

Aratana Therapeutics, Inc.

Aratana Adds to Oncology Pipeline; Enters Global Licensing Agreement With Advaxis

Conclusions

Thursday morning, March 20, Aratana announced a global licensing agreement with Advaxis for the development and commercialization of ADXS-CHER2 for the treatment of osteosarcoma in dogs. The agreement also includes three additional cancer immunotherapy products that are currently in development for the treatment of human cancers. The in-licensing agreement with Advaxis further supports Aratana's strategic plan to build out a synergistic platform that caters to underpenetrated companion oncology market. The company now has more than 20 product candidates across pain, oncology, and virology, which encompass both small molecules and biologics. We continue to be impressed by Aratana's progress since going public in 2013 and believe the stock remains undervalued relative to our internal valuation metrics.

Transaction Details

- Under the agreement, Aratana will make a one-time upfront payment of \$1 million, along with an equity investment of \$1.5 million in Advaxis common stock and warrants.
- Aratana also agreed to pay \$6 million in clinical and regulatory milestones for each of the four products, resulting in maximum payments of \$24 million. In addition, it agreed to pay up to \$28.5 million in commercial milestones; however, we believe these are second-half-loaded and we have not included them in our current estimates. Upon regulatory and commercial approval, Aratana will pay Advaxis a tiered royalty on net sales ranging from midsingle digits to 10%.
- Although there are four products in this transaction, management was only comfortable in discussing the most advanced opportunity, ADXS-CHER2 in osteosarcoma, due to competitive concerns. The remaining three products will likely be discussed pending additional clinical development. While the milestone payments could mount to \$52.5 million, we believe Aratana will maximize its investment by focusing solely on ADXS-CHER2 as it is already in a pretty advanced stage of clinical development process, for the veterinary setting.

Aratana is a specialty biopharmaceutical company focused solely on the companion-animal market. The company was founded in Kansas City, Kansas, in 2010 to pursue in-licensing, development, and commercialization of novel therapeutics for cats and dogs. The company has three molecules focused on osteoarthritic pain, lack of appetite, and post-surgical pain in both dogs and cats, which, if effective, could reach the market by 2016.

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March 20, 2014

Stock Rating: **Outperform**
Company Profile: **Aggressive Growth**

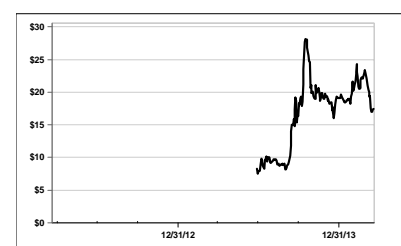
Symbol: PETX (NASDAQ)
Price: \$18.10 (52-Wk.: \$7-\$29)
Market Value (mil.): \$507
Fiscal Year End: December
Long-Term EPS Growth Rate:
Dividend/Yield: None

	2013A	2014E	2015E
Estimates			
EPS FY	\$-0.39	\$-1.32	\$-1.61
CY		\$-1.32	\$-1.61
Sales (mil.)	0	1	8
Valuation			
FY P/E	NM	NM	NM
CY P/E		NM	NM

Trading Data (FactSet)	
Shares Outstanding (mil.)	21
Float (mil.)	10
Average Daily Volume	214,006

Financial Data (FactSet)	
Long-Term Debt/Total Capital (MRQ)	0.1
Book Value Per Share (MRQ)	2.1
Enterprise Value (mil.)	334.6
EBITDA (TTM)	0.0
Enterprise Value/EBITDA (TTM)	0.0x
Return on Equity (TTM)	-6.5

Two-Year Price Performance Chart



Sources: FactSet, William Blair & Company estimates

Osteosarcoma Market

- Management estimates that bone cancer affects roughly 13,000 dogs a year in the United States, with an additional 10,000 in Europe. Currently, the standard of care for osteosarcoma includes months of chemotherapy, with the option of amputation. While this can be a costly procedure, the likelihood of survival is limited. To combat this, ADSX-cHER2 was recently validated in an ongoing clinical study, that when combined with chemotherapy, the overall survival benefit showed statistically significant evidence ($p=0.032$), compared with dogs that only received chemo. Following treatment, dogs experienced transient mild fevers and nausea. Because of this strong clinical data, we estimate Aratana will file for a conditional license potentially as early as next year with the USDA. However, as is often the case in the veterinary setting, we believe the company's manufacturing plan will be critical to when the company will be able to launch ADSX-cHER2 even under a conditional approval setting.

