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Industry View
In-Line

Biotechnology

PTLA, OPHT: 1Q Updates

PTLA and OPHT reported 1Q earnings. We are increasing our PTLA Price target from $40 to $41.

PTLA: The 1Q update was focused on pipeline progress and andexanet alfa (Xa reversal drug) mfg. **Betrixiban**, a Xa inhibitor, enrollment continues in a Ph 3 study of DVT/PE prevention in acute medically ill patients. For **cerdulatinib**, the wholly owned Syk/Jak inhibitor in Ph 1/2 for blood cancers, we will be seeing PK/PD data at the upcoming ASCO meeting. Finally, for **andexanet alfa**, the Xa reversal agent, we hope to see a steady stream of data starting with Ph 2 enoxaparin reversal data (mid-year), Ph 2 edoxaban and Ph 3 apixiban reversal data (2H14, apixiban data will be bolus only cohort), and additional Ph 3 data in apixiban (bolus + infusion cohort) and other drugs in 2015+.

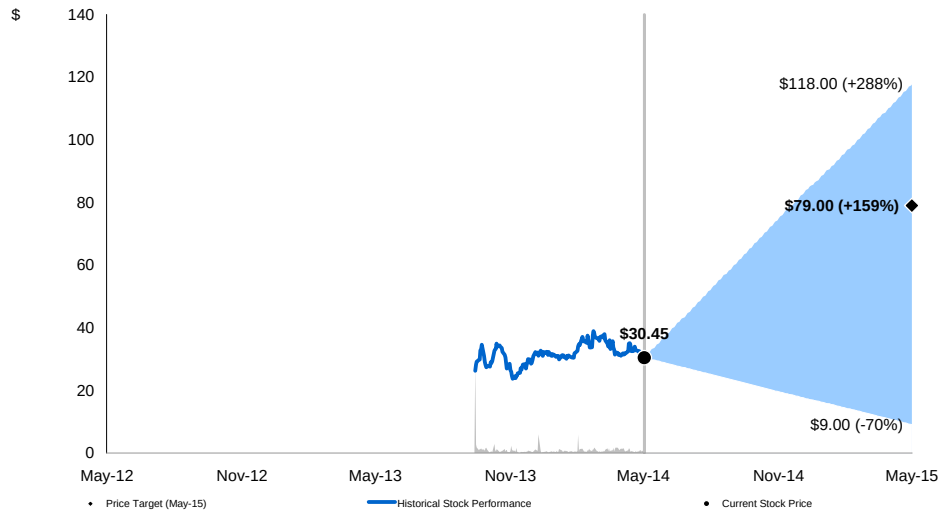
The current **andexanet mfg** plan, which is not too different from prior, is to file with CMC Biologics mfged material, which may be supply-constrained in the initial launch period as they work to build inventory in the initial 6 mo launch time. Over the subsequent 1-2 yrs, larger scale supply from Lonza, ideally with an improved process and lower COGS, will come online. We do not expect any impacts to our model, but do note any initial stocking cycle, which we do not explicitly model, could be more protracted. We will analyze this as details on avg dose/pt and available drug volume are clearer.

OPHT: The 1Q update focused on the next Ph 2 trials for Fovista (PDGF inhibitor) and Zimura (C5 inhibitor) as well as some of the March R&D day update on retinal fibrosis. For **Fovista**, key co. run trials will attempt to answer whether Fovista can help reduce the frequency of VEGF injections or overcome VEGF resistance (two separate trials), or provide benefit in proliferative vitreoretinopathy pts. The Nat'l Eye Institute will be running a Von Hippel-Lindau trial. We expect to start seeing data from the Fovista trials as early as 2015. For **Zimura**, the focus will be on assessing benefit in a Ph 2/3 study in pts with geographic atrophy in dry AMD.

In terms of fibrosis, the data are evolving in terms of the potential for PDGF to benefit fibrosis pts and/or the potential for VEGF drugs to "ignore" or worsen this likely cause of clinical worsening. The co. will be re-evaluating a subset of Ph 2b pts in light of this specific issue. We see this as an early but exciting and potentially highly impactful aspect of PDGF inhibition.

Risk-Reward Snapshot: Ophthotech (OPHT, OW, PT $79)

Fovista's Success Drives Risk-Reward



Source: Morgan Stanley Research estimates, Thomson Reuters

Price Target $79		We derive our PT from a discounted cash flow analysis that uses a WACC of 12.5% and a 0% terminal growth rate. The revenue driver in our model is the WW launch of Fovista in wet AMD in 2H17 (US) and 2018 (EU/ROW).
Bull Case $118	**DCF**	**Fovista gains significant share in the wet AMD market. Limited competition from earlier stage anti-PDGF/VEGF combinations.** Our bull case assumes that Fovista gains ~45% share of the overall wet AMD market. This share is driven by Fovista use in ~55% of Lucentis treated eyes, ~30% of Eylea treated eyes and ~45% of Avastin treated eyes. This scenario assumes 1) Regeneron's anti-PDGF/Eylea combination makes it to market by ~2020, but does not take significant share from Fovista, and 2) Fovista is able to gain meaningful traction in combination with Avastin despite its likely high cost per injection. We model WW Fovista sales of ~$3bn with ~$1.7bn in sales in the US.
Base Case $79	**DCF**	**Fovista gains decent share in the wet AMD market, but loses some share to competition in 2020 and beyond.** Our base case scenario assumes Fovista approval and ~30% peak share of the overall wet AMD market. This share is made up of Fovista use in ~45% of Lucentis treated eyes, ~25% of Eylea treated eyes at peak and ~35% of Avastin treated eyes. This scenario assumes 1) Regeneron's anti-PDGF/Eylea combination launches in 2020 and rapidly takes share from Fovista, and 2) Fovista use in combination with Avastin is less than that with the other two anti-VEGF therapies as patients treated with Avastin are often those that are unable to afford Lucentis/Eylea, and these patients may also be unable to afford the addition of Fovista. We model peak WW Fovista sales of ~$2bn with ~$1.2bn sales in the US.
Bear Case $9	**Cash Based Value**	**Fovista fails.** Our bear case assumes Fovista fails in its Ph 3 wet AMD trials either due to insufficient efficacy or safety concerns. Given that Fovista is Ophthotech's only late stage asset, we would expect the stock to trade at or near cash in the case of Ph 3 failure. We view this scenario as unlikely given Fovista data to date.

Investment Thesis

- We are OW OPHT as we believe the company's lead asset Fovista has encouraging data in wet AMD to date and WW sales potential of ~$2bn.
- Fovista, a PDGF inhibitor, is in Ph 3 in combination with anti-VEGF therapy for the treatment of wet AMD. Ph 2b data suggest Fovista + anti-VEGF leads to greater vision improvement than anti-VEGF therapy alone.
- Fovista's Ph 3 program largely mimics its Ph 2b and we expect success in 2016, followed by a 2016 NDA filing and potential launch in 2017.
- While anti-VEGF therapies work well in many pts with wet- AMD, ~20% of pts initiating treatment with these drugs continue to lose vision over the course of a year and most pts have progressive vision loss over time.
- Physician feedback suggests that 1) all pts with wet AMD should be treated, 2) the goal of treatment is to provide the greatest letter benefit upfront, and 3) a gain of even 2-3 letters makes a difference. We model >$1bn peak sales in the US and ~$500mn+ ex-US.
- Ophthotech is considering exploratory trials for Fovista in add'l indications such as wet AMD VEGF failures, proliferative vitreoretinopathy, and von Hippel Lindau disease. These indications as well as any potential success from Ophthotech's earlier stage asset, ARC1905, are upside to our model.

Risks to our price target
1) Fovista could fail in Ph 3 either due to insufficient efficacy or a safety issue, 2) Fovista does not yet have data in combination with Eylea or Avastin and it is possible that 1) these combos show different results than the Lucentis + Fovista combination and/or 2) the FDA or EMEA could require add'l data.

Ophthotech Valuation

Exhibit 1
DCF Drives Valuation

	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Free Cash Flow	($49)	($85)	($98)	$1	$84	$278	$321	$369	$447	$528	$631	$661	$669	$671	$537	$430	$344
YoY Growth		*74%*	*15.8%*	*-100.6%*	*14768%*	*228.7%*	*15.5%*	*15.1%*	*21.3%*	*18.1%*	*19.4%*	*4.8%*	*1.2%*	*0.3%*	*-20.0%*	*-20.0%*	*-20.0%*
Net Cash Proxy for Dilution	($4.38)	($1.79)	($2.3)	($3.0)	($3.9)	($4.5)	($4.8)	($6.0)	($7.4)	($9.2)	($11.4)	($11.4)	($11.4)	($11.4)	($11.4)	($11.4)	($11.4)
Free Cash Flow for DCF	($53.2)	($86.7)	($100.7)	($2.4)	$80.5	$273.1	$315.8	$363.0	$440.0	$519.2	$619.3	$649.9	$657.9	$659.9	$525.6	$418.2	$332.3
Present Value of Free Cash Flow		($86.7)	($92.2)	($2.0)	$58.3	$175.6	$180.5	$184.4	$198.7	$208.4	$221.0	$206.1	$185.5	$165.4	$117.1	$82.8	$58.5

Source: Company data, Morgan Stanley Research estimates

Exhibit 2
DCF Valuation Suggests Upside

Valuation Date	**2014.25**
Discount Rate	**12.5%**
Terminal Growth Rate	0%
Terminal Value Year	2029
Sum of Discounted FCF	$1,883
Discounted Terminal Value	$468
Net Cash	$291
Equity Value	**$2,642**
Equity Value/Sh	**$79**
Shares Outstanding (Basic)	33.3

Source: Company Data, Morgan Stanley Research estimates

$79 PT includes Fovista in wet AMD.
We derive our PT from a discounted cash flow (DCF) analysis that uses a WACC of 12.5% and a terminal growth rate of 0% post 2029. We incorporate the cash cost of stock options

Valuation Methodology: We use a DCF to value Ophthotech as well as most other companies under coverage. We believe a DCF best captures the long-term nature of drug development and commercialization. We do not feel that a multiples analysis accomplishes the same goal, as it only evaluates a company during a snapshot in time.
Discount Rate: We typically apply a discount rate of 15% to development stage companies that have a fair amount of risk.
Terminal Growth Rate: Our modeled cash flows extend to 2023. Beyond this point, we grow free cash flows from 2023-27 at 25% of the prior year's growth rate. In 2027-29 we decline cash flows by 20% per year to account for the potential presence of a generic Fovista after the 2026 patent expiry. Beyond 2029, we use a terminal growth rate of 0%.

