Five Prime Therapeutics, Inc.

FPRX - BUY - 2Q14 Report; FP-1039/FPA008 Ph.I/Ib Data On Track for 2H14; Adjusting PT to $27

August 6, 2014

On 8/5, FPRX reported 2Q14 EPS of ($0.46) vs. our ($0.35) estimate. FPRX/GSK are moving '1039 through the dose escalation portion of the ongoing Ph.Ib trial in front-line and refractory FGFR1+ NSCLC and mesothelioma. Notably, FPRX reports that the 5-20mg doses being examined in NSCLC should be therapeutically active levels. We continue to see a high probability of '1039's success in FGFR1+ NSCLC, and we view the initial Ph.Ib results as a positive catalyst for FPRX by YE'14. FPRX has completed Ph.I dosing of '008 in healthy volunteers, and the company expects to report initial safety/biomarker results for the drug in 2H14. We believe FPRX is substantially undervalued, and we would buy the stock ahead of key '1039 and '008 results in 2H14. We are lowering our PT to $27 from $28 on model adjustments.

Nearing initial Ph.Ib FGFR1+ NSCLC results for '1039. FPRX will report top-line Ph.1b results for '1039 in NSCLC before YE'14, and we expect encouraging data, based on the drug's selective FGFR1 pathway inhibition. Detailed Ph.Ib results will likely be reported at 1H15, possibly at ASCO'15. We remain positive on the LT potential of '1039 and expect the drug to gain prominence among developmental FGFR1 pathway inhibitors in '15.

'008 safety/biomarker results in 2H14 should be revealing. Although we have had reservations regarding '008's potential immunosuppressive side effects, we are encouraged that enrollment in the healthy volunteer portion of a Ph.I trial has concluded with no noted safety concerns. Accordingly, we expect FPRX will report favorable Ph.I '008 safety/biomarker results in 2H14 and move the drug into Ph.Ib RA testing. FPRX plans to select a second '008 indication by YE'14, diversifying the development program.

FPA144 into the clinic by YE'14. We continue to believe that FPRX's focus on FGFR2b+ gastric cancer with '144 has strong mechanistic rationale. We see a reasonable path to rapid approval of '144 in this setting, given our expectation of single-agent efficacy in early Ph.I/II testing. Despite a limited WW patient pool (we est.~10K) in this gastric cancer subpopulation, we believe penetration/pricing of '144 would be high based on unmet medical need.

BRET HOLLEY, PH.D. ANALYST
bret.holley@guggenheimpartners.com 212 293 2820

FPRX BUY

EARNINGS RELEASE

Investment Thesis: Growth

SHARE PRICE	$12.38
PRICE TARGET	$27.00

EPS ($) (FY Dec)	1Q	2Q	3Q	4Q	FY
2013	(0.47)	(0.47)	(2.74)	(0.43)	(5.23)
P/E					NM
2014	(0.46)	(0.46)	(0.32)E	(0.31)E	(1.54)E
Prior	—	*(0.35)*	*(0.30)E*	*(0.28)E*	*(1.39)E*
P/E					NM
2015	—	—	—	—	(0.70)E
Prior	—	—	—	—	*(0.55)E*
P/E					NM

Market Data	
52-Week Range	$8.02 - $23.33
Shares Out (M)	21.4
Market Cap (M)	$265
ADV (3 mo; 000)	170

See pages 4 - 5 for analyst certification and important disclosures.

Five Prime Therapeutics Inc.