Aratana Strategy

- We continue to be impressed with Aratana's corporate development strategy as they continue to expand on their already prominent oncology platform. With the current infrastructure firmly in place (Vet Therapeutics and Okapi Sciences), management has stated that it will focus future business development on in-licensing deals, including therapies, which are likely complementary with its current pain and oncology offerings. Because of the lack of effective cancer treatments in pets, Aratana believes it will be able to grow an underpenetrated specialty market with innovative products that increase the probability of survival, with lower toxicity to the companion animals. Because of the side effects of cancer treatment, as utilization increases so will the use of periphery drugs like post-operative pain (AT-003) and appetite stimulation (AT-002).

Model

- Because of the substantial amount of data collected in the current clinical trial for osteosarcoma in dogs, we believe Aratana will file for a conditional license with the USDA toward the end of 2014, with potential sales in early 2016. Due to the limited number of dogs with bone cancer, we estimate sales in 2016 will be roughly \$465,000, ramping up to \$6 million in 2020. Exhibit 4 displays the changes we made relative to our old model.

Valuation

- We have used two different valuation methodologies for Aratana; a net present value (NPV) calculation, and an EPS multiple-based approach, discounting 2019 earnings to 2014. While we are not formally placing a price target on shares of Aratana, both valuation exercises suggest 12-month upside potential to be in the mid- to upper-\$20 range.
 - For our NPV analysis, we estimate revenue for the company of \$44 million in 2016, ramping up to \$341 million in 2020. Using a 10% discount rate, an EBIT margins that could reach 43% by 2020, and a terminal growth of 3% suggest a reasonable value of approximately \$724 million including cash, or roughly \$26.47 per share.
 - We also calculated several multiple-based valuation metrics for Aratana shares using a range of forward earnings multiples between 24 and 28 times and discount rates ranging from 10% to 16%. This calculation results in a value of between \$25 per share on the low end (using a 24 times EPS multiple and a 20% discount rate) and \$32 on the high end (using a 28 times EPS multiple and a 12% discount rate).

Exhibit 1: Net Present Value of Estimated Cash Flows

	12/31/2015	12/31/2016	12/31/2017	12/31/2018	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023	12/31/2024	12/31/2025	12/31/2026	12/31/2027	TV
Total Cost	53.13	73.00	90.77	121.40	154.37	192.77	214.28	238.46	259.29	274.76	286.43	265.83	268.92	
Revenue	8.43	44.50	92.25	174.95	250.70	340.74	412.29	494.75	568.96	625.86	669.67	549.11	560.09	
Effective tax rate	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	
Net Cash Flow	(28.61)	(18.25)	0.94	34.27	61.65	94.70	126.73	164.02	198.19	224.70	245.27	181.30	186.35	191.94
NPV of Cash Flows	(25.98)	(15.03)	0.71	23.28	38.02	53.00	64.40	75.67	83.01	85.43	84.66	56.81	53.02	54.61

All numbers in millions and dollars

Time of Valuation	12/31/14
Shares Outstanding (millions)	27.336
Discount Rate	10%
Year of Terminal Value	2027

NPV (\$ Million)	\$631.59
NPV (Per Share)	\$23.10
Cash	\$91.87
Cash (Per Share)	\$3.36
NPV+ Cash	\$723.47
NPV+Cash (Per Share)	\$26.47

Exhibit 2. PETX Valuation on 2019 EPS

PETX Valuation of 2019 EPS

		Earnings Multiple							
		18	20	22	24	26	28	30	32
Discount Rate	10%	\$23	\$25	\$28	\$30	\$33	\$35	\$38	\$40
	12%	\$21	\$23	\$25	\$28	\$30	\$32	\$35	\$37
	14%	\$19	\$21	\$23	\$25	\$27	\$30	\$32	\$34
	16%	\$17	\$19	\$21	\$23	\$25	\$27	\$29	\$31

