

Biotechnology

Biotech Balance Sheet: A New High Water Mark

Biotech Balance Sheet

INDUSTRY OVERVIEW

Last week, the biotech sector charged to new highs on the strength of clinical data. Starting on Monday, the updated data from large trials with retrospective analysis of major cardiac events for the PCSK9 antibodies from Amgen (AMGN, NC) and Regeneron/Sanofi (REGN, NC / SNY, NC) was released. In particular, the approximate halving of events by both molecules went a long way to convincing investors that these agents (which, like most new therapies, are expected to be expensive) will have a beneficial effect on clinical outcomes when the large randomized trials read out. This is not only essential from a payer perspective, but also from a regulatory perspective in order to secure full approval in the event the drugs are approved on an accelerated basis. The other nice part about the data, besides being published in simultaneous articles in The New England Journal of Medicine (now becoming standard practice), is that it hit on Sunday, which helped send many into Monday morning with a positive mind-set.

Biogen (BIIB, NC) shares have gained more than \$30 billion in market cap since October when the company first intimated that BIIB037 had produced dose-dependent improvements in a variety of AD clinical measures. A couple of observations: first, in our view, the data are compelling, both in the magnitude of the benefit at the higher doses (especially at 10mg/kg) and the dose-related benefit. We also believe the data indicate that safety was acceptable, even in those patients who were ApoE4 carriers who experienced increases in ARIA-E (brain edema) despite the high withdrawal rate, as these elevations were mainly laboratory and not clinical in nature. We further believe the AD patient population will accept a high degree of tolerability challenges in order to deal with their disease, much like that of multiple sclerosis patients. BIIB shares enjoyed the spotlight, rising nearly 10% on the day, equating to more than \$42. The BIIB037 data also lifted the spirits of investors in Eli Lilly (LLY, NC) and Merck (MRK, NC), as well as those of Vitae (VTAE, MO, \$16 PT) as investors renewed their interest and faith in various AD approaches. We are looking forward to the plethora of press releases that we believe are to be soon issued from companies large and small announcing their programs in AD, or licensing agreements with academic institutions, in CAR T-cell therapy-like fashion.

We continue to believe that VTAE is in possession of one of the industry's leading programs in the AD space via its collaboration with Boehringer Ingelheim for the development of VTP-37948/BI-1181181. Although the program has recently been put on clinical hold due to the occurrence of skin reactions seen in some patients, we believe the partners can move quickly to either resolve the issue or move to a backup compound from a different chemical series (please see our note of February 25, 2015) in order to advance the program. Merck is currently in the lead with its own BACE inhibitor, but we would liken the market for these drugs to be reminiscent of any of those for large and serious diseases, accommodating to multiple players and characterized by a high level of patient switching.

If the BIIB037 news did wonders for BIIB shares, it was less impactful for the broader biotech sector on Friday. This probably has to do with several factors, including the sector's strength on Monday and Thursday of last week, as well the group's overdue need of a rest, in our view. Interestingly, despite the good news for AMGN, BIIB, and REGN last week, the beneficiary was the NASDAQ biotech index (NBI), which gained every single day last week, and rose 0.5% on Friday, while its larger brethren, the BTK, declined slightly (0.1%). We attribute the strength in the NBI to two main factors: increased willingness on the part of investors (both retail and institutional) to ratchet down the discount rates they apply to early stage programs given that mankind seems to be close to solving the riddle of one of the most difficult diseases we know, and second to the potential for continued M&A on the part of large biopharma companies as the technical feasibility of difficult programs increases (and, therefore, discount factors decrease and NPVs increase).

The full abstracts for the upcoming AACR Annual Meeting (April 18-22, Philadelphia) became available last Thursday. While many of our covered companies will be presenting data, it was abstract CT105 that got investors amped up on the CAR T-cell space. Specifically, an abstract (CT105) submitted by a group at U Penn (including Carl June, the key protagonist behind the institution's collaboration with Novartis (NVS, NC) for CD19+ CAR T-cell therapy) suggests that the therapy may have application in solid tumors that express the antigen known as mesothelin. While the abstract is devoid of data, the mere suggestion that a CAR T-cell therapy that could expand beyond acute lymphoblastic leukemia (ALL) and into a solid tumor could appreciably expand the market opportunity. While we are fans of the work done by Carl June and his colleagues, we remain skeptical about the generalizability of these findings to other solid tumors, given the well-recognized antigenic heterogeneity of solid tumors.

The next couple weeks should be relatively quiet from a news flow perspective. The only major conference is the National Kidney Foundation's Spring Clinical Meeting in Dallas, TX, March 25-29. There are no major drug approvals expected until May at the earliest, and a swath of value-driving data lies behind us. However, it would not surprise us if the group's upward momentum continued at least into next week. The BioCentury™ 100 Index has not peaked in terms of advancers vs. decliners to its best levels of the year. Just as recently as the week of February 20, the BioCentury™ 100 Index showed 88 gainers vs. 10 losers; in contrast, the ratio this past week was 74 to 25. Based on prior patterns, we would expect this indicator to get to overbought levels before a pullback sets in. Upward movement should also be bounded by the valuation of the mega-cap, profitable names. As of Friday, this group was selling at PEs and PEGs on the FY15 and FY16 consensus aggregate numbers of 27.2 and 22.4 times, appreciably higher than those numbers last week (24.8 and 20.5 times), respectively, and 1.66 and 1.33 (higher than last week's 1.56 and 1.26), respectively. Again, these are not numbers that are outlandish on a historic basis, but they are the highest the group has registered in months.

FIGURE 1. Biotech Indices Performance vs. Market Benchmarks

Biotech Indices vs. Key Benchmarks					
	Performance over Various Time Periods				
	WK	MONTH	QTR	YTD	LTM
S&P 500 Index	2.7%	0.4%	1.8%	2.4%	12.6%
DJ Industrial Average	2.1%	0.5%	1.8%	1.7%	11.0%
NASDAQ Composite Average	3.2%	2.4%	5.5%	6.1%	16.4%
NASDAQ Biotech Index	6.2%	11.4%	15.8%	20.8%	42.3%
Amex Biotech Index	4.1%	12.0%	19.6%	23.3%	51.6%
Amex Pharma Index	4.1%	4.4%	6.8%	9.4%	17.0%

BTK Index and Other Benchmark Performance (Day over Day)					
	Monday	Tuesday	Wednesday	Thursday	Friday
	3/16/15	3/17/15	3/18/15	3/19/15	3/20/15
S&P 500 Index	1.4%	(0.3%)	1.2%	(0.5%)	0.9%
DJ Industrial Average	1.3%	(0.7%)	1.3%	(0.6%)	0.9%
NASDAQ Composite Average	1.2%	0.2%	0.9%	0.2%	0.7%
NASDAQ Biotech Index	2.4%	0.7%	0.6%	1.9%	0.5%
Amex Biotech Index	2.4%	0.1%	(0.1%)	1.7%	(0.1%)
Amex Pharma Index	1.7%	(0.3%)	1.9%	(0.2%)	1.0%

BTK Index and Other Benchmark Performance (Week over Week)					
	T-5	T-4	T-3	T-2	Week Ending
	2/20/15	2/27/15	3/6/15	3/13/15	3/20/15
S&P 500 Index	0.6%	(0.3%)	(1.6%)	(0.9%)	2.7%
DJ Industrial Average	0.7%	(0.0%)	(1.5%)	(0.6%)	2.1%
NASDAQ Composite Average	1.3%	0.2%	(0.7%)	(1.1%)	3.2%
NASDAQ Biotech Index	3.9%	0.4%	1.5%	0.9%	6.2%
Amex Biotech Index	3.8%	0.7%	3.0%	1.8%	4.1%
Amex Pharma Index	1.3%	0.3%	(2.0%)	0.8%	4.1%

Source: ThomsonOne and JMP Securities LLC

FIGURE 2. Performance of JMP Therapeutic Indices and by Market Cap

Performance by Valuation Tiers					
	Performance over Various Time Periods				
	WK	MONTH	QTR	YTD	LTM
Mkt Cap > \$5bn	3.0%	9.8%	32.0%	33.5%	46.7%
Mkt Cap between \$1bn - \$5bn	0.5%	6.0%	24.4%	27.9%	40.1%
Mkt Cap > \$750MM	0.7%	6.3%	25.0%	28.3%	40.6%
Mkt Cap < \$750MM	2.3%	7.0%	7.9%	7.8%	(13.4%)
NASDAQ Biotech Index	6.2%	11.4%	15.8%	20.8%	42.3%
Amex Biotech Index	4.1%	12.0%	19.6%	23.3%	51.6%
Amex Pharma Index	4.1%	4.4%	6.8%	9.4%	17.0%

Performance by Therapeutic Area					
	Performance over Various Time Periods				
	WK	MONTH	QTR	YTD	LTM
Large Cap Oncology	5.0%	19.1%	26.5%	34.4%	60.8%
Small Cap Oncology	0.7%	6.9%	20.0%	18.3%	28.3%
Anti-Infectives	3.4%	12.3%	25.8%	26.4%	40.0%
Antivirals	1.1%	(2.7%)	6.6%	6.9%	25.4%
Orphan Disease	2.9%	11.7%	32.0%	30.8%	52.3%
Metabolic	1.5%	1.5%	7.9%	14.7%	(0.4%)
Oligonucleotide	1.1%	1.6%	25.0%	21.7%	3.8%
Immuno-Oncology	3.9%	19.3%	24.0%	23.6%	33.6%
NASDAQ Biotech Index	6.2%	11.4%	15.8%	20.8%	42.3%
Amex Biotech Index	4.1%	12.0%	19.6%	23.3%	51.6%
Amex Pharma Index	4.1%	4.4%	6.8%	9.4%	17.0%

Source: ThomsonOne and JMP Securities LLC

FIGURE 3. BC100 Advance-Dcline

Week ended	BC100 Price Level	BC100 Stocks gaining	Gaining vol. (00)	BC100 Stocks declining	Declining vol. (00)
Feb 20	6698.87	88	4596476	10	595966
Feb 27	6786.11	47	4053127	53	4059487
Mar 06	7010.39	60	4022874	39	4651633
Mar 13	7149.27	64	4642782	36	3391485
Mar 20	7523.31	74	6414749	25	2130706