Revenue: The revenue driver in our model is Fovista.

Economics: Ophthotech has WW rights to Fovista. We assume an EU/ROW partner. We model royalties to Ophthotech in the low 20s on EU sales and high singe digits on ROW sales. Ophthotech also has several low single digit royalty obligations on Fovista sales. 1) For rights to anti-PDGF aptamers, Ophthotech owes OSI a royalty at a low single digit percentage of net sales – we estimate 2.5%. 2) For use of Nektar's technology, Ophthotech is obligated to pay Nektar tiered royalties at low to mid-single digit percentages of net sales – we estimate 2-4%. 3) In conjunction with a May 23rd, 2013 financing, Novo AS gained rights to a low to mid single digit percentage of net sales. This financing can be drawn in three separate tranches with additional royalty obligations, with each tranche – we assume Ophthotech uses 2/3 tranches and a corresponding 4% royalty obligation.

COGS: We assume a drug cost of ~5-7% of sales, which in addition to royalty obligations leads to total COGS of ~20%.

Operating Expenses:
R&D: We expect R&D to increase over the next few years as Ophthotech runs the Fovista Ph 3 program (1 yr data in 2016). Post 2016, we expect R&D to begin to decline.
SG&A: We expect SG&A to be relatively stable through 2017. We expect a sig. increase in 2017+ as Ophthotech builds a US infrastructure to market Fovista.

Financings: We model a $100mn upfront from a partner and a ~$145mn financing in 2016.

Key Risks Include: 1) Fovista fails to demonstrate sufficient efficacy and safety for approval, 2) the FDA and EMEA deem one trial with Avastin and Eylea as insufficient for approval and require additional data, which could result in an approval delay for these combinations, 3) Ophthotech has difficulty finding an ex-US partner, which could result in additional financing needs, 4) the commercial potential for Fovista is more limited than we expect if a) two injections are logistically difficult in the real-world, b) two injections are a bigger hurdle for patients and/or payors than we anticipate, or c) competition has a larger impact than we expect.

Exhibit 3

Ophthotech Upcoming Catalysts

Drug	Type	Event	Expected Timing
Fovista	Product Advancement	Begin trial in anti-VEGF resistant patients	2014
Fovista	Product Advancement	Begin trial in subretinal fibrosis wet AMD patients	2014
Fovista	Product Advancement	Begin trial in von Hippel Lindau disease	2014
Zimura (C5)	Product Advancement	Begin Ph 2/3 trial in geographic atrophy (severe form of dry AMD)	Late 2014/Early 2015
Fovista	Product Advancement	Begin trial in proliferative vitreoretinopathy	2015
Fovista	Clinical Data	Data from potential exploratory trials in other indications	2015
Zimura (C5)	Product Advancement	Begin trial in combo with Fovista in anti-VEGF resistant wet AMD pts with complement component	2015
Fovista	Clinical Data	Ph 3 trials with Lucentis, Eylea and Avastin	2016
Fovista	Regulatory	File NDA and MAA for Fovista in wet AMD	2H16
Fovista	Product Advancement	Begin small registrational trial in Japan	2017
Fovista	Regulatory	Fovista approval	2H17

Source: Company Data, Morgan Stanley Research

Exhibit 4

Ophthotech Variance Table

	4Q13 Actual	1Q14 MS Est	1Q14 Actual	Variance from Est.	*Q/Q % chg*
Revenues:					
Total Revenues	**$0.0**	**$0.0**	**$0.0**		
Operating Expenses:					
Cost of Sales	$0.0	$0.0	$0.0		
R&D	$14.4	$16.0	$13.4	-16.4%	*-7%*
SG&A	$4.8	$4.0	$5.9	48.7%	*23%*
Total Operating Expenses	**$19.2**	**$20.0**	**$19.3**	-3.4%	***1%***
Operating Income (Loss)	**($19.2)**	**($20.0)**	**($19.3)**	-3.4%	***1%***
Interest expense	$0.0	$0.1	$0.0		
Interest and other income	$0.0	$0.0	$0.0		
Net Income (Loss), excl. options expense	**($19.1)**	**($19.9)**	**($19.3)**	-3.1%	***1%***
Net Income (Loss), inc. options expense	**($20.4)**	**($21.4)**	**($20.7)**	-3.4%	***1%***
EPS, Non GAAP, diluted (excludes options)	**($0.65)**	**($0.66)**	**($0.64)**	-3.0%	*-1%*
EPS, diluted- GAAP	**($0.65)**	**($0.66)**	**($0.64)**	-3.0%	*-1%*
Diluted Shares Outstanding	31.36	32.40	32.28	-0.4%	*3%*

Source: Company Data, Morgan Stanley Research

Exhibit 5

Ophthotech Changes to Model

	2012	2013	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E
US Fovista												
Current	0	0	0	0	0	295	597	755	806	929	1,045	1,199
Prior	0	0	0	0	0	295	597	755	806	929	1,045	1,199
EU Fovista												
Current	0	0	0	0	0	0	229	458	571	557	605	639
Prior	0	0	0	0	0	0	229	458	571	557	605	639
Total Revenues ($mn)												
Current	0	0	0	0	100	295	651	865	957	1,076	1,204	1,368
Prior	0	0	0	0	100	295	651	865	957	1,076	1,204	1,368
COGS ($mn)												
Current	0	0	0	0	0	46	113	185	203	220	244	273
Prior	0	0	0	0	0	46	113	185	203	220	244	273
SG&A ($mn) - ex-ESOs												
Current	6	13	24	24	25	81	142	163	179	179	179	179
Prior	6	13	17	17	18	75	132	151	166	166	166	166
R&D ($mn) -ex-ESOs												
Current	7	31	64	74	74	78	78	71	64	57	51	46
Prior	7	31	79	91	91	94	94	84	76	68	61	55
Interest and Other Income, net												
Current	(1)	(1)	0	0	0	1	1	2	3	4	5	7
Prior	(1)	(1)	0	0	0	1	1	2	3	4	5	7
Net Income ($MM) - Non GAAP, excludes options												
Current	(14)	(48)	(88)	(98)	2	91	282	328	375	455	536	639
Prior	(14)	(48)	(96)	(108)	(8)	81	314	447	515	625	737	879
EPS Non-GAAP, Diluted, excludes options												
Current	($1.62)	($5.35)	($2.65)	($3.04)	$0.04	$2.48	$7.62	$8.77	$9.96	$11.94	$13.90	$16.36
Prior	($1.62)	($5.35)	($2.87)	($3.34)	($0.24)	$2.20	$7.79	$8.73	$9.97	$11.97	$13.96	$16.43
EPS - GAAP												
Current	($2.52)	($6.33)	($2.83)	($3.26)	($0.19)	$2.20	$7.33	$8.52	$9.69	$11.65	$13.60	$16.04
Prior	($2.52)	($6.33)	($3.05)	($3.56)	($0.48)	$1.93	$7.49	$8.48	$9.70	$11.69	$13.65	$16.12
Basic Shares Outstanding												
Current	9	9	33	32	34	35	36	36	36	36	36	36
Prior	9	9	33	32	34	35	36	36	36	36	36	36
Dilluted Shares Outstanding												
Current	9	9	33	32	35	37	37	37	38	38	39	39
Prior	9	9	33	32	34	37	37	37	38	38	39	39

