

Today's Changes	Annual EPS	Annual Revenue	Rating/Target
	2012E No Change	No Change	No Change
	2013E \$(0.58) from \$(0.59)		

## Synergy Pharmaceuticals

SGYP : NASDAQ : US\$3.13

BUY

Target: US\$7.00

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### COMPANY STATISTICS:

Shares Out (M): 65.8  
 Market Cap (M): US\$206  
 52-week Range: US\$2.98 - 7.08

### EARNINGS SUMMARY:

FYE Dec	2011A	2012E	2013E
Revenue:	0.0	0.0	0.0
EPS:	(0.30)	(0.60)	(0.58)

Revenue:	Q1	0.0	0.0A	-
	Q2	0.0	0.0A	-
	Q3	0.0	0.0A	-
	Q4	0.0	0.0	-
Total		0.0	0.0	0.0
EPS:	Q1	(0.08)	(0.13)A	-
	Q2	(0.10)	(0.17)A	-
	Q3	(0.01)	(0.15)A	-
	Q4	(0.12)	(0.14)	-
Total		(0.30)	(0.60)	(0.58)

### SHARE PRICE PERFORMANCE:

Synergy Pharmaceuticals, Inc. (NASDAQ: SGYP)

Nov 13, 2012 Open: 3.270 High: 3.290 Vol: 285,127  
 Time: 16:00 Last: 3.130 Low: 3.050 Chg: 0.100 (+3.30%) ▲



Source: Interactive Data Corporation

### COMPANY DESCRIPTION:

Synergy Pharmaceuticals is a developmental stage biopharmaceutical company that focuses on the development of drugs to treat gastrointestinal disorders. Synergy's lead investigational drug, plecanatide, is an analogue of uroguanylin, a natural hormone, and activates GC-C receptors that increase the flow of water into the intestine. Plecanatide is currently being tested in a Phase 2b/3 trial in patients with chronic constipation.

All amounts in US\$ unless otherwise noted.

### Life Sciences -- Biotechnology

## Q3/12: PIVOTAL PH2B/3 CC DATA IN JAN.; IBS-C TRIAL TO START IN Q4

### Investment recommendation

**Reiterate BUY, \$7 target on unmet need in severe chronic constipation and plecanatide's potential superior tolerability.** We see clear unmet need in chronic constipation (CC) patients who don't respond/have AEs on current therapies. Compared to Linzess (FRX/IRWD), plecanatide may have better tolerability (no diarrhea in Phase 2a). Data from the Phase 2b/3 trial is due in Jan. Our \$7 target is based on pNPV analysis.

### Investment highlights

- **\$(0.15) EPS met our estimate and was in line with \$(0.16) consensus.**
- **Phase 2b/3 trial plecanatide data now expected first week of Jan.** Plecanatide is an uroguanylin analog/GC-C receptor agonist which increases fecal hydration. The trial enrolled 951 patients randomized to 3 doses of plecanatide (0.3, 1 or 3mg) vs. placebo over 12 weeks. The 1st endpoint is the percentage of patients having  $\geq 3$  complete spontaneous bowel movements (CSBMs)/week and an increase of  $\geq 1$  from baseline at least 3 weeks a month, for 2 of the 3 study months.
- **We expect positive Ph2b/3 CC data based on positive Ph2a precedent and established mechanisms.** Ph2a data showed plecanatide to be effective without a diarrhea AE signal, a common side effect in constipation therapies. If Ph2b/3 efficacy & safety are comparable, we see plecanatide as superior to Linzess in GI tolerability. This may support fairly rapid uptake of plecanatide, as Linzess' launch will have established the GC-C market and drug class awareness.
- **SGYP will initiate Ph2b trial in IBS-C before year end 2012.** The dose ranging trial will enroll ~350 patients, evaluating 4 doses (0.3, 1, 3, and 9mg plecanatide) vs. placebo. The primary endpoint will be a change from baseline in CSBMs, with secondary endpoints including change in other symptoms of IBS-C.