Source: BioCentury

FIGURE 4. Large Cap Biotech and Big Pharma Comparable Analysis (1 of 2)

Company	Ticker	Price	Mkt Cap (\$ MM)	EPS				P/E				PEG (FY14)	PEG (FY15)	PEG (FY16)
				2013A	2014E	2015E	2016E	2013A	2014E	2015E	2016E			
Alexion	ALXN	\$ 187.71	38,220	\$ 3.04	\$ 5.20	\$ 5.90	\$ 7.32	61.8x	36.1x	31.8x	25.7x	1.94	1.71	1.38
Amgen	AMGN	\$ 170.10	128,331	\$ 7.46	\$ 8.59	\$ 9.31	\$ 10.50	22.8x	19.8x	18.3x	16.2x	1.87	1.73	1.53
Biogen	BIIB	\$ 475.98	101,741	\$ 8.90	\$ 13.53	\$ 17.02	\$ 19.91	53.5x	35.2x	28.0x	23.9x	1.65	1.31	1.12
Celgene	CELG	\$ 128.50	100,338	\$ 3.00	\$ 3.69	\$ 4.83	\$ 6.31	42.9x	34.8x	26.6x	20.4x	1.13	0.87	0.66
Gilead	GILD	\$ 102.29	151,085	\$ 2.00	\$ 7.92	\$ 9.55	\$ 10.33	51.1x	12.9x	10.7x	9.9x	0.91	0.75	0.70
Medivation	MDVN	\$ 135.56	10,520	\$ (0.69)	\$ 2.71	\$ 3.09	\$ 4.22	-195.7x	50.0x	43.9x	32.1x	2.02	2.02	1.30
Regeneron	REGN	\$ 488.87	49,411	\$ 3.91	\$ 10.03	\$ 10.93	\$ 12.60	125.0x	48.7x	44.7x	38.8x	4.03	3.70	3.21
Shire	SHPG	\$ 253.64	33,556	\$ 7.26	\$ 10.63	\$ 11.33	\$ 13.22	34.9x	23.9x	22.4x	19.2x	2.07	2.07	1.66
United Therapeutics	UTHR	\$ 178.49	8,205	\$ 5.41	\$ 6.45	\$ 9.72	\$ 11.83	33.0x	27.7x	18.4x	15.1x	0.78	0.78	0.43
Large Cap Biotech Average			69,045	\$ 4.48	\$ 7.64	\$ 9.08	\$ 10.69	53.1x	32.1x	27.2x	22.4x	1.82	1.66	1.33

Company	Ticker	Price	Mkt Cap (\$ MM)	EPS				P/E				PEG (FY14)	PEG (FY15)	PEG (FY16)
				2013A	2014E	2015E	2016E	2013A	2014E	2015E	2016E			
Abbott	ABT	\$ 47.47	71,586	\$ 2.01	\$ 2.26	\$ 2.15	\$ 2.41	23.6x	21.0x	22.1x	19.7x	6.34	6.65	5.94
AbbVie	ABBV	\$ 60.40	97,530	\$ 3.14	\$ 3.30	\$ 4.33	\$ 4.94	19.2x	18.3x	14.0x	12.2x	0.82	0.62	0.54
AZ	AZN	\$ 72.70	61,232	\$ 5.06	\$ 4.36	\$ 4.24	\$ 4.04	14.4x	16.7x	17.1x	18.0x	(4.40)	(4.53)	(4.76)
Bristol	BMJ	\$ 67.76	113,562	\$ 1.74	\$ 1.80	\$ 1.72	\$ 2.28	38.8x	37.7x	39.5x	29.7x	2.99	3.14	2.36
Glaxo	GSK	\$ 48.81	79,540	\$ 3.73	\$ 2.96	\$ 2.73	\$ 2.80	13.1x	16.5x	17.9x	17.4x	(6.04)	(6.55)	(6.38)
J&J	JNJ	\$ 102.40	282,755	\$ 5.48	\$ 5.96	\$ 6.19	\$ 6.50	18.7x	17.2x	16.6x	15.7x	3.84	3.70	3.52
Eli Lilly	LLY	\$ 76.12	82,466	\$ 4.14	\$ 2.78	\$ 3.16	\$ 3.58	18.4x	27.4x	24.1x	21.2x	2.02	1.77	1.56
Merck	MRK	\$ 58.58	165,211	\$ 3.50	\$ 3.48	\$ 3.38	\$ 3.81	16.7x	16.8x	17.3x	15.4x	3.63	3.73	3.31
Novartis	NVS	\$ 101.68	269,807	\$ 5.09	\$ 5.21	\$ 5.21	\$ 5.55	20.0x	19.5x	19.5x	18.3x	6.04	6.04	5.67
Pfizer	PFE	\$ 34.25	209,692	\$ 2.18	\$ 2.26	\$ 2.09	\$ 2.23	15.7x	15.2x	16.4x	15.4x	(22.95)	(24.79)	(23.26)
Big Pharma Average			143,338	\$ 3.61	\$ 3.44	\$ 3.52	\$ 3.82	19.9x	20.6x	20.4x	18.3x	(0.77)	(1.02)	(1.15)
Big Pharma (Excludes Co's with Neg Growth)				\$ 3.31	\$ 3.47	\$ 3.58	\$ 3.96	21.8x	20.8x	20.8x	18.1x	3.67	3.66	3.27

Source: ThomsonOne, JMP Securities LLC

FIGURE 5. Large Cap Biotech and Big Pharma Comparable Analysis (2 of 2)

Company	Ticker	Price	Mkt Cap (\$ MM)	EV (\$ MM)	EBITDA (\$MM)			EV / EBITDA			EV / Sales		
					2013A	2014E	2015E	2013A	2014E	2015E	2013A	2014E	2015E
Alexion	ALXN	\$ 187.71	38,220	37,334	\$ 677	\$ 1,110	\$ 1,321	55.1x	33.6x	28.3x	24.2x	16.8x	14.2x
Amgen	AMGN	\$ 170.10	128,331	155,315	\$ 7,822	\$ 9,864	\$ 10,525	19.9x	15.7x	14.8x	8.4x	7.8x	7.4x
Biogen	BIIB	\$ 475.98	101,741	101,121	\$ 3,284	\$ 4,807	\$ 5,736	30.8x	21.0x	17.6x	14.7x	10.4x	9.0x
Celgene	CELG	\$ 128.50	100,338	103,088	\$ 3,332	\$ 4,188	\$ 5,079	30.9x	24.6x	20.3x	16.0x	13.5x	11.0x
Gilead	GILD	\$ 102.29	151,085	141,058	\$ 5,015	\$ 17,148	\$ 18,804	28.1x	8.2x	7.5x	12.9x	5.8x	5.0x
Medivation	MDVN	\$ 135.56	10,520	10,239	\$ (32)	\$ 255	\$ 393	-318.0x	40.1x	26.0x	41.3x	15.2x	11.7x
Regeneron	REGN	\$ 488.87	49,411	49,317	\$ 791	\$ 1,157	\$ 1,733	62.4x	42.6x	28.5x	23.8x	17.6x	13.8x
Shire	SHPG	\$ 253.64	33,556	31,423	\$ 1,834	\$ 2,730	\$ 2,850	17.1x	11.5x	11.0x	6.4x	5.3x	4.9x
United Ther	UTHR	\$ 178.49	8,205	7,934	\$ 481	\$ 570	\$ 817	16.5x	13.9x	9.7x	7.1x	6.2x	5.2x
Large Cap Biotech Average			69,045	\$ 70,759	\$ 2,578	\$ 4,648	\$ 5,251	32.6x	23.5x	18.2x	17.2x	11.0x	9.1x

Company	Ticker	Price	Mkt Cap (\$ MM)	EV (\$ MM)	EBITDA (\$MM)			EV / EBITDA			EV / Sales		
					2013A	2014E	2015E	2013A	2014E	2015E	2013A	2014E	2015E
Abbott	ABT	\$ 47.47	71,586	74,167	\$ 5,192	\$ 5,230	\$ 5,320	14.3x	14.2x	13.9x	3.4x	3.6x	3.5x
AbbVie	ABBV	\$ 60.40	97,530	104,193	\$ 7,540	\$ 7,630	\$ 9,649	13.8x	13.7x	10.8x	5.6x	5.2x	4.6x
AZ	AZN	\$ 72.70	61,232	-	\$ 10,323	\$ 8,743	\$ 9,310	-	-	-	-	-	-
Bristol	BMY	\$ 67.76	113,562	115,823	\$ 4,148	\$ 3,960	\$ 3,759	27.9x	29.3x	30.8x	7.1x	7.4x	7.6x
Glaxo	GSK	\$ 48.81	79,540	-	\$ 15,943	\$ 12,041	\$ 11,618	-	-	-	-	-	-
J&J	JNJ	\$ 102.40	282,755	-	\$ 23,292	\$ 25,788	\$ 24,759	-	-	-	-	-	-
Eli Lilly	LLY	\$ 76.12	82,466	83,807	\$ 6,974	\$ 4,894	\$ 5,567	12.0x	17.1x	15.1x	3.7x	4.3x	4.2x
Merck	MRK	\$ 58.58	165,211	174,650	\$ 21,062	\$ 20,419	\$ 20,647	8.3x	8.6x	8.5x	4.0x	4.1x	4.4x
Novartis	NVS	\$ 101.68	269,807	280,750	\$ 18,605	\$ 20,252	\$ 20,095	15.1x	13.9x	14.0x	4.8x	4.8x	5.3x
Pfizer	PFE	\$ 34.25	209,692	243,998	\$ 25,143	\$ 21,594	\$ 19,845	9.7x	11.3x	12.3x	4.9x	5.0x	5.3x
Big Pharma Average			143,338	\$ 153,913	\$ 13,822	\$ 13,055	\$ 13,057	14.4x	15.4x	15.0x	4.8x	4.9x	5.0x
Big Pharma (Excludes Co's with Neg Growth)					\$ 14,997	\$ 14,982	\$ 14,868	14.9x	15.1x	15.0x	5.0x	5.0x	5.1x

