliate of SSRP with the ability to influence the substance of this research report has received any compensation for products and service in the past 12 months.

**Definition of SSRP's Stock Rating System as used in this Research Report:** BUY – We believe the stock's total return will significantly outperform its peer group; NEUTRAL – We believe the stock's total return will not be significantly different than its peer group; SELL – We believe the stock's total return will significantly under perform its peer group.

**General Disclaimers:** The information contained herein is intended for distribution to institutional investors and is for informational purposes only. SSRP's research reports should be considered as only a single factor in making an investment decision. The information herein was obtained from various sources; we do not guarantee its accuracy or completeness and it should not be relied upon as such. Additional information is available by contacting SSRP. Neither the information nor any opinion expressed constitutes an offer, or an invitation to make an offer to buy or sell any securities. The data contained herein is intended for the sole and exclusive use of clients of SSRP. No reproduction, transmission or replication of any of the information or data contained within this document may be done without the expressed written consent of SSRP. Medical Consulting Research Inc. (MCRI) is a division of SSRP.

**Investment Rating Distribution for the Period 10/1/11 through 12/31/11:**

Rating	Count	Percentage
BUY	29	76%
NEUTRAL	8	21%
SELL	1	3%
Companies under coverage at 12/31/11	38	100%

**We have assigned an investment rating for at least one year for the following subject companies mentioned in this report:**

**SGYP****Ratings History**

Date	Rating	Share Price	Price Target
3/22/12	BUY	\$4.15	\$9.00

**SGYP Investment Risks**

- **Clinical:** If the ongoing phase II/III trial of plecanatide in CIC or future clinical trials in CIC or IBS-C fail to deliver positive results, it would have a negative impact on our projections and target price.
- **Regulatory:** Plecanatide may not obtain regulatory approval even if it demonstrates positive clinical data.
- **Commercialization:** The market potential of plecanatide in CIC and IBS-C may not be as large as we project.
- **High stock price volatility:** High stock price volatility is common among developmental companies in the biotechnology sector.

**Valuation Method for Price Target:** Sum of the parts



Source: StockCharts.com