JMP

Atara Biotherapeutics, Inc. (ATRA)

Investor Day Clarifies Pivotal Path Forward for T-Cell Therapies

MARKET DATA

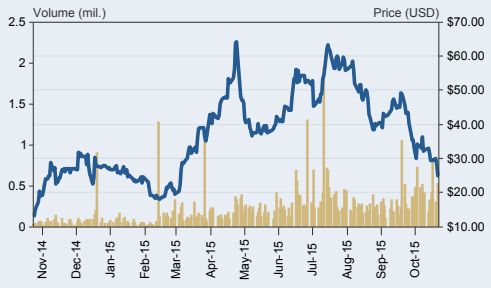
Price	$24.99
52-Week Range:	$12.61 - $65.56
Shares Out. (M):	28.6
Market Cap ($M):	$714.7
Average Daily Vol. (000):	528.0
Cash (M):	$349
Cash/Share:	$5.11
Enterprise Value (M):	$1,072
Float (M):	20.0
LT Debt (M):	$0

Source: Thomson Reuters and JMP Securities LLC

FY DEC		2014A	2015E	2016E
Revenue ($M)	1Q	$0.0	$0.0A	--
	2Q	$0.0	$0.0A	--
	3Q	$0.0	$0.0	--
	4Q	$0.0	$0.0	--
	FY	**$0.0**	**$0.0**	**$0.0**
EPS	1Q	--	($0.42)A	--
	2Q	--	($0.62)A	--
	3Q	--	($0.40)	--
	4Q	$0.00	($0.44)	--
	FY	**($1.43)**	**($1.64)**	**($2.13)**
	P/E	NM	NM	NM

Source: Company reports and JMP Securities LLC

STOCK PRICE PERFORMANCE



MARKET OUTPERFORM | Price: $24.99 | Target Price: $61.00

INVESTMENT HIGHLIGHTS

At its Investor Day event yesterday, Atara Biotherapeutics indicated that it is developing manufacturing capacity to initiate pivotal trials for EBV specific T-Cells (EBV-CTL) for treating post-transplant lymphoproliferative disorder (PTLD) in solid organ transplant (SOT) and hematopoietic cell transplant (HCT) in 2H16; reiterate our Market Outperform rating and $61 price target based on a synthesis of our DCF, SOTP, and comparable companies valuation methodologies. Ongoing trials in 2016, using the MSKCC T-cell bank, will provide additional data in support of the filings. The draft schema for the HCT trial would enroll ~40 patients at 10+ sites, with best response rate (RR) as the primary endpoint and OS as a secondary endpoint (Figure 1), while the SOT trial would enroll ~80 patients at 15+ sites, with event-free survival as the primary endpoint and PFS and RR as secondary endpoints (Figure 2). The pivotal trials will be conducted with the ATRA commercial library, obviating the need for any bridging studies comparing the MSKCC library to the commercial library. Based on this clarifying information, we believe ATRA should be able to receive approval and launch EBV-CTLs as early as mid-to-late 2018, in line with our expectations.

Partnership with Queensland Institute for Medical Research (QIMR) Berghofer Medical Research Institute in Australia cements a broader foundation for the T-cell program. The partnership, which was announced Wednesday morning, provides ATRA with access to the IP and technological knowledge for developing T-cell therapeutics that target viral antigens expressed in various cancers, including nasopharyngeal carcinoma, gastric cancer, and glioblastoma, and in non-oncologic indications, such as Epstein Barr Virus (EBV) associated multiple sclerosis. While the MSKCC T-cell bank was developed to target viral antigens expressed in acute EBV infections, the repertoire of EBV antigens expressed in most tumors is distinct and is restricted to a limited repertoire of latent viral genes, including LMP-1, LMP-2, and the EBNA genes. Dr. Rajiv Khanna from QIMR is a recognized expert on the immune response to latent viral antigens. His group at QIMR has developed therapies for stimulating autologous T-cells specific to these viral antigens, with demonstrated signs of clinical efficacy in conditions including nasopharyngeal carcinoma and multiple sclerosis. ATRA's partnership fuses Dr. Khanna's expertise in latent viral antigens with MSKCC's autologous T-cell system, and, in our opinion, increases the probability of success for ATRA's T-cell program in indications outside of acute viral infection-driven diseases.

