Zacks Small-Cap Research

May 25, 2017
John D. Vandermosten, CFA
312-265-9588 / jvandermosten@zacks.com

scr.zacks.com
10 S. Riverside Plaza, Suite 1600, Chicago, IL 60606

Spring Bank Pharmaceuticals Inc. (SBPH - NASDAQ)

25 mg Cohort Demonstrates Safety and Efficacy

Based on our DCF model and a 20% discount rate, SBPH is valued at approximately $33.00 per share. Our model applies a 15% probability of SB9200 sales for chronic hepatitis B virus based on historical Phase 2 success ratios. Our valuation includes geographic contributions from the US, Europe and Asia.

Current Price (4/28/2017)	$13.23
Valuation	**$33.00**

OUTLOOK

Spring Bank Pharma is currently conducting a Phase 2 trial for SB 9200, an immunomodulatory agent built on their small molecule nucleic acid hybrid chemistry platform. The drug targets the RIG-I and NOD2 signaling proteins, engaging the body's immune response to potentially address a variety of diseases including HBV, RSV, HIV Latency and HDV.

In June 2016, the company began dosing its first patient in its ACHIEVE trial with initial data expected in 2Q:17. Following $33 million in FY:16 fundraising, SBPH has sufficient capital to complete its Phase 2a and STING preclinical development through 2H:18.

At the current price, we view Spring Bank shares as undervalued, with substantial upside given the size of the Hepatitis B market. We maintain our target price of $33.00 per share and believe that expansion into new diseases and the STING program can provide additional upside to our valuation.

SUMMARY DATA

52-Week High	**15.39**
52-Week Low	**6.31**
One-Year Return (%)	**N/A**
Beta	**N/A**
Average Daily Volume (sh)	**19,220**
Shares Outstanding (mil)	**9.42**
Market Capitalization ($mil)	**124.6**
Short Interest Ratio (days)	**1.66**
Institutional Ownership (%)	**N/A**
Insider Ownership (%)	**N/A**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**N/A**
Earnings Per Share (%)	**N/A**
Dividend (%)	**N/A**
P/E using TTM EPS	**N/A**
P/E using 2017 Estimate	**N/A**
P/E using 2018 Estimate	**N/A**
Zacks Rank	**N/A**

Risk Level	**Above Average**
Type of Stock	**Small-Growth**
Industry	**Med-Biomed/Gene**

ZACKS ESTIMATES

Revenue

(In millions of US$)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2016	$0.3 A	$0.1 A	$0.0 A	$0.0 A	$0.4 A
2017	$0.0 A	$0.0 E	$0.0 E	$0.0 E	$0.0 E
2018					$0.0 E
2019					$0.0 E

Earnings per Share

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2016	-$1.11 A	-$0.62 A	-$0.53 A	-$0.13 A	-$2.39 A
2017	-$0.69 A	-$0.48 E	-$0.43 E	-$0.37 E	-$1.75 E
2018					-$1.72 E
2019					-$2.01 E

© Copyright 2017, Zacks Investment Research. All Rights Reserved.

WHAT'S NEW

Spring Bank Provides Initial Summary of First Cohort Results in SB 9200 Phase 2a Trial

Spring Bank Pharmaceuticals Inc. (NASDAQ: SBPH) announced topline from its initial cohort of the Phase 2a ACHIEVE trial. ACHIEVE is a placebo-controlled, sequential-cohort, double-blind study to evaluate increasing doses of SB 9200 as monotherapy for 12 weeks followed by Viread 300 mg for an additional 12 weeks. Canada, Korea and Hong Kong served as clinical sites for the first cohort, which dosed its first patient in May 2016.

The ascending dose study began with 25 mg of SB 9200 and was randomized in a 4:1 ratio for the 20 enrolled patients. 11 of the patients were HBeAg positive and 9 were HBeAg negative. Overall, the group exhibited a statistically significant reduction in HBV DNA at week 12 of 0.6 $\log_{10}$ and a 0.5 $\log_{10}$ reduction of surface antigen. This compares to an average 0.5 $\log_{10}$ reduction at 12 weeks observed in interferon plus nucleotide/nucleoside therapy in the 10% of patients where this therapy is ultimately effective. The first cohort of ACHIEVE results are prior to the impact of Viread, which in animal models provided an additional reduction in HBV biomarkers.