Source: Company Data, Morgan Stanley Research

Exhibit 6
Ophthotech Quarterly Income Statement

($ in millions)	1Q14A	2Q14E	3Q14E	4Q14E	2014E
Other Revenue					
Revenues	$0.0	$0.0	$0.0	$0.0	$0.0
Operating Expenses:					
Cost of Sales					
% total product sales	*NA*	*NA*	*NA*	*NA*	*NA*
R&D	13.4	15.0	17.0	19.0	64
% of revenue	*na*	*na*	*na*	*na*	*na*
SG&A	5.9	6.0	6.0	6.0	24
% of revenue	*na*	*na*	*na*	*na*	*na*
Total Operating Expenses	$19.3	$21.0	$23.0	$25.0	$88.3
Operating Income (Loss)	($19.3)	($21.0)	($23.0)	($25.0)	($88.3)
Operating Margin	*na*	*na*	*na*	*na*	*na*
Interest income	$0.0	$0.10	$0.10	$0.10	$0.34
Interest expense	$0.0	$0.00	$0.00	$0.00	$0.00
Fx gain (loss)	$0.0	$0.00	$0.00	$0.00	$0.00
Other loss	$0.0	$0.00	$0.00	$0.00	$0.00
Change in fair value related to inv. rights liabil					
Pretax Income (Loss)	($19.3)	($20.9)	($22.9)	($24.9)	($88.0)
Provision for Income Taxes	0	0	0	0	0
Effective tax rate					
Net Income (Loss)	($19.3)	($20.90)	($22.90)	($24.90)	($87.98)
EPS, basic	($0.60)	($0.63)	($0.69)	($0.74)	($2.65)
EPS, diluted	($0.60)	($0.63)	($0.69)	($0.74)	($2.65)
Options Expense	1.40	1.50	1.50	1.50	5.90
% of operating expense	*7.2%*	*7.1%*	*6.5%*	*6.0%*	*6.7%*
Tax benefit from options					
Net Income (inc. options expense)	($20.7)	($22.40)	($24.4)	($26.4)	($93.9)
EPS, diluted (inc. options expense)	($0.64)	($0.67)	($0.73)	($0.79)	($2.83)
Basic Shares Outstanding	32.28	33.33	33.43	33.53	33.14
Diluted Shares Outstanding	32.28	33.33	33.43	33.53	33.14
One times	$0.0	$0.00	$0.00	$0.00	$0.0
GAAP Net Income (incl. options)	($20.682)	($22.4)	($24.4)	($26.4)	($93.9)
GAAP EPS (dil, incl. options)	($0.64)	($0.67)	($0.73)	($0.79)	($2.8)

Source: Company Data, Morgan Stanley Research

Exhibit 7

Ophthotech Annual Income Statement

($ in millions)	2011A	2012A	2013A	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E
US Fovista					**$0.0**	**$0.0**	**$295.1**	**$597.3**	**$755.1**	**$806.4**	**$928.6**	**$1,044.6**	**$1,199**
EU Fovista					$0.0	$0.0	$0.0	$229.2	$457.7	$571.4	$557.3	$604.8	$639.4
ROW Fovista					$0	$0	$0	$46	$114	$171	$167	$181	$192
Total WW Fovista Sales					**$0**	**$0**	**$295**	**$872**	**$1,327**	**$1,549**	**$1,653**	**$1,831**	**$2,030**
EU Fovista Royalties					$0.0	$0.0	$0.0	$50.4	$100.7	$137.1	$133.8	$145.1	$153.5
ROW Fovista Royalties					$0	$0	$0	$4	$9	$14	$13	$15	$15
Total Fovista Royalties					**$0**	**$0**	**$0**	**$54**	**$110**	**$151**	**$147**	**$160**	**$169**
Other Revenue						**100**							
Total Revenue	$0	$0	$0	$0	$0	$100	$295	$651	$865	$957	$1,076	$1,204	$1,368
Operating Expenses:						0%	0%	8%	13%	16%	14%	13%	12%
Cost of Sales	$0	$0	$0	$0	$0	$0	$46	$113	$185	$203	$220	$244	$273
% of US sales- Drug cost	*NA*	*NA*	*NA*	*NA*	*NA*	*7%*	*7%*	*7%*	*6%*	*5%*	*5%*	*5%*	*5%*
% of US sales - total COGS (incl. royalties)							*16%*	*19%*	*24%*	*25%*	*24%*	*23%*	*23%*
R&D	$14	$7	$31	$64	$74	$74	$78	$78	$71	$64	$57	$51	$46
YoY growth	*-6%*	*-51%*	*359%*	*107%*	*15%*	*0%*	*-5%*	*-5%*	*-10%*	*-10%*	*-10%*	*-10%*	*-10%*
% of revenue	*na*	*na*	*na*	*na*	*na*	*74%*	*27%*	*12%*	*8%*	*7%*	*5%*	*4%*	*3%*
SG&A	$5	$6	$13	$24	$24	$25	$81	$142	$163	$179	$179	$179	$179
YoY growth	*27%*	*14%*	*114%*	*79%*	*2%*	*2%*	*225%*	*75%*	*15%*	*10%*	*0%*	*0%*	*0%*
% of revenue	*na*	*na*	*na*	*na*	*na*	*25%*	*27%*	*22%*	*19%*	*19%*	*17%*	*15%*	*13%*
Total Operating Expenses	$19.39	$13.04	$45	$88	$98	$99	$205	$333	$418	$446	$456	$475	$499
Operating Income (Loss)	-$19	-$13	-$45	-$88	-$98	$1	$90	$318	$447	$511	$619	$729	$869
Operating Margin	*na*	*na*	*na*	*na*	*na*	*1%*	*31%*	*49%*	*52%*	*53%*	*58%*	*61%*	*64%*
Interest income	$0.002	$0.0	$0.0	$0.3	$0.4	$0.5	$0.8	$1.2	$2.0	$2.9	$3.9	$5.1	$6.6
Interest expense	$0.00	-$0.5	-$1.5	$0.0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fx transaction gain (loss)	-$0.02	$0.0	$0.0	$0.0									
Non cash change in fair value (inv. rights liabil.)	$0.0	-$0.4	-$2.3	$0.0									
Pretax Income (Loss)	($19.41)	($13.9)	($48.3)	($88.0)	($98.0)	$1.5	$90.80	$319.49	$448.70	$514.33	$623.20	$734.22	$875.48
Provision for Income Taxes	(1.03)	0.0	0.0	0.0	0.0	0.0	0.0	37.8	121.1	138.9	168.3	198.2	236.4
Effective Tax Rate		0%	0%	0%	0%	0%	0.0%	12%	27%	27%	27%	27%	27%
Net Income (Loss)	($18.38)	($13.9)	($48.3)	($88)	($98)	$2	$91	$282	$328	$375	$455	$536	$639
EPS, basic	($2.23)	($1.62)	($5.35)	($2.65)	($3.04)	$0.05	$2.56	$7.93	$9.19	$10.50	$12.67	$14.86	$17.62
EPS, diluted	($2.23)	($1.62)	($5.35)	($2.65)	($3.04)	$0.04	$2.48	$7.62	$8.77	$9.96	$11.94	$13.90	$16.36
Options Expense	0.248	$0.6	$2.9	$5.9	$7.0	$8.0	$10.0	$12.0	$13.0	$14.0	$15.0	$16.0	$17.0
% of operating expense	*1.3%*	*4.9%*	*6.4%*	*6.7%*	*7.1%*	*8.1%*	*4.9%*	*3.6%*	*3.1%*	*3.1%*	*3.3%*	*3.4%*	*3.4%*
Tax Benefit from Options	$0	$0	$0	$0	$0	$0	$0	$1	$4	$4	$4	$4	$5
Net Income (incl. options expense)	($18.6)	($15)	($51)	($94)	($105)	($6)	$81	$271	$318	$365	$444	$524	$627
EPS, diluted (incl. ESOs)	($2.26)	($1.70)	($5.67)	($2.83)	($3.26)	($0.19)	$2.20	$7.33	$8.52	$9.69	$11.65	$13.60	$16.04
Basic Shares Outstanding	8.23	8.6	9.0	33.1	32.3	33.8	35.4	35.5	35.6	35.8	35.9	36.1	36.3
Diluted Shares Outstanding	8.23	8.6	9.0	33.1	32.3	34.9	36.7	37.0	37.3	37.7	38.1	38.6	39.1
One time items	($6.8)	($7.1)	($5.9)	$0.0									
GAAP Net Income	($25.47)	($21.6)	($57.0)	($93.9)	($105.0)	($6.5)	$80.8	$271.2	$318.1	$365.2	$444.0	$524.3	$626.7
GAAP EPS, diluted (includes ESOs)	($3.10)	($2.52)	($6.33)	($2.83)	($3.26)	($0.19)	$2.20	$7.33	$8.52	$9.69	$11.65	$13.60	$16.04