Amounts in thousands, except per-share figures	2013A	2014 1QA	2QA	Prior 2QE	3QE	4QE	2014E	Prior 2014E	2015E	2016E	2017E
Income Statement											
Revenues:											
Collaboration Revenue	13,791	3,546	4,981	4,720	6,005	6,550	21,082	20,821	40,640	28,454	55,200
FP-1039 Revenue (2)	-	-	-	-	-	-	-	-	-	-	12,206
Total operating revenue	**13,791**	**3,546**	**4,981**	**4,720**	**6,005**	**6,550**	**21,082**	**20,821**	**40,640**	**28,454**	**67,406**
Operating expenses:											
Cost of goods	-	-	-	-	-	-	-	-	-	-	-
Research & development	32,785	8,926	11,873	9,165	9,850	10,085	40,734	36,919	45,215	50,188	53,451
Selling, general & administrative	10,427	3,280	3,024	3,310	3,301	3,595	13,200	13,690	14,190	16,319	17,787
Total operating expenses	**43,212**	**12,206**	**14,897**	**12,475**	**13,151**	**13,680**	**53,934**	**50,609**	**59,405**	**66,507**	**71,238**
Income (Loss) from operations	**(29,421)**	**(8,660)**	**(9,916)**	**(7,755)**	**(7,146)**	**(7,130)**	**(32,852)**	**(29,788)**	**(18,765)**	**(38,053)**	**(3,832)**
Other income (expense)	549	16	50	193	204	209	479	622	521	513	183
Pretax income (loss)	**(28,872)**	**(8,644)**	**(9,866)**	**(7,562)**	**(6,942)**	**(6,921)**	**(32,373)**	**(29,166)**	**(18,243)**	**(37,540)**	**(3,649)**
Income tax provision (benefit)	-	-	-	-	-	-	-	-	-	-	-
Net income (loss)	**(28,872)**	**(8,644)**	**(9,866)**	**(7,562)**	**(6,942)**	**(6,921)**	**(32,373)**	**(29,166)**	**(18,243)**	**(37,540)**	**(3,649)**
Basic & diluted net loss per share	**($5.23)**	**($0.46)**	**($0.46)**	**($0.35)**	**($0.32)**	**($0.31)**	**($1.54)**	**($1.39)**	**($0.70)**	**($1.32)**	**($0.13)**
Basic & diluted common shares outstanding (1)	5,523	18,841	21,465	21,350	22,010	22,555	21,372	21,353	26,200	28,368	29,018

(1) Reflects conversion of preferred stock to common stock
(2) Probability adjusted estimates
Source: Company documents and Guggenheim Securities, LLC

Changes to our model

Based on FPRX's 2Q14 results, we have updated EPS estimates for 3Q14-4Q14, 2014, and 2015. Our new 3Q14 and 4Q14 estimates are ($0.32) and ($0.31), respectively, vs. ($0.30) and ($0.28) prior. Our current 2014 and 2015 estimates are ($1.54) and ($0.70) vs. ($1.39) and ($0.55) prior.

Valuation and Risks

Our $27 price target is based on a forward, 10-year DCF of probability-adjusted sales estimates for FP-1039 in NSCLC. We assign a 50% probability of clinical/commercial success for FP-1039 in FGFR1+ stage III/IV squamous NSCLC. Given positive Ph.I results for the biologic in this setting, we believe this is an appropriate, if not conservative, probability adjustment. Our valuation applies a 15.8% discount rate to reflect the relatively early stage of FPRX's lead program and a 5.25% terminal growth rate (2% prior) to reflect the company's strong collaboration profile and its proprietary drug discovery platform to continue to identify new protein therapeutic targets.

Key risks to our price target include, but are not limited to, negative clinical trial results, either related to safety or efficacy, for FPRX's drug candidates; failure to gain U.S./E.U. regulatory approval for FP-1039, FPA008, or FPA144; emerging clinical results for competitive therapies to these therapies in NSCLC/RA/GC; failure of FPRX's collaborative partners, most importantly GSK, to adequately advance development of clinical candidates; failure of FPRX to generate adequate financing; challenges to FPRX's intellectual property positions; and lower-than expected U.S./ROW sales of FP-1039.