Exhibit 3. Product Pipeline

Product	Proof of Concept	Pilot	Pivotal	Conditional License	Full License	Market	Launch Date	Comments/Timing
AT-004 Dog (B-cell Lymphoma)							2014	Received conditional license from the USDA. Aratana submitted data to support a full licensure, which is expected in 4Q14 or 1Q15.
AT-005 Dog (T-cell Lymphoma)							2015	USDA granted conditional approval. Currently pursuing full license from USDA. Currently available to specialist vet practices. Initiating other studies to develop lymphoma market.
ADXS-cHER2 Dogs (Osteosarcoma)							2016 (est)	Plan to submit for conditional license within the next 12 months.
AT-001 Dog (Osteoarthritis)							2016	Initiating pivotal field effectiveness study with once-daily dose in 2Q14. Expect US FDA market approval in 2016.
AT-002 Dog (Appetite Stimulant)							2016	Currently performing pivotal field effectiveness study in client-owned dogs, actively enrolling patients. Expected US marketing approval in 2016.
AT-006 (Feline Herpes)							2015 - EU	Currently performing pivotal field study in Europe. Next step is to file for EU review in 2014. Expect US marketing approval in 2017 or 2018.
AT-008 Dog (Lymphoma)							2014 - EU	Currently performing pivotal field effectiveness study in EU. Only Have EU rights.
Diagnostic Koi Carp - KHV Infections							TBD	To be divested or spun-out after value inflection.
AT-007 (Feline Immunodeficiency)							2018	Pilot study in Europe. Initiate field effectiveness study in 2015. Expect US marketing approval in 2017 or 2018.
AT-001 Cat (Osteoarthritis)							2016	Currently performing pilot studies. Next step is dose confirmation study.
AT-002 Cat (Appetite Stimulant)							2016	Currently performing pilot studies. Next step is dose confirmation study.
Other Vet Therapeutics Compounds							2015+	Mast Cell, Atopic Dermatitis, & Feline Lymphoma. Studies in two unspecified products expected to begin in 2014 and completed by 2015. Conditional licenses expected in mid-2015 for two products and a third in 2016.
AT-003 Dog (Post-operative Pain)							2016	Initiate pivotal field effectiveness study in 2Q14. Expect US FDA approval in 2016.
AT-003 Cat (Post-operative Pain)							2016	Currently performing proof of concept study. Next step is dose confirmation study.
Option Programs (Alpha, Beta, Gamma)							TBD	Three programs being evaluated, PETX expects decision on all three in 1H14.
AT-011 Dog (Canine Parvovirus)							TBD	Currently in lead selection. Expected next step is proof of concept study.
AT-012 Cat (Feline Calicivirus)							TBD	Currently in lead selection. Expected next step is proof of concept study.

Exhibit 4. Aratana Model Changes

NEW	2014		2015		2016		2017		2018		2019		2020	
TOTAL Revenue	\$	1,496.25	\$	8,431	\$	44,496	\$	92,249	\$	174,954	\$	250,696	\$	340,735
Operating Expenses	\$	37,404	\$	53,135	\$	73,004	\$	90,774	\$	121,404	\$	154,368	\$	192,771
Net Income	\$	(36,058)	\$	(44,900)	\$	(28,669)	\$	822	\$	34,158	\$	61,599	\$	94,751
EPS	\$	(1.32)	\$	(1.63)	\$	(0.97)	\$	0.03	\$	1.14	\$	2.03	\$	3.11
Share Count		26,858		27,541		29,691		29,891		30,091		30,291		30,491

OLD	2014		2015		2016		2017		2018		2019		2020	
TOTAL Revenue	\$	1,496.25	\$	8,431	\$	44,031	\$	90,389	\$	171,699	\$	246,046	\$	334,690
Operating Expenses	\$	37,404	\$	52,589	\$	71,242	\$	88,566	\$	118,734	\$	151,216	\$	189,119
Net Income	\$	(36,058)	\$	(44,353)	\$	(27,370)	\$	1,048	\$	33,787	\$	60,642	\$	93,221
EPS	\$	(1.32)	\$	(1.61)	\$	(0.92)	\$	0.04	\$	1.12	\$	2.00	\$	3.06
Share Count		26,858		27,541		29,691		29,891		30,091		30,291		30,491

Changes	2014		2015		2016		2017		2018		2019		2020	
Δ Revenue	\$	-	\$	-	\$	465	\$	1,860	\$	3,255	\$	4,650	\$	6,045
Δ Operating Expenses	\$	-	\$	546	\$	1,762	\$	2,208	\$	2,670	\$	3,151	\$	3,652
Δ Net Income	\$	-	\$	(547)	\$	(1,299)	\$	(226)	\$	371	\$	956	\$	1,530
Δ EPS	\$	-	\$	(0.02)	\$	(0.04)	\$	(0.01)	\$	0.01	\$	0.03	\$	0.05
Δ Share Count		0		0		0		0		0		0		0

Exhibit 5. Aratana Income Statement (2011 to 2020E)