ATRA clarified the trial design of the Phase II trial for PINTA-745 in protein energy wasting (PEW). Recall, PINTA-745 sequesters myostatin, an inhibitor of muscle growth, and could potentially counter the morbidity and mortality associated with muscle wasting in conditions such as dialysis and cancer cachexia. The trial is exploratory and will allow

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the company to define the parameters required for a subsequent Phase II or Phase III trial. The trial is enrolling three treatment cohorts, randomized three to one with placebo. The first cohort only has eight patients who will receive three mg/kg once weekly for 12 weeks. The second cohort will enroll 20 patients each, receiving three mg/kg for three weeks, followed by one mg/kg for nine weeks (Figure 3).

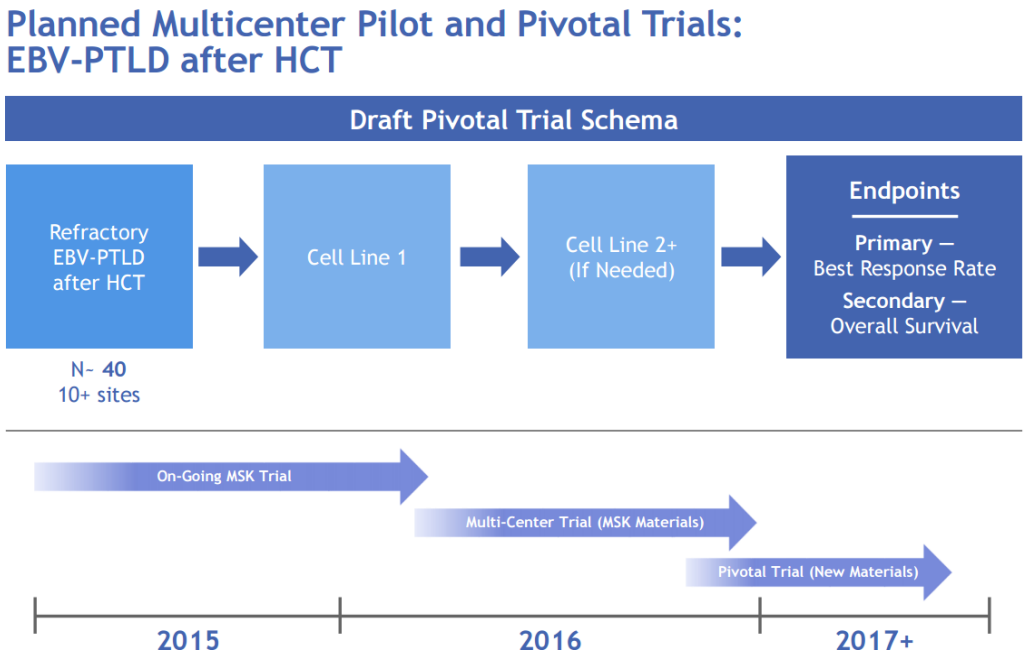
Patients in the final cohort will receive six mg/kg for three weeks, followed by two mg/kg for nine weeks. We note that in the Phase I trial for prostate cancer-associated cachexia, patients received three mg/kg weekly for four weeks and achieved a ~2% difference in lean body mass (LBM) relative to placebo-treated patients. If patient responses in the Phase II trial mirror those seen in Phase I, the trial should meet its primary endpoint of a statistically significant increase in LBM relative to placebo. PINTA-745 has not been tested in dialysis patients previously; however, as patients will receive an additional two months of therapy, a 2% difference in lean body mass is a realistic target, in our view.

