

Adamas Pharmaceuticals, Inc.

Third ADS-5102 Phase III Initiation Rounds Out Robust Program Over Multiple Time Frames, NDA Submission in 2016

- After the markets closed Tuesday, October 28, Adamas Pharmaceuticals announced the initiation of an additional Phase III safety and efficacy study for its wholly owned product ADS-5102, a high-dose, controlled-release of amantadine-HCl, for the treatment of levodopa-induced dyskinesia in patients with Parkinson's disease (PD-LID). The Phase III trial, called EASE LID 3, is a randomized, double-blind study that is expected to enroll 70 patients with PD-LID for treatment with 340 mg of ADS-5102 versus placebo, dosed once-daily at bedtime for 13 weeks. The primary endpoint of EASE LID3 is a reduction in dyskinesia as assessed by the Unified Dyskinesia Rating Scale (UDysRS), with "ON" time (periods without dyskinesia) and "OFF" time (periods when medication is not working well) and Unified Parkinson's Disease Rating Scale (MDS-UPDRS) as secondary endpoints, similar to the company's completed Phase II/III EASED study.
- ADS-5102 allows for more tolerable and effective dosing, which we believe has led to best-in-class data from its Phase II/III EASED study in 83 patients for eight weeks that met its primary endpoint of significant reduction in dyskinesia as assessed by changes in UDysRS (340 mg dose was $p=0.005$). In addition, the EASED study showed a best-in-class profile with a 3-hour increase "ON" time without dyskinesia and a 0.9-hour decrease in "OFF" time. With the study announced Tuesday, the company now has three ongoing trials for the treatment of PD-LID. The other two studies are EASE LID, a Phase III trial with roughly 130 patients that will assess the efficacy of 340 mg of ADS-5102 versus placebo once daily at bedtime for 26 weeks, and EASE LID 2, a Phase III open-label safety study of ADS-5102 in about 200 patients with PD-LID. We believe the study design of the clinical trials suggests a high probability for success given the company's clinical experience with ADS-5102 to date in combination with the literature for immediate release amantadine for the treatment of PD-LID. The company plans for the comprehensive Phase III program to complete enrollment in 2015 and support a planned NDA submission in 2016.
- While the Phase II EASED study only spanned 8 weeks of treatment, we believe the efficacy of ADS-5102 will hold over the longer 13-week EASE LID 3, the 26-week duration of EASE LID, and the open-label safety study EASE LID 2. The literature for the immediate release amantadine shows the effects of amantadine wanes beyond 30 days (Schwab RS, JAMA 1972) while some suggest the efficacy may wane over five to seven months of therapy (Shannon KM, Clinical Neuropharmacology, 1987 and Thomas A et al. J Neurol Neurosurg Psychiatry 2004) when dosed with the immediate-release formulation at 300 mg per day. However, we believe these studies are relatively poorly designed and largely dated. More recent studies using a randomized discontinuation design of amantadine therapy in patients who had been on therapy for over one year suggests suggested benefits continued over at least one year (Wolf, Movement Disorders 2010, Metman, JAMA Neurology, 1999). We believe that the Phase III clinical program for ADS-5102 is robust (N=280 patients) and will address duration concerns by treating a substantial population of patients with PD-LID with ADS-5102 versus placebo up to 26 weeks and include open label safety data with ADS-5102 up to 52 weeks.

Adamas Pharmaceuticals is a developer of specialty therapeutics for the treatment of disorders affecting the central nervous system. The company is based in Emeryville, California.

