William Blair

Aratana Therapeutics, Inc.

June 10, 2014

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

Highlights from William Blair's 34th Annual Growth Stock Conference

- On June 10, Aratana Therapeutics' Chief Executive Officer Steven St. Peter and Chief Financial Officer Craig Tooman presented at William Blair's 34th Annual Growth Stock Conference in Chicago. The company highlighted the business development to date and several updates to its ongoing safety and clinical programs that were also presented recently at the American College of Veterinary Internal Medicine Forum (AVCIM) in Nashville. The company's 15-plus product portfolio is progressing with no attrition thus far; we expect a launch of AT-005, for the indication of T-cell lymphoma, in October of this year. Furthermore, at AVCIM, Aratana's development partner Advaxis (ADXS $3.45) reported on the companies' partnered ADXS-cHER2 immunotherapy program. We expect the Aratana to continue executing on their strategic goals and do not expect any additional acquisitions at this point; however, their product portfolio could expand through additional licensing deals.

- Regarding Aratana's pipeline programs, Grapipant (AT-001), for the indication of osteoarthritis pain in dogs and cats, was well tolerated by dogs over the treatment course of nine months at doses 10 times higher than the anticipated therapeutic dose. In addition, there were no significant adverse events (AE) and a minimal toxicity profile. The potential market for osteoarthritis in dogs is approximately $260 million, given current market pricing. Capromorelin (AT-002), for appetite stimulation, showed a mean change in appetite score of 79.4%, compared to 22.2% in placebo ($p = 0.0251$) in dogs. These increases were also significantly correlated with a percentage change in body weight ($r^2 = 0.503$, $p = 0.0054$). Lastly, the ADXS-cHER2 therapy for the ongoing study involving the treatment of osteosarcoma in dogs continues to suggest efficacy. The results reported at AVCIM showed 80% of dogs treated (N=15) were still alive (median survival not reached), while the control group animals have all deceased with a median overall survival of 316 days.

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.

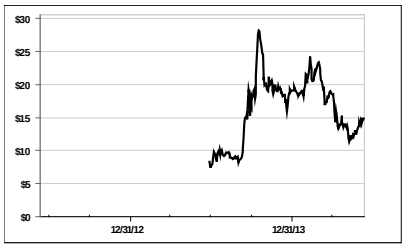
Symbol:	PETX (NASDAQ)
Price:	$14.80 (52-Wk.: $7-$29)
Market Value (mil.):	$433
Fiscal Year End:	December
Long-Term EPS Growth Rate:	
Dividend/Yield:	None

		2013A	2014E	2015E
Estimates				
EPS	Q1	$-0.27	A$-0.34	NA
	Q2	$-0.23	$-0.35	NA
	Q3	$-0.22	$-0.43	NA
	Q4	$0.33	$-0.45	NA
	FY	$-0.39	$-1.55	$-1.50
	CY		$-1.55	$-1.50
Sales (mil.)		0	0	8
Valuation				
FY P/E		NM	NM	NM
CY P/E			NM	NM

Trading Data (FactSet)	
Shares Outstanding (mil.)	27
Float (mil.)	21
Average Daily Volume	297,609

Financial Data (FactSet)	
Long-Term Debt/Total Capital (MRQ)	0.0
Book Value Per Share (MRQ)	5.9
Return on Equity (TTM)	-6.5

Two-Year Price Performance Chart



Sources: FactSet, William Blair & Company estimates

John Kreger
+1 312 364 8597
jkreger@williamblair.com

Tim Lugo
+1 415 248 2870
tlugo@williamblair.com

Roberto Fatta
+1 312 364 8797
rfatta@williamblair.com

Matt Bacso
+1 312 364 8996
mbacso@williamblair.com

Key points

- **The company's pipeline continues to progress.** The myriad product updates at our conference and AVCIM suggest that Aratana is successfully executing on its stated goals. At IPO, the company had six products using an in-licensing model. As shown in exhibit 1, the company now has over 15 product candidates, two of which currently have received conditional approval and several products expected to receive approval within the next two years. Specifically, Aratana expects FDA approval for AT-001 and AT-002 in 2016, with AT-001 results expected by year end. The company also recently started two supportive studies for AT-005, T-LAB and T-CHOMP. T-LAB which will enroll approximately 60 client-owned dogs with the first 5 weeks of study involving CCNU chemotherapy. After two cycles of CCNU treatment, dogs that achieve a partial or complete response will be randomized to receive AT-005 or placebo. In T-CHOMP, 48 client-owned dogs will be enrolled to receive multi-agent chemotherapy, which will be supplemented by either placebo or monoclonal antibody. 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 (see below).

