William Blair

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Pfenex Inc.

Fourth-Quarter Business Update Focused on Added Proprietary Compounds

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Before the markets opened on Monday, March 16, Pfenex reported its fourth-quarter and full-year financial results and provided an update on clinical programs. While the financial results were in line, the company updated the clinical development timeline, highlighted by the addition of three proprietary compounds (which were previously included in the joint development program with Strides Arcolab), following the partnership collaboration with Hospira. Exhibit 1 provides a detailed variance analysis of the company's operating results compared with our financial estimates. In addition, we modified our financial projections to come more in line with current operating trends (exhibit 2).

- **Following the partnership agreement with Hospira (HSP $87.66) for PF582 (biosimilar candidate to Lucentis), management updated its collaboration framework with Strides Arcolab to enable the independent advancement of PF530 (biosimilar candidate to Betaseron), PF529 (biosimilar candidate to Neulasta), and PF726 (peginterferon beta-1b).** We believe management adroitly amended the agreement with partner Strides Arcolab to add three additional proprietary compounds to the development pipeline. In our view, the latest development provides clarity into the company's future strategic direction following the partnership of its leading proprietary asset with Hospira. It is our opinion that both the breadth and number of proprietary and partnered compounds in the pipeline further validates Pfenex's technology platform and offers multiple shots at goal for the company. Exhibit 4 outlines the company's clinical pipeline.

- **We view 2015 as a formative year for Pfenex, as four compounds are projected to enter the clinic, which will be eligible for review via the abbreviated 351(k) regulatory pathway.** Management outlined its plan to advance four compounds into clinical testing. Notably, the two proprietary compounds will initiate testing in Phase I studies—PF530 (biosimilar candidate to Betaseron) in the first quarter and PF708 (peptide generic to Forteo) in the second half of the year. The two vaccine candidates for anthrax and malaria, in collaboration with the various U.S. government agencies, will also enter Phase I clinical trials this year. We believe the activity surrounding the company's portfolio will present significant catalysts, which we summarize in exhibit 3, over the next two years.

- **Pfenex has roughly $46 million in capital; with the infusion of a $51 million upfront payment from the Hospira agreement, we believe the current cash level will sustain the company for at least two years, based on current burn-rate estimates.** With an estimated enterprise value of about $190 million and numerous upcoming catalysts that stand to increase value, we believe that current price levels represent an attractive entry point for investors. We, therefore, maintain our Outperform rating on Pfenex shares.

Stock Rating:	Outperform
Company Profile:	Aggressive Growth

Symbol:	PFNX (NYSE)
Price:	$13.75 (52-Wk.: $5-$15)
Market Value (mil.):	$289
Fiscal Year End:	December
Long-Term EPS Growth Rate:	
Dividend/Yield:	None

		2014A	2015E	2016E
Estimates				
EPS	Q1	$-1.28	$-0.32	$-0.30
	Q2	$-1.67	$-0.33	$-0.30
	Q3	$-0.16	$-0.33	$-0.31
	Q4	$-0.18	$-0.34	$-0.31
	FY	$-3.29	$-1.32	$-1.22
	CY		$-1.32	$-1.22
Sales (mil.)		11	8	8
Valuation				
FY P/E		NM	NM	NM
CY P/E			NM	NM

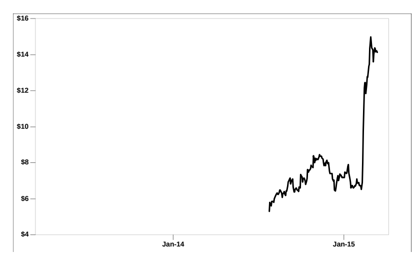
Trading Data (FactSet)

Shares Outstanding (mil.)	15
Float (mil.)	10
Average Daily Volume	97,977

Financial Data (FactSet)

Long-Term Debt/Total Capital (MRQ)	0.0
Book Value Per Share (MRQ)	3.1
Return on Equity (TTM)	-19.6

Two-Year Price Performance Chart



Sources: FactSet, William Blair & Company estimates

Pfenex is a San Diego–based biotechnology company focused on biosimilars and difficult-to-manufacture protein-based therapeutics. The lead product candidate, PF582, a biosimilar to Lucentis (ranibizumab), is in Phase I/II study with data expected later this year.

Portfolio Manager Summary

Before the markets opened on Monday, March 16, Pfenex reported its fourth-quarter and full-year financial results and provided an update on clinical programs. While the financial results were in line, the company updated the clinical development timeline, highlighted by the addition of three proprietary compounds (which were previously included in the joint development program with Strides Acrolab), following the partnership collaboration with Hospira. Exhibit 1 provides a detailed variance analysis of the company's operating results compared with our financial estimates. In addition, we modified our financial projections to come more in line with current operating trends (exhibit 2).