Perhaps more importantly from a regulatory perspective, the trial will also measure clinically relevant secondary endpoints including: a six-minute walk test and a stair climb power test; metabolic parameters, such as hemoglobin and insulin levels; effect on usage of erythropoiesis stimulating agents; and suppression of inflammatory cytokines, such as Tumor Necrosis Factor-alpha (TNF-α), Interleukin-6, and C-reactive protein.

Atara represents a unique opportunity to invest in a de-risked, late-stage pipeline company. Atara is developing two highly differentiated platforms with the potential to tap into vast market segments. Atara's first platform consists of a portfolio of molecular therapeutics, in-licensed from Amgen (AMGN, NC), targeting the biology of transforming growth factor-beta (TGF-β) family members. The lead molecule from this portfolio, PINTA-745, has applications in wasting diseases, such as cancer cachexia and protein energy wasting in dialysis patients. Atara has also recently licensed the rights to a platform of "off-the-shelf" cytotoxic T-cell (CTL) therapeutics from Memorial Sloan Kettering Cancer Center (MSKCC). These CTLs provide a pathway to rapid approval in rare indications, such as Epstein-Barr Virus (EBV) and cytomegalovirus (CMV) mediated lymphomas in transplant patients. Furthermore, they hold the promise of broad anti-cancer activity against tumors expressing viral antigens, such as glioblastoma, and against rare tumor associated antigens, such as Wilms' Tumor 1, (WT1).

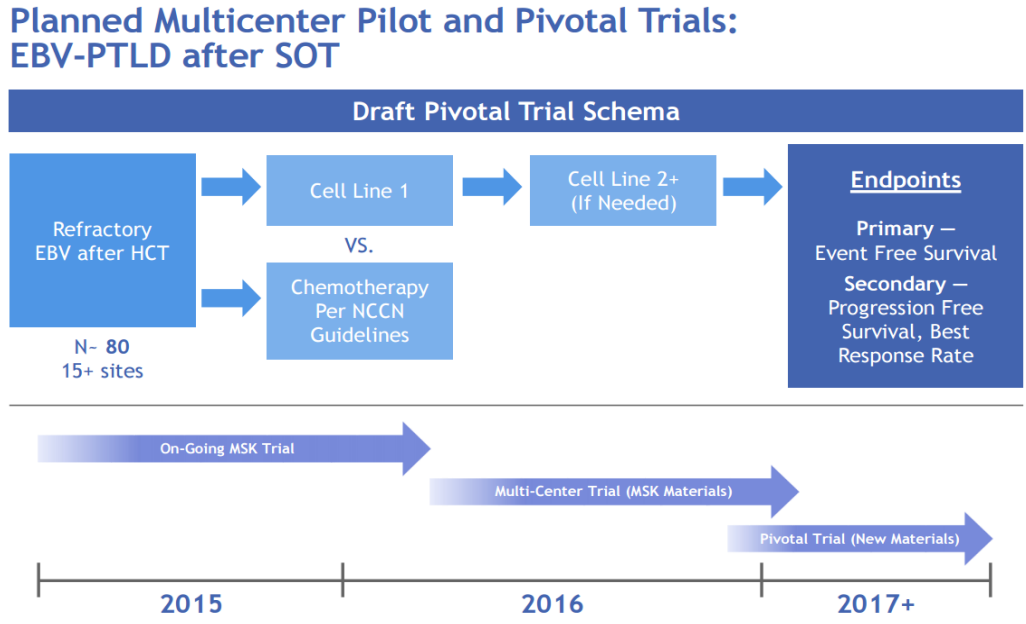
Researchers at MSKCC continue to generate further clinical data from the EBV-CTL and CMV-CTL programs, with further trial data anticipated before the end of the year. Also, by the end of the year, Atara expects to release top-line Phase II data from dialysis patients with PEW, who were treated for 12 weeks with PINTA-745. If the results appear positive, it will set the stage for registration-directed trials to initiate in 2016. Finally, early 2016 should also bring the first data from the STM-434 program for treating solid tumors, with a focus on ovarian cancers.