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Stock Rating: **Outperform**
Company Profile: **Aggressive Growth**
Price Target: \$35.00

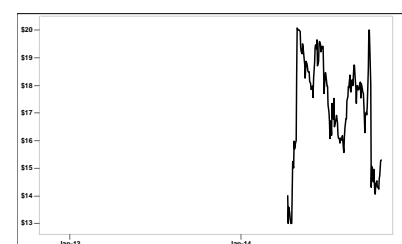
Symbol: ADMS (NASDAQ)
Price: \$15.52 (52-Wk.: \$12-\$22)
Market Value (mil.): \$256
Fiscal Year End: December
Long-Term EPS Growth Rate:
Dividend/Yield: None

	2013A	2014E	2015E
Estimates			
EPS FY	\$5.99	\$-0.27	\$0.21
CY		\$-0.27	\$0.21
Sales (mil.)	71	26	36
Valuation			
FY P/E	2.6x	NM	73.9x
CY P/E		NM	73.9x

Trading Data (FactSet)	
Shares Outstanding (mil.)	16
Float (mil.)	4
Average Daily Volume	70,295

Financial Data (FactSet)	
Long-Term Debt/Total Capital (MRQ)	0.0
Book Value Per Share (MRQ)	8.4
Return on Equity (TTM)	69.1

Two-Year Price Performance Chart



Sources: FactSet, William Blair & Company estimates

- The company also recently announced that it was issued a patent, U.S. Patent No. '337 entitled, "Composition and Method For Treating Neurological Disease" with claims directed toward the method for treating human subjects with amantadine therapy. Previously, the company received U.S. Patent No. '343 entitled, "Method of Administering Amantadine Prior to a Sleep Period" with claims directed toward administration before bedtime of certain formulations of amantadine HCl. ADS-5102 is now covered by three method-of-use patents that expire in 2027 and 2030 and have several patent applications within and outside of the United States.
- In addition to ADS-5102, Adamas has a partnership with Forest Laboratories for Namenda XR and the development a Namenda XR/donepezil fixed dose combination drug (MDX-9704). The Namenda XR/donepezil fixed-dose combination NDA has been filed with the FDA by Forest, and we expect an approval by the end of the first quarter 2015 or possibly sooner. Upon an approval of MDX-9704, Adamas is set to receive up to a \$30 million milestone payment with royalties on U.S. net sales of Namenda XR and MDX-8704 set to begin five years after launch or in 2018 and 2019, respectively. Following the high-profile acquisition of Forest Laboratories by Actavis (ACT \$239.03), a company that was challenging the Namenda patent franchise, for \$25 billion, we believe this royalty stream for Namenda has largely been de-risked.
- We continue to rate shares Outperform given our belief that ADS-5102 is an effective compound that should produce best in class ON/OFF time and reductions in dyskinesia in Parkinson's patients with Levodopa-induced dyskinesia (LID). While data from the Phase II/III EASED study compared ADS-5102 to placebo, we believe the product provides clear benefits over immediate release amantadine given our review of literature available in this setting. We ultimately believe the product will gain a significant penetration into the moderate and severe Parkinson's disease patient population and estimate peak year sales to exceed \$500 million. The next significant catalyst for shares of Adamas will be the FDA's regulatory decision for the Actavis partnered MDX-8704, which we anticipate near the end of 2014 or early 2015 and will trigger a cash milestone payment.

Valuation

We derive our \$35 price target from a risk-adjusted net present value (NPV) for the company's royalty stream from both Namenda XR and MDX-8704. Adamas's royalty stream for both products will not begin until five years after launch for either product. For our valuation of ADS-5102, we assume the product will launch in 2017, following the company's second Phase III study in 2016 and subsequent filing that year. Given the strength of data to date and the known efficacy of amantadine in Parkinson's disease, we are risk-adjusting the probability of success by 75%. We assume peak year sales six years after launch, which we believe is conservative given the familiarity of physicians treating with amantadine. We continue to assign an Outperform rating to Adamas Pharmaceuticals.