- **Due to the strong clinical data to date with ADXS-cHER2, we estimate Aratana will file for a conditional license, potentially as early as next year with the USDA**. Recall that the company has had significant success (through the acquired Vet Therapeutics) in bringing therapies through the USDA, the regulatory agency that looks to have a significant role in veterinary biologic therapies. 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 ADXS-cHER2 even under a conditional approval setting. Management estimates that bone cancer affects roughly 13,000 dogs a year in the U.S., with an additional 10,000 in Europe. The current 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.

- **We believe the ADXS-cHER2 product fits in well with the company's growing oncology franchise.** The treatment for canine osteosarcoma should mesh well as their B-Cell Lymphoma product transitions to Eli Lilly's Animal Health Unit and the T-Cell product launches in 2015. Changes at Novartis Animal Health, which has been acquired by Eli Lilly's Animal Health Unit, ELANCO, have caused a disruption in the preliminary launch of AT-004. While the changes have delayed a full launch of the CD-20 targeting antibody product by several quarters, Aratana now expects a full licensure of the product by the USDA during 2014. This should align well with a higher profile launch at a veterinary oncology conference held during the fourth quarter. Management continues to expect a launch of the CD-52 targeting T-cell lymphoma product during 2015. Several clinical studies have also been submitted for peer-reviewed publication during 2014, which should inform the dosing and sequencing of both AT-004 and AT-005, in combination with chemotherapy.

- **Additional oncology products in Advaxis partnership**. Recall that Aratana entered into a partnership with Advaxis for development in the veterinary setting back in March of this year. This agreement also includes three additional cancer immunotherapy products that are in development for the treatment of human cancers. As part of the agreement Aratana paid a $1 million up-front fee, $6 million in clinical and regulatory milestones for each of the four products covered by the partnership, and made a $1.5 million equity investment in the company. Advaxis retained all development rights in the human setting. The in-licensing agreement with Advaxis further supports Aratana's strategic plan to build out a synergistic platform that caters to the underpenetrated companion oncology market.

- **Aratana has sufficient cash to fund operations through 2015.** The company ended the first quarter with cash, cash equivalents, and marketable securities of $79.9 million. Management noted that it expects the current cash to last through the end of 2015. Additional sources of nondilutive cash will likely be explored by the company including a geographic deal for several of Aratana's product pipeline candidates.

- **Strategy.** We believe the Advaxis/Aratana partnership displays many of the attributes we find attractive in Aratana's business model. Namely the ability to leverage existing animal data produced in the development of human therapies and bringing these products to the veterinary setting prior to their introduction into the human market. In addition, they can accomplish this with a fraction of the cost and decreased regulatory and clinical risks often associated with development-stage therapeutics companies. Given the company's large development pipeline of veterinary therapies and the attractiveness of the veterinary end market we reiterate our Outperform on Aratana's shares.

Valuation

We utilize 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 (exhibit 2).

For our NPV analysis, we estimate revenue for the company of $44 million in 2016, ramping to $341 million in 2020. Utilizing 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 utilizing 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 (utilizing a 24 times EPS multiple and a 20% discount rate) and $32 on the high end (utilizing a 28 times EPS multiple and a 12% discount rate).

Risks

Key risks to shares of Aratana include the clinical development of several pipeline products that might not reach the market; larger competitors with greater financial resources begin to pursue similar in-licensing strategies, and the potential for an additional capital raise post-2015.