Source: Company Data, Morgan Stanley Research estimates

Exhibit 8

Ophthotech Balance Sheet

($mn)	2011A	2012A	2013A	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E
Assets													
Cash and cash equivalents	$6.4	$4.3	$211	$223	$125	$272	$357	$636	$960	$1,333	$1,785	$2,320	$2,958
Marketable securities	$0.0	$0.2	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Other receivables	$1.0	$0.0	$0.0	$1.2	$1.3	$1.3	$5.9	$6.5	$8.6	$9.6	$10.8	$12.0	$13.7
Prepaid expenses and other deposits	$0.1	$0.0	$7	$0	$0	$0	$3	$7	$9	$10	$11	$12	$14
Debt issuance costs	$0.0	$0.3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total current assets	**$7.50**	**$4.84**	**$217**	**$224**	**$127**	**$273**	**$366**	**$649**	**$977**	**$1,352**	**$1,807**	**$2,344**	**$2,985**
Property, plant and equipment, net	$0.07	$0.0	$0	$1	$2	$3	$5	$9	$14	$19	$24	$30	$35
Security deposits	$0.17	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other long-term assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total assets	**$7.7**	**$4.879**	**$217.7**	**$225.5**	**$128.6**	**$276.0**	**$370.9**	**$658.2**	**$991.2**	**$1,371.2**	**$1,831.2**	**$2,373.6**	**$3,020.8**
Liabilities and stockholders' equity													
Notes payable	$0.0	$11	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Accrued drug supply and trial cost	$1.5	$1	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$1
Accounts payable	$0.9	$1	$4	$3	$3	$3	$6	$10	$13	$13	$14	$14	$15
Accrued compensation	$0.8	$1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Deferred rent	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Investor rights liability	$0.2	$1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total current liabilities	**$3.3**	**$14.4**	**$6.3**	**$4.6**	**$5.2**	**$5.2**	**$8.5**	**$12.3**	**$14.7**	**$15.3**	**$15.4**	**$15.8**	**$16.3**
Other long-term liabilities	$0.0	$0	$42	$83	$83	$83	$83	$83	$83	$83	$83	$83	$83
Total liabilities	**$3.3**	**$14.4**	**$48**	**$88**	**$89**	**$89**	**$92**	**$96**	**$98**	**$99**	**$99**	**$99**	**$100**
Preferred Stock	$3.0	$3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Common stock	$0.0	$0.01	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03
APIC	$0.0	$0	$353	$415	$422	$576	$587	$599	$612	$626	$642	$659	$679
Accumulated deficit	($105)	($126)	($183)	($277)	($382)	($388)	($308)	($36)	$282	$647	$1,091	$1,615	$2,242
Accumulated other comprehensive income	$0.0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total stockholders' equity	**$4**	**-$10**	**$170**	**$138**	**$40**	**$187**	**$279**	**$563**	**$893**	**$1,273**	**$1,732**	**$2,274**	**$2,921**
Total liabilities and stockholder's equity	**$7.74**	**$4.9**	**$218**	**$226**	**$129**	**$276**	**$371**	**$658**	**$991**	**$1,371**	**$1,831**	**$2,374**	**$3,021**

Source: Company Data, Morgan Stanley Research estimates

Exhibit 9

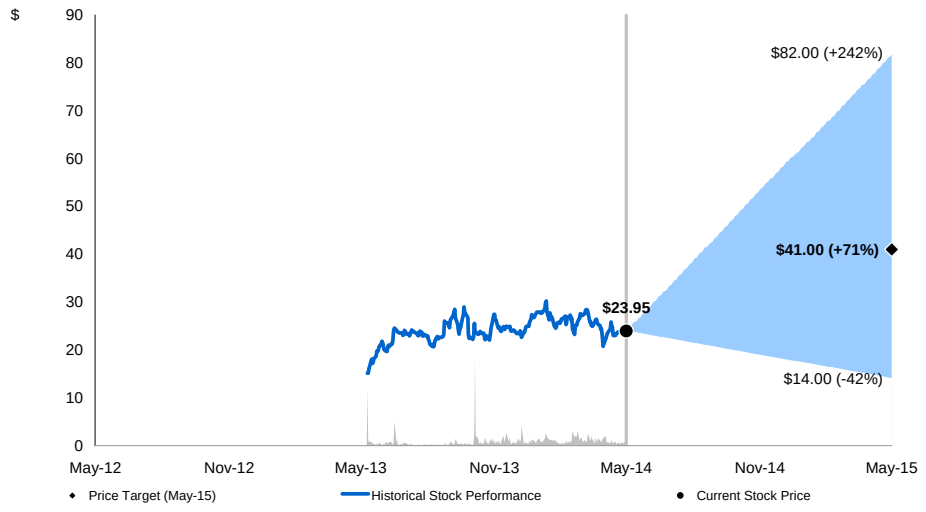
Ophthotech Cash Flow Statement

($mn)	2011A	2012A	2013A	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E
Net loss	($18.6)	($14.562)	($51.145)	($93.9)	($105.0)	($6.5)	$80.8	$271.2	$318.1	$365.2	$444.0	$524.3	$626.7
Depreciation	$0.03	$0.03	$0.0	$0.1	$0.2	$0.3	$0.5	$0.8	$1.3	$1.8	$2.4	$3.1	$3.8
Amortization and accretion	$0.00	$0.1	$0.1	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Unrealized gain on investments	$0.00	$0.0	$0.1	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Non-cash charge in fair value (inv. rights libil.)	$0.01	$0.37	$1.18	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.0	$0.00
Loss on extinguishment of debt	$0.00	$0.00	$1.1	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.0	$0.00
Stock-based compensation	$0.25	$0.6	$2.9	$5.9	$7.0	$8.0	$10.0	$10.6	$9.5	$10.2	$11.0	$11.7	$12.4
Preferred stock issued for tech and licenses	$0.50	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Changes in operating assets and liabilities:													
Prepaid expenses, other current deposits	$0.1	$0	($7)	$7	($0)	($0)	($3)	($4)	($2)	($1)	($1)	($1.3)	($2)
Other receiveables	($0.74)	$1.0	$0	($1)	($0)	($0)	($5)	($1)	($2)	($1)	($1)	($1.3)	($2)
Security deposits	($0.0)	($0)	($0)	$0	$0	$0	$0	$0	$0	$0	$0	$0.0	$0
Accrued drug supply and trial cost	($0.8)	($0.5)	$1	($1)	$0	$0	$0	$0	($0)	($0)	($0)	($0.2)	($0)
Accounts payable and accrued expenses	($0.05)	$0.0	$2	($1)	$0	$0	$3	$4	$3	$1	$0	$0.6	$1
Accrued bonuses	$0.22	($0.2)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0.0	$0
Deferred rent	($0.02)	($0)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0.0	$0
Net cash used in operating activities	**($19.12)**	**($13.10)**	**($49)**	**($84)**	**($97)**	**$2**	**$87**	**$282**	**$327**	**$376**	**$455**	**$536.9**	**$640**
Investing Activities:													
Purchases of property, plant and equipment	($0.00)	$0.0	($0.0)	($0.9)	($1.1)	($1.2)	($2.7)	($4.7)	($6.3)	($7.1)	($7.8)	($8.6)	($9.5)
Deposit on purchase of property, plant & equipment	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.0	$0.00
Purchases of marketable securities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0.0	$0
Sales and maturities of marketable securities	$3.40	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0.0	$0
Net cash used in investing activities	**$3.4**	**$0.0**	**($0.0)**	**($0.9)**	**($1.1)**	**($1.2)**	**($2.7)**	**($4.7)**	**($6.3)**	**($7.1)**	**($7.8)**	**($8.6)**	**($9.5)**
Financing activities:													
Payment of debt issuance costs	$0.000	($0)	($0)	$0	$0	$0	$0	$0	$0	$0	$0	$0.0	$0
Proceeds from issuance of stock options	$0.0	$0	$0	$0	$0	$1	$1	$1	$1	$2	$2	$3	$3
Sale of royalty entitlement to Novo A/S	$0.000	$0	$42	$42	$0	$0	$0	$0	$0	$0	$0	$0	$0
Proceeds from issuance of notes payable, net	$0.000	$11.39	($12)	$0	$0	$0	$0	$0	$0	$0	$0	$0.0	$0
Proceeds from common stock and options	$0.0	$0	$176	$55	$0	$145	$0	$0	$0	$0	$0	$0	$0
Proceeds from issuance of preferred stock	$15.0	$0	$50	$0	$0	$0	$0	$0	$0	$0	$0	$0.0	$0
Tax Benefits related to employee stock options	$0	$0	$0	$0	$0	$0	$0	$1	$2	$2	$3	$3.4	$4
Net cash provided by financing activities	**$15.0**	**$11.012**	**$255.1**	**$97.5**	**$0.5**	**$145.8**	**$0.8**	**$1.7**	**$3.2**	**$3.9**	**$4.9**	**$6.1**	**$7.5**
Effect of exchange rate on changes in cash													
Increase in cash and cash equivalents	($1)	($2)	$206	$13	($98)	$146	$85	$279	$324	$373	$452	$534	$638
Cash and equivalents at beginning of year	$7	$6	$4	$211	$223	$125	$272	$357	$636	$960	$1,333	$1,785	$2,320
Cash and equivalents at end of year	**$6**	**$4**	**$211**	**$223**	**$125**	**$272**	**$357**	**$636**	**$960**	**$1,333**	**$1,785**	**$2,320**	**$2,958**

Source: Company Data, Morgan Stanley Research estimates

Risk-Reward Snapshot: Portola (PTLA, OW, PT $41)