FIGURE 1. Phase III Trial Design: EBV-PTLD Following Hematopoietic Stem Cell Transplant



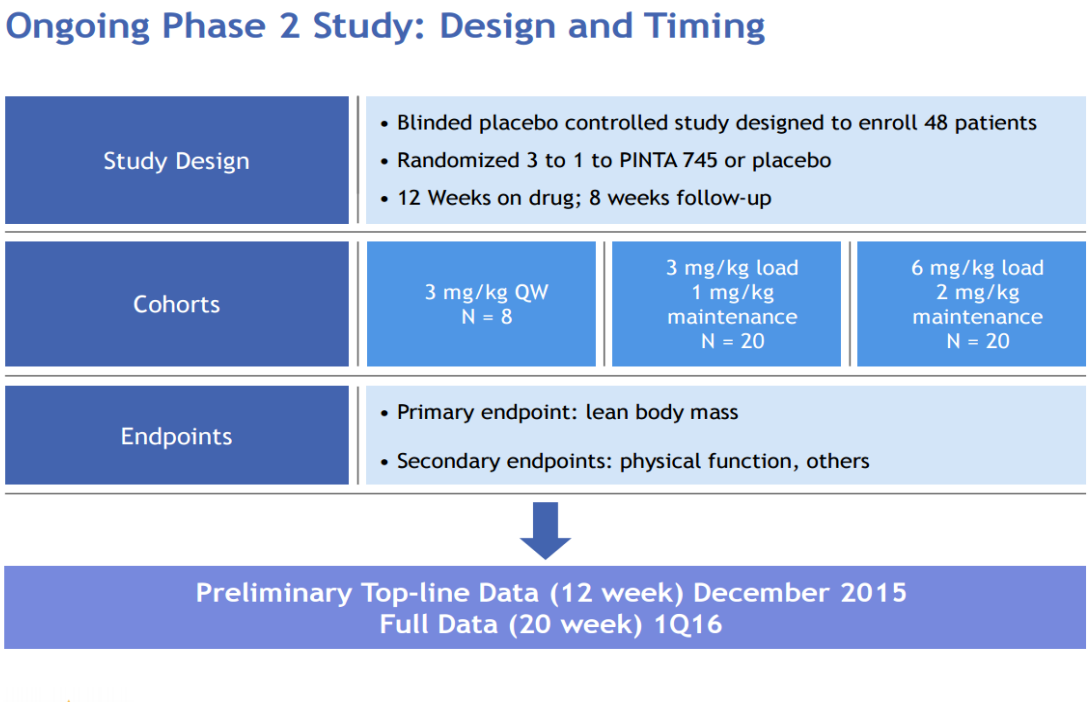
Source: Company Reports

FIGURE 2. Phase III Trial Design: EBV-PTLD Following Solid Organ Transplant



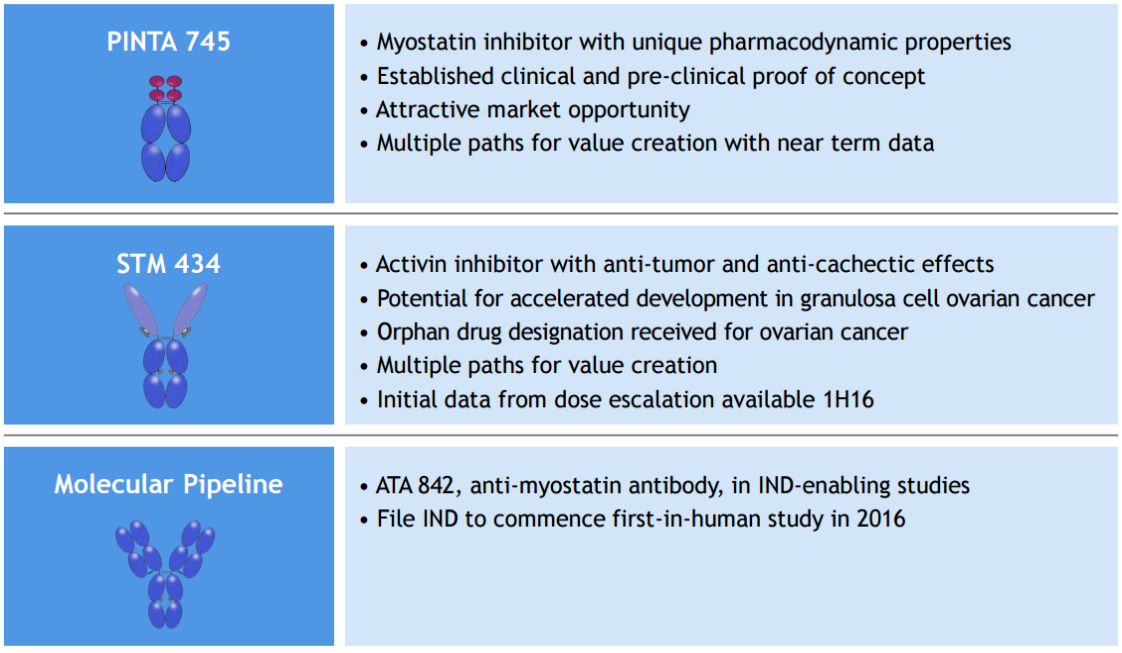
Source: Company Reports

FIGURE 3. PINTA-745 in PEW, Phase II Study Design



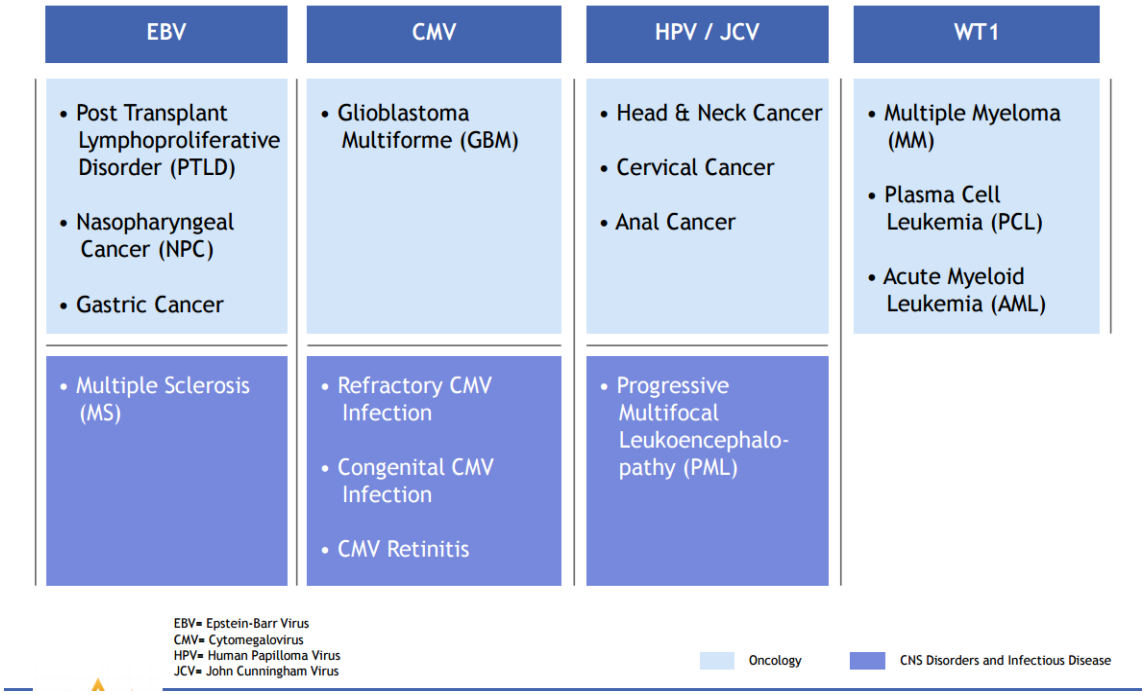
Source: Company Reports

FIGURE 4. Molecular Platform



Source: Company Reports

FIGURE 5. T-Cell Platform



Source: Company Reports

FIGURE 6. Upcoming Catalysts

Timing	Drug	Milestones
2H15	EBV-CTL	Data at scientific meetings, venue not disclosed
4Q15	PINTA-745	Ph II -topline data on muscle mass and safety in ESRD PEW
1H16	STM-434	Ph I -dose escalation data in solid tumors
2H16	STM-434	Ph I -initiation of dose escalation in ovarian cancer
1H16	PINTA-745	Ph II -full data including 8 week follow up ESRD PEW
1H16	PINTA-745	Ph I -dose escalation data in solid tumors
2H16	STM-434	Ph I -initiation of dose escalation in ovarian cancer

Source: Company presentations

FIGURE 7. Income Statement

Income Statement ($MM)	2014A	1Q15A	2Q15E	3Q15E	4Q15E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2033E
Product Sales and Royalties																	
Total Product Sales and Royalties	**0.00**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.45	201.25	581.30	1,095.58	1,806.32	2,778.75	3,739.26	4,649.99	6,576.26
Total Revenue		0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.45	201.25	581.30	1,095.58	1,806.32	2,778.75	3,739.26	4,649.99	6,576.26
