

Equity Research

Five Prime Therapeutics, Inc.

FPRX: Key Takeaways From Management Meeting

• **Summary:** We had the opportunity to meet with multiple members of FPRX's senior management team to discuss the latest updates on company's preclinical and clinical programs. Coming out of our discussions, we continue to believe the company's differentiated science and biologics discovery platform will enable them to capture considerable opportunities in cancer and inflammation. Although the programs remain relatively early stage--which we acknowledge could increase the stock's susceptibility to broader sentiment-related fluctuations --we believe greater visibility as the pipeline matures over the next 12-18 months, particularly on the immuno-oncology projects, will drive appreciation to levels we believe better reflect the company's potential than its approximate \$108MM enterprise value would suggest. FPRX remains a favorite long-term small-cap idea, and we believe also an attractive way to gain exposure for the long term to cancer immunotherapy within small-cap biotech. To more accurately account for milestone payments, we are adjusting 2014E EPS to -\$1.71 from -\$0.75.

• **Immuno-oncology development projects continuing to accelerate, with FPRX's efficient discovery engine a differentiated value driver.** The company described how their library of 5,700 extracellular proteins, which includes 400 immune related ones, coupled with their proprietary screening systems and receptor-ligand matching technology, enables them to find novel targets on cancer or immune cells, as well as binding partners to known targets. This is important because company can not only screen for new biologics against these targets, but also improve approaches to drugging known targets to ensure optimal inhibition of tumor-immune cell interactions. FPRX noted they have already discovered more than 7 novel immuno-oncology targets since pivoting the company in that direction, and we believe the rapid building of IP around such discovered targets will serve as a key asset for FPRX in this increasingly valuable and competitive space--something we believe is underrecognized. FPRX also noted that their collaboration with BMY around two immuno-oncology pathways is going very well.

• *(Continued on the next page)*

Valuation Range: \$19.00 to \$21.00

Our valuation range is based on applying a 30x multiple to our 2023 estimated EPS and discounting at 15%, blended with 2.5x multiple of 2023 estimated sales, and discounting 10-12%, plus \$6 for technology/pipeline value. Key risks, in our view, are clinical and regulatory failure of its programs, competition, and financing.

Investment Thesis:

We believe Five Prime's technology platform and biologics stemming from it will drive long-term value.

Outperform / V

Sector: Biotechnology

Market Weight

Earnings Estimate Revised Down

EPS	2013A	2014E		2015E	
		Curr.	Prior	Curr.	Prior
Q1 (Mar.)	NE	(\$0.46) A	NC	NE	
Q2 (June)	NE	(0.41)	0.47	NE	
Q3 (Sep.)	(2.74)	(0.42)	NC	NE	
Q4 (Dec.)	(0.43)	(0.42)	NC	NE	
FY	(\$5.26)	(\$1.71)	(0.75)	(\$1.15)	NC
CY	(\$5.26)	(\$1.71)		(\$1.15)	
FY P/E	NM	NM		NM	
Rev.(MM)	\$14	\$14		\$27	

Source: Company Data, Wells Fargo Securities, LLC estimates, and Reuters
NA = Not Available, NC = No Change, NE = No Estimate, NM = Not Meaningful
V = Volatile, * = Company is on the Priority Stock List

Ticker	FPRX
Price (05/22/2014)	\$13.40
52-Week Range:	\$8-24
Shares Outstanding: (MM)	16.8
Market Cap.: (MM)	\$225.1
S&P 500:	1,892.49
Avg. Daily Vol.:	141,722
Dividend/Yield:	\$0.00/0.0%
LT Debt: (MM)	\$0.0
LT Debt/Total Cap.:	0.0%
ROE:	NM
3-5 Yr. Est. Growth Rate:	NM
CY 2014 Est. P/E-to-Growth:	NM
Last Reporting Date:	05/08/2014
	After Close

Source: Company Data, Wells Fargo Securities, LLC estimates, and Reuters

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All estimates/forecasts are as of 05/23/14 unless otherwise stated.

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Together we'll go far



Company Description:

Five Prime Therapeutics (FPRX), Inc., headquartered in South San Francisco, California, is a biotechnology company focused on discovering and developing protein therapeutic candidates based on its extensive library of 5,600+ extracellular proteins, including ligands and receptors. Its lead development candidate is FP-1039 [ph.I(b)], an FGFR1-targeted ligand trap in development for solid tumors and partnered with GlaxoSmithKline. Behind '1039, its unpartnered pipeline includes FPA008 (ph.I) a monoclonal antibody in development for inflammatory diseases (e.g., rheumatoid arthritis), and FPA144 (preclinical), an antibody for gastric cancer. Beyond its three lead programs, Five Prime has discovery collaborations with GSK for muscle diseases (sarcopenia and cachexia) and respiratory diseases (refractory asthma and COPD) and UCB Pharma for fibrotic-related immunologic and CNS diseases.

