

Biotechnology

Biotech Balance Sheet - Karyopharm + Agios > Death Cross

Karyopharm + Agios > death
cross

INDUSTRY OVERVIEW

As we watched the action in our sector on Friday, and in the oncology space in particular, we could not help but be struck by the following thought: death cross? What death cross? For as much as we try to prognosticate about the near-term drivers for our group, every now and again it is good to be reminded of the golden rule of biotechnology (or at least one of them, anyway), which states that accomplished management, plus promising products, equals exciting data, which equals capital appreciation. The reaction in the shares of KPTI (MO, \$50 PT), AGIO, and other names in the oncology space such as Clovis (CLVS) on Friday in anticipation of data either at ESMO (KPTI, CLVS) or the AACR-NCI-EORTC meeting (AGIO) lit a fire under these shares in complete defiance of the technical underpinnings of the space. As we have stated before, management skills, level of technology, and constructive attitude at the FDA are the best we have ever seen in our 20-plus years in the industry. To lose sight of this in the pursuit of handicapping the next data milestone is a fool's errand, in our view.

Ariad (ARIA, MO, \$7 PT) got into the ESMO act as well. As you can read in our note from Sunday, September 28, the updated data from Ariad's study of AP26113 ('113) turned out to be remarkably consistent from an efficacy standpoint, and the dose titration scheme the company has employed appears to have effectively dealt with the early onset pulmonary symptoms (EOPS) that created such a significant degree of consternation among many observers of the biotech space. Perhaps as encouraging, '113's brain activity continues to impress with high overall (10/14) and complete (4, 2 in crizotinib-naïve, and 2 in crizotinib-experienced patients) response rates. Currently, we have only projected total worldwide sales of '113 of roughly \$500 million by FY22, and ascribe \$3 per share in NPV; however, it may be time for us to revisit our assumptions based on this more favorable product profile.

Last week was a decent week for our group, everything considered. In the spirit of "if you want to reverse a trend, call attention to it", no sooner had the Russell 2000 registered the fabled death cross, a flood of articles appeared on many financial sites, pundits were quoted liberally, and, the group reversed itself with a powerful rally on Wednesday. Of course on Thursday, much of the prior day's gains were lost; however, the set-up going into ESMO gave the group the juice it needed to rally into the weekend.

Not that the rest of the developments during the week were worth sneezing at. Monday started out with the announcement that Merck KGaA intends to acquire Sigma Aldrich (SIAL) for \$17 billion. While SIAL is in the life science tools business, one does not shell out this kind of cash unless the acquirer's outlook on the industry prospects is bullish. The second M&A announcement that caught our attention for its significance as a portent of more to come, was the announcement that Acorda (ACOR) intends to acquire privately held Civitas Therapeutics, a developer of an inhaled version of levodopa for the symptoms of Parkinson's. We have known both companies over the years, and have tremendous respect for what each of the management teams have built. We give credit to the Acorda management team for making a bold, transforming acquisition. We believe this is something the company would never have considered even two or three years ago. The decision was likely made a lot easier by the "plug-and-play" aspect of Civitas, which acquired manufacturing equipment, and a large amount of raw drug product from Alkermes (ALKS). The pedigree was superb, and therefore, we believe the decision was relatively easy. Acorda shares, which closed just over \$29 on Wednesday, jumped to \$37.62 the following day as shareholders demonstrated their approval.

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We believe other companies in Acorda's market cap neighborhood (~\$1.5 billion) will be emboldened to make similar moves in the wake of this agreement. Another company with a similar pedigree, Avanir (AVNR, MO, \$15 PT, Butler) successfully raised \$200 million this week in an up-sized deal of common stock. This was a company that just a few years ago was struggling with its story, trying to convince skeptical investors that pseudobulbar affect was a legitimate medical condition.