There was a marked difference in efficacy between HBeAg-positive and HBeAg-negative patients, possibly due to the higher level of viral replication in the e-positive antigen group. The 7 HBeAg-negative patients in the active arm exhibited a mean 0.9 $\log_{10}$ reduction in HBV DNA as compared to the 0.5 reduction in the overall group as mentioned above. Of the 11 HBeAg-positive patients enrolled in the trial, initial levels of HBV DNA were 7.10 $\log_{10}$ and surface antigen were 4.38 $\log_{10}$. Of the 9 HBeAg-negative patients, HBV DNA levels were 5.15 $\log_{10}$ and surface antigen levels of 3.14 $\log_{10}$. These differences illustrate the substantially higher levels of HBV biomarkers in HBeAg-positive patients and perhaps explain why there was greater efficacy in the HBeAg-negative patients as there was insufficient drug to stimulate the immune system for the e-positive patients.

Internally, Spring Bank did not have high expectations for the 25 mg dose, so these results are an encouraging surprise and suggest that the optimal dose may be 50 mg or 100 mg, which will allow this adaptive trial to begin Phase 2b work sooner.

Safety

No serious adverse events were observed in the first cohort. Eleven of the twenty enrollees suffered at least one mild or moderate adverse event (no greater than grade 2), which was limited to constipation, nausea, diarrhea and nausea. No obvious interferon-like side effects were observed and side effects were similar between the active arm and placebo. Three of the patients experienced alanine aminotransferase (ALT) flares, two of which were observed in the placebo arm. The test arm ALT rise was considered to be a viral flare and was associated with a sharp decline in HBV DNA of 2.26 $\log_{10}$. No patients exhibited evidence of liver toxicity, hepatic decompensation or elevation of bilirubin.

Alanine aminotransferase flares in excess of 200 IU were observed in three patients. Two patients were on placebo and one was in the test arm. The test arm subject exhibited a 2.26 $\log_{10}$ reduction in HBV DNA and a 1.01 $\log_{10}$ reduction in HBsAg. Doses were reduced in these patients, and, as is standard protocol, treatment is normally continued through the flares until ALT levels exceed 10 times normal levels, or above 400 IU. The study preliminarily concluded that the flares indicated SB 9200 had induced immune activation.

Second Cohort

On May 15th, Spring Bank announced that the Data Safety Monitoring Board (DSMB) approved the Phase 2a trial to move on to the 50 mg dose of SB 9200. Since then, 26 subjects have been screened for the 20-patient cohort and the study anticipates screening all the necessary qualifying enrollees over the next month or two. However, given the rapid rate of screening uptake to date we believe enrollment may start sooner. Additionally, all four sites are currently up and running (Canada, Korea, Hong Kong and Taiwan) which should support a 4Q:17 top-line report of second cohort data.

Presentation of Data

Management expects to present the data from the first cohort at an upcoming conference and is hopeful that timing will enable a presentation at the AASLD meeting in late October. Data presented at the conference will add information regarding specialized neurology studies, a full pharmacokinetic and pharmacodynamic dataset and

immunology data examining the activation of immunity in peripheral blood mononuclear cells. If the second cohort is able to enroll more quickly than expected, Spring Bank may be able to present data from this segment in conjunction with the first cohort at a fall conference.

Summary

The preliminary results from the first cohort of the ACHIEVE study are very promising and provide increased confidence as to the efficacy and safety of SB 9200 in the treatment of hepatitis B and are supportive of our thesis and target price. Neither we nor the company expected much from the initial dose of 25 mg in terms of efficacy. The 0.6 log reduction in HBV DNA and 0.5 log reduction in surface antigen not only suggest that the optimal dose may be lower than initially thought, but also may allow for acceleration of the trial and enable an earlier start to the Phase 2b segment. While too early to advance our estimates for the initial launch of SB 9200 or increase the probability of ultimate commercialization, these results do increase our confidence in our current forecasts. Continued positive reads from subsequent cohorts will support an increase in our target price. We maintain our $33 valuation.