Royalties Paid																	
Total Royalties & Milestones						0.50	2.50	1.00	4.13	16.62	48.53	84.05	128.37	184.28	242.23	293.28	427.75
Cost of goods sold		0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.77	30.19	87.19	164.34	270.95	416.81	560.89	637.41	900.53
Total Costs	*0.00*	0.00	0.00	0.00	0.00	0.50	2.50	1.00	6.89	46.80	135.73	248.39	399.32	601.10	803.12	930.68	1,328.28
Gross Profit	**0.00**	0.00	0.00	0.00	0.00	(0.50)	(2.50)	(1.00)	11.56	154.45	445.57	847.19	1,407.00	2,177.65	2,936.13	3,719.31	5,247.98
Operating expenses:																	
Research and development	*14.38*	5.77	7.01	8.25	9.49	30.51	46.64	74.95	111.22	140.70	150.89	165.98	182.58	200.84	220.92	243.01	502.65
R&D as % of US Sales										74%	32%	23%	18%	14%	13%	13%	20%
R&D costs paid to Amgen	*1.07*																
R&D license acquired from MSKCC			4.50														
General and administrative	*12.71*	3.54	3.60	3.66	3.72	14.52	16.33	18.13	19.94	25.39	41.16	52.25	59.07	77.46	92.14	101.14	149.76
Total operating expenses	**28.16**	9.31	15.11	11.91	13.20	45.03	62.96	93.08	131.16	166.83	192.37	218.46	241.83	278.44	313.19	344.28	652.61
Operating income (loss)	**(28.16)**	(9.31)	(15.11)	(11.91)	(13.20)	(49.53)	(65.46)	(94.08)	(119.60)	(12.38)	253.20	628.74	1,165.18	1,899.21	2,622.94	3,375.03	4,595.37
Other income (expense):																	
Interest income (expense), net	*0.13*	0.15	0.16	0.16	0.16	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
Total other income	*0.13*	0.15	0.16	0.16	0.16	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