	2011	2012	2013	Q1E	Q2E	Q3E	Q4E	2014E	2015E	2016E	2017E	2018E	2019E	2020E
Revenues														
AT-001				-	-	-	-	-	-	10,238,800	19,988,540	26,918,320	39,279,240	59,682,480
% growth (y/y)														
AT-002				-	-	-	-	-	-	11,629,964	20,244,546	33,740,910	50,611,365	74,023,790
% growth (y/y)														
AT-003				-	-	-	-	-	-	4,095,000	12,180,000	28,400,000	36,592,000	48,600,000
% growth (y/y)														
T-Cell Revenue				-	204,750	204,750	204,750	614,250	6,054,048	10,140,530	16,003,025	21,757,712	25,805,965	27,979,099
% growth (y/y)														
Feline Immunodeficiency				-	-	-	-	-	-	-	-	23,659,200	41,515,200	57,585,600
% growth (y/y)														
Osteosarcoma - Dogs				-	-	-	-	-	-	465,000	1,860,000	3,255,000	4,650,000	6,045,000
% growth (y/y)														
Total Net Product Revenues				-	204,750	204,750	204,750	614,250	6,054,048	36,569,294	70,276,111	137,731,142	198,453,770	273,915,970
B-Cell Royalty			123,000	220,500	220,500	220,500	220,500	882,000	2,177,776	4,140,717	7,766,801	10,461,284	13,310,445	16,973,987
Royalty Revenue (E.U.)				-	-	-	-	-	198,788	3,786,311	12,085,319	23,284,313	33,842,346	43,569,153
Feline Herpes Royalty				-	-	-	-	-	-	-	2,120,400	3,477,456	5,088,960	6,276,384
Total Net Revenues	-	0.0	123,000	220,500	425,250	425,250	425,250	1,496,250	8,430,611	44,496,321	92,248,631	174,954,195	250,695,522	340,735,493
% growth (y/y)											107%	90%	43%	36%
Expenses														
COGS	-	-	109,000	7,056	58,244	58,244	58,244	181,787	1,583,201	8,362,888	16,417,329	31,965,361	45,295,190	61,867,754
R&D expense	2,196,000	8,791,000	10,925,000	6,828,125	6,828,125	6,828,125	6,828,125	27,312,500	34,686,875	40,930,513	45,023,564	49,525,920	54,478,512	59,926,363
% growth (y/y)			24%	223.0%	176.6%	111.1%	119.7%	150%	27%	18%	10%	10%	10%	10%
SG&A expense	1,274,000	2,987,000	8,952,000	5,097,500	1,506,400	1,641,600	1,664,432	9,909,932	16,864,898	23,710,857	29,333,029	39,912,937	54,593,818	70,977,353
In-process R&D	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Operating Expenses	3,470,000	11,778,000	19,986,000	11,932,681	8,392,769	8,527,969	8,550,801	37,404,219	53,134,974	73,004,258	90,773,921	121,404,218	154,367,520	192,771,470
Operating (loss)/profit	(3,470,000)	(11,778,000)	(19,863,000)	(11,712,181)	(7,967,519)	(8,102,719)	(8,125,551)	(35,907,969)	(44,704,363)	(28,507,937)	1,474,710	53,549,977	96,328,001	147,964,023
Interest income	6,000	21,000	76,000	28,596	57,422	54,787	50,827	191,632	146,526	180,917	151,743	163,237	261,449	426,484
Interest expense	-	-	(432,000)	(110,425)	(110,425)	(110,425)	(110,425)	(441,700)	(441,700)	(441,700)	(441,700)	(441,700)	(441,700)	(441,700)
Other Income	-	121,000	478,000	25,000.0	25,000.0	25,000.0	25,000.0	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Total Other Income	6,000	142,000	122,000	(56,829)	(28,003)	(30,638)	(34,598)	(150,068)	(195,174)	(160,783)	(189,957)	(178,462.6)	(80,251)	84,784
Net loss and comprehensive loss	(3,464,000)	(11,636,000)	(19,741,000)	(11,769,010)	(7,995,522)	(8,133,357)	(8,160,148)	(36,058,036)	(44,899,537)	(28,668,719)	1,284,753	53,371,514	96,247,751	148,048,807
Modifications of Series A convertible pref. stock	(276,000)	-	-	-	-	-	-	-	-	-	-	-	-	-
Unaccreted dividends on convertible pref. stock	(902,000)	(2,035,000)	(1,581,000)	-	-	-	-	-	-	-	-	-	-	-
Net income loss (gain) attributable to common stockholders, basic and diluted	(4,642,000)	(13,671,000)	(21,322,000)	(11,769,010)	(7,995,522)	(8,133,357)	(8,160,148)	(36,058,036)	(44,899,537)	(28,668,719)	1,284,753	53,371,514	96,247,751	148,048,807
Provision for income taxes	-	-	(15,455,000)	-	-	-	-	-	-	-	462,511	19,213,745	34,649,190	53,297,570
Effective tax rate	NM	NM	0%	0%	0%	0%	0%	0%	0%	0%	36%	36%	36%	36%
Net Income (loss)	(4,642,000)	(13,671,000)	(5,867,000)	(\$11,769,010)	(\$7,995,522)	(\$8,133,357)	(\$8,160,148)	(36,058,036)	(\$44,899,537)	(\$28,668,719)	\$822,242	\$34,157,769	\$61,598,561	\$94,751,236
EPS	(0.31)	(\$0.91)	(\$0.39)	(\$0.43)	(\$0.29)	(\$0.30)	(\$0.30)	(\$1.32)	(\$1.63)	(\$0.97)	\$0.03	\$1.14	\$2.03	\$3.11
Weighted average shares outstanding (diluted)	14,972,266	14,972,266	19,265,949	25,304,108	27,335,775	27,375,775	27,415,775	26,857,858	27,540,775	29,690,775	29,890,775	30,090,775	30,290,775	30,490,775
MARGIN ANALYSIS:														
Gross Profit										81%	82%	82%	82%	82%
SG&A										53%	32%	23%	22%	21%
R&D										92%	49%	28%	22%	18%
Operating Income										NA	2%	31%	38%	43%
Tax Rate										0%	36%	36%	36%	36%
Net Income										NA	1%	20%	25%	28%
GROWTH METRICS:														
Total Revenue											107%			
Gross Profit											110%			
SG&A			200%	316%	20%	15%	-67%	11%	70%	41%		90%	43%	36%
R&D			24%	223%	177%	111%	120%	150%	27%	18%	10%			
Operating Income												3531%	80%	54%
Net Income												4054%	80%	54%
EPS												4027%	79%	53%
Diluted Shares Outstanding		0%	29%	69%	37%	32%	29%	26%	0%	8%	0%	0%	0%	1%