		Terminal growth rate								
		4.25%	4.50%	4.75%	5.00%	**5.25%**	5.50%	5.75%	6.00%	6.25%
Discount rate	*14.80%*	$ 29.99	$ 30.62	$ 31.28	$ 31.98	**$ 32.71**	$ 33.48	$ 34.29	$ 35.15	$ 36.06
	15.05%	$ 28.71	$ 29.30	$ 29.91	$ 30.56	**$ 31.24**	$ 31.96	$ 32.71	$ 33.50	$ 34.34
	15.30%	$ 27.50	$ 28.05	$ 28.62	$ 29.22	**$ 29.86**	$ 30.52	$ 31.22	$ 31.96	$ 32.74
	15.55%	$ 26.35	$ 26.86	$ 27.40	$ 27.96	**$ 28.55**	$ 29.17	$ 29.82	$ 30.50	$ 31.22
	15.80%	**$ 25.25**	**$ 25.73**	**$ 26.24**	**$ 26.76**	**$ 27.31**	**$ 27.89**	**$ 28.49**	**$ 29.13**	**$ 29.80**
	16.05%	$ 24.22	$ 24.67	$ 25.14	$ 25.63	**$ 26.14**	$ 26.68	$ 27.25	$ 27.84	$ 28.46
	16.30%	$ 23.23	$ 23.65	$ 24.09	$ 24.55	**$ 25.03**	$ 25.54	$ 26.06	$ 26.62	$ 27.20
	16.55%	$ 22.29	$ 22.69	$ 23.10	$ 23.53	**$ 23.98**	$ 24.45	$ 24.95	$ 25.46	$ 26.00
	16.80%	$ 21.40	$ 21.77	$ 22.16	$ 22.56	**$ 22.98**	$ 23.43	$ 23.89	$ 24.37	$ 24.87
	17.05%	$ 20.55	$ 20.90	$ 21.26	$ 21.64	**$ 22.04**	$ 22.45	$ 22.88	$ 23.33	$ 23.80

Source:Guggenheim Securities, LLC

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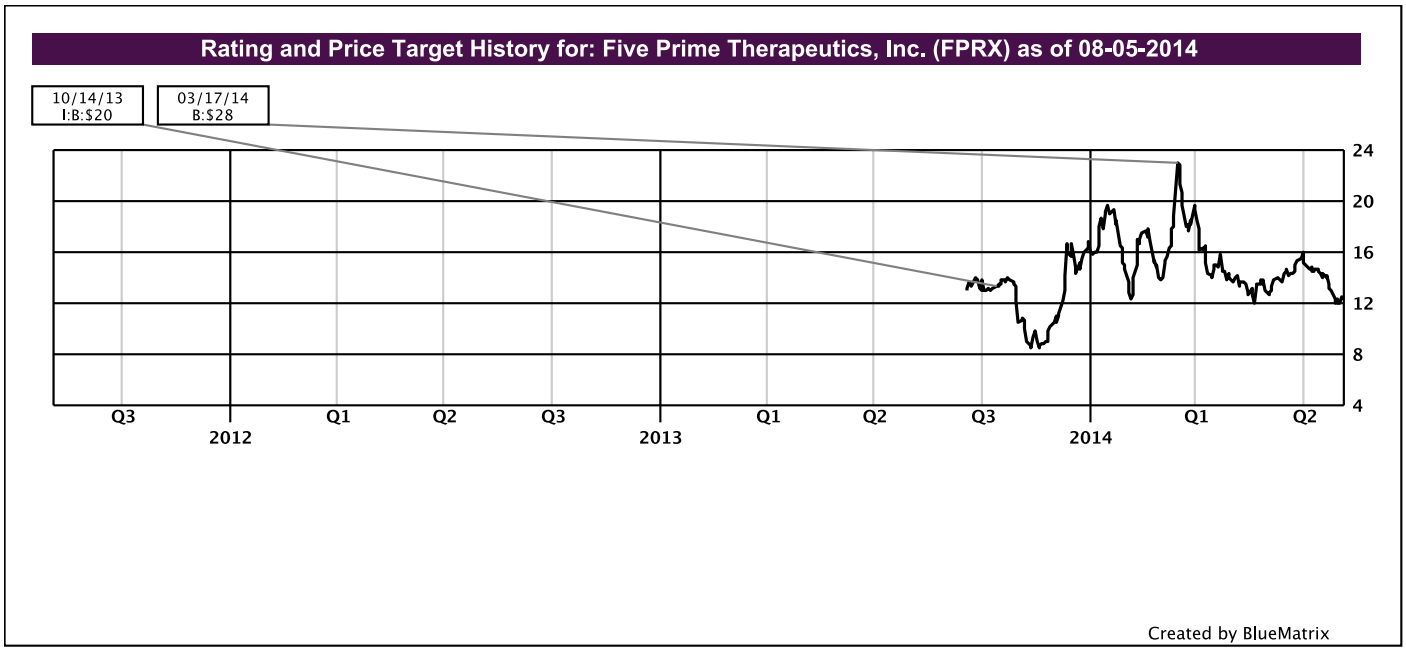