Pre-tax income (loss)	**(28.03)**	(9.16)	(14.95)	(11.74)	(13.04)	(48.88)	(64.82)	(93.44)	(118.96)	(11.73)	253.85	629.38	1,165.82	1,899.85	2,623.58	3,375.67	4,596.01
Tax expense (benefit)	**(0.03)**	0.00									0.00	(94.41)	(291.45)	(569.96)	(918.25)	(1,181.49)	(1,608.60)
Tax rate											*0%*	*15%*	*25%*	*30%*	*35%*	*35%*	*35%*
Net Income	**(28.01)**	(9.16)	(14.95)	(11.74)	(13.04)	(48.88)	(64.82)	(93.44)	(118.96)	(11.73)	253.85	534.97	874.36	1,329.90	1,705.33	2,194.19	2,987.41
Other comprehensive gain (loss), net of tax:																	
Unrealized loss on investments	*(0.10)*	0.08	(0.05)														
Other comprehensive gain (loss)																	
Net loss applicable to common stockholders	**(28.11)**	**(9.16)**	**(14.99)**	**(11.74)**	**(13.04)**	**(48.88)**	**(64.82)**	**(93.44)**	**(118.96)**	**(11.73)**	**253.85**	**534.97**	**874.36**	**1,329.90**	**1,705.33**	**2,194.19**	**2,987.41**
Net loss per share basic	$ (1.43)	$ (0.42)	$ (0.62)	$ (0.40)	$ (0.44)	$ (1.64)	$ (2.13)	$ (3.01)	$ (3.74)	$ (0.36)	$ 7.64	$ 15.73	$ 25.12	$ 37.32	$ 46.73	$ 58.70	$ 65.14
Net loss per share diluted	$ (1.43)	$ (0.42)	$ (0.62)	$ (0.40)	$ (0.44)	$ (1.64)	$ (2.13)	$ (3.01)	$ (3.74)	$ (0.36)	$ 7.35	$ 15.10	$ 24.06	$ 35.67	$ 44.55	$ 55.82	$ 60.44
Basic share outstanding	*19.69*	21.92	24.22	29.55	29.75	29.78	30.42	31.09	31.78	32.50	33.24	34.01	34.81	35.63	36.49	37.38	45.86
Diluted Shares outstanding	*0.00*	25.23	25.57	30.32	30.57	30.67	31.39	32.13	32.91	33.71	34.55	35.43	36.34	37.29	38.28	39.31	49.43