On the mega-cap front, the good news keeps coming for Gilead (GILD, NC). First, on Wednesday, the company reported positive Phase III data for its TAF (tenofovir alafenamide) regimen, proving to be non-inferior to Stribild. Not only will TAF extend the IP life of the Gilead tenofovir franchise (see how great just one drug can be?), but it also enables a more compact tablet size that could result in a more patient-friendly presentation. Subsequently, the EU approved Harvoni, the mellifluous name for the combination of sofosbuvir and ledipasvir. On September 23, the FDA approved Celgene's (CELG, MO, \$102 PT) Otezla for the treatment of psoriasis. We mentioned Agios before, and remind that Celgene shares are in the benefit of the exciting Agios dataset. Biogen (BIIB, NC) hired a new head of gene therapy, while Amgen (AMGN, NC) filed a BLA for blinatumomab for the treatment of ALL. We also point the reader to an interview in this week's *Barron's* magazine with investor Joe McNay, Founder and CIO of Essex Investment Management in Boston, MA. Joe likes Biogen, Celgene, and Gilead. What he has against Amgen, we have no clue, although we are sure that there are several things that Amgen can do to win his heart.

The one blot on an otherwise commendable week was the underperformance of the sub-\$750 million subsector. Given that there are so many new names in there and such little investor bandwidth, we get the sense that the group will likely continue to struggle for some time. As we counseled last week, if you are treading into this foreboding area, make sure you are doing it with companies that are rich in upcoming catalysts.

In closing, it bears repeating that this is the high season for scientific conferences. We also have a decent menu of FDA approvals out in front of us. And, finally, the valuations on the mega-cap profitable continue to be reasonable, with PE and PEG ratios on the FY15 consensus numbers of 24.4 and 1.18, respectively.

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	(1.4%)	(0.9%)	1.1%	7.3%	16.7%
DJ Industrial Average	(1.0%)	(0.1%)	1.6%	3.2%	11.6%
NASDAQ Composite Average	(1.5%)	(1.3%)	2.6%	8.0%	19.1%
NASDAQ Biotech Index	0.4%	0.5%	7.8%	22.0%	31.7%
Amex Biotech Index	0.6%	1.0%	13.1%	34.2%	41.0%
Amex Pharma Index	(0.7%)	2.3%	2.1%	14.3%	24.1%

BTK Index and Other Benchmark Performance (Day over Day)					
	Monday	Tuesday	Wednesday	Thursday	Friday
	9/22/14	9/23/14	9/24/14	9/25/14	9/26/14
S&P 500 Index	(0.8%)	(0.6%)	0.8%	(1.6%)	0.9%
DJ Industrial Average	(0.6%)	(0.7%)	0.9%	(1.5%)	1.0%
NASDAQ Composite Average	(1.1%)	(0.4%)	1.0%	(1.9%)	1.0%
NASDAQ Biotech Index	(1.0%)	(0.3%)	2.9%	(2.1%)	1.0%
Amex Biotech Index	(0.7%)	(0.4%)	2.8%	(1.9%)	0.9%
Amex Pharma Index	(0.3%)	(0.9%)	1.2%	(1.0%)	0.2%

BTK Index and Other Benchmark Performance (Week over Week)					
	T-5	T-4	T-3	T-2	Week Ending
	8/29/14	9/5/14	9/12/14	9/19/14	9/26/14
S&P 500 Index	0.8%	0.2%	(1.1%)	1.3%	(1.4%)
DJ Industrial Average	0.6%	0.2%	(0.9%)	1.7%	(1.0%)
NASDAQ Composite Average	0.9%	0.1%	(0.3%)	0.3%	(1.5%)
NASDAQ Biotech Index	3.9%	(2.1%)	(0.3%)	2.0%	0.4%
Amex Biotech Index	6.1%	(1.4%)	(0.2%)	0.9%	0.6%
Amex Pharma Index	1.3%	0.9%	0.3%	1.7%	(0.7%)

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	0.2%	1.5%	11.8%	43.2%	58.1%
Mkt Cap between \$1bn - \$5bn	(0.2%)	0.0%	0.1%	30.2%	21.8%
Mkt Cap > \$750MM	(0.1%)	0.2%	1.2%	31.4%	25.3%
Mkt Cap < \$750MM	(3.9%)	(13.1%)	(21.5%)	(33.2%)	(36.8%)
NASDAQ Biotech Index	0.4%	0.5%	7.8%	22.0%	31.7%
Amex Biotech Index	0.6%	1.0%	13.1%	34.2%	41.0%
Amex Pharma Index	(0.7%)	2.3%	2.1%	14.3%	24.1%