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**Figure 1: SGYP upcoming catalysts**

Expected date	Drug/Program	Item	Impact
Jan-13	Plecanatide in CC	Top-line data from Ph2/3 trial in CC	+++
Q4/12	Plecanatide in IBS-C	Initiation of Phase2b trial in IBS-C	+
H1/13	SP-333 in ulcerative colitis	Initiation of Phase 1 MAD study in healthy volunteers	+
Q2/12	Plecanatide in CC	Expected initiation of Ph3 in CC	+

Source: Company reports and Canaccord Genuity estimates

**Figure 2: SGYP pNPV**

Drug name	Indication	Status	Launch	Years to Launch	Years to Launch plus 7	Success	Sales (US\$m)	Probability weighted Peak Sales (US\$m)	Royalty	Profitability	Probability weighted Peak Profit (US\$m)	Discount Factor	NPV (US\$)
US - Plecanatide	CC	Phase 3	2016	3	10	45%	282.5	127.1	100%	75%	95.33	6.48	3.24
US - Plecanatide	IBS-C	Phase 2	2016	3	10	45%	302.1	135.9	100%	75%	101.95	6.48	3.46
												Less debt:	0.00
												<b>Total</b>	<b>6.70</b>

Source: Company reports and Canaccord Genuity estimates

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Figure 3: SGYP P&amp;L

	2011A	Q1/12A	Q2/12A	Q3/12A	Q4/12E	2012E	2013E	2014E	2015E
<b>Revenues</b>	-	-	-	-	-	-	-	-	-
Cost of sales	-	-	-	-	-	-	-	-	-
<b>Gross Profit</b>	-	-	-	-	-	-	-	-	-
Research and Development	13.4	5.3	7.6	8.2	9.0	30.2	38.0	40.0	40.0
General and Administrative	6.7	1.7	1.9	1.8	2.0	7.5	9.4	12.0	13.0
<b>Total operating expense</b>	<b>20.2</b>	<b>7.1</b>	<b>9.5</b>	<b>10.1</b>	<b>11.0</b>	<b>37.7</b>	<b>47.4</b>	<b>52.0</b>	<b>53.0</b>
<b>Operating income</b>	<b>(20.2)</b>	<b>(7.1)</b>	<b>(9.5)</b>	<b>(10.1)</b>	<b>(11.0)</b>	<b>(37.7)</b>	<b>(47.4)</b>	<b>(52.0)</b>	<b>(53.0)</b>
Interest and investment Income	0.1	0.0	0.0	0.1	0.0	0.2	0.2	-	-
Interest Expense	(0.0)	-	-	-	-	-	-	-	-
Other Income	0.4	-	0.3	-	-	0.3	-	-	-
Change in fair value of derivative instruments - warrants	5.3	0.0	(1.3)	0.1	-	(1.2)	-	-	-
<b>Total other income (expense)</b>	<b>5.7</b>	<b>0.0</b>	<b>(1.0)</b>	<b>0.2</b>	<b>0.0</b>	<b>(0.7)</b>	<b>0.2</b>	<b>-</b>	<b>-</b>
<b>Pre-tax income</b>	<b>(14.5)</b>	<b>(7.0)</b>	<b>(10.6)</b>	<b>(9.9)</b>	<b>(11.0)</b>	<b>(38.4)</b>	<b>(47.2)</b>	<b>(52.0)</b>	<b>(53.0)</b>
Income tax expense (benefit)	-	-	-	-	-	-	-	-	-
<b>Net Income</b>	<b>(14.5)</b>	<b>(7.0)</b>	<b>(10.6)</b>	<b>(9.9)</b>	<b>(11.0)</b>	<b>(38.4)</b>	<b>(47.2)</b>	<b>(52.0)</b>	<b>(53.0)</b>
<b>Basic EPS</b>	<b>(0.30)</b>	<b>(0.13)</b>	<b>(0.17)</b>	<b>(0.15)</b>	<b>(0.14)</b>	<b>(0.60)</b>	<b>(0.58)</b>	<b>(0.58)</b>	<b>(0.58)</b>
<b>Diluted EPS</b>	<b>(0.30)</b>	<b>(0.13)</b>	<b>(0.17)</b>	<b>(0.15)</b>	<b>(0.14)</b>	<b>(0.60)</b>	<b>(0.58)</b>	<b>(0.58)</b>	<b>(0.58)</b>
Basic shares outstanding	47.6	54.3	60.4	65.8	76.8	64.3	81.5	89.4	91.2
Diluted shares outstanding	47.6	54.3	60.4	65.8	76.8	64.3	81.5	89.4	91.2

Source: Company reports and Canaccord Genuity

**Investment risks**

Clinical risk -- Plecanatide's Phase 2/3 trial may not show statistical significance in CIC clinical measures: Plecanatide showed trends in improvement in many measure of CIC symptoms, including patient reported outcomes in its Phase 2a. Data, however, did not reach statistical significance, nor did it show clear dose-dependent activity in functional outcomes and measures. However, we note that patient numbers in this trial were very small.

Clinical risk -- Plecanatide's Phase 2/3 trial may not show a magnitude of clinical benefit or sufficiently improved safety to represent an improved therapy compared to Linzess: Should plecanatide ultimately show a smaller placebo adjusted benefit in CSBMs a lower responder rate, or a higher rate of GI symptoms, clinicians and patients may deem the drug to be therapeutically inferior to Linzess, adversely impacting its chance of both regulatory and commercial success.