Source: JMP Securities LLC, Company reports

Company Description

Atara Biotherapeutics was founded as a spinoff from Amgen, bringing along six early-stage therapeutics with the potential to modulate transforming growth factor-beta (TGF-β) biology. The TGF-β family participates in a broad array of biological processes, including tissue growth, immune cell function, and cancer biology. Atara's most advanced program is PINTA-745, which is currently in a Phase II trial for treating muscle loss associated with protein energy wasting (PEW) in dialysis patients. PINTA-745 has already demonstrated signs of efficacy in a Phase I trial for treating muscle wasting in prostate cancer patients undergoing androgen deprivation therapy. With top-line results anticipated by the end of 2015, Atara could move to a Phase III trial as soon as 2016.

Atara's second program targeting TGF-β family members is STM-434 that is currently being tested for anti-tumor effects in a Phase I trial. Atara recently diversified its portfolio by licensing the rights to several allogeneic cell therapy based platforms from the Memorial Sloan Kettering Cancer Center (MSKCC). These adoptive cell transfer therapies already have substantial clinical evidence demonstrating their effectiveness for treating Epstein Barr virus and cytomegalovirus infections in immunocompromised patients, but also exhibit broad potential as cancer therapeutics.

Investment Risks

Clinical. Drug development is an inherently risky business, requiring significant investment of both time and capital. The company's clinical-stage candidates (PINTA-745, STM-434, EBV-CTL and CMV-CTL) could fail to achieve positive efficacy results, or might exhibit safety signals that preclude further clinical development. Such scenarios could decrease ATRA's innate value and adversely impact our valuation.

Regulatory and commercial. The ability of Atara to market its drugs depends upon those drugs obtaining approval from the FDA and foreign regulatory agencies. Failure to achieve approval or delays in the timelines to approval could negatively impact the company's share price.