Performance by Therapeutic Area					
	Performance over Various Time Periods				
	WK	MONTH	QTR	YTD	LTM
Large Cap Oncology	(1.7%)	(3.5%)	37.2%	18.0%	37.7%
Small Cap Oncology	0.2%	(3.3%)	(8.5%)	(4.3%)	(2.3%)
Anti-Infectives	(0.3%)	2.1%	(3.3%)	(1.7%)	13.6%
Antivirals	0.6%	(1.5%)	10.1%	51.0%	54.2%
Orphan Disease	1.4%	(0.9%)	1.2%	41.2%	32.6%
Metabolic	(3.1%)	(8.8%)	(14.2%)	(15.3%)	(12.6%)
Oligonucleotide	0.3%	(1.2%)	4.4%	20.2%	40.9%
Immuno-Oncology	(1.5%)	(5.7%)	(12.3%)	(16.5%)	(9.4%)
NASDAQ Biotech Index	0.4%	0.5%	7.8%	22.0%	31.7%
Amex Biotech Index	0.6%	1.0%	13.1%	34.2%	41.0%
Amex Pharma Index	(0.7%)	2.3%	2.1%	14.3%	24.1%

Source: ThomsonOne and JMP Securities LLC

FIGURE 3. Upcoming Medical Conferences, Congresses, and Meetings**Medical Conferences and Meetings**

Dates	Event
Sep 26 - 30	European Society for Medical Oncology (ESMO) (Madrid) http://www.esmo.org/Conferences/ESMO-2014-Congress
Oct 7-11	19th International World Muscle Congress http://www.worldmusclesociety.org/news/read/119
Oct 8 - 10	Targeting Epigenetic Reader and Chromatin Remodelers (Boston) http://www.discoveryontarget.com/Epigenetic-Readers/
Oct 8 - 11	Infectious Disease Week (Philadelphia) http://www.idweek.org/
Oct 12-14	American Neurological Association's 2014 Annual Meeting http://www.aneuroa.org/i4a/pages/index.cfm?pageid=3752
Oct 12 - 15	10th Annual Meeting of the Oligonucleotide Therapeutics Society (San Diego) http://www.oligotherapeutics.org/ots-annual-meeting-2014/
Oct 9 - 10	Discovery on Target Conference: Histone Methylases and Demethylases (Boston) http://www.discoveryontarget.com/Histone-Methyltransferases/
Oct 18 - 21	United European Gastroenterology (UEG) Week (Vienna) https://www.ueg.eu/week/
Oct 30 - Nov 1	IASLC Chicago Multidisciplinary Symposium in Thoracic Oncology (Chicago) https://www.iaslc.org/events/chicago-multidisciplinary-symposium-thoracic-oncology-2
Oct 30 - Nov 1	ASCO Thoracic Oncology Symposium (Chicago) http://www.thoracicsymposium.org/
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 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/
Jan 12 - 16	JP Morgan Healthcare Conference (San Francisco)