Source: ThomsonOne, JMP Securities LLC

FIGURE 6. Upcoming PDUFA Dates

Expected Date	Company	Symbol	Drug	Disease Group	Indication
3/27/2015	Adamis Pharmaceuticals Corporation	ADMP	Epinephrine PFS	Allergy	Anaphylaxis
1/01/2015-3/31/2015	Actavis plc	ACT	Saphris	Psychiatry	Bipolar Disorder
Now-3/31/2015	Amarin Corporation plc	AMRN	Vascepa	Cardiovascular	Dyslipidemia / Hypercholesterolemia
3/01/2015-3/31/2015	Novartis AG	NVS	Exjade	Hematology	Iron Overload
1/01/2015-3/31/2015	Novartis AG	NVS	Bexsero	Infectious disease	Meningococcal Vaccines and Other Meningococcus-Specific Agents
3/01/2015-3/31/2015	Teva Pharmaceutical Industries Ltd.	TEVA	ProAir MDPI	Respiratory	Asthma
3/14/2015-4/13/2015	Mallinckrodt plc	MNK	MNK-155	Neurology	Postsurgical Pain
4/13/2015	Pfizer Inc.	PFE	Palbociclib	Oncology	Breast Cancer
4/14/2015	Eisai Co., Ltd.	ESALY	Lenvatinib	Oncology	Thyroid Cancer
4/17/2015	Pharmacyclics, Inc.	PCYC	Imbruvica	Oncology	Waldenstrom Macroglobulinemia (WM) / Lymphoplasmacytic Diphtheria, pertussis, and tetanus (DT, Td, DTaP and Tdap) Vaccines
2/06/2015-4/29/2015	Sanofi	SNY	Quadracel	Infectious disease	Neuroendocrine Tumors (NET)
4/01/2015-4/29/2015	United Therapeutics Corporation	UTHR	Ch14.18 MAb	Oncology	Parkinson's Disease (PD)
1/01/2015-4/30/2015	AbbVie Inc.	ABBV	Duopa	Neurology	Hereditary Angioedema (HAE)
Now-4/30/2015	Dyax Corp	DYAX	Kalbitor	Autoimmune/ immunology	Asthma
4/30/2015	GlaxoSmithKline plc	GSK	Breo Ellipta	Respiratory	Anesthesia
Now-4/30/2015	Merck & Co., Inc.	MRK	Bridion	Neurology	Attention Deficit Hyperactivity Disorder (ADHD)
Now-4/30/2015	Neos Therapeutics, Inc.		NT0202	Psychiatry	Postsurgical Pain
4/30/2015	The Medicines Company	MDCO	Ionsys	Neurology	Viral Rhinitis (Common Cold)
4/30/2015	Vernalis Group plc	VER:LN	Tuzistra XR	Infectious disease	Hemophilia B
Now-05/06/2015	Emergent BioSolutions, Inc.	EBS	IB1001	Hematology	Anthrax Infection (Antibacterial)
5/8/2015	Emergent BioSolutions, Inc.	EBS	BioThrax	Infectious disease	Fat Removal
5/13/2015	Kythera Biopharmaceuticals, Inc.	KYTH	ATX-101	Dermatology	Congestive Heart Failure (CHF)
5/27/2015	Amgen, Inc.	AMGN	Procortalan	Cardiovascular	Schizophrenia
5/14/2015	Johnson & Johnson	JNJ	Invega Sustenna	Psychiatry	Neutropenia / Leukopenia
3/23/2015-5/24/2015	Novartis AG	NVS	Zarzio	Hematology	Irritable Bowel Syndrome (IBS)
5/27/2015	Salix Pharmaceuticals Ltd.	SLXP	Xifaxan	Gastroenterology (non inf)	Allergic Conjunctivitis (Ophthalmology)
5/01/2015-5/31/2015	Novartis AG	NVS	Olopatadine (reformulated)	Ophthalmology	Pneumococcal Vaccines (Antibacterial)
5/01/2015-5/31/2015	Pfizer Inc.	PFE	Pprevnar 13	Infectious disease	

Source: BioMed Tracker

FIGURE 7. Upcoming PDUFA Dates (continued)

Expected Date	Company	Symbol	Drug	Disease Group	Indication
5/01/2015-5/31/2015	Sanofi	SNY	Toujeo	Endocrine	Diabetes Mellitus, Type I
5/01/2015-5/31/2015	Sanofi	SNY	Toujeo	Endocrine	Diabetes Mellitus, Type II
6/19/2015	Eisai Co., Ltd.	ESALY	Fycompa	Neurology	Partial Seizures (Epilepsy)
4/01/2015-6/30/2015	Actavis plc	ACT	MuDelta	Gastroenterology (non inf)	Irritable Bowel Syndrome (IBS)
7/10/2015	Otsuka Pharmaceutical Co., Ltd.	4768:JP	Brexiprazole	Psychiatry	Major Depressive Disorder (MDD)
7/10/2015	Otsuka Pharmaceutical Co., Ltd.	4768:JP	Brexiprazole	Psychiatry	Schizophrenia
7/25/2015	Sanofi/Regeneron	REGN	Alirocumab	Cardiovascular	Dyslipidemia / Hypercholesterolemia
7/30/2015	Otsuka Pharmaceutical Co., Ltd.	4768:JP	Abilify Maintena	Psychiatry	Schizophrenia
7/31/2015	Zogenix, Inc.	ZGNX	Zohydro ER	Neurology	Chronic Pain
8/7/2015	Emergent BioSolutions, Inc.	EBS	Anthrax Immune Globulin	Infectious disease	Anthrax Infection (Antibacterial)
8/9/2015	Vertex Pharmaceuticals Incorporated	VRTX	Kalydeco	Respiratory	Cystic Fibrosis (CF)
8/13/2015	Orexo AB	ORX:SS	Zubsolv	Neurology	Drug Addiction
8/21/2015	Alkermes plc	ALKS	Aripiprazole Lauroxil (monthly)	Psychiatry	Schizophrenia
8/21/2015	Boehringer Ingelheim GmbH		Empagliflozin/Metformin IR FDC	Endocrine	Diabetes Mellitus, Type II
8/27/2015	Amgen, Inc.	AMGN	Evolocumab	Cardiovascular	Dyslipidemia / Hypercholesterolemia
08/01/2015-08/31/2015	Sumitomo Dainippon Pharma Co., Ltd.	4506:JP	Aptiom	Neurology	Partial Seizures (Epilepsy)
08/27/2015-09/03/2015	Boehringer Ingelheim GmbH		Spiriva	Respiratory	Asthma
9/4/2015	New Haven Pharmaceuticals Inc.		Durlaza	Cardiovascular	Cardiovascular Disease
8/06/2015-09/05/2015	Merck & Co., Inc.	MRK	V419	Infectious disease	Hepatitis B Prevention (Vaccines, Antiviral)
9/8/2015	Tesaro, Inc.	TSRO	Rolapitant	Oncology	Chemotherapy Induced Nausea and Vomiting (CINV)
9/17/2015	Pernix Therapeutics Holdings, Inc.	PTX	Treximet	Neurology	Migraine and Other Headaches
9/18/2015	Johnson & Johnson	JNJ	Paliperidone Palmitate Three-Month Formulation	Psychiatry	Schizophrenia
9/28/2015	Galderma S.A.		Dysport	Neurology	Neuromuscular Spasm and Spasticity
9/18/2015-9/30/2015	AstraZeneca PLC	AZN	Iressa	Oncology	Non-Small Cell Lung Cancer (NSCLC)
Now-09/30/2015	Eagle Pharmaceuticals, Inc.	EGRX	EP-3101	Oncology	Chronic Lymphocytic Leukemia (CLL)/Small Cell Lymphocytic
09/01/2015-09/30/2015	Novartis AG	NVS	LDE225	Oncology	Skin Cancer - Basal Cell Carcinoma (BCC)
10/15/2015	Collegium Pharmaceutical, Inc.		Xtampza ER	Neurology	Chronic Pain
8/17/2015-10/16/2015	Apotex Inc.		Biosimilar Pegfilgrastim (Apotex)	Hematology	Neutropenia / Leukopenia

Source: BioMed Tracker

FIGURE 8. Upcoming PDUFA Dates (continued)

Expected Date	Company	Symbol	Drug	Disease Group	Indication
10/22/2015	Novartis AG	NVS	Promacta	Autoimmune/ immunology	Immune Thrombocytopenic Purpura (ITP)
10/22/2015	Relypsa, Inc.	RLYP	Patiomer	Endocrine	Hyperkalemia
10/27/2015	Amgen, Inc.	AMGN	T-VEC	Oncology	Melanoma
11/5/2015	GlaxoSmithKline plc	GSK	Bosatria	Respiratory	Asthma
11/5/2015	Vertex Pharmaceuticals Incorporated	VRTX	Lumacaftor/Ivacaftor FDC	Respiratory	Cystic Fibrosis (CF)
11/6/2015	Gilead Sciences, Inc.	GILD	Emtricitabine/Elvitegravir/Cobicistat/GS-7340	Infectious disease	HIV / AIDS
11/24/2015	Johnson & Johnson	JNJ	Yondelis	Oncology	Sarcoma
12/1/2015	Baxter International Inc.	BAX	BAX 855	Hematology	Hemophilia A
12/2/2015	Synageva BioPharma Corp.	GEVA	Sebelipase Alfa	Metabolic	Lysosomal Acid Lipase Deficiency
12/14/2015	Roche Holding AG	ROG:VX	Cobimetinib	Oncology	Melanoma
12/16/2015	CSL Limited	CSL:AU	riX-FP	Hematology	Hemophilia B
12/17/2015	Bayer AG	BAYRY	BAY 81-8973	Hematology	Hemophilia A
12/22/2015	Baxter International Inc.	BAX	BAX 111	Hematology	Von Willebrand Disease
12/23/2015	Actelion Pharmaceuticals Ltd.	ALIOF	Uptravi	Cardiovascular	Pulmonary Arterial Hypertension (PAH)
1/01/2015-12/31/2015	Hospira, Inc.	HSP	Dyloject	Neurology	Moderate to Severe Pain
5/2/2016	Actavis plc	ACT	Rosuvastatin Zinc	Cardiovascular	Dyslipidemia / Hypercholesterolemia