Continued from front page

- **'008 moving along in the clinic, with potential beyond RA becoming more actively explored.** The company's anti-CSFR1 antibody is in a placebo-controlled MAD ph.I which the company remains encouraged about, and despite this study being in healthy subjects, year-end data on biomarkers (CD16/bone turnover) could provide important information to corroborate the mechanism. While RA remains the first pilot indication and a ph.II RA study is on track to begin in the fall, the company is also testing other disease areas in exploratory preclinical models. These include pigmented villonodular synovitis (Roche's ASCO abstract data indicated mechanistic proof-of-concept for CSFR1 antibodies but population small) and IPF (large opportunity but coming out of ATS role of inflammation in pathophysiology is unclear). FPRX is also exploring the promise of CSFR1 as an immune-oncology target.
- **Despite transition at partner GSK, '1039 continues in its ph.Ib.** Despite GSK out-licensing to Novartis its commercial stage oncology franchise, FPRX said their partner GSK has been committed as ever to the program; though it does not appear this transition will have any impact on the ongoing phase Ib, we think this is something to watch for in future developments. Interim ph.I data from the dose-escalation portion data is still expected by year-end; the relatively small patient numbers, shorter durations, and lower doses might make interpreting efficacy from these initial results difficult, though safety data should still be very informative. Regardless, we continue to believe '1039 represents the optimal approach to targeting the FGF pathway given its greater specificity for tumorigenic FGFs vs. small molecules--which should enable higher dosing and FGF suppression along with chemo combinability, and that their strategy of targeting FGFR1 overexpression should maximize the chances of demonstrating good responses.

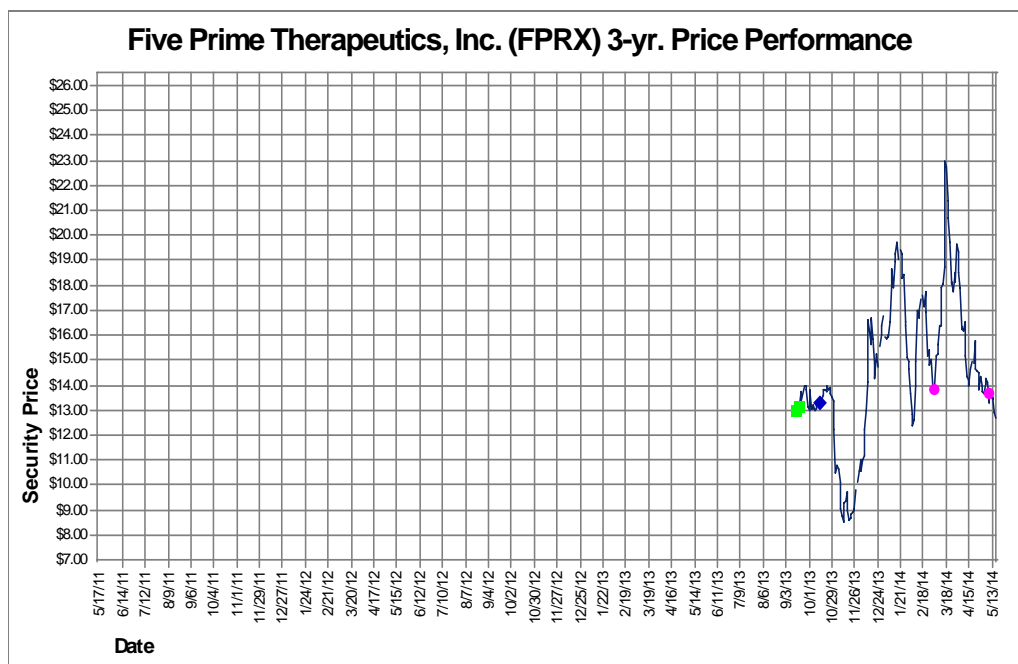
Five Prime Therapeutics (FPRX)
Statement of Operations (Income Statement)

(in thousands except per share amounts)