E = William Blair & Company, L.L.C estimate

IMPORTANT DISCLOSURES

William Blair was a manager or co-manager of a public offering of equity securities for Aratana Therapeutics, Inc. within the prior 12 months.

William Blair and its affiliates beneficially own or control (either directly or through its managed accounts) 1% or more of the equity securities of Aratana Therapeutics, Inc. as of the end of the month ending not more than 40 days from the date herein.

William Blair is a market maker in the security of Aratana Therapeutics, Inc. and may have a long or short position.

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

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

Additional information is available upon request.

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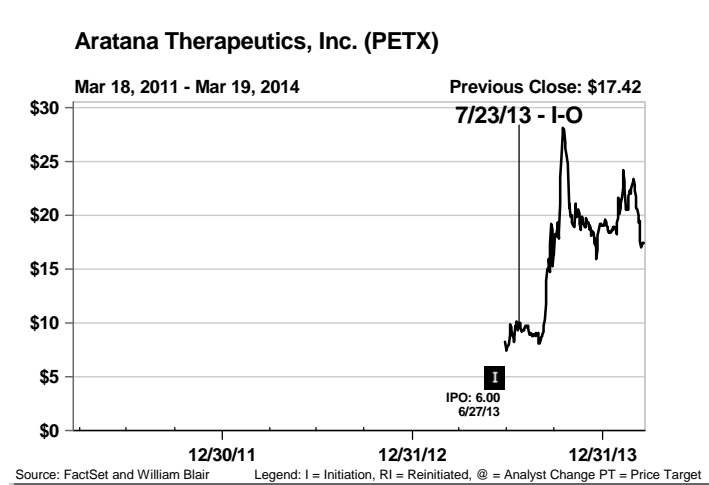
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DOW JONES: 16,222.17

S&P 500: 1,860.77

NASDAQ: 4,307.60



Current Rating Distribution (as of 02/28/14)

Coverage Universe	Percent	Inv. Banking Relationships*	Percent
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Market Perform (Hold)	33	Market Perform (Hold)	2
Underperform (Sell)	1	Underperform (Sell)	0

*Percentage of companies in each rating category that are investment banking clients, defined as companies for which William Blair has received compensation for investment banking services within the past 12 months.

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