Source: BioMed Tracker

FIGURE 9. Upcoming Medical Conferences, Congresses, and Meetings
Medical Conferences and Meetings

Dates	Event
Mar-24	Medicare Evidence Development & Coverage Advisory Committee (MEDCAC) http://www.ofr.gov/OFRUpload/OFRData/2015-00935_PI.pdf
Mar 24 - 25	Boston Biotech Business Development Conference (BBC) (Boston) http://bbbiotechconference.com/conferences.php
Mar 24 - 26	Immune Checkpoint Inhibitors (Boston, MA) http://immune-checkpoint.com/
Mar 25 -27	ITOC-2 Immunotherapy of Cancer Conference (Munich, Germany) http://itoc-conference.eu/
Mar-26	5th Annual Cancer Immunotherapy: A long Awaited Reality Conference (New York) http://www.maidstonels.com/conference.html
Mar 25 - 29	National Kidney Foundation, Spring Clinical Meetings (Dallas, TX) http://www.kidney.org/news/meetings/clinical/index.cfm
Apr 13 -14	Cancer Advance, Boston http://bbbiotechconference.com/conference-details.php?id=32
Apr 13 - 14	Breast Cancer Immunotherapy Symposium (BRECIS) (Doha, Qatar) http://www.sitcancer.org/sitc-meetings/brecis
Apr 15 - 18	2015 European Lung Cancer Conference (ELCC) (Geneva) http://www.esmo.org/Conferences/ELCC-2015-Lung-Cancer
Apr 18 - 20	American Association for Cancer Research - Annual Meeting (Philadelphia, PA) http://www.aacr.org/Meetings/Pages/MeetingDetail.aspx?EventItemID=25#.VKcKFivF86w
Apr 17 - 21	2015 American Society of Cataract and Refractive Surgery (ASCRS) (San Diego) http://annualmeeting.ascrs.org/
Apr 21 - 23	2nd Annual Epigenetic Inhibitor Discovery Meeting (San Diego) http://www.drugdiscoverychemistry.com/Epigenetic-Inhibitor-Discovery/
Apr 18 - 23	American Academy of Neurology (Washington, DC) https://www.aan.com/conferences/2015-annual-meeting/
Apr 22 -26	EASL - European Association for the Study of the Liver - International Liver Congress (Vienna, Austria) https://ilc-congress.eu/
Apr 22 - 24	World Orphan Drug Congress - USA (Terrapinn) (Washington, DC) http://www.terrapinn.com/conference/world-orphan-drug-congress-usa/index.stm
Apr 24 - 26	European Focus on Myeloproliferative Neoplasms and Myelodysplastic Syndromes (Zagreb, Croatia) http://imedex.com/myeloproliferative-neoplasms-myelodysplastic-syndromes/index.asp
Apr 29 - May 2	The 13th International Symposium on Myelodysplastic Syndromes (Washington, DC) http://mds.kenes.com/
May 2 - 6	American College of Obstetricians and Gynecologists (San Francisco) http://www.acog.org/
May 3 - 6	TIDES - Oligonucleotide and Peptide Therapeutics From Research through Commercialization (San Diego, CA) http://www.ibclifesciences.com/TIDES/overview.xml
May 3 - 7	ARVO - Association for Research in Vision and Ophthalmology - Annual Meeting (Denver, CO) http://www.arvo.org/Annual_Meeting/
May 7 - 9	IMPAKT 2015 Breast Cancer Conference (Brussels) http://www.esmo.org/Conferences/IMPAKT-2015-Breast-Cancer
May 13 - 16	ASGCT - American Society of Gene & Cell Therapy - Annual Meeting (New Orleans) http://www.asgct.org/meetings-educational-programs/asgct-annual-meetings/2015-annual-meeting
May 15 - 16	International Symposium on Immunotherapy (The Royal Society, London) http://www.sitcancer.org/sitc-meetings/cvi2015
May 15 - 19	AUA - American Urological Association - Annual Meeting (New Orleans) https://www.auanet.org/education/aua-annual-meeting.cfm
May 13 - 16	APS - American Pain Society - Annual Scientific Meeting (Palm Springs, CA) http://www.americanpainsociety.org/meeting/content/conferencehome.html

Source: Conference websites

FIGURE 10. Upcoming Medical Conferences, Congresses, and Meetings (continued)**Medical Conferences and Meetings**

Dates	Event
May 16 - 19	Digestive Disease Week (Washington, DC) http://www.ddw.org/
May 15 - 20	American Thoracic Society - International Meeting (Denver) http://conference.thoracic.org/2015/
May 15 - 19	American Urological Association - Annual Meeting (New Orleans) http://www.aua2015.org/
May 26 - 27	Boston CEO Conference http://bbbiotechconference.com/conferences.php
May 27 - 30	Americas Committee for the Treatment & Research in Multiple Sclerosis (Indianapolis) http://annualmeeting.msca.org/
May 27 - 30	International Society for Cellular Therapy Meeting (Las Vegas) http://www.isct2015.com/
May 29 - Jun 2	ASCO Annual Meeting 2015 (Chicago) http://am.asco.org/
June 5-9	ADA - American Diabetes Association - 75th Scientific Sessions (Boston) http://professional.diabetes.org/Congress_Display.aspx?TYP=9&CID=95010
Jun 6 - 10	Society of Nuclear Medicine - Annual Meeting (Baltimore, MD) http://www.snmml.org/AM?navItemNumber=581
Jun 7 - 10	AACR Metabolism and Cancer (Bellevue, Washington) http://www.aacr.org/Meetings/Pages/MeetingDetail.aspx?EventItemID=32&DetailItemID=131#.VMwHU0fF809
Jun 10 - 13	European League Against Rheumatism (Rome) http://congress.eular.org/
Jun 11-14	American Diabetes Association (ADA) (San Francisco) http://scientificsessions.diabetes.org/
Jun 11-14	20th Congress of European Hematology Association (EHA) (Vienna, Austria) http://www.ehaweb.org/congress-and-events/20th-congress/
Jun 12 - 15	European Hematology Association (Milan) http://www.ehaweb.org/congress-and-events/annual-congress-2/20th-congress/
Jun 24 - 27	International Society for Stem Cell Research (Stockholm) http://www.isscr.org/home/annual-meeting/isscr2015
Jun 20 - 23	1st Congress of the European Academy of Neurology (EAN) (Berlin, Germany) http://www.eaneurology.org/berlin2015/
Aug 15 - 17	Best of ASCO (Chicago) http://boa.asco.org/best-asco-chicago
Jul 30 - Aug 1	16th Annual International Lung Cancer Congress® (Huntington Beach, CA) http://www.gotoper.com/conferences/ilc/meetings/16th-international-lung-cancer-congress
Aug 29 - Sep 2	European Society of Cardiology Congress 2015 (London) http://www.escardio.org/congresses/esc-2015/Pages/welcome.aspx?hit=dontmiss
Sep 1 - 4	Society for the Study of Inborn Errors of Metabolism (Lyon, France) http://www.ssiem2015.org/
Sep 6 - 9	16th World Conference on Lung Cancer (Denver, CO) https://www.iaslc.org/events/16th-world-conference-lung-cancer
Sep 14 - 18	26th International Complement Workshop (Kanazawa, Japan) http://www.complement.org/
Sep 16-19	High Blood Pressure Research (Washington, DC) http://my.americanheart.org/professional/Sessions/HBPR/HBPR_UCM_316905_SubHomePage.jsp
Sep 17 - 19	ASH Meeting on Hematologic Malignancies (Chicago) http://www.hematology.org/Malignancies/

Source: Conference websites

FIGURE 11. Upcoming Medical Conferences, Congresses, and Meetings (continued)
Medical Conferences and Meetings

Dates	Event
Sep 25 - 27	ASCO Breast Cancer Symposium (San Francisco) http://breastcasym.org/
Sep 25-29	The European Cancer Congress 2015 (Vienna) http://www.europeancancercongress.org/
Oct 30 - Nov 1	ASCO Thoracic Oncology Symposium (Chicago) http://www.thoracicsymposium.org/
Nov 2-7	Obesity Society's Annual Scientific Meeting (Boston) http://www.obesity.org/meetings-and-events/annual-meeting.htm
Nov 5-7	Chemotherapy foundation Symposium (New York NY) http://www.chemotherapyfoundationsymposium.org/CMS/
Nov 6-9	SITC 29th Annual Meeting (National Harbor, MD) http://www.eventscribe.com/2014/sitc
Nov 7 - 11	Liver Meeting- American Association for Liver Disease (Boston) http://www.aasld.org/livermeeting/Pages/default.aspx
Nov 11 - 16	Kidney Week - American Society for Nephrology (Philadelphia) https://www.asn-online.org/education/kidneyweek/
Nov 15 - 19	American Heart Association Scientific Sessions (Chicago) http://my.americanheart.org/professional/Sessions/ScientificSessions/Scientific-Sessions_UCM_316900_SubHomePage.jsp
Nov 13 - 1	Society for Neuro-Oncology (Miami, Florida) http://www.soc-neuro-onc.org/2014-annual-meeting/
Nov 18 - 21	26th EORTC-NCI-AACR Symposium: Molecular Targets and Cancer Therapeutics http://www.ecco-org.eu/Events/EORTC_NCI_AACR_2014.aspx
Dec 1 - 4	AACR Tumor Immunology and Immunotherapy: A New Chapter (Orlando) http://www.aacr.org/Meetings/Pages/MeetingDetail.aspx?EventItemID=26&DetailItemID=119
Dec 6 - 9	American Society of Hematology (San Francisco) http://www.hematology.org/Annual-Meeting/General/2882.aspx
Dec 9 - 13	San Antonio Breast Cancer Symposium (San Antonio) http://www.sabcs.org/
Oct 6 - 10	American Society of Human Genetics 2015 (Baltimore, MD) http://www.ashg.org/2015meeting/
Oct 18-21	American Society for Radiation Oncology (San Antonio) https://www.astro.org/Meetings-and-Events/2015-Annual-Meeting/Index.aspx
Nov 3 - Nov 8	SITC's 30th Anniversary Annual Meeting (National Harbor, MD) http://www.sitcancer.org/sitc-meetings/sitc2015
Dec 8 - Dec 12	38th Annual San Antonio Breast Cancer Symposium (San Antonio, TX) http://www.sabcs.org/