Source: Conference websites

FIGURE 4. Upcoming PDUFA Dates

Expected Date	Company	Symbol	Drug	Indication
Now-09/30/2014	Teva Pharmaceutical Industries Ltd.	TEVA	Lonquex	Neutropenia / Leukopenia
09/26/2014-10/03/2014	Eli Lilly & Company	LLY	Dulaglutide	Diabetes Mellitus, Type II
10/3/2014	Gilead Sciences, Inc.	GILD	Cobicistat	HIV / AIDS
10/4/2014	Gilead Sciences, Inc.	GILD	Elvitegravir	HIV / AIDS
10/9/2014	Impax Laboratories, Inc.	IPXL	Rytary	Parkinson's Disease (PD)
10/10/2014	Baxter International Inc.	BAX	OBI-1	Acquired Hemophilia
10/10/2014	Gilead Sciences, Inc.	GILD	Sofosbuvir/Ledipasvir FDC	Hepatitis C (HCV) (Antiviral)
10/22/2014	GlaxoSmithKline plc	GSK	Triumeq	HIV / AIDS
10/23/2014	GlaxoSmithKline plc	GSK	Fluticasone Furoate	Asthma
10/24/2014	NPS Pharmaceuticals, Inc.	NPSP	Natpara	Hypoparathyroidism
10/24/2014-10/31/2014	H. Lundbeck A/S	HLUKF	Carbella	Partial Seizures (Epilepsy)
11/21/2014	Roche	ITMN	Esbriet	Idiopathic Pulmonary Fibrosis (IPF)
11/26/2014	Avanir Pharmaceuticals, Inc.	AVNR	AVP-825	Migraine and Other Headaches
11/28/2014	Bristol-Myers Squibb Company	BMY	Daclatasvir	Hepatitis C (HCV) (Antiviral)
11/01/2014-11/30/2014	Novartis AG	NVS	Faridak	Multiple Myeloma (MM)
11/28/2014	Bristol-Myers Squibb Company	BMY	Asunaprevir	Hepatitis C (HCV) (Antiviral)
12/19/2014	AbbVie Inc.	ABBV	ABT-450	Hepatitis C (HCV) (Antiviral)
12/19/2014	AbbVie Inc.	ABBV	ABT-267	Hepatitis C (HCV) (Antiviral)
12/19/2014	AbbVie Inc.	ABBV	ABT-333	Hepatitis C (HCV) (Antiviral)
12/19/2014	Cubist Pharmaceuticals, Inc.	CBST	Ceftolozane/Tazobactam	Intra-Abdominal Infections (Antibacterial)
12/19/2014	Cubist Pharmaceuticals, Inc.	CBST	Ceftolozane/Tazobactam	Urinary Tract and Reproductive Tract Infections (Antibacterial)
12/23/2014	BioCryst Pharmaceuticals, Inc.	BCRX	Peramivir intravenous (IV)	Influenza therapeutics (excluding vaccines)
12/26/2014	Actavis plc	ACT	Bystolic-valsartan FDC	Hypertension (Systemic)

Source: BioMed Tracker

FIGURE 5. Upcoming PDUFA Events (continued)

Expected Date	Company	Symbol	Drug	Indication
12/30/2014	POZEN, Inc.	POZN	PA32540	Cardiovascular Disease
Now-12/31/2014	AbbVie Inc.	ABBV	Duopa	Parkinson's Disease (PD)
10/01/2014-12/31/2014	AstraZeneca PLC	AZN	Dapagliflozin/Metformin FDC	Diabetes Mellitus, Type II
12/26/2014-12/31/2014	H. Lundbeck A/S	HLUKF	Carbella	Seizure Disorders (Epilepsy)
11/01/2014-12/31/2014	Merck & Co., Inc.	MRK	V-503	Human papillomavirus (HPV) Prevention (Antiviral, Vaccines)
Now-12/31/2014	Sanofi	SNY	Cerdelga	Gaucher's Disease
1/3/2014	AstraZeneca PLC	AZN	Lynparza	Ovarian Cancer
1/4/2015	Actavis plc	ACT	Namenda XR-donepezil	Alzheimer's Disease (AD)
1/8/2015	Daiichi Sankyo Co., Ltd.	DSKYF	Savaysa	Venous Thromboembolism (VTE)
1/8/2015	Daiichi Sankyo Co., Ltd.	DSKYF	Savaysa	Stroke Prevention in Atrial Fibrillation (SPAF)
1/23/2015	Rockwell Medical Inc.	RMTI	Triferic	Anemia Due to Chronic Renal Failure, Dialysis-Dependent
1/30/2015	Johnson & Johnson	JNJ	Cobicistat/Prezista	HIV / AIDS
01/01/2015-01/31/2015	Novartis AG	NVS	Secukinumab	Psoriasis
1/31/2015	The Medicines Company	MDCO	Fibrocaps	Hemostasis
2/4/2015	Bristol-Myers Squibb Company	BMY	Reyataz/Cobicistat	HIV / AIDS
02/10/2015-03/10/2015	Merck & Co., Inc.	MRK	Lamivudine/Raltegravir FDC	HIV / AIDS
03/01/2015-03/31/2015	Teva Pharmaceutical Industries Ltd.	TEVA	Albuterol MDPI	Asthma
03/14/2015-04/13/2015	Mallinckrodt plc	MNK	MNK-155	Postsurgical Pain
02/06/2015-04/29/2015	Sanofi	SNY	Quadracel	Diphtheria, pertussis, and tetanus (DT, Td, DTaP and Tdap) Vaccines
04/01/2015-04/29/2015	United Therapeutics Corporation	UTHR	Ch14.18 MAb	Neuroendocrine Tumors (NET)
04/01/2015-04/30/2015	Novartis AG	NVS	AL-60371	Ear Infections (Antibacterial)
04/01/2015-04/30/2015	Novartis AG	NVS	AL-60371	Ear Infections (Antibacterial)