Exhibit 1
Aratana Therapeutics
Current 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.
AT-005 Dog (T-cell Lymphoma)							2015	USDA granted conditional approval. Currently pursuing full license from USDA which is expected in 2015.
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, Aptopic 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 progams 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 2
Aratana Therapeutics
Valuation Methodology

	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	49.65	68.90	87.36	117.65	150.24	188.23	209.42	233.27	253.84	269.13	280.67	260.04	263.09	
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	(26.38)	(15.62)	3.13	36.67	64.29	97.60	129.84	167.34	201.67	228.30	248.96	185.01	190.08	195.78
NPV of Cash Flows	(23.95)	(12.87)	2.34	24.91	39.65	54.63	65.98	77.20	84.47	86.79	85.93	57.97	54.08	55.70

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)	$652.83
NPV (Per Share)	**$23.88**
Cash	$79.94
Cash (Per Share)	**$2.92**
NPV+ Cash	$732.77
NPV+Cash (Per Share)	**$26.81**

PETX Valuation of 2019 EPS

Discount Rate \ Earnings Muliple	18	20	22	24	26	28	30	32
10%	$24	$26	$29	$32	$34	$37	$39	$42
12%	$22	$24	$26	$29	$31	$34	$36	$38
14%	$20	$22	$24	$26	$29	$31	$33	$35
16%	$18	$20	$22	$24	$26	$28	$30	$32

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 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.

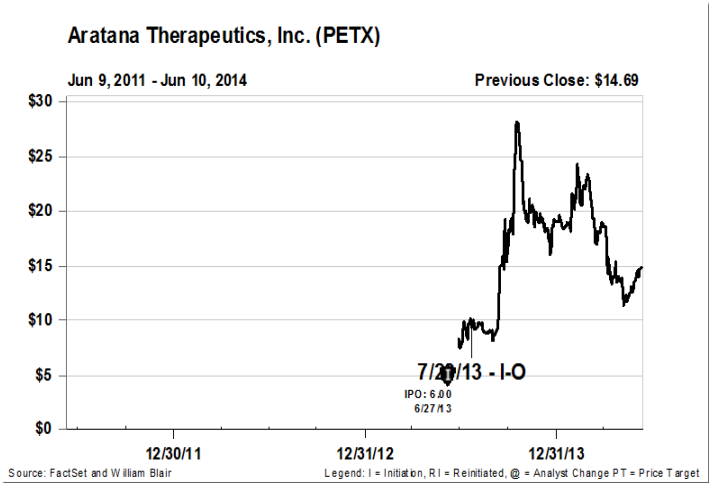
Additional information is available upon request.

This report is available in electronic form to registered users via R*Docs™ at www.rdocs.com or www.williamblair.com.

Please contact us at +1 800 621 0687 or consult williamblair.com/Research-and-Insights/Equity-Research/Coverage.aspx for all disclosures.

John Kreger, Tim Lugo attests that 1) all of the views expressed in this research report accurately reflect his/her personal views about any and all of the securities and companies covered by this report, and 2) no part of his/her compensation was, is, or will be related, directly or indirectly, to the specific recommendations or views expressed by him/her in this report. We seek to update our research as appropriate, but various regulations may prohibit us from doing so. Other than certain periodical industry reports, the majority of reports are published at irregular intervals as deemed appropriate by the analyst.

DOW JONES: 16,943.10
S&P 500: 1,951.27
NASDAQ: 4,336.24



Current Rating Distribution (as of 05/31/14)

Coverage Universe	Percent	Inv. Banking Relationships*	Percent
Outperform (Buy)	67	Outperform (Buy)	15
Market Perform (Hold)	30	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.

The compensation of the research analyst is based on a variety of factors, including performance of his or her stock recommendations; contributions to all of the firm's departments, including asset management, corporate finance, institutional sales, and retail brokerage; firm profitability; and competitive factors.