Regulatory risk -- FDA may require Synergy to conduct two additional Phase 3 clinical trials in CIC to secure approval for that indication: Synergy has indicated that plecanatide's current Phase 2/3 trial is adequately powered to show statistical significance in the primary endpoint, which is also one of Linzess' registrational primary endpoints. However the standalone trial, which has close to 900 patients, is still smaller than the full Linzess CIC clinical program which had about 1,600 patients total. As such, we think it likely that FDA will ask for another formal Phase 3 trial in CIC and note that there may be a chance that they may be unsatisfied with the design of the current Phase 2/3 trial and may require a second formal Phase 3 trial as well. We think this may only be the case should the Ph2/3 be statistically weak.

Commercial risk -- Linzess will represent an establish and potentially entrenched for CIC and IBS-C when plecanatide may be approved: We think Linzess may get close to a three-year commercial head-start on plecanatide. During this time, we think clinicians will develop significant treatment experience and prescribing familiarity and/or comfort with the drug. We also think Linzess will have accumulated a meaningful market share by this point, and many may be averse to switching therapies. However, we believe that there will still be a significant proportion of patients that are treatment na ve or dissatisfied with Linzess treatment due to its side effect profile.

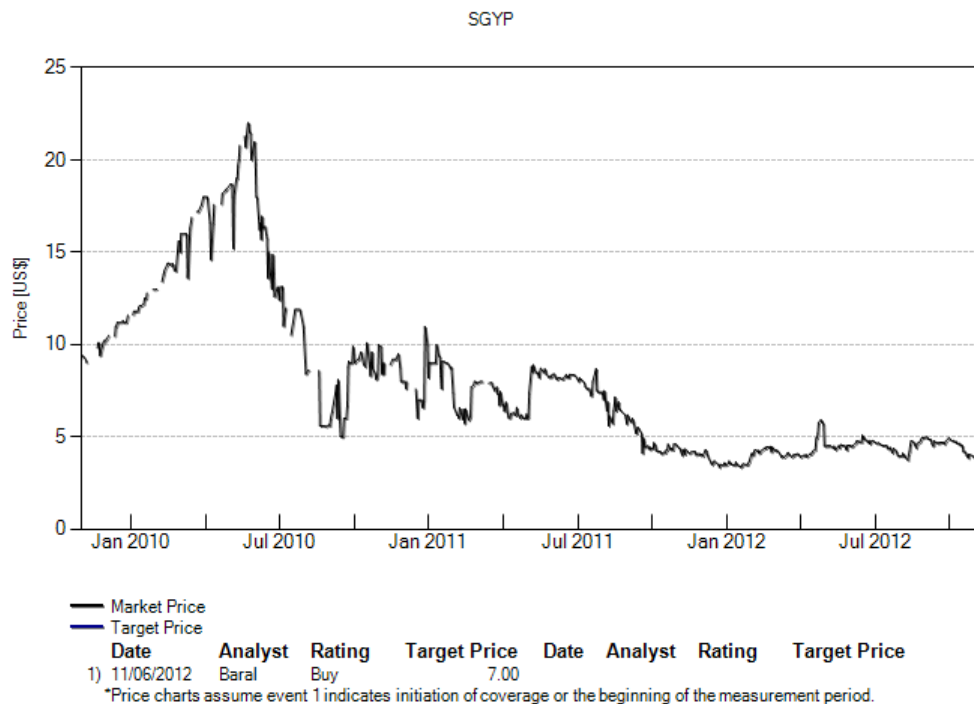
Financing risk -- Synergy may choose to raise cash to fund plecanatide and other pipeline clinical and regulatory development through an equity offering or other methods: We believe Synergy has close to 18 months of operating cash on its balance sheet, which should fund the company through upcoming Phase 2/3 plecanatide CIC data. However, this operating capital is unlikely to last through another plecanatide Phase 3 CIC trial or fund complete Phase 3 development of plecanatide for IBS-C.

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**Site Visit:**

An analyst has not visited Synergy Pharmaceuticals' material operations.

**Price Chart:\*****Distribution of Ratings:**

Global Stock Ratings  
(as of 1 October 2012)

Rating	Coverage Universe		IB Clients
	#	%	%
Buy	575	60.7%	31.5%
Speculative Buy	63	6.7%	50.8%
Hold	267	28.2%	13.9%
Sell	34	3.6%	5.9%
	947*	100.0%	

\*Total includes stocks that are Under Review

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