Exhibit 1
Sum of the Parts Valuation

Namenda Royalty	Life of Royalty	Discount Rate	Probability of Success	NPV Value	Value Per Share
Namenda Royalty	2018-2029	9%	65%	\$ 340	\$ 16.44
Cash (\$M)					
\$86					\$ 4.14
Base Value					\$ 20.57
	Peak Sales	Discount Rate	Probability of Success	Peak Sales	Value Per Share
ADS-5102	\$460	9%	75%	2019	\$ 16.35
NPV Value					\$ 702.82
NPV of Future Losses Per Share					\$ (2.97)
NPV Value Per Share					\$ 33.95

Source: William Blair & Company L.L.C. estimates

Risks

An investment in shares of Adamas Pharmaceuticals involves clinical, regulatory, and financial risks that are typical for developmental-stage biopharmaceutical companies. We estimate that Adamas will be profitable over 2014 and 2015; however, the company might incur losses beginning in 2016 as preparations for the launch of ADS-5102 begin. In addition to the risks associated with ADS-5102 development, there are intellectual property, manufacturing, and competition risks to consider.



Adamas Pharmaceuticals
Earnings Model
 8/7/14
 (\$ in millions except EPS data)

Rating: Outperform
Company Profile: Aggressive Growth
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	2011(A)	2012(A)	2013(A)	Q1(A)	Q2(A)	Q3(E)	Q4(E)	2014(E)	2015(E)	2016(E)	2017(E)	2018(E)
Product Revenue	-	-	-	-	-	-	-	-	-	-	-	-
ADS-5102	-	-	-	-	-	-	-	-	-	-	-	-
Royalty/Milestone Revenue	1,982	37,471	71,095	176	25,154	180	180	25,690	36,000	4,000	17,228	105,570
											4,000	6,263
Total Revenue	1,982	37,471	71,095	176	25,154	180	180	25,690	36,000	4,000	21,227.8	111,833.4
yr/yr growth	NA	NA	NM	NA	NA	NA	NA	NM	40.1%	-88.9%	NM	426.8%
q/q growth	NA	NA		NA	14192.0%	-99.7%	0.0%					
incremental rev q/q												
Cost of Goods Sold	-	-	-	-	-	-	-	-	-	-	1,723	10,557
Gross Profit	1,982	37,471	71,095	176	25,154	180	180	25,690	36,000	4,000	19,505	101,276
SG&A	3,388	8,330	6,667	2,758	3,262	3,500	3,600	13,120	16,000	29,500	35,400	38,940
Growth								97%	22%	40%	20%	10%
R&D	6,652	9,192	7,410	3,109	5,173.0	3,800.0	5,000.0	15,375	17,000	20,000	23,000	25,300
Growth			-19%					107%	11%	18%	15%	10%
Total Operating Expenses	10,040	17,522	14,077	5,867	8,435	7,300	8,600	30,202	33,000	49,500	58,400	64,240
growth				NA	NA	NA	NA	115%	9%	50%	18%	10%
Operating Income	(8,058)	19,949	57,018	(5,691)	16,719	(7,120)	(8,420)	(4,512)	3,000	(45,500)	(38,895.0)	37,036.4
EBIT Margin								NM	NM	NM	NM	33%
growth y/y (%)				NA	NA	NA	NA	NM	NM	NM	NM	NM
Depreciation and Amortization	-	-	1,322.3	-	250	250	250	1,000	1,000	1,000	1,000	1,000
EBITDA		19,949.0	58,340.3	(5,691)	16,969	(6,870)	(8,170)	(3,762.0)	4,000.0	(44,500.0)	(37,895)	38,036
Interest and other income (expense)	(138)	(1,537)	(4,818)	-688	-112.0	750.0	750.0	3,000	2,000	1,500	1,500	8,000
Interest expense	(29)	(376)	(88)									
Income Before Taxes	(8,225.0)	18,036	52,112	(6,379)	16,607	(6,370)	(7,670)	(3,812)	5,000	(44,000)	(37,395)	45,036
Income Tax Provision	(19)	(300)	(1,191)	1	178	225	225	629	1,000	1,000	(7,479)	11,709
Effective Tax Rate			2.3%	NA	5.0%	NA	NA	NM	NA	NA	20%	26%
Net Income	\$ (8,244.0)	\$ 17,736.0	\$ 33,068	(6,380)	16,429	(6,595)	(7,895)	\$ (4,440.9)	4,000	(45,000)	(29,916)	33,327
Net income to common (diluted)	\$ (8,980.0)	\$ 11,596.0	\$ 35,353	(6,380)	16,429	(6,595)	(7,895)	\$ (4,440.9)	4,000	(45,000)	(29,916)	33,327
Net income to common per share (diluted)	\$ (3.12)	\$ 2.34	\$ 5.99	(0.67)	0.88	(0.35)	(0.42)	(0.27)	0.21	(2.31)	(1.51)	1.37
Basic avg. number of shares used in computing net income	2,878	4,744	4,753	9,525	15,604	15,704	15,804	14,159	16,054	16,454	16,854	23,090
Diluted avg. number of shares used in computing net income	2,878	4,962	5,903	9,525	18,590	18,690	18,790	16,399	19,040	19,440	19,840	24,240
Key Ratios (GAAP unless noted)												
Gross Margin		NM	NM	NM	NM	NM	NM	NM	NM	NM	90.0%	90.0%
R&D (% Total Rev.)		NM	NM	NM	NM	NM	NM	NM	NM	NM	108.3%	22.6%
SG&A (% Total Rev.)		NM	NM	NM	NM	NM	NM	NM	NM	NM	166.8%	34.8%
Operating Margin		NM	NM	NM	NM	NM	NM	NM	NM	NM	-183.2%	33.1%
Net Income Margin		NM	NM	NM	NM	NM	NM	NM	NM	NM	-140.9%	29.8%
Revenue Growth												
Growth Yr/Yr		NM	90%	NM	NM	NM	NM	NM	NM	NM	431%	427%
Growth Q/Q		NM		NM	NM	NM	NM					
SG&A Growth												
Growth Yr/Yr		NM	-20%	NM	NM	NM	NM	97%	22%	84%	20%	10%
Growth Q/Q		NM		NM	NM	NM	NM					
R&D Growth												
Growth Yr/Yr		NM	-19%	NM	NM	NM	NM	107%	11%	18%	15%	10%
Growth Q/Q		NM		NM	NM	NM	NM					