Source: Conference websites

FIGURE 12. Companies Trading Between 1 – 2x Cash (Cash, Cash Equivalents, and Marketable Securities)

Company	JMP Rating	Ticker	Price	Mkt Cap (\$ MM)	Cash & STI (\$ MM)	Mkt Cap to Cash
Vical Inc	NR	VICL-O	\$ 0.97	\$ 86.76	\$ 43.97	1.97
Discovery Laboratories Inc	NR	DSCO-O	\$ 1.24	\$ 106.98	\$ 54.92	1.95
TETRALOGIC PHARMACEUTICALS CORP	NR	TLOG-O	\$ 4.30	\$ 102.33	\$ 53.70	1.91
Ocera Therapeutics Inc	MO	OCRX-O	\$ 4.95	\$ 95.77	\$ 51.17	1.87
Biodel Inc	MO	BIOD-O	\$ 1.32	\$ 33.88	\$ 19.73	1.72
ROSETTA GENOMICS LTD	NR	ROSG-O	\$ 2.96	\$ 33.41	\$ 19.73	1.69
AEterna Zentaris Inc	NR	AEZS-O	\$ 0.60	\$ 68.82	\$ 41.95	1.64
Lexicon Pharmaceuticals Inc	NR	LXRX-O	\$ 1.10	\$ 826.67	\$ 541.41	1.53
Aveo Pharmaceuticals Inc	NR	AVEO-O	\$ 1.35	\$ 78.73	\$ 52.31	1.51
Celsion Corp	NR	CLSN-O	\$ 2.58	\$ 52.96	\$ 36.86	1.44
Nanosphere Inc	NR	NSPH-O	\$ 0.25	\$ 30.03	\$ 21.05	1.43
Enzon Pharmaceuticals Inc	NR	ENZN-O	\$ 0.98	\$ 46.83	\$ 34.56	1.36
Cyclacel Pharmaceuticals Inc	MO	CYCC-O	\$ 0.98	\$ 34.98	\$ 26.71	1.31
Endocyte Inc	NR	ECYT-O	\$ 5.96	\$ 252.16	\$ 206.83	1.22
Alexza Pharmaceuticals Inc	NR	ALXA-O	\$ 2.13	\$ 42.11	\$ 34.77	1.21
SIGA Technologies Inc	NR	SIGA-O	\$ 2.05	\$ 109.68	\$ 99.71	1.10
OXIGENE Inc	NR	OXGN-O	\$ 1.57	\$ 34.16	\$ 32.89	1.04
Vivus Inc	MP	VVUS-O	\$ 2.97	\$ 310.61	\$ 299.57	1.04
Palatin Technologies Inc	NR	PTN-A	\$ 1.02	\$ 43.20	\$ 42.69	1.01

Source: ThomsonOne, JMP Securities LLC

FIGURE 13. Companies Trading Below 1x Cash (Cash, Cash Equivalents, and Marketable Securities)

Company	JMP Rating	Ticker	Price	Mkt Cap (\$ MM)	Cash (\$ MM)	Mkt Cap to Cash
Onconova Therapeutics Inc	NR	ONTX-O	\$ 2.57	\$ 56.40	\$ 57.35	0.98
Regado Biosciences Inc	NR	RGDO-O	\$ 1.41	\$ 50.41	\$ 51.56	0.98
Targacept Inc	NR	TRGT-O	\$ 2.66	\$ 92.26	\$ 97.92	0.94

Source: ThomsonOne, JMP Securities LLC

FIGURE 14. Companies with Highest Short Interest

Company	JMP Rating	Ticker	Price	Mkt Cap (\$ MM)	S/O	Short-Interest	% Short
Myriad Genetics Inc	MP	MYGN-O	\$ 37.03	\$ 2,642.76	71.12	31.71	44.59%
Vivus Inc	MP	VVUS-O	\$ 2.97	\$ 310.61	103.88	37.71	36.30%
Orexigen Therapeutics Inc	MO	OREX-O	\$ 7.19	\$ 940.33	123.73	39.85	32.20%
Exact Sciences Corp	MO	EXAS-O	\$ 24.18	\$ 2,161.81	88.67	27.35	30.85%
Sarepta Therapeutics Inc	MO	SRPT-O	\$ 13.16	\$ 575.06	41.31	12.51	30.27%
Exelixis Inc	NR	EXEL-O	\$ 2.82	\$ 556.34	195.90	57.47	29.34%
AMAG Pharmaceuticals Inc	NR	AMAG-O	\$ 58.20	\$ 1,722.55	29.58	8.38	28.34%
Spectrum Pharmaceuticals Inc	NR	SPPI-O	\$ 6.17	\$ 428.64	66.87	18.57	27.78%
ARIAD Pharmaceuticals Inc	MO	ARIA-O	\$ 8.69	\$ 1,682.16	187.53	51.52	27.47%
Arrowhead Research Corp	NR	ARWR-O	\$ 7.37	\$ 423.27	54.79	14.51	26.47%
Aegerion Pharmaceuticals Inc	NR	AEGR-O	\$ 27.20	\$ 781.98	28.54	7.44	26.07%
Keryx Biopharmaceuticals Inc	MO	KERX-O	\$ 14.31	\$ 1,412.02	103.60	26.16	25.25%
Albany Molecular Research Inc	NR	AMRI-O	\$ 18.80	\$ 620.20	32.75	8.26	25.23%
Ligand Pharmaceuticals Inc	NR	LGND-O	\$ 76.70	\$ 1,488.51	19.64	4.85	24.67%
Raptor Pharmaceutical Corp	MO	RPTP-O	\$ 11.86	\$ 810.37	69.14	16.27	23.54%
PDL BioPharma Inc	NR	PDLI-O	\$ 7.29	\$ 1,140.88	162.75	37.10	22.80%
Mannkind Corp	MP	MNKD-O	\$ 5.26	\$ 2,264.96	408.84	90.73	22.19%
Celldex Therapeutics Inc	NR	CLDX-O	\$ 30.38	\$ 3,112.22	97.93	21.50	21.95%
Theravance Inc	NR	THRX-O	\$ 17.03	\$ 2,095.75	116.63	25.43	21.81%
CytRx Corp	NR	CYTR-O	\$ 3.35	\$ 184.44	55.72	12.06	21.64%
AcelRx Pharmaceuticals Inc	MO	ACRX-O	\$ 4.15	\$ 185.35	43.72	9.27	21.20%
Rockwell Medical Inc	NR	RMTI-O	\$ 10.55	\$ 549.26	50.35	10.18	20.22%
Vanda Pharmaceuticals Inc	MO	VNDA-O	\$ 9.57	\$ 407.25	41.64	8.39	20.15%
BioCryst Pharmaceuticals Inc	MO	BCRX-O	\$ 9.49	\$ 739.47	72.32	14.50	20.04%
Ampio Pharmaceuticals Inc	NR	AMPE-A	\$ 8.52	\$ 438.65	51.97	10.30	19.83%
NewLink Genetics Corp	NR	NLNK-O	\$ 54.57	\$ 1,592.81	28.48	5.57	19.55%
Inovio Pharmaceuticals Inc	NR	INO-O	\$ 9.09	\$ 574.00	60.74	11.80	19.43%
Navidea Biopharmaceuticals Inc	NR	NAVB-A	\$ 1.72	\$ 255.57	150.34	28.84	19.18%
Salix Pharmaceuticals Ltd	MO	SLXP-O	\$ 172.80	\$ 10,927.71	63.33	11.85	18.71%
Array Biopharma Inc	NR	ARRY-O	\$ 8.00	\$ 1,130.15	139.70	25.66	18.37%
Quidel Corp	MP	QDEL-O	\$ 25.63	\$ 895.67	34.46	6.32	18.34%
Geron Corp	NR	GERN-O	\$ 3.98	\$ 651.30	157.70	27.90	17.69%
Insys Therapeutics Inc	MO	INSY-O	\$ 60.02	\$ 2,157.36	35.46	6.23	17.56%
Acorda Therapeutics Inc	NR	ACOR-O	\$ 34.74	\$ 1,495.67	42.58	7.43	17.46%
Clovis Oncology Inc	NR	CLVS-O	\$ 78.26	\$ 2,770.07	34.02	5.60	16.48%
Merrimack Pharmaceuticals Inc	NR	MACK-O	\$ 11.76	\$ 1,291.77	106.94	17.61	16.47%
Omeros Corp	NR	OMER-O	\$ 24.94	\$ 959.05	37.80	6.16	16.30%
Seattle Genetics Inc	NR	SGEN-O	\$ 38.86	\$ 4,934.21	124.32	20.10	16.17%
ACADIA Pharmaceuticals Inc	NR	ACAD-O	\$ 34.45	\$ 3,505.01	100.17	16.13	16.10%
Progenics Pharmaceuticals Inc	NR	PGNX-O	\$ 6.06	\$ 453.36	69.64	10.96	15.74%