Exhibit 1
Pfenex Inc.
Fourth Quarter 2014 Variance Analysis
(dollars in millions except EPS)

	PFNX Q4 2014A	WB Q4 2014E
Total Revenues	$2	$2
COGS	$1	$2
SG&A	$3	$2
R&D	$1	$3
Net Loss	($4)	($5)
EPS	($0.18)	($0.23)

Sources: Pfenex reports and William Blair & Company, L.L.C. estimates.

Exhibit 2
Pfnex Inc.
Guidance and Estimates
(dollars in millions except EPS)

	WB Previous 2015E	WB Revised 2015E	WB Previous 2016E	WB Revised 2016E	WB Previous 2017E	WB Revised 2017E
Total Revenues	$8	$8	$8	$8	$8	$8
COGS	$8	$8	$9	$9	$10	$10
SG&A	$8	$12	$9	$13	$10	$14
R&D	$14	$16	$18	$20	$18	$22
Net Loss	($21)	($28)	($28)	($33)	($30)	($37)
EPS	($1.01)	($1.32)	($1.01)	($1.22)	($1.05)	($1.31)

Sources: Pfenex reports and William Blair & Company, L.L.C. estimates.

Exhibit 3
Pfenex Inc.
Timeline

Date	Product	Event
2015	PF530 (biosimilar Betaseron)	Phase I trial initiation in relapsing forms of MS (1Q).
	PF530 (biosimilar Betaseron)	Phase I trial results in relapsing forms of multiple sclerosis (2H).
	PF582* (biosimilar Lucentis)	Phase Ib/IIa trial interim results in wet age-related macular degeneration (1Q).
	PF708 (generic Forteo)	ANDA-enabling pharmacokinetic bioequivalence trial initiation in osteoporosis (2H).
	Recombinant Anthrax Vaccine	Phase I trial initiation in anthrax.
	Recombinant Malaria Vaccine	Phase I trial initiation in malaria.
2016	PF582* (biosimilar Lucentis)	Phase III equivalence trial initiation in wet age-related macular degeneration.
	PF688 (biosimilar Cimzia)	Phase I trial initiation in Crohn's disease and rheumatoid arthritis.
	Recombinant Anthrax Vaccine	Phase I trial results in anthrax (3Q).
	Recombinant Malaria Vaccine	Phase I trial results in malaria.
2017	PF582* (biosimilar Lucentis)	Phase III trial results in age-related macular degeneration.

ANDA = abbreviated new drug application.
*Partnered with Hospira.
Sources: Pfenex reports.

Exhibit 4
Pfenex Inc.
Pipeline

Compound (Branded referenced drug)	Preclinical	Phase I	Phase II	Phase III	Market	Market Size	Partner
PF529 (Neulasta)	Neutropenia					**$4 billion**	**Proprietary**
PF530 (Betaseron)	Multiple Sclerosis	**Q1 initiation**				**$1.5 billion**	**Proprietary**
PF688 (Cimzia)	Crohn's Disease and Arthritis					**$600 million**	**Proprietary**
PF708 (Forteo)	Osteoporosis	**2H initiation**				**$1 billion**	**Proprietary**
PF726 (next-generation pegylated interferon beta)	Multiple Sclerosis					**$1.5 billion**	**Proprietary**
PF582 (Lucentis)	Age-Related Macular Degeneration					$4 billion	Hospira
PF444 (Genotropin)	Growth Disturbance					$1 billion	Strides Arcolab
PF690 (Oncaspar)	Acute Lymphoblastic Leukemia					$200 million	Strides Arcolab
PF694 (Pegasys)	Hepatitis B and C Virus					$1.4 billion	Strides Arcolab
Px563L vaccine	Anthrax	2015 initiation				$215 million	U.S. Government
Px563L-SDI vaccine	Anthrax	2015 initiation				$215 million	U.S. Government
Px533 vaccine	Malaria	2015 initiation				Limited	U.S. Government

Sources: Pfenex reports

Valuation

Pfenex is trading at $13.75 with a market cap of $289 million, and we believe the stock represents an attractive value at current price levels. Given the breadth of the clinical pipeline and an active news calendar in the next two years, we see significant room for upside potential in Pfenex shares.

Risks

While we view Pfenex as a well-capitalized company with a modest clinical risk profile, numerous risks remain, including clinical, capital, and regulatory risks, given that the company's product candidates are biosimilars of commercialized drugs. The clinical risk is the emergence of unexpected adverse events from compounds generated from Pfenex's proprietary manufacturing platform. The major capital risk is that additional infusions of funding are needed before the company can reach profitability, which may include further equity fundraising. The major regulatory risk is that PF582 could face scrutiny before approval. However, given the comprehensive bioanalytical testing completed by Pfenex, we believe the asset is de-risked and remain optimistic about the future of the compound's path.

Our model is included on the following page.