Betrixaban and Andexanet Alfa Drive Risk-Reward



Source: Morgan Stanley Research estimates, Thomson Reuters

Price Target $41	We derive our PT from a discounted cash flow analysis that uses a WACC of 12.5% and a 0% terminal growth rate. The revenue drivers in our model are the WW launches of betrixaban and andexanet alfa in the US, EU, and ROW.	
Bull Case $82	**DCF**	**Betrixaban majority share of anticoagulated acute medically ill patients. Andexanet Alfa gains significant traction.** Our bull case assumes betrixaban shows a favorable risk/benefit profile in its Ph 3 APEX trial driving sig. 35-d blood clot prophylaxis in the acute medically ill popln. Additionally, we assume PRT4445 success, and rapid market traction. Model details are as follows. 1) Betrixaban launch in 2017 in the US and 2018 in the EU. 2) Betrixaban peak share of ~50% of anticoagulated acute medically ill patients in both the US and EU with >50% of these pts receiving 35 days of therapy and peak WW sales of ~$1.3bn 3) Andexanet alfa launch in the US in 2016 and in the EU in 2017 4) Andexanet alfa use in >35% of major bleeds with ~$1.3bn peak WW sales
Base Case $41	**DCF**	**Betrixaban fairs reasonably well in the acute medically ill population. Steady uptake of Andexanet Alfa.** Our base case assumes betrixaban shows a risk/benefit profile that is favorable enough to receive approval, but Lovenox retains majority share of anticoagulated acute medically ill patients. Additionally, we assume PRT4445 success and steady market uptake. Model details are as follows. 1) Betrixaban launch in 2017 in the US and 2018 in the EU 2) Betrixaban peak share of ~35%+ of anticoagulated acute medically ill patients in both the US and EU with ~60% of these pts receiving 35 days of therapy and peak WW sales of ~$820mn 3) Andexanet alfa launch in the US in 2016 and in the EU in 2017 4) Andexanet alfa use in ~25% of major bleeds with ~$850mn peak WW sales
Bear Case $14	**DCF**	**Betrixaban fails; Lower Andexanet Alfa sales than in our base case.** Our bear case assumes that betrixaban fails to make it to market with the most likely reasons being an unfavorable risk/benefit profile. We expect Andexanet Alfa to make it to the market with lower peak sales than in our base case ($500mn in 2023).

Investment Thesis

- We are OW PTLA as we believe lead assets, betrixaban and andexanet alfa, have encouraging data to date and WW sales potential of close to $1.5+bn.

- Betrixaban, a factor Xa inhibitor, is in Ph 3 for the prevention of blood clots in non-surgical acute medically ill pts. While other factor Xa inhibitors have failed in this indication, we expect betrixaban to succeed as a) betrixaban has favorable PK and metabolic properties vs. other Xa inhibitors, and b) the Ph 3 trial design and pt popln has been optimized for success.

- The acute medically ill pop'n is large and an unmet need exists. Pts are currently treated with Lovenox for ~6-10d in the hospital, but blood clot risk remains high for weeks post-discharge. Long-term (35 d) treatment with betrixaban could reduce this risk. We model >$800mn WW sales in 2023.

- Andexanet Alfa, a potential factor Xa reversal agent, has shown reductions in factor Xa activity in animals and a limited number of healthy volunteers.

- The need and physician support for a factor Xa antidote is considerable as bleeding is a sig. and potentially devastating complication of anticoagulation. We model WW sales for andexanet alfa of >$800mn in 2023.

Risks to our price target

1) Betrixaban could fail in the Ph 3 APEX trial either due to insufficient efficacy or excessive bleeding, 2) a potential safety issue could arise with andexanet alfa, 3) the FDA could require a bleeding outcomes study for andexanet alfa, which would delay approval and demand sig. R&D dollars.

Valuation and Catalysts – Portola

Exhibit 10
DCF Drives Valuation

($ in mn)	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E
Free Cash Flow	**(69)**	**(131)**	**(153)**	**(163)**	**(164)**	**(62)**	**103**	**298**	**511**	**616**	**715**	**744**	**751**	**338**	**339**	**339**	**339**	**339**	**271**	**217**	**174**
YoY growth	39%	90%	17%	6%	1%	-62%	-267%	190%	72%	21%	16%	4%	1%	-55%	0%	0%	0%	0%	-20%	-20%	-20%
Net Cash Proxy for Dilution		-$5.4	-$6.3	-$7.4	-$8.3	-$9.1	-$9.9	-$10.5	-$11.0	-$9.2	-$8.0	-$8.0	-$8.0	-$8.0	-$8.0	-$8.0	-$8.0	-$8.0	-$8.0	-$8.0	-$8.0
Free Cash Flow for DCF	**-$69**	**-$136**	**-$160**	**-$171**	**-$173**	**-$71**	**$93**	**$287**	**$500**	**$607**	**$707**	**$736**	**$743**	**$330**	**$331**	**$331**	**$331**	**$331**	**$263**	**$209**	**$166**
PV of Free Cash Flow		-136	-146	-139	-125	-46	53	146	226	244	252	233	210	83	74	66	58	52	37	26	18

Source: Company data, Morgan Stanley Research estimates

Exhibit 11
DCF Valuation Suggests Sig. Upside

Valuation Date	**2014.25**
Discount Rate	**12.5%**
Terminal Growth Rate	0%
Terminal Value Year	2033
Sum of Discounted FCF	$1,219
Discounted Terminal Value	$146
Net Cash	$306
Equity Value	**$1,670**
Equity Value/Sh	**$41**
Shares Outstanding (Basic)	41

Source: Company Data, Morgan Stanley Research estimates

$41 PT includes betrixaban in non-surgical acute medically ill patients and andexanet alfa for factor Xa reversal.
We derive our PT from a discounted cash flow (DCF) analysis that uses a WACC of 12.5% and a terminal growth rate of 0% post 2033. We incorporate the cash cost of stock options

Valuation Methodology: We use a DCF to value Portola as well as most other companies under coverage. We believe a DCF best captures the long-term nature of drug development and commercialization. We do not feel that a multiples analysis accomplishes the same goal, as it only evaluates a company during a snapshot in time.
Discount Rate: We typically apply a discount rate of 12.5% to development stage companies with clear proof of concept data for their lead drug.
Terminal Growth Rate: Our modeled cash flows extend to 2023. In 2024-2025, we model free cash flow growth at 50% of the prior year's growth rate. In 2026, we decline free cash flow by 55% to account for betrixaban's patent expiration (composition of matter patent expiry in Sept 2020 plus 5 years Hatch-Waxman extension and potentially 6 months of pediatric exclusivity until March 2026). From 2027 to 2030, we resume cash flow growth at 25% of the prior year, and in 2031-2033 we model cash flow declines of 20%/year to account for andexanet alfa's patent expiry (composition of matter patent until Feb 2029 followed by Hatch-Waxman extension until 2030, 14 years from the date of launch). Beyond 2033, we use a terminal growth rate of 0%.

Revenue: The revenue drivers in our model are betrixaban and andexanet alfa.

Economics: Portola currently has WW rights to both betrixaban and andexanet alfa. In 2004, Portola licensed from Millennium the right to certain compounds that inhibit Factor Xa, including betrixaban. As a result of this licensing, Portola owes Millennium betrixaban filing and approval payments (we model $3 and $20mn respectively) and pays a tiered single digit royalty (we estimate 4-8%) on WW sales of betrixaban.

COGS: We assume 6% of sales for betrixaban and 25-35% of sales for andexanet alfa. COGS also includes the Millennium royalty.

Operating Expenses:
R&D: We expect R&D to in 2014-2015 as Portola runs Ph 3 trials for betrixaban and andexanet alfa. Post-2016, when Ph 3 trials are complete, we expect R&D to decline.
SG&A: We expect SG&A to be relatively stable through 2015. We expect a sig. increase in 2016+ as Portola builds a WW infrastructure to market betrixaban and andexanet alfa.

Financings: We model a $180mn raise in 2015 and a $220mn raise in 2016.

Key Risks To Our Price Target Include: 1) Betrixaban fails in the Ph 3 APEX trial due to insufficient efficacy or excessive bleeding, 2) a potential safety issue could arise with PRT4445 in a larger patient population that prevents the drug from coming to market, 3) a bleeding outcomes study could be required for PRT4445 approval, which would delay time to market and demand greater spending, 4) If Portola chooses to

keep WW rights to both betrixaban and PRT4445, additional capital is likely needed prior to data.

Exhibit 12

Catalyst Calendar

Drug	Type	Event	Expected Timing
Andexanet Alfa	Clinical Data	Ph 2 data with edoxaban	2014
Cerdulatinib (Syk/Jak)	Clinical Data	Add'l Ph 1 proof of concept in refractory non-Hodgkin lymphoma and chronic lymphocytic leukemia	2014
Andexanet Alfa	Clinical Data	Ph 2 data with enoxaparin (Lovenox) at ISTH (June 25th)	2Q14
Cerdulatinib (Syk/Jak)	Clinical Data	Ph 1 data at ASCO (June 1)	2Q14
Andexanet Alfa	Clinical Data	Ph 2 data with apixaban (Eliquis) at ESC (August 30th)	3Q14
Andexanet Alfa	Clinical Data	First part of Ph 3 data with apixaban (bolus only cohort)	4Q14
Andexanet Alfa	Product Advancement	Initiate Ph 4 confirmatory study	Late 2014/Early 2015
Andexanet Alfa	Product Advancement	Initiate Ph 2 study with betrixaban	2015
Andexanet Alfa	Clinical Data	Additional Ph 3 data	1H15
Betrixaban	Product Advancement	APEX trial futility analysis	1H15
Andexanet Alfa	Regulatory	File BLA	2H15
Betrixaban	Product Advancement	Complete patient enrollment in APEX	2H15
Cerdulatinib (Syk/Jak)	Clinical Data	Ph 2a proof of concept in hematologic cancer patients with genetically defined tumors	2H15
Betrixaban	Clinical Data	Ph 3 APEX in acute medically ill	2016