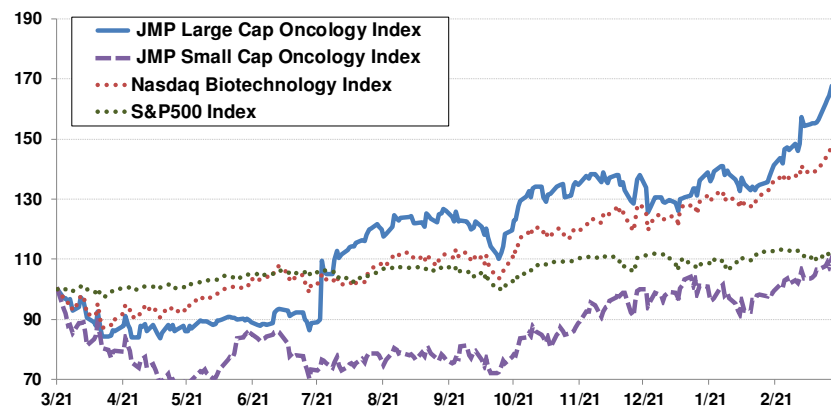
Source: ThomsonOne, JMP Securities LLC

FIGURE 15. JMP Oncology Large Cap Index

Company	JMP Rating	Ticker	Price	Mkt Cap (\$ MM)	Performance				
					Week	Month	Qtr	YTD	LTM
Amgen Inc	NR	AMGN	\$ 170.10	\$ 128,330.90	10.3%	7.9%	0.0%	6.8%	45.4%
Bristol-Myers Squibb	NR	BMJ	\$ 67.76	\$ 113,561.80	1.3%	12.0%	10.5%	14.8%	34.2%
Celgene Corp	MO	CELG	\$ 128.50	\$ 100,337.90	9.1%	4.1%	9.7%	14.9%	78.7%
Celldx Therapeutics	NR	CLDX	\$ 30.38	\$ 3,112.22	2.2%	43.2%	60.6%	66.5%	104.9%
Incyte Corp	MO	INCY	\$ 95.55	\$ 16,674.98	7.0%	15.8%	24.3%	30.7%	101.4%
Medivation Inc	MO	MDVN	\$ 135.56	\$ 10,520.00	5.4%	23.2%	25.1%	36.1%	125.9%
Puma Biotechnology	NR	PBYI	\$ 234.00	\$ 7,970.55	-1.8%	12.6%	5.7%	23.6%	206.4%
Pharmacyclics Inc	MO	PCYC	\$ 257.85	\$ 19,616.93	1.1%	45.2%	96.2%	110.9%	189.7%
Regeneron Pharmac	NR	REGN	\$ 488.87	\$ 49,411.33	13.9%	15.4%	14.3%	19.2%	61.9%
Seattle Genetics Inc	NR	SGEN	\$ 38.86	\$ 4,934.21	1.4%	11.2%	18.2%	20.9%	-1.6%
JMP Large Cap Oncology Index			\$ 168.54	\$ 94,149.47	5.0%	19.1%	26.5%	34.4%	60.8%
Nasdaq Biotechnology Index		NBI-O	\$ 3,837.60		6.2%	11.4%	15.8%	20.8%	42.3%
S&P500 Index		.SPX-UT	\$ 2,108.10		2.7%	0.4%	1.8%	2.4%	12.6%