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Contact Information

NEW YORK SALES & TRADING DESK
212 292 4700

EQUITY TRADING DESK
212 292 4701

MEDIA INQUIRIES
310 367 6567

EMAIL
general@guggenheimcm.com

Locations

NEW YORK
330 Madison Avenue
New York, NY 10017

WASHINGTON, DC
1055 Thomas Jefferson Street, NW
Suite 450
Washington, DC 20007

BOSTON
500 Boylston Street, 13th Floor
Boston, MA 02116

LOS ANGELES
601 South Figueroa Street
Suite 4005
Los Angeles, CA 90017

DALLAS
1717 McKinney Avenue
Suite 870
Dallas, TX 75202

SAN FRANCISCO
50 California Street
Suite 1515
San Francisco, CA 94111

NASHVILLE
104 Woodmont Blvd
Suite 203
Nashville, TN 37205

RICHMOND
919 East Main Street
Suite 1605
Richmond, VA 23219

Guggenheim Equity Research

ENERGY: EXPLORATION & PRODUCTION
Rob Cordray, Analyst
robert.cordray@guggenheimpartners.com
972 638 5509

ENERGY: OIL SERVICES & EQUIPMENT
Darren Gacicia, Analyst
darren.gacicia@guggenheimpartners.com
212 293 3054
Michael LaMotte, Analyst
michael.lamotte@guggenheimpartners.com
972 638 5502
Wilson Waggoner, Associate
wilson.waggoner@guggenheimpartners.com
972 638 5506

FINANCIAL SERVICES: BUSINESS DEVELOPMENT COMPANIES
Rahul Agarwal, Analyst
rahul.agarwal@guggenheimpartners.com
615 208 1221

FINANCIAL SERVICES: REGIONAL & COMMUNITY BANKS, CARD NETWORKS
Taylor Brodarick, Analyst
taylor.brodarick@guggenheimpartners.com
615 208 1222
David Darst, Analyst
david.darst@guggenheimpartners.com
615 208 1224
Ryan Strain, Associate
ryan.strain@guggenheimpartners.com
615 208 1226

FINANCIAL SERVICES: INSURANCE
Bijan Moazami, Analyst
bijan.moazami@guggenheimpartners.com
202 747 9466
Marshall Coltrain, Associate
marshall.coltrain@guggenheimpartners.com
202 747 9456

HEALTHCARE: BIOTECH
Bret Holley, Analyst
bret.holley@guggenheimpartners.com
212 293 2820

HEALTHCARE: PHARMACEUTICALS
Louise Chen, Analyst
louise.chen@guggenheimpartners.com
212 381 4195
Swati Kumar, Associate
swati.kumar@guggenheimpartners.com
212 918 8754
Brandon Folkes, Associate
brandon.folkes@guggenheimpartners.com
212 518 9976

RETAIL & CONSUMER
John Heinbockel, Analyst
john.heinbockel@guggenheimpartners.com
212 381 4135
Steven Forbes, Associate
steven.forbes@guggenheimpartners.com
212 381 4188

TMT: MEDIA & ENTERTAINMENT, CABLE & SATELLITE TV
Michael Morris, Analyst
michael.morris@guggenheimpartners.com
804 253 8025
Curry Baker, Associate
curry.baker@guggenheimpartners.com
804 253 8029