Source: BioMed Tracker

FIGURE 6. Large Cap Biotech and Big Pharma Comparable Analysis (1 of 2)

Company	Ticker	Price	Mkt Cap (\$ MM)	EPS				P/E				PEG (FY14)	PEG (FY15)	CAGR (2014-6)
				2013A	2014E	2015E	2016E	2013A	2014E	2015E	2016E			
Alexion	ALXN	\$ 167.65	32,810	\$ 3.04	\$ 5.01	\$ 5.75	\$ 7.20	55.2x	33.5x	29.2x	23.3x	1.68	1.46	19.9%
Amgen	AMGN	\$ 141.06	106,231	\$ 7.46	\$ 8.40	\$ 8.99	\$ 9.85	18.9x	16.8x	15.7x	14.3x	2.04	1.90	8.2%
Biogen	BIIB	\$ 333.54	78,731	\$ 8.90	\$ 13.10	\$ 16.14	\$ 19.33	37.5x	25.5x	20.7x	17.3x	1.19	0.96	21.5%
Celgene	CELG	\$ 94.46	74,482	\$ 3.00	\$ 3.68	\$ 4.89	\$ 6.31	31.5x	25.7x	19.3x	15.0x	0.83	0.62	31.0%
Cubist	CBST	\$ 65.91	5,001	\$ (0.05)	\$ 0.75	\$ 1.46	\$ 2.75	-1432.9x	88.0x	45.3x	24.0x	0.96	0.49	91.7%
Gilead	GILD	\$ 108.38	162,263	\$ 2.00	\$ 8.04	\$ 9.51	\$ 10.49	54.1x	13.5x	11.4x	10.3x	0.95	0.80	14.3%
Regeneron	REGN	\$ 358.18	35,933	\$ 3.91	\$ 10.11	\$ 12.32	\$ 13.24	91.6x	35.4x	29.1x	27.0x	2.46	2.02	14.4%
Large Cap Biotech Average			70,779	\$ 4.04	\$ 7.01	\$ 8.43	\$ 9.88	-163.5x	34.0x	24.4x	18.7x	1.44	1.18	28.7%