Competitive. The development of cachexia and cancer therapeutics is intensely competitive and is dominated by biotechnology and pharmaceutical companies with expertise and resources that may be greater than those of Atara. There are direct competitors working on the same mechanism of action Acceleron Pharma, Pfizer, Bristol-Myers Squibb, Eli Lilly, and Regeneron Pharmaceuticals, and companies working on distinct therapeutic modalities that could impact overlapping patient populations (such as Kite Pharma, Juno Therapeutics, and Lion Biotechnologies).

Financial. Atara is currently well-funded, with $348.9MM in cash and cash equivalents; however, the company may require additional equity financing, in the form of a secondary offering, to complete the development of its drug candidates. The terms of any potential partnership deals remain unknown at this time, exposing existing shareholders to an uncertain level of dilution risk.

Legal. Atara was formed as a spin out from Amgen and the products licensed from Amgen have strong IP claims through 2032. A number of academic institutions have conducted research on allogeneic cellular therapy platforms. Atara's intellectual property in this space will be based on the proprietary algorithms developed by Memorial Sloan Kettering for administering the T-cells from the allogeneic cell bank and trade secrets and knowledge.

JMP FACTS AND DISCLOSURES

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JMP Securities was manager or co-manager of a public offering of securities for Atara Biotherapeutics, Inc. (ATRA) in the past 12 months, and received compensation for doing so.

JMP Securities expects to receive OR intends to seek compensation for investment banking services from Atara Biotherapeutics, Inc. in the next 3 months.

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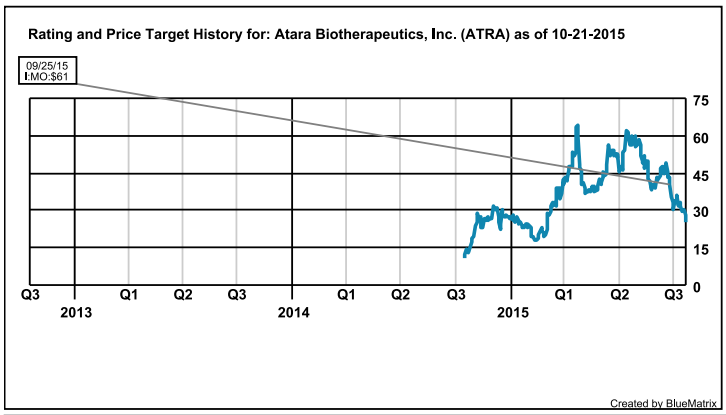
Market Outperform (MO): JMP Securities expects the stock price to outperform relevant market indices over the next 12 months.
Market Perform (MP): JMP Securities expects the stock price to perform in line with relevant market indices over the next 12 months.
Market Underperform (MU): JMP Securities expects the stock price to underperform relevant market indices over the next 12 months.

JMP Securities Research Ratings and Investment Banking Services: (as of October 22, 2015)

JMP Rating	Regulatory Equivalent	# Co's Under Coverage	*% of Total*	Regulatory Equivalent	# Co's Under Coverage	*% of Total*	# Co's Receiving IB Services in Past 12 Months	*% of Co's With This Rating*
MARKET OUTPERFORM	Buy	304	*63.87%*	Buy	304	*63.87%*	85	*27.96%*
MARKET PERFORM	Hold	148	*31.09%*	Hold	148	*31.09%*	14	*9.46%*
MARKET UNDERPERFORM	Sell	6	*1.26%*	Sell	6	*1.26%*	0	*0%*
COVERAGE IN TRANSITION		17	*3.57%*		17	*3.57%*	0	*0%*
TOTAL:		476	*100%*		476	*100%*	100	*21.01%*

Stock Price Chart of Rating and Target Price Changes:

Note: First annotation denotes initiation of coverage or 3 years, whichever is shorter. If no target price is listed, then the target price is N/A. In accordance with NASD Rule 2711, the chart(s) below reflect(s) price range and any changes to the rating or price target as of the end of the most recent calendar quarter. The action reflected in this note is not annotated in the stock price chart. Source: JMP Securities.



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