Source: Company Data, Morgan Stanley Research

Exhibit 13

Portola Variance Analysis

	4Q13 Actual	1Q14 MS Est	1Q14 Actual	*Var. from est*	*Q/Q % chg*
Collaboration and Licensing Revenue	$3	**$3**	**$2**		
Total Revenues	$3	**$3**	**$2**		
R&D	$17	**$20**	**$22**	*9.5%*	*-21.0%*
SG&A	$3	**$3**	**$4**	*34.0%*	*-21.4%*
Total Operating Expenses	$20	**$23**	**26**	*12.7%*	*-21.0%*
Operating Income (Loss)	($18)	**($20)**	**(24)**	*19.3%*	*-25.8%*
Net Income (Loss)	($17)	**($20)**	**(24)**	*19.6%*	*-27.8%*
EPS - Diluted (GAAP)	($0.53)	**($0.51)**	**(0.63)**	*23.6%*	*-17.0%*
Consensus EPS		**($0.57)**			
Basic Shares Outstanding	35	**41**	**39**	*-2.8%*	*-10.8%*

Source: Company Data, Morgan Stanley Research

Exhibit 14

Portola Changes to Model

	2012	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E
US Betrixaban Sales												
Current	0	0	0	0	0	39	94	149	206	267	356	444
Prior	0	0	0	0	0	39	94	149	206	267	356	444
WW Betrixaban Sales												
Current	0	0	0	0	0	39	134	246	365	494	644	820
Prior	0	0	0	0	0	39	134	246	365	494	644	820
US Antidote Sales												
Current	0	0	0	0	25	63	104	155	197	242	287	299
Prior	0	0	0	0	25	63	104	155	197	242	287	299
WW Antidote Sales												
Current	0	0	0	0	25	103	204	338	476	623	754	848
Prior	0	0	0	0	25	103	204	338	476	623	754	848
Total Revenues ($mn)												
Current	72	11	8	0	25	142	338	584	842	1,117	1,398	1,669
Prior	72	11	8	0	25	142	338	584	842	1,117	1,398	1,669
COGS ($mn)												
Current	0	0	0	0	1	17	77	138	172	227	243	284
Prior	0	0	0	0	1	17	77	138	172	227	243	284
SG&A ($mn)												
Current	10.1	12.9	22.5	25.9	97.5	212.8	257.5	283.2	309.7	320.7	340.4	343.0
Prior	10.1	13.7	23.0	26.5	97.5	212.8	257.5	283.2	309.7	320.7	340.4	343.0
R&D ($mn)												
Current	48.3	76.8	129.4	127.6	94.1	92.4	65.8	61.5	59.3	57.2	55.2	55.2
Prior	48.3	77.6	127.0	127.6	94.1	92.4	65.8	61.5	59.3	57.2	55.2	55.2
Net Income, non-GAAP, ex-ESO ($mn)												
Current	14.2	(78.4)	(142.5)	(152.6)	(166.8)	(178.8)	(62.1)	101.6	301.9	515.9	629.6	726.0
Prior	14.2	(79.9)	(141.0)	(153.2)	(166.8)	(178.8)	(62.1)	101.6	301.9	515.9	629.8	726.0
GAAP EPS												
Current	$5.55	($3.65)	($3.62)	($3.70)	($3.59)	($3.64)	($1.40)	$1.62	$5.20	$8.98	$10.93	$12.56
Prior	$5.55	($3.72)	($3.69)	($3.71)	($3.59)	($3.64)	($1.40)	$1.62	$5.20	$8.98	$10.93	$12.56
Diluted EPS (w/out option expense)												
Current	$6.92	($3.43)	($3.47)	($3.51)	($3.41)	($3.44)	($1.19)	$1.84	$5.43	$9.23	$11.20	$12.85
Prior	$6.92	($3.50)	($3.54)	($3.53)	($3.41)	($3.44)	($1.19)	$1.84	$5.43	$9.23	$11.20	$12.85
Diluted Shares Outstanding												
Current	$2.05	$22.84	$41.06	$43.43	$48.91	$51.91	$52.18	$55.26	$55.59	$55.91	$56.22	$56.52
Prior	$2.05	$22.84	$39.80	$43.43	$48.91	$51.91	$52.18	$55.26	$55.59	$55.91	$56.22	$56.52

Source: Company Data, Morgan Stanley Research

Exhibit 15

Portola Quarterly Income Statement

($ in millions)	1Q14A	2Q14E	3Q14E	4Q14E	2014E
WW Betrixaban Sales					
US Betrixaban Sales					
EU Betrixaban Sales					
ROW Betrixaban Sales					
WW Betrixaban Sales					
WW Antidote Sales					
US Antidote Sales					
EU Antidote Sales					
ROW Antidote Sales					
WW Antidote Sales					
Collaboration and License Revenue	$2.37	$2.00	$2.00	$2.00	$8.37
Revenues	$2.37	$2.00	$2.00	$2.00	$8.37
Operating Expenses:					
COGS	$0.00	$0.00	$0.00	$0.00	$0.00
% of product sales	*NA*	*NA*	*NA*	*NA*	*NA*
R&D	27.4	30.0	34.0	38.0	129.4
% of revenue	*1155.4%*	*1500.0%*	*1700.0%*	*1900.0%*	*1545.7%*
SG&A	4.49	5.5	6.0	6.5	22.5
% of revenue	*189.3%*	*275.0%*	*300.0%*	*325.0%*	*268.6%*
Total Operating Expenses	$31.9	$35.5	$40.0	$44.5	$151.896
Operating Income (Loss)	($29.524)	($33.500)	($38.000)	($42.500)	($143.52)
Operating Margin	*-1245%*	*-1675%*	*-1900%*	*-2125%*	*-1714%*
Interest and Other Income, Net	$0.30	$0.24	$0.24	$0.24	$1.02
Interest Expense					$0.00
Pretax Income (Loss)	($29.23)	($33.26)	($37.76)	($42.26)	($142.51)
Provision for Income Taxes					
Effective tax rate					
Non-GAAP Net Income (Loss)	($29.23)	($33.26)	($37.76)	($42.26)	($142.51)
EPS, basic	($0.71)	($0.81)	($0.92)	($1.03)	($3.47)
EPS, diluted	($0.71)	($0.81)	($0.92)	($1.03)	($3.47)
Stock comp expense	1.5	1.5	1.5	1.5	6.0
% of operating expense	*4.7%*	*4.2%*	*3.8%*	*3.4%*	*4.0%*
Tax benefit from options					
Net Income (inc. options expense)	($30.726)	($34.8)	($39.3)	($43.76)	($148.51)
EPS, diluted (inc. stock comp)	($0.75)	($0.85)	($0.96)	($1.06)	($3.62)
Basic Shares Outstanding	41.00	41.04	41.08	41.12	41.06
Diluted Shares Outstanding	41.00	41.04	41.08	41.12	41.06
Restructuring Charges	0	0	0	0	0
GAAP Net Income (incl. options)	($30.73)	($34.76)	($39.26)	($43.76)	($148.51)
GAAP EPS (dil, incl. options)	($0.75)	($0.85)	($0.96)	($1.06)	($3.62)