OTHER IMPORTANT DISCLOSURES

Stock ratings, price targets, and valuation methodologies: William Blair & Company, L.L.C. uses a three-point system to rate stocks. Individual ratings and price targets (where used) reflect the expected performance of the stock relative to the broader market (generally the S&P 500, unless otherwise indicated) over the next 12 months. The assessment of expected performance is a function of near-, intermediate-, and long-term company fundamentals, industry outlook, confidence in earnings estimates, valuation (and our valuation methodology), and other factors. Outperform (O) – stock expected to outperform the broader market over the next 12 months; Market Perform (M) – stock expected to perform approximately in line with the broader market over the next 12 months; Underperform (U) – stock expected to underperform the broader market over the next 12 months; not rated (NR) – the stock is not currently rated. The valuation methodologies used to determine price targets (where used) include (but are not limited to) price-to-earnings multiple (P/E), relative P/E (compared with the relevant market), P/E-to-growth-rate (PEG) ratio, market capitalization/revenue multiple, enterprise value/EBITDA ratio, discounted cash flow, and others.

Company Profile: The William Blair research philosophy is focused on quality growth companies. Growth companies by their nature tend to be more volatile than the overall stock market. Company profile is a fundamental assessment, over a longer-term horizon, of the business risk of the company relative to the broader William Blair universe. Factors assessed include: 1) durability and strength of franchise (management strength and track record, market leadership, distinctive capabilities); 2) financial profile (earnings growth rate/consistency, cash flow generation, return on investment, balance sheet, accounting); 3) other factors such as sector or industry conditions, economic environment, confidence in long-term growth prospects, etc. Established Growth (E) – Fundamental risk is lower relative to the broader William Blair universe; Core Growth (C) – Fundamental risk is approximately in line with the broader William Blair universe; Aggressive Growth (A) – Fundamental risk is higher relative to the broader William Blair universe.

The ratings, price targets (where used), valuation methodologies, and company profile assessments reflect the opinion of the individual analyst and are subject to change at any time.

Our salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies—to our clients and our trading desks—that are contrary to opinions expressed in this research. Certain outstanding reports may contain discussions or investment opinions relating to securities, financial instruments and/or issuers that are no longer current. Always refer to the most recent report on a company or issuer before making an investment decision. Our asset management and trading desks may make investment decisions that are inconsistent with recommendations or views expressed in this report. We will from time to time have long or short positions in, act as principal in, and buy or sell the securities referred to in this report. Our research is disseminated primarily electronically, and in some instances in printed form. Electronic research is simultaneously available to all clients. This research is for our clients only. No part of this material may be copied or duplicated in any form by any means or redistributed without the prior written consent of William Blair & Company, L.L.C.

THIS IS NOT IN ANY SENSE A SOLICITATION OR OFFER OF THE PURCHASE OR SALE OF SECURITIES. THE FACTUAL STATEMENTS HEREIN HAVE BEEN TAKEN FROM SOURCES WE BELIEVE TO BE RELIABLE, BUT SUCH STATEMENTS ARE MADE WITHOUT ANY REPRESENTATION AS TO ACCURACY OR COMPLETENESS OR OTHERWISE. OPINIONS EXPRESSED ARE OUR OWN UNLESS OTHERWISE STATED. PRICES SHOWN ARE APPROXIMATE.

THIS MATERIAL HAS BEEN APPROVED FOR DISTRIBUTION IN THE UNITED KINGDOM BY WILLIAM BLAIR INTERNATIONAL, LIMITED, REGULATED BY THE FINANCIAL CONDUCT AUTHORITY (FCA), AND IS DIRECTED ONLY AT, AND IS ONLY MADE AVAILABLE TO, PERSONS FALLING WITHIN COB 3.5 AND 3.6 OF THE FCA HANDBOOK (BEING "ELIGIBLE COUNTERPARTIES" AND "PROFESSIONAL CLIENTS"). THIS DOCUMENT IS NOT TO BE DISTRIBUTED OR PASSED ON TO ANY "RETAIL CLIENTS." NO PERSONS OTHER THAN PERSONS TO WHOM THIS DOCUMENT IS DIRECTED SHOULD RELY ON IT OR ITS CONTENTS OR USE IT AS THE BASIS TO MAKE AN INVESTMENT DECISION.