	2010A	2011A	2012A	2013A	10A	2QE	3QE	4QE	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E
Revenues																		
Total Global FP-1039 sales (15-35% prob-weighted by tumor type)																		
Total Global FPA008 sales (20% prob-weighted)																		
Collaborative revenue	\$23,740	\$64,916	\$9,983	\$13,791	\$3,546	\$3,500	\$3,550	\$3,600	\$14,196	\$26,800	\$97,800	\$21,500	\$34,000	\$21,500	\$39,000	\$54,000	\$39,000	\$34,000
FP-1039 (royalties; probability weighted by tumor type)																		
FPA008 (royalties; probability weighted)																		
Total revenues, net	\$23,740	\$64,916	\$9,983	\$13,791	\$3,546	\$3,500	\$3,550	\$3,600	\$14,196	\$26,800	\$97,800	\$21,500	\$34,000	\$21,500	\$41,598	\$64,953	\$64,343	\$99,623
Expenses																		
Research and development	\$29,417	\$34,039	\$28,778	\$32,785	\$8,926	\$9,105	\$9,267	\$9,472	\$36,769	\$38,629	\$40,560	\$42,183	\$43,870	\$45,186	\$46,542	\$47,938	\$48,376	\$50,857
Selling, general and administrative	\$8,338	\$11,216	\$9,009	\$10,427	\$3,280	\$3,313	\$3,346	\$3,379	\$13,318	\$13,851	\$14,405	\$14,981	\$15,580	\$16,204	\$16,852	\$17,526	\$18,227	\$18,956
Total operating expenses	\$37,755	\$45,255	\$37,787	\$43,212	\$12,206	\$12,417	\$12,633	\$12,852	\$50,108	\$52,480	\$54,965	\$57,164	\$59,450	\$61,390	\$63,393	\$65,464	\$67,603	\$69,813
Operating income	(\$14,015)	\$19,661	(\$27,804)	(\$29,421)	(\$8,660)	(\$8,917)	(\$9,083)	(\$9,252)	(\$35,912)	(\$25,680)	\$42,835	(\$35,664)	(\$24,535)	(\$38,060)	(\$21,795)	(\$510)	(\$3,260)	\$29,809
Interest income	\$58	\$114	\$88	\$129	\$16	\$20	\$20	\$19	\$75	\$108	\$118	\$121	\$91	\$60	\$30	\$19	\$17	\$31
Other income (expense) net	\$491	(\$65)	\$121	\$420	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(Loss) income before benefit from income taxes	(\$13,466)	\$19,710	(\$27,595)	(\$28,872)	(\$8,644)	(\$8,897)	(\$9,062)	(\$9,233)	(\$35,836)	(\$25,571)	\$42,952	(\$35,543)	(\$24,443)	(\$38,000)	(\$21,765)	(\$491)	(\$3,242)	\$29,840
Benefit (expense) from income taxes	\$5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$298
Net (loss) income	(\$13,461)	\$19,710	(\$27,595)	(\$28,872)	(\$8,644)	(\$8,897)	(\$9,062)	(\$9,233)	(\$35,836)	(\$25,571)	\$42,952	(\$35,543)	(\$24,443)	(\$38,000)	(\$21,765)	(\$491)	(\$3,242)	\$30,139
Earnings Per Share (GAAP)	(\$12.22)	\$10.35	(\$23.05)	(\$5.26)	(\$0.46)	(\$0.41)	(\$0.42)	(\$0.42)	(\$1.71)	(\$1.15)	\$1.73	(\$1.54)	(\$1.04)	(\$1.59)	(\$0.90)	(\$0.02)	(\$0.13)	\$1.09
Shares Outstanding (Basic)	1,102	1,152	1,197	5,488	18,841	21,641	21,741	21,841	21,016	22,241	22,641	23,041	23,441	23,941	24,241	24,641	25,041	25,441
Shares Outstanding (Diluted)	1,102	1,904	1,197	6,588	21,041	23,841	23,941	24,041	23,216	24,441	24,841	25,241	25,641	26,041	26,441	26,841	27,241	27,641

Source: Company reports and Wells Fargo Securities, LLC estimates

Required Disclosures



	Date	Publication Price (\$)	Rating Code	Val. Rng. Low	Val. Rng. High	Close Price (\$)
□	9/18/2013		IPO at \$13.00			
	10/14/2013		Abrahams, M.D.			
◆	10/14/2013	13.19	1	17.00	19.00	13.25
●	3/3/2014	13.96	1	20.00	22.00	13.78
●	5/9/2014	13.30	1	19.00	21.00	13.64

Source: Wells Fargo Securities, LLC estimates and Reuters data

Symbol Key

▼	Rating Downgrade	◆	Initiation, Resumption, Drop or Suspend
▲	Rating Upgrade	■	Analyst Change
●	Valuation Range Change	□	Split Adjustment

Rating Code Key

1	Outperform/Buy	SR	Suspended
2	Market Perform/Hold	NR	Not Rated
3	Underperform/Sell	NE	No Estimate

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FPRX: Key risks, in our view, are clinical and regulatory failure of its programs, competition, and financing.

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