Source: Company Data, Morgan Stanley Research

Exhibit 16

Portola Annual Income Statement

($ in millions except per-share data)	2011A	2012A	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E
WW Betrixaban Sales													
US Betrixaban Sales					0	0	39	94	149	206	267	356	444
EU Betrixaban Sales					0	0	0	41	91	137	179	225	297
ROW Betrixaban Sales					0	0	0	0	6	23	48	63	79
WW Betrixaban Sales					**0**	**0**	**39**	**134**	**246**	**365**	**494**	**644**	**820**
WW Antidote Sales													
US Antidote Sales					0	25	63	104	155	197	242	287	299
EU Antidote Sales					0	0	40	98	168	237	298	363	423
ROW Antidote Sales					0	0	0	2	15	42	83	104	127
WW Antidote Sales					**0**	**25**	**103**	**204**	**338**	**476**	**623**	**754**	**848**
Collaboration and License Revenue	78	72	11	8	0	0	0	0	0	0	0	0	0
Total Revenues	**78**	**72**	**11**	**8**	**0**	**25**	**142**	**338**	**584**	**842**	**1,117**	**1,398**	**1,669**
Costs & Expenses:													
COGS						1	17	77	138	172	227	243	284
% of Product Revenues To Portola						*5.0%*	*11.7%*	*22.9%*	*23.6%*	*20.4%*	*20.3%*	*17.4%*	*17.0%*
R&D	45	48	77	129	128	94	92	66	62	59	57	55	55
YoY Growth	7%	7%	59%	68%	-1%	-26%	-2%	-29%	-6%	-4%	-4%	-4%	0%
% of Product Revenues To Portola						*374%*	*65%*	*19%*	*11%*	*7%*	*5%*	*4%*	*3%*
SG&A	11	10	13	22	26	98	213	257	283	310	321	340	343
YoY Growth	9%	-7%	28%	74%	15%	277%	118%	21%	10%	9%	4%	6%	1%
% of Product Revenues To Portola						*388%*	*150%*	*76%*	*49%*	*37%*	*29%*	*24%*	*21%*
Total Operating Expenses	**56**	**58**	**90**	**152**	**153**	**193**	**322**	**401**	**483**	**541**	**604**	**639**	**682**
Operating Income (Loss)	**22.2**	**14**	**(79)**	**(144)**	**(153)**	**(168)**	**(180)**	**(62)**	**101**	**301**	**513**	**760**	**987**
Operating Margin	*28%*	*19%*	*(752%)*	*(1714.3%)*	*-*	*(667%)*	*(126.3%)*	*(18.5%)*	*17.3%*	*35.7%*	*45.9%*	*54.3%*	*59.1%*
Interest and Other Income, Net	0.1	0.5	0.8	1.0	0.8	1.0	0.8	0.3	0.4	1.3	2.9	5.2	7.9
Interest Expense	(0.02)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pretax Income (Loss)	**$22.3**	**$14**	**($78)**	**($143)**	**($153)**	**($167)**	**($179)**	**($62)**	**$102**	**$302**	**$516**	**$765**	**$995**
Provision For Income Taxes	0	0	0	0	0	0	0	0	0	0	0	135	269
Effective Tax Rate	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*17.7%*	*27.0%*
Non-GAAP Net Income (Loss)	**22.3**	**$14**	**($78)**	**($143)**	**($153)**	**($167)**	**($179)**	**($62)**	**$102**	**$302**	**$516**	**$630**	**$726**
Stock Compensation Expense	$2.4	$2.8	$5.0	$6.0	$8	$9	$10	$11	$12	$13	$14	$15	$16
% of Operating Expenses	4.2%	4.8%	5.5%	4.0%	5.2%	4.7%	3.1%	2.7%	2.5%	2.4%	2.3%	2.3%	2.3%
Non-GAAP Net Income (incl. ESO)	**$20.0**	**$11.4**	**($83.4)**	**($148.5)**	**($160.6)**	**($175.8)**	**($188.8)**	**($73.1)**	**$89.6**	**$288.9**	**$501.9**	**$614.6**	**$710.0**
GAAP Net Income (Loss)	**$20.0**	**$11.4**	**($83.4)**	**($148.5)**	**($160.6)**	**($175.8)**	**($188.8)**	**($73.1)**	**$89.6**	**$288.9**	**$501.9**	**$614.6**	**$710.0**
EPS, Basic (Non-GAAP, Pre-ESO)	$17.9	$10.49	($3.43)	($3.47)	($3.51)	($3.41)	($3.44)	($1.19)	$1.94	$5.72	$9.72	$11.79	$13.51
EPS, Diluted (Non-GAAP, Pre-ESO)	$10.7	$6.92	($3.43)	($3.47)	($3.51)	($3.41)	($3.44)	($1.19)	$1.84	$5.43	$9.23	$11.20	$12.85
EPS - Diluted (GAAP, Post- ESO)	**$9.57**	**$5.55**	**($3.65)**	**($3.62)**	**($3.70)**	**($3.59)**	**($3.64)**	**($1.40)**	**$1.62**	**$5.20**	**$8.98**	**$10.93**	**$12.56**
Shares Outstanding - Basic	1.25	1.35	22.84	41.06	43.43	48.91	51.91	52.18	52.47	52.76	53.07	53.40	53.75
Shares Outstanding - Diluted	2.09	2.05	22.84	41.06	43.43	48.91	51.91	52.18	55.26	55.59	55.91	56.22	56.52

Source: Company Data, Morgan Stanley Research estimates

Exhibit 17

Portola Balance Sheet

($ in millions)	2011A	2012A	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E
Assets													
Cash and Cash Equivalents	170.3	53.6	237.2	157.5	207.3	266.1	105.0	47.5	155.7	460.7	981	1612	2347
Short-term Investments	17.8	77.7	77.7	27.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
Accounts and Interest Receivable	1.1	0.7	0.7	0.7	0.7	0.2	1.3	3.1	5.4	7.7	10.3	12.8	15.3
Prepaid Expenses and Other Current Assets	0.3	3.0	0.2	0.2	0.0	0.5	2.8	6.8	11.7	16.8	22.3	28.0	33.4
Total current assets	**190**	**135**	**316**	**186**	**216**	**274**	**117**	**65**	**180**	**493**	**1022**	**1661**	**2403**
Property and Equipment, Net	3.9	2.9	3.2	4.6	6.0	8.0	10.7	12.4	14.7	17.3	20.2	23.2	26.3
Inventories	0.0	0.0	0.0	0.0	0.0	2.0	5.7	10.1	11.7	12.6	14.0	17.5	20.9
Other Long-Term Assets	0.0	8.2	0.2	0.2	0.0	0.5	2.8	6.8	11.7	16.8	22.3	28.0	33.4
Total assets	**193**	**146**	**319**	**191**	**222**	**285**	**136**	**94**	**218**	**540**	**1078**	**1729**	**2484**
Liabilities													
Accounts Payable	2.8	4.8	4.5	7.6	7.7	9.6	16.1	20.0	24.1	27.1	30.2	31.9	34.1
Accrued Compensation & Employee Benefits	2.8	1.9	2.9	4.8	4.9	6.1	10.3	12.8	15.4	17.2	19.3	20.3	21.7
Accrued and Other Liabilities	4.0	7.4	9.0	15.2	15.3	19.3	32.2	40.1	48.3	54.1	60.4	63.9	68.2
Accrued Income Taxes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deferred Revenue, Short-Term	9.9	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Preferred Stock Warrant Liability	0.8	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5
Current Portion of Long-Term Debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total current liabilities	**20**	**19**	**17**	**28**	**29**	**36**	**59**	**73**	**88**	**99**	**110**	**117**	**125**
Deferred Revenue, Long-Term	59.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Long-Term Debt, Less Current Portion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Long-Term Liabilities	2.3	1.5	2.3	3.8	3.9	4.8	8.1	10.1	12.1	13.6	15.2	16.0	17.1
Total Liabilities	**82**	**20**	**19**	**32**	**32**	**41**	**67**	**83**	**100**	**113**	**126**	**133**	**142**
Shareholder's Equity													
Redeemable convertible preferred stock	317.3	317.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Common Stock (Plus APIC)	7.6	10.7	585	593	784	1015	1028	1043	1061	1081	1105	1134	1169
Accumulated Other Comprehensive Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Accumulated Deficit	(213.7)	(202.3)	(285.7)	(434.2)	(594.8)	(771)	(959)	(1033)	(943)	(654)	(152)	463	1173
Total Shareholder's Equity	**111**	**126**	**300**	**159**	**189**	**244**	**69**	**11**	**118**	**427**	**953**	**1597**	**2342**
Total Liabilities and Shareholder's Equity	**193**	**146**	**319**	**191**	**222**	**285**	**136**	**94**	**218**	**540**	**1078**	**1729**	**2484**

Source: Company Data, Morgan Stanley Research estimates

Exhibit 18

Portola Cash Flow Statement

($ in millions)	2011A	2012A	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E
CASH FLOWS FROM OPERATING ACTIVITIES													
Net Income (Loss)	20.0	11.4	(83.4)	(148.5)	(160.6)	(175.8)	(188.8)	(73.1)	89.6	288.9	501.9	614.6	710.0
Depreciation + Amortization	1.4	1.4	1.5	1.6	1.7	1.9	2.1	2.3	2.5	2.8	3.1	3.4	3.8
Noncash Interest Expense	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortization of Premium on Investment Securities	0.8	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stock-Based Compensation Expense	2.4	2.8	5.0	6.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0
Issuance of Convertible Preferred Stock for Licenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loss on Disposal of Leashold Improvements	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reevaluation of Preferred Stock Warrant Liability	(0.0)	(0.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Change in assets and liabilities:													
Accounts and Interest Receivable	(0.0)	0.3	0.0	0.0	0.0	0.4	(1.1)	(1.8)	(2.3)	(2.4)	(2.5)	(2.6)	(2.5)
Pre-Paid and Other Current and Long-Term Assets	0.7	(4.6)	10.8	0.1	0.3	(1.0)	(4.7)	(7.8)	(9.8)	(10.3)	(11.0)	(11.2)	(10.8)
Inventory	0.0	0.0	0.0	0.0	0.0	(2.0)	(3.7)	(4.5)	(1.5)	(0.9)	(1.3)	(3.5)	(3.4)
Accounts Payable	1.1	2.0	(0.4)	3.1	0.1	2.0	6.4	3.9	4.1	2.9	3.2	1.7	2.2
Accrued Compensation and Employee Benefits	0.1	(1.0)	1.0	2.0	0.0	1.3	4.1	2.5	2.6	1.9	2.0	1.1	1.4
Accrued and Other Liabilities	(0.2)	3.4	1.6	6.2	0.2	3.9	12.9	7.9	8.2	5.8	6.3	3.4	4.4
Deferred Revenue	(35.4)	(65.4)	(4.0)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Long-Term Liabilities	0.0	(0.8)	0.8	1.6	0.0	1.0	3.2	2.0	2.1	1.5	1.6	0.9	1.1
Accrued Income Taxes	(2.48)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net cash provided by (used in) operating activities	**(11.7)**	**(49.2)**	**(67.2)**	**(127.9)**	**(150.3)**	**(159.4)**	**(159.5)**	**(57.6)**	**107.5**	**303.2**	**517.2**	**622.8**	**722.1**
CASH FLOWS FROM INVESTING ACTIVITIES													
Purchases of Property, Plant and Equipment	(1)	(0)	(2)	(3)	(3)	(4)	(5)	(4)	(5)	(5)	(6)	(6)	(7)
Purchases of Short-Term Investments	(34)	(145)	0	0	0	0	0	0	0	0	0	0	0
Proceeds from Sales of Short-Term Investments	2	37	0	50	20	0	0	0	0	0	0	0	0
Proceeds from Maturities of Short-Term Investments	66	41	0	0	0	0	0	0	0	0	0	0	0
Net cash used in investing activities	**33.1**	**(67.8)**	**(1.8)**	**47.0**	**16.9**	**(3.9)**	**(4.8)**	**(4.0)**	**(4.8)**	**(5.4)**	**(6.0)**	**(6.4)**	**(6.8)**
CASH FLOWS FROM FINANCING ACTIVITIES													
Repayment of Debt	(2.6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proceeds from Issuance of Common Stock	0.2	0.3	253	1.3	183.2	222.0	3.2	4.2	5.5	7.2	9.5	14.5	19.4
Repurchase of Unvested Common Stock	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proceeds from Issuance of Convertible Preferred Stock	96.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proceeds from Exercise of Warrants	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net cash provided by financing activities	**94.2**	**0.3**	**252.5**	**1.3**	**183.2**	**222.0**	**3.2**	**4.2**	**5.5**	**7.2**	**9.5**	**14.5**	**19.4**
Change in Cash and Cash Equivalents	115.6	(116.7)	183.6	(79.7)	49.8	58.8	(161.1)	(57.4)	108.2	305.0	520.7	630.8	734.6
Cash and Cash Equivalents at Beginning of Year	54.7	170.3	53.6	237.2	157.5	207.3	266.1	105.0	48	156	461	981	1,612
Cash and Cash Equivalents at End of Year	**170**	**54**	**237**	**157**	**207**	**266**	**105**	**48**	**156**	**461**	**981**	**1,612**	**2,347**
Marketable Securities	**18**	**78**	**78**	**28**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**
Cash and Marketable Securities at End of Year	**188**	**131**	**315**	**185**	**215**	**274**	**113**	**55**	**163**	**468**	**989**	**1,620**	**2,355**