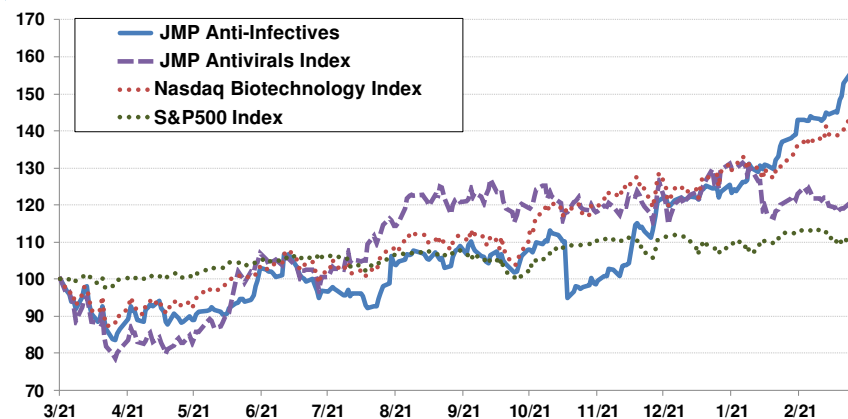
Source: ThomsonOne, JMP Securities LLC

FIGURE 16. JMP Oncology Indices



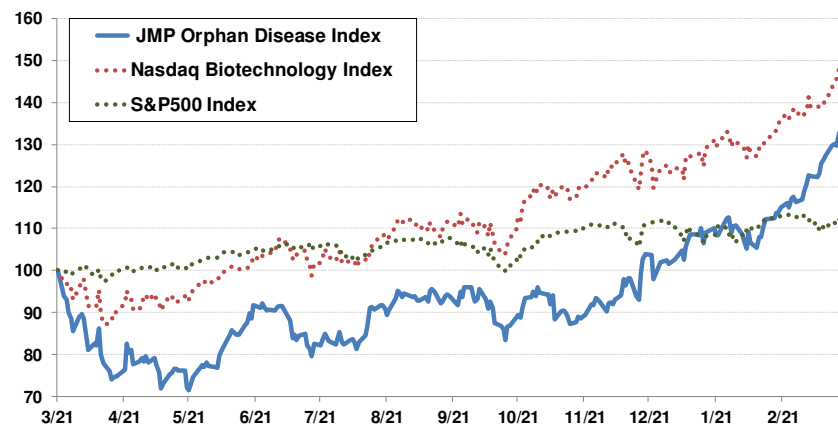
Source: ThomsonOne, JMP Securities LLC

FIGURE 17. JMP Infectious Disease Indices



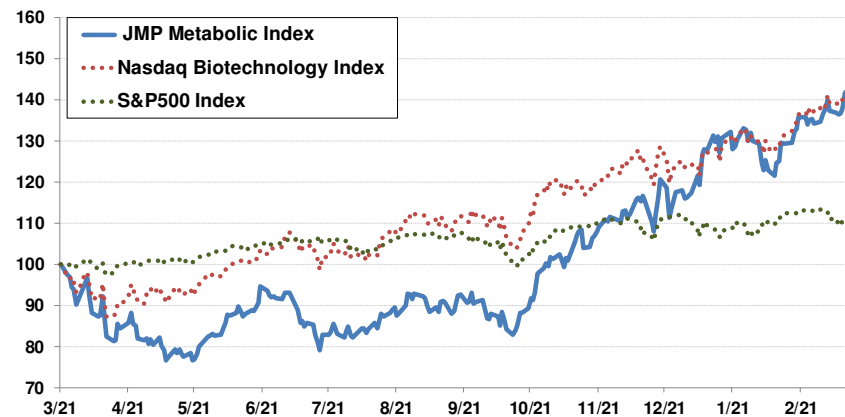
Source: ThomsonOne, JMP Securities LLC

FIGURE 18. JMP Orphan Disease Index



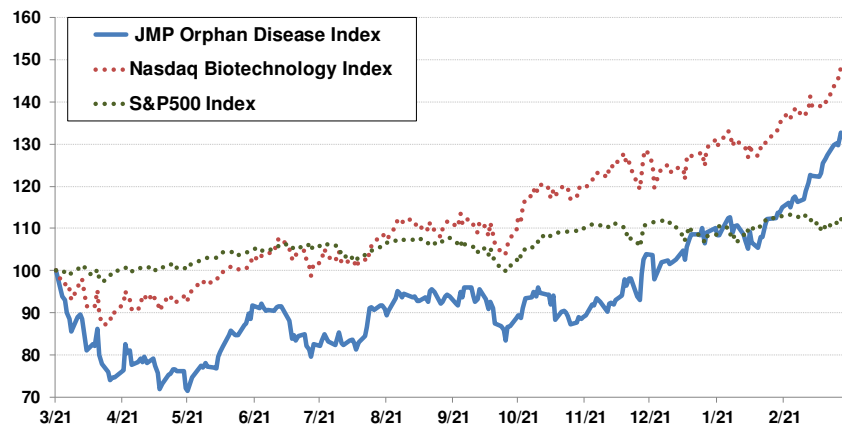
Source: ThomsonOne, JMP Securities LLC

FIGURE 19. JMP Metabolic Index



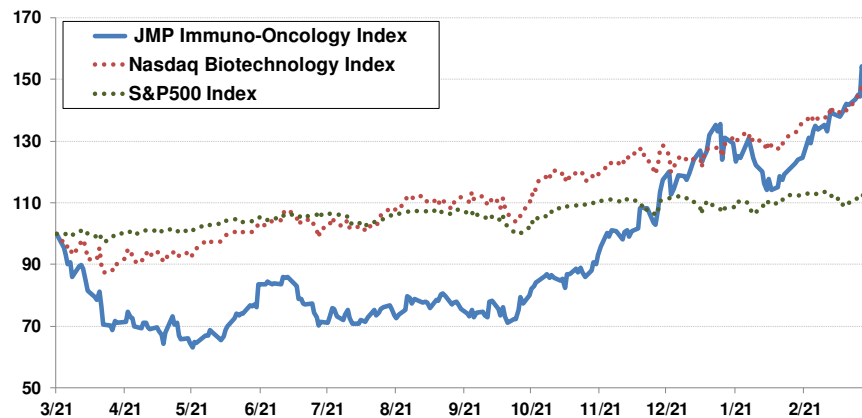
Source: ThomsonOne, JMP Securities LLC

FIGURE 20. JMP Oligonucleotide Therapy Index



Source: ThomsonOne, JMP Securities LLC

FIGURE 21. JMP Immuno-Oncology Index



Source: ThomsonOne, JMP Securities LLC

FIGURE 22. JMP Oncology Small Cap Index

Company	JMP Rating	Ticker	Price	Mkt Cap (\$ MM)	Performance				
					Week	Month	Qtr	1-YEAR	LTM
Agenus Inc	MO	AGEN	\$ 5.40	\$ 392.72	-0.4%	3.8%	35.3%	36.0%	110.1%
Agiros Pharmaceuticals	NR	AGIO	\$ 107.97	\$ 4,129.76	0.8%	1.6%	-9.7%	-3.6%	162.0%
ARIAD Pharmaceuticals	MO	ARIA	\$ 8.69	\$ 1,682.16	2.5%	7.8%	20.3%	26.4%	17.5%
Compugen Ltd	MO	CGEN	\$ 7.61	N/A	2.4%	-10.8%	-13.8%	-8.6%	-19.4%
Curis Inc	NR	CRIS	\$ 2.73	\$ 308.45	-9.6%	-19.7%	133.3%	82.0%	15.2%
CTI BioPharma Corp	NR	CTIC	\$ 1.94	\$ 347.89	-1.8%	-15.1%	-20.7%	-18.0%	-35.3%
Cyclacel Pharmaceuticals	MO	CYCC	\$ 0.98	\$ 34.98	-6.7%	24.1%	43.4%	40.0%	-70.1%
Dendreon Corp	NR	DNDN	\$ 0.04	\$ 6.35	-10.9%	-23.4%	-61.7%	-47.5%	-98.6%
Endocyte Inc	NR	ECYT	\$ 5.96	\$ 252.16	-5.5%	4.7%	-4.5%	-5.2%	-67.2%
Epizyme Inc	MO	EPZM	\$ 19.91	\$ 841.41	-13.5%	-12.5%	-0.4%	5.5%	-0.5%
Exelixis Inc	NR	EXEL	\$ 2.82	\$ 556.34	6.8%	2.9%	112.0%	95.8%	-15.8%
Five Prime Therapeutics	NR	FPRX	\$ 24.79	\$ 663.08	-4.2%	-5.6%	-4.2%	-8.2%	67.0%
Galena Biopharma Inc	MO	GALE	\$ 1.46	\$ 229.21	2.8%	-20.7%	-7.0%	-3.3%	-21.1%
Geron Corp	NR	GERN	\$ 3.98	\$ 651.30	-8.3%	25.9%	22.1%	22.5%	120.5%
Immunogen Inc	NR	IMGN	\$ 7.44	\$ 681.97	-5.2%	-2.4%	21.8%	22.0%	-47.1%
Infinity Pharmaceuticals	MP	INFI	\$ 15.39	\$ 808.65	-0.5%	-1.9%	-13.2%	-8.9%	51.3%
Karyopharm Therapeutics	MO	KPTI	\$ 31.44	\$ 1,179.32	12.0%	14.1%	-18.4%	-16.0%	6.3%
Merrimack Pharmaceuticals	NR	MACK	\$ 11.76	\$ 1,291.77	-0.3%	6.8%	6.5%	4.1%	147.1%
Mirati Therapeutics Inc	NR	MRTX	\$ 29.85	\$ 483.64	16.6%	N/A	-4.5%	61.2%	55.8%
NEKTAR THERAPEUTICALS	NR	NKTR	\$ 12.02	\$ 1,562.13	-13.5%	-11.7%	-23.4%	-22.5%	8.8%
OncoGenex Pharmaceuticals	NR	OGXI	\$ 2.30	\$ 52.35	-3.4%	1.3%	13.3%	0.4%	-77.7%
OncoMed Pharmaceuticals	NR	OMED	\$ 28.01	\$ 810.83	3.0%	3.5%	30.4%	28.7%	11.0%
Onconova Therapeutics	NR	ONTX	\$ 2.57	\$ 56.40	14.2%	8.0%	-35.6%	-21.9%	-57.2%
Sunesis Pharmaceuticals	NR	SNSS	\$ 2.60	\$ 178.83	7.9%	10.6%	2.8%	2.0%	-49.5%
Synta Pharmaceuticals	MO	SNTA	\$ 2.48	\$ 262.98	6.9%	6.9%	-11.4%	-6.4%	-38.2%
Stemline Therapeutics	NR	STML	\$ 17.09	\$ 288.33	6.7%	21.2%	9.8%	0.2%	6.9%
TG Therapeutics Inc	NR	TGTX	\$ 18.22	\$ 875.96	5.1%	35.0%	10.8%	15.0%	230.7%
Threshold Pharmaceuticals	NR	THLD	\$ 4.42	\$ 322.87	-2.4%	1.6%	44.0%	39.0%	12.5%
TESARO Inc	NR	TSRO	\$ 60.23	\$ 2,448.12	2.6%	36.3%	60.3%	62.0%	136.3%
Verastem Inc	MO	VSTM	\$ 12.10	\$ 405.93	12.5%	53.0%	43.4%	32.4%	32.8%
Acceleron Pharmaceuticals	MO	XLRN	\$ 41.82	\$ 1,385.43	1.5%	4.6%	7.1%	7.3%	15.0%
ZIOPHARM Oncology	MP	ZIOP	\$ 13.89	\$ 1,605.72	4.3%	45.3%	189.4%	174.0%	295.7%
JMP Small Cap Oncology Index			\$ 35.18	\$ 1,647.64	0.7%	6.9%	20.0%	18.3%	28.3%
Nasdaq Biotechnology Index			NBI-O	\$ 3,837.60	6.2%	11.4%	15.8%	20.8%	42.3%
S&P500 Index			.SPX-UT	\$ 2,108.10	2.7%	0.4%	1.8%	2.4%	12.6%

Source: ThomsonOne, JMP Securities LLC

FIGURE 23. JMP Anti-Infective Index

Company	JMP Rating	Ticker	Price	Mkt Cap (\$ MM)	Performance				
					Week	Month	Qtr	1-YEAR	LTM
Achaogen Inc	NR	AKAO	\$ 9.97	\$ 182.28	-2.9%	-13.1%	-26.3%	-23.6%	-30.0%
Anacor Pharmaceuticals Inc	NR	ANAC	\$ 54.24	\$ 2,437.39	-2.6%	24.7%	62.3%	68.2%	236.8%
Cubist Pharmaceuticals Inc	NR	CBST	\$ 101.94	N/A	0.0%	0.0%	3.3%	1.3%	56.5%
Cempra Inc	NR	CEMP	\$ 39.77	\$ 1,781.30	2.7%	34.3%	86.6%	69.2%	308.3%
Dipexium Pharmaceuticals	NR	DPRX	\$ 14.00	\$ 115.35	10.7%	2.7%	26.0%	23.0%	44.3%
Durata Therapeutics Inc	MO	DRTX	\$ 24.16	N/A	0.0%	0.0%	0.0%	0.0%	80.0%
Genocea Biosciences Inc	NR	GNCA	\$ 10.55	\$ 238.90	12.0%	17.2%	40.1%	50.7%	-44.2%
Insmid Inc	MO	INSM	\$ 21.80	\$ 1,099.87	1.9%	24.0%	32.8%	40.9%	50.9%
KaloBios Pharmaceuticals	MO	KBIO	\$ 0.55	\$ 18.42	0.0%	20.6%	-67.9%	-68.5%	-78.2%
NovaBay Pharmaceuticals	NR	NBY	\$ 0.61	\$ 32.27	20.4%	7.7%	-8.4%	-2.5%	-42.6%
PolyMedix Inc	NR	PYMX	\$ 0.01	\$ 0.03	0.0%	-3.4%	-26.3%	0.0%	16.7%
Salix Pharmaceuticals Ltd	UR	SLXP	\$ 172.80	\$ 10,927.71	2.0%	9.5%	47.4%	50.3%	64.8%
Soligenix Inc	NR	SNGX	\$ 1.68	\$ 39.26	-9.7%	7.7%	76.9%	71.5%	-22.6%
Titan Pharmaceuticals Inc	NR	TTNP	\$ 0.64	\$ 64.90	3.2%	18.3%	35.3%	38.5%	2.1%
Tetraphase Pharmaceuticals	MO	TTPH	\$ 39.20	\$ 1,471.35	2.7%	-5.9%	4.6%	-1.3%	286.2%
JMP Anti-Infectives			\$ 111.83	\$ 4,919.68	3.4%	12.3%	25.8%	26.4%	40.0%
Nasdaq Biotechnology Index		NBI-O	\$ 3,837.60		6.2%	11.4%	15.8%	20.8%	42.3%
S&P500 Index		.SPX-UT	\$ 2,108.10		2.7%	0.4%	1.8%	2.4%	12.6%