Exhibit 5
Pfenex Inc.
Income Statement
(dollars in thousands except EPS and shares in thousands)

	2014A	Q1E	Q2E	Q3E	Q4E	2015E	2016E	2017E	2018E	2019E	2020E	2021E
Revenue	10,644	1,900	2,000	2,100	2,200	8,200	8,200	8,200	8,200	8,200	9,150	9,550
PF582	0	0	0	0	0	0	0	0	6,327	46,812	140,838	373,953
Total revenues	**$10,644**	**$1,900**	**$2,000**	**$2,100**	**$2,200**	**$8,200**	**$8,200**	**$8,200**	**$14,527**	**$55,012**	**$149,988**	**$383,503**
Cost of revenue	7,233	2,000	2,000	2,000	2,000	8,000	9,000	10,000	10,000	25,285	77,537	220,000
Gross profit	3,411	(100)	0	100	200	200	(800)	(1,800)	4,527	29,727	72,451	163,503
SG&A	9,003	3,000	3,000	3,100	3,100	12,200	13,000	13,600	14,650	20,300	41,000	48,000
R&D	4,125	3,500	3,750	4,000	4,250	15,500	19,500	21,800	23,400	25,000	26,600	28,200
Total operating expenses	13,128	6,500	6,750	7,100	7,350	27,700	32,500	35,400	38,050	45,300	67,600	76,200
Loss from operations	**($9,717)**	**($6,600)**	**($6,750)**	**($7,000)**	**($7,150)**	**($27,500)**	**($33,300)**	**($37,200)**	**($33,523)**	**($15,573)**	**$4,851**	**$87,303**
Other expense, net	(77.0)	(18.0)	(18.0)	(17.0)	(17.0)	(70.0)	(62.0)	(54.0)	(48.0)	(44.0)	(40.0)	(36.0)
Net loss before income taxes	(9,794)	($6,618)	($6,768)	($7,017)	($7,167)	(27,570)	(33,362)	(37,254)	(33,571)	(15,617)	4,811	87,267
Income tax benefit	0	0	0	0	0	0	0	0	0	0	(2,065)	(13,090)
Net loss	($9,794)	($6,618)	($6,768)	($7,017)	($7,167)	($27,570)	($33,362)	($37,254)	($33,571)	($15,617)	$2,746	$74,177
Net loss attributable to common stockholders	**(10,676)**	**(6,618)**	**(6,768)**	**(7,017)**	**(7,167)**	**(27,570)**	**(33,362)**	**(37,254)**	**(33,571)**	**(15,617)**	**2,746**	**74,177**
Net loss per common share basic and diluted	**($3.29)**	**($0.32)**	**($0.33)**	**($0.33)**	**($0.34)**	**($1.32)**	**($1.22)**	**($1.31)**	**($1.13)**	**($0.51)**	**$0.08**	**$2.22**
Weighted-average common shares basic and diluted	9,707	20,589	20,792	20,996	21,203	20,895	27,432	28,529	29,670	30,856	32,090	33,373

PFNX
Sources: Roche and Pfenex reports.

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William Blair is a market maker in the security of Pfenex Inc.

William Blair intends to seek investment banking compensation in the next three months from Pfenex Inc.

Within the past 12 months William Blair has provided or is providing investment banking services to or has an investment services relationship with Pfenex Inc.

Additional information is available upon request.

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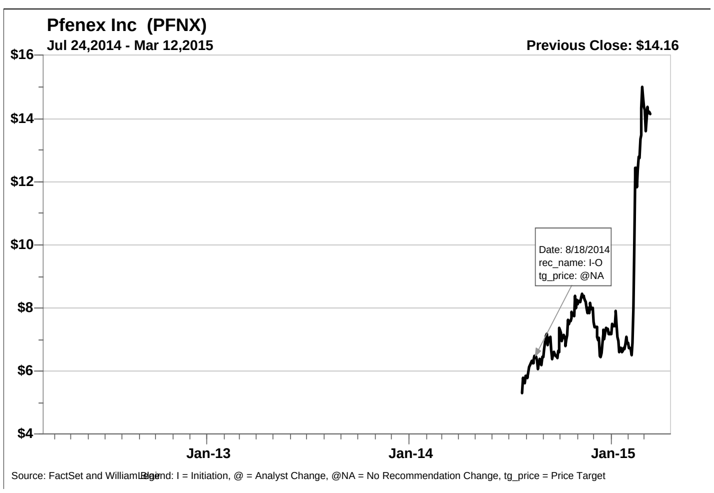
DOW JONES: 17,895.22
S&P 500: 2,065.95
NASDAQ: 4,893.29



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Coverage Universe	Percent	Inv. Banking Relationships*	Percent
Outperform (Buy)	65	Outperform (Buy)	16
Market Perform (Hold)	32	Market Perform (Hold)	2
Underperform (Sell)	2	Underperform (Sell)	0

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