PROJECTED FINANCIALS

Spring Bank Pharmaceuticals Inc. - Income Statement

Spring Bank Pharmaceuticals	2016 A	Q1 A	Q2 E	Q3 E	Q4 E	2017 E	2018 E	2019 E
Grant Revenue	**$0.4**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**
YOY Growth	-	-	-	-	-	-	-	-
SB9200	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**
YOY Growth								
	$0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
YOY Growth								
Total Revenues	**$0.4**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**
CoGS	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Product Gross Margin								
R&D	$14.0	$2.5	$2.8	$2.7	$2.1	$10.1	$12.0	$13.5
G&A	$5.7	$2.0	$1.7	$1.8	$1.8	$7.2	$8.0	$10.0
Other expenses	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Operating Income	($19.4)	($4.5)	($4.5)	($4.5)	($3.9)	($17.3)	($20.0)	($23.5)
Operating Margin	-					-	-	-
Total Other Income	$2.0	($2.0)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Pre-Tax Income	($17.4)	($6.5)	($4.5)	($4.4)	($3.8)	($17.3)	($20.0)	($23.5)
Taxes & Other	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Tax Rate	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*
Net Income	($17.4)	($6.5)	($4.5)	($4.4)	($3.8)	($17.3)	($20.0)	($23.5)
Reported EPS	**($2.39)**	**($0.69)**	**($0.48)**	**($0.43)**	**($0.37)**	**($1.75)**	**($1.72)**	**($2.01)**
YOY Growth	-					-	-	-
Shares Outstanding	7.3	9.4	9.4	10.3	10.3	9.9	11.6	11.7

Source: Company Filing // Zacks Investment Research, Inc. Estimates

© Copyright 2017, Zacks Investment Research. All Rights Reserved.

HISTORICAL STOCK PRICE[1]



[1] Source: Google Finance

DISCLOSURES

The following disclosures relate to relationships between Zacks Small-Cap Research ("Zacks SCR"), a division of Zacks Investment Research ("ZIR"), and the issuers covered by the Zacks SCR Analysts in the Small-Cap Universe.

ANALYST DISCLOSURES

I, John Vandermosten, hereby certify that the view expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the recommendations or views expressed in this research report. I believe the information used for the creation of this report has been obtained from sources I considered to be reliable, but I can neither guarantee nor represent the completeness or accuracy of the information herewith. Such information and the opinions expressed are subject to change without notice.

INVESTMENT BANKING AND FEES FOR SERVICES

Zacks SCR does not provide investment banking services nor has it received compensation for investment banking services from the issuers of the securities covered in this report or article.
Zacks SCR has received compensation from the issuer directly or from an investor relations consulting firm engaged by the issuer for providing non-investment banking services to this issuer and expects to receive additional compensation for such non-investment banking services provided to this issuer. The non-investment banking services provided to the issuer includes the preparation of this report, investor relations services, investment software, financial database analysis, organization of non-deal road shows, and attendance fees for conferences sponsored or co-sponsored by Zacks SCR. The fees for these services vary on a per-client basis and are subject to the number and types of services contracted. Fees typically range between ten thousand and fifty thousand dollars per annum. Details of fees paid by this issuer are available upon request.

POLICY DISCLOSURES

This report provides an objective valuation of the issuer today and expected valuations of the issuer at various future dates based on applying standard investment valuation methodologies to the revenue and EPS forecasts made by the SCR Analyst of the issuer's business.
SCR Analysts are restricted from holding or trading securities in the issuers that they cover. ZIR and Zacks SCR do not make a market in any security followed by SCR nor do they act as dealers in these securities. Each Zacks SCR Analyst has full discretion over the valuation of the issuer included in this report based on his or her own due diligence. SCR Analysts are paid based on the number of companies they cover. SCR Analyst compensation is not, was not, nor will be, directly or indirectly, related to the specific valuations or views expressed in any report or article.

ADDITIONAL INFORMATION

Additional information is available upon request. Zacks SCR reports and articles are based on data obtained from sources that it believes to be reliable, but are not guaranteed to be accurate nor do they purport to be complete. Because of individual financial or investment objectives and/or financial circumstances, this report or article should not be construed as advice designed to meet the particular investment needs of any investor. Investing involves risk. Any opinions expressed by Zacks SCR Analysts are subject to change without notice. Reports or articles or tweets are not to be construed as an offer or solicitation of an offer to buy or sell the securities herein mentioned.

© Copyright 2017, Zacks Investment Research. All Rights Reserved.