Source: ThomsonOne, JMP Securities LLC

FIGURE 24. JMP Orphan Disease Index

Company	JMP Rating	Ticker	Price	Mkt Cap (\$ MM)	Performance				
					Week	Month	Qtr	1-YEAR	LTM
Aegerion Pharmaceuticals	NR	AEGR	\$ 27.20	\$ 781.98	-2.6%	2.7%	19.2%	29.9%	-38.2%
Agios Pharmaceuticals Inc	NR	AGIO	\$ 107.97	\$ 4,129.76	0.8%	1.6%	-9.7%	-3.6%	162.0%
Applied Genetic Technology	NR	AGTC	\$ 22.43	\$ 372.24	-0.7%	-1.3%	7.7%	6.7%	68.4%
Alnylam Pharmaceuticals	MO	ALNY	\$ 117.46	\$ 10,053.71	3.4%	14.7%	16.6%	21.1%	110.8%
Anthera Pharmaceuticals	NR	ANTH	\$ 4.34	\$ 128.67	-20.8%	-5.2%	174.7%	174.7%	51.0%
Auspex Pharmaceuticals Inc	NR	ASPX	\$ 79.99	\$ 2,759.01	1.2%	13.9%	49.9%	52.4%	283.1%
BioCryst Pharmaceuticals	MO	BCRX	\$ 9.49	\$ 739.47	-5.4%	-6.5%	-15.0%	-22.0%	5.0%
bluebird bio Inc	NR	BLUE	\$ 124.76	\$ 4,116.38	4.0%	33.7%	35.6%	36.0%	509.2%
BioMarin Pharmaceutical Inc	NR	BMRN	\$ 125.17	\$ 20,288.21	1.3%	16.8%	33.4%	38.5%	104.1%
Catalyst Pharmaceutical Inc	NR	CPRX	\$ 4.74	\$ 401.52	13.4%	39.4%	64.0%	59.6%	132.4%
Cytokinetics Inc	MO	CYTK	\$ 7.76	\$ 307.47	-2.8%	-2.3%	58.7%	-3.1%	-28.1%
Dicerna Pharmaceuticals Inc	NR	DRNA	\$ 24.81	\$ 472.26	-1.3%	-4.7%	47.8%	50.6%	53.1%
Fate Therapeutics Inc	NR	FATE	\$ 4.94	\$ 101.51	-2.2%	-1.2%	-6.3%	-1.8%	-30.1%
Amicus Therapeutics Inc	NR	FOLD	\$ 11.61	\$ 1,191.48	25.5%	33.4%	44.6%	39.5%	527.6%
Synageva Biopharma Corp	NR	GEVA	\$ 111.92	\$ 4,337.42	4.6%	9.2%	17.2%	20.6%	43.8%
Hyperion Therapeutics Inc	MO	HPTX	\$ 40.49	\$ 823.51	15.3%	47.7%	76.3%	68.7%	61.3%
Intercept Pharmaceuticals	MO	ICPT	\$ 290.98	\$ 6,530.66	3.4%	32.9%	85.8%	86.5%	20.2%
Isis Pharmaceuticals Inc	NR	ISIS	\$ 73.59	\$ 9,173.93	4.1%	9.8%	13.1%	19.2%	109.9%
InterMune Inc	MO	ITMN	\$ 73.89	N/A	0.0%	0.0%	0.0%	0.0%	152.6%
NPS Pharmaceuticals Inc	NR	NPSP	\$ 45.97	N/A	0.0%	0.0%	27.6%	28.5%	79.2%
Ocera Therapeutics Inc	MO	OCRX	\$ 4.95	\$ 95.77	1.6%	-17.5%	-17.4%	-22.3%	-39.7%
Protilix Biotherapeutics Inc	NR	PLX	\$ 1.76	\$ 167.55	0.6%	-10.2%	-9.7%	-4.3%	-57.5%
Prothena Corporation PLC	NR	PRTA	\$ 38.66	\$ 800.89	34.8%	45.2%	79.4%	86.2%	22.2%
PTC Therapeutics Inc	NR	PTCT	\$ 70.05	\$ 2,332.28	-4.4%	26.9%	23.6%	35.3%	277.0%
Uniqure NV	NR	QURE	\$ 27.27	\$ 484.74	8.0%	41.5%	75.8%	84.1%	206.4%
Ultragenyx Pharmaceutical	NR	RARE	\$ 62.06	\$ 2,219.80	8.4%	11.7%	28.3%	41.4%	51.2%
Prosensa Holding NV	NR	RNA	\$ 18.65	N/A	0.0%	0.0%	-0.7%	-0.5%	247.3%
Raptor Pharmaceutical Corp	MO	RPTP	\$ 11.86	\$ 810.37	-0.2%	19.9%	30.0%	12.7%	47.3%
SHIRE PLC	NR	SHPG	\$ 253.64	\$ 33,555.55	3.9%	6.9%	17.0%	19.3%	67.6%
Sarepta Therapeutics Inc	MO	SRPT	\$ 13.16	\$ 575.06	-6.7%	-13.5%	-0.4%	-9.1%	-61.3%
Vanda Pharmaceuticals Inc	MO	VNDA	\$ 9.57	\$ 407.25	-7.7%	-16.3%	-21.9%	-33.2%	-34.9%
Vertex Pharmaceuticals Inc	MO	VRTX	\$ 131.00	\$ 32,500.42	5.6%	10.4%	10.2%	10.3%	100.1%
JMP Orphan Disease Index			\$ 154.03	\$ 26,056.73	2.9%	11.7%	32.0%	30.8%	52.3%
Nasdaq Biotechnology Index			NBI-O	\$ 3,837.60	6.2%	11.4%	15.8%	20.8%	42.3%
S&P500 Index			.SPX-UT	\$ 2,108.10	2.7%	0.4%	1.8%	2.4%	12.6%

Source: ThomsonOne, JMP Securities LLC

FIGURE 25. JMP Metabolic Disease Index

Company	JMP Rating	Ticker	Price	Mkt Cap (\$ MM)	Performance				
					Week	Month	Qtr	1-YEAR	LTM
Alkermes Plc	NR	ALKS	\$ 67.20	\$ 10,103.81	1.2%	-8.2%	14.1%	14.8%	46.8%
Arena Pharmaceuticals Inc	MP	ARNA	\$ 4.80	\$ 1,209.73	-0.2%	3.2%	20.3%	38.3%	-22.6%
Biodel Inc	MO	BIOD	\$ 1.32	\$ 33.88	-5.7%	-5.0%	-5.0%	-0.8%	-44.8%
BioMarin Pharmaceutical Inc	NR	BMRN	\$ 125.17	\$ 20,288.21	1.3%	16.8%	33.4%	38.5%	104.1%
Isis Pharmaceuticals Inc	NR	ISIS	\$ 73.59	\$ 9,173.93	4.1%	9.8%	13.1%	19.2%	109.9%
Mannkind Corp	MP	MNKD	\$ 5.26	\$ 2,264.96	-4.5%	-23.8%	-1.9%	0.9%	-16.9%
Orexigen Therapeutics Inc	MO	OREX	\$ 7.19	\$ 940.33	2.1%	20.6%	13.6%	18.6%	34.6%
Transition Therapeutics Inc	MO	TTHI	\$ 7.04	\$ 309.37	3.4%	-0.1%	2.9%	3.0%	31.3%
Vivus Inc	MP	VVUS	\$ 2.97	\$ 310.61	5.3%	3.1%	-10.5%	3.1%	-42.1%
XOMA Corp	NR	XOMA	\$ 3.99	\$ 481.01	8.3%	-1.5%	-0.5%	11.1%	-7.7%
JMP Metabolic Index			\$ 87.38	\$ 13,446.06	1.5%	1.5%	7.9%	14.7%	-0.4%
Nasdaq Biotechnology Index		NBI-O	\$ 3,837.60		6.2%	11.4%	15.8%	20.8%	42.3%
S&P500 Index		.SPX-UT	\$ 2,108.10		2.7%	0.4%	1.8%	2.4%	12.6%

Source: ThomsonOne, JMP Securities LLC

FIGURE 26. JMP Immuno-Oncology Therapy Index

Company	JMP Rating	Ticker	Price	Mkt Cap (\$ MM)	Performance				
					Week	Month	Qtr	1-YEAR	LTM
CellDex Therapeutics Inc	NR	CLDX	\$ 30.38	\$ 3,112.22	2.2%	43.2%	60.6%	66.5%	104.9%
Fate Therapeutics Inc	NR	FATE	\$ 4.94	\$ 101.51	-2.2%	-1.2%	-6.3%	-1.8%	-30.1%
Agenus Inc	MO	AGEN	\$ 5.40	\$ 392.72	-0.4%	3.8%	35.3%	36.0%	110.1%
Xencor Inc	NR	XNCR	\$ 15.99	\$ 622.56	10.0%	6.2%	-3.8%	-0.3%	57.7%
Five Prime Therapeutic	NR	FPRX	\$ 24.79	\$ 663.08	-4.2%	-5.6%	-4.2%	-8.2%	67.0%
Lion Biotechnologies Inc	NR	LBIO	\$ 13.59	\$ 638.75	3.6%	86.2%	75.4%	72.7%	58.9%
MacroGenics Inc	NR	MGNX	\$ 36.25	\$ 1,173.87	4.3%	1.1%	5.0%	3.4%	90.0%
NewLink Genetics Corp	NR	NLNK	\$ 54.57	\$ 1,592.81	7.9%	37.3%	36.1%	37.3%	151.0%
Stemline Therapeutics	NR	STML	\$ 17.09	\$ 288.33	6.7%	21.2%	9.8%	0.2%	6.9%
Kite Pharma Inc	NR	KITE	\$ 71.89	\$ 3,113.83	13.9%	14.5%	34.2%	24.7%	N/A
Compugen Ltd	MO	CGEN	\$ 7.61	N/A	2.4%	-10.8%	-13.8%	-8.6%	-19.4%
TESARO Inc	NR	TSRO	\$ 60.23	\$ 2,448.12	2.6%	36.3%	60.3%	62.0%	136.3%
JMP Immuno-Oncology Index			\$ 44.20	\$ 2,118.05	3.9%	19.3%	24.0%	23.6%	33.6%
Nasdaq Biotechnology Index		NBI-O	\$ 3,837.60		6.2%	11.4%	15.8%	20.8%	42.3%

Source: ThomsonOne, JMP Securities LLC

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Market Outperform (MO): JMP Securities expects the stock price to outperform relevant market indices over the next 12 months.

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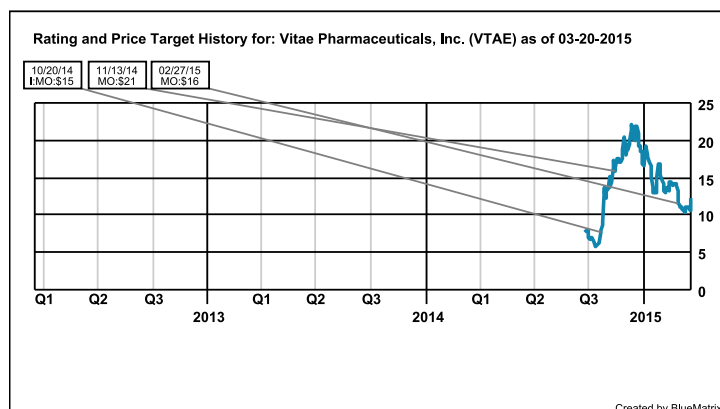
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				Regulatory Equivalent	# Co's Under Coverage	% of Total	% of Co's With This Rating	
MARKET OUTPERFORM	Buy	286	63.84%	Buy	286	63.84%	89	31.12%
MARKET PERFORM	Hold	152	33.93%	Hold	152	33.93%	21	13.82%
MARKET UNDERPERFORM	Sell	8	1.79%	Sell	8	1.79%	0	0%
COVERAGE IN TRANSITION		1	0.22%		1	0.22%	0	0%
TOTAL:		448	100%		448	100%	110	24.55%

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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