William Blair & Company, L.L.C.

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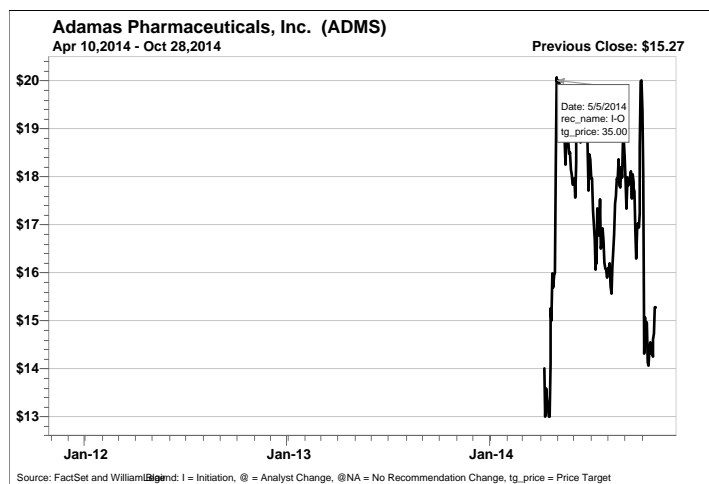
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DOW JONES: 16,817.94

S&P 500: 1,961.63

NASDAQ: 4,485.93



Current Rating Distribution (as of 09/30/14)

Coverage Universe	Percent	Inv. Banking Relationships*	Percent
Outperform (Buy)	65	Outperform (Buy)	16
Market Perform (Hold)	31	Market Perform (Hold)	3
Underperform (Sell)	1	Underperform (Sell)	0

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