Source: Company Data, Morgan Stanley Research estimates

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(as of April 30, 2014)

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	Coverage Universe		Investment Banking Clients (IBC)		
Stock Rating Category	Count	% of Total	Count	% of Total IBC	% of Rating Category
Overweight/Buy	**1045**	**35%**	**355**	**38%**	**34%**
Equal-weight/Hold	**1301**	**43%**	**455**	**48%**	**35%**
Not-Rated/Hold	**110**	**4%**	**22**	**2%**	**20%**
Underweight/Sell	**543**	**18%**	**109**	**12%**	**20%**
Total	**2,999**		**941**		

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months.

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Stock Price, Price Target and Rating History (See Rating Definitions)

Stock Rating History: 5/1/11 : NA/I; 10/21/13 : O/I

Price Target History: 10/21/13 : 56; 4/22/14 : 79

Source: Morgan Stanley Research Date Format : MM/DD/YY Price Target No Price Target Assigned (NA)
Stock Price (Not Covered by Current Analyst) Stock Price (Covered by Current Analyst)
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Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)
Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)

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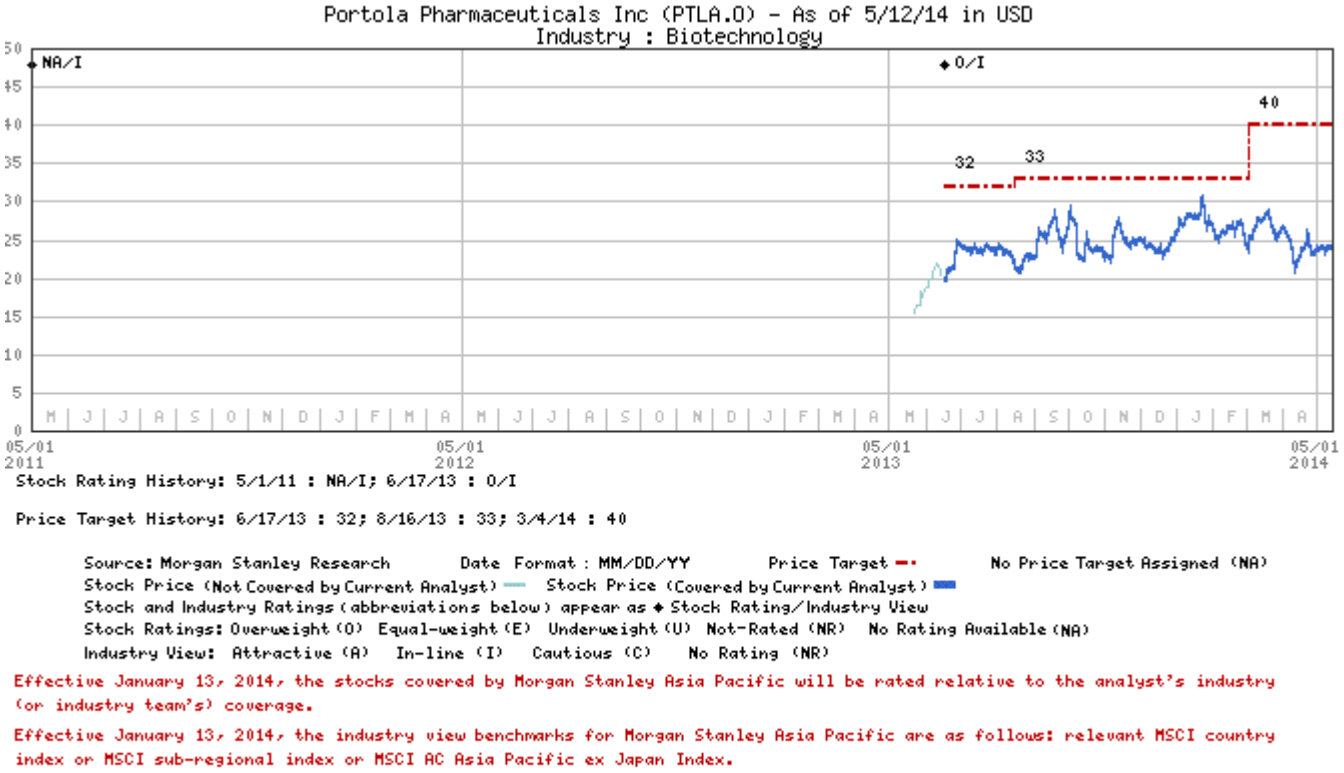

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Industry Coverage:Biotechnology

Company (Ticker)	Rating (as of)	Price* (05/13/2014)
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AMAG Pharmaceuticals, Inc. (AMAG.O)	E (11/21/2011)	$18.36
Akebia Therapeutics Inc (AKBA.O)	O (04/14/2014)	$23.03
Alexion Pharmaceuticals (ALXN.O)	O (09/07/2010)	$161.5
Alnylam Pharmaceuticals (ALNY.O)	E (01/14/2014)	$57.92
Auxilium Pharmaceuticals (AUXL.O)	U (03/06/2014)	$19.73
Chimerix Inc (CMRX.O)	O (05/06/2013)	$16.87
Cubist Pharmaceuticals Inc. (CBST.O)	O (11/13/2013)	$70.03
GW Pharmaceuticals PLC (GWPH.O)	O (04/22/2014)	$70.77
Idenix Pharmaceuticals, Inc. (IDIX.O)	E (03/18/2011)	$5.71
Incyte Corporation (INCY.O)	U (01/23/2013)	$54.16
InterMune (ITMN.O)	E (09/07/2010)	$35.44
Ironwood Pharmaceuticals, Inc. (IRWD.O)	E (04/24/2013)	$12.94
Lexicon Pharmaceuticals, Inc. (LXRX.O)	U (06/11/2013)	$1.41
NPS Pharmaceuticals (NPSP.O)	O (10/03/2012)	$26.7
Neurocrine Biosciences Inc (NBIX.O)	E (01/08/2014)	$14.01
Ophthotech Corp (OPHT.O)	O- (10/21/2013)	$30.45
Portola Pharmaceuticals Inc (PTLA.O)	O (06/17/2013)	$22.46
Relypsa, Inc. (RLYP.O)	O (12/10/2013)	$22.7
Synageva Biopharma Corp (GEVA.O)	O (04/20/2012)	$86.94
Theravance Inc (THRX.O)	U (07/22/2013)	$27.04
Ultragenyx Pharmaceutical Inc (RARE.O)	O (02/25/2014)	$33.44
Versartis, Inc. (VSAR.O)	O (04/15/2014)	$27.28
Vertex Pharmaceuticals (VRTX.O)	E (05/08/2012)	$66.71
XenoPort Inc (XNPT.O)	U (06/11/2013)	$3.55
Matthew Harrison		
Amgen Inc. (AMGN.O)	O (03/26/2014)	$110.81
Biogen Idec Inc. (BIIB.O)	O (03/26/2014)	$295.85
Celgene Corp (CELG.O)	E (03/26/2014)	$149.88
Gilead Sciences Inc. (GILD.O)	E (03/26/2014)	$80.3
Pharmacyclics Inc. (PCYC.O)	E (03/26/2014)	$100.32
Regeneron Pharmaceuticals Inc. (REGN.O)	E (03/26/2014)	$283.45