Company	Ticker	Price	Mkt Cap (\$ MM)	EPS				P/E				PEG (FY14)	PEG (FY15)	CAGR (2014-6)
				2013A	2014E	2015E	2016E	2013A	2014E	2015E	2016E			
Abbott	ABT	\$ 42.01	63,155	\$ 2.01	\$ 2.23	\$ 2.46	\$ 2.65	20.9x	18.9x	17.0x	15.8x	2.06	1.86	9.1%
AbbVie	ABBV	\$ 59.19	92,407	\$ 3.14	\$ 3.16	\$ 3.90	\$ 4.66	18.8x	18.8x	15.2x	12.7x	0.87	0.70	21.5%
AZ	AZN	\$ 71.96	55,667	\$ 5.06	\$ 4.39	\$ 4.08	\$ 4.03	14.2x	16.4x	17.6x	17.8x	(3.91)	(4.22)	-4.2%
Bristol	BMJ	\$ 51.10	85,585	\$ 1.74	\$ 1.79	\$ 1.74	\$ 2.10	29.3x	28.5x	29.4x	24.3x	3.44	3.55	8.3%
Glaxo	GSK	\$ 46.59	69,471	\$ 3.73	\$ 3.15	\$ 3.30	\$ 2.13	12.5x	14.8x	14.1x	21.9x	(0.83)	(0.79)	-17.8%
J&J	JNJ	\$ 107.10	302,053	\$ 5.48	\$ 5.93	\$ 6.35	\$ 6.85	19.5x	18.1x	16.9x	15.6x	2.41	2.25	7.5%
Eli Lilly	LLY	\$ 65.48	73,273	\$ 4.14	\$ 2.78	\$ 3.15	\$ 3.77	15.8x	23.5x	20.8x	17.4x	1.43	1.26	16.4%
Merck	MRK	\$ 59.39	172,039	\$ 3.50	\$ 3.49	\$ 3.59	\$ 3.97	17.0x	17.0x	16.6x	15.0x	2.56	2.49	6.7%
Novartis	NVS	\$ 93.18	238,957	\$ 5.09	\$ 5.16	\$ 5.69	\$ 5.97	18.3x	18.1x	16.4x	15.6x	2.38	2.16	7.6%
Pfizer	PFE	\$ 29.72	190,099	\$ 2.18	\$ 2.25	\$ 2.24	\$ 2.32	13.6x	13.2x	13.3x	12.8x	7.99	8.02	1.7%
Big Pharma Average			134,271	\$ 3.61	\$ 3.43	\$ 3.65	\$ 3.85	18.0x	18.7x	17.7x	16.9x	1.84	1.73	5.7%
Big Pharma (Excludes Co's with Neg Growth)				\$ 3.31	\$ 3.43	\$ 3.71	\$ 4.08	19.6x	18.9x	17.8x	16.0x	3.10	3.01	8.9%
S&P 500 Avg			\$ 1,982.85	\$ 108.85	\$ 117.49	\$ 127.32	\$ 132.00	18.2x	16.9x	15.6x	15.0x			

Source: ThomsonOne, JMP Securities LLC

FIGURE 7. 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	\$ 167.65	32,810	32,393	\$ 677	\$ 1,066	\$ 1,382	47.8x	30.4x	23.4x	21.0x	14.7x	12.1x
Amgen	AMGN	\$ 141.06	106,231	134,554	\$ 7,822	\$ 9,730	\$ 10,143	17.2x	13.8x	13.3x	7.3x	6.8x	6.7x
Biogen	BIIB	\$ 333.54	78,731	78,724	\$ 3,284	\$ 4,708	\$ 5,458	24.0x	16.7x	14.4x	11.4x	8.1x	7.1x
Celgene	CELG	\$ 94.46	74,482	75,989	\$ 3,332	\$ 4,179	\$ 5,354	22.8x	18.2x	14.2x	11.8x	10.0x	8.2x
Cubist	CBST	\$ 65.91	5,001	5,748	\$ 85	\$ 194	\$ 310	67.3x	29.7x	18.6x	5.5x	4.8x	4.1x
Gilead	GILD	\$ 108.38	162,263	160,150	\$ 5,015	\$ 15,840	\$ 17,068	31.9x	10.1x	9.4x	14.7x	6.6x	5.8x
Regeneron	REGN	\$ 358.18	35,933	35,903	\$ 791	\$ 1,120	\$ 1,629	45.4x	32.1x	22.0x	17.3x	12.8x	10.2x
Large Cap Biotech Average			\$ 70,779	\$ 74,780	\$ 3,001	\$ 5,262	\$ 5,906	36.6x	21.6x	16.5x	12.7x	9.1x	7.7x

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	\$ 42.01	63,155	65,736	\$ 5,192	\$ 5,428	\$ 5,863	12.7x	12.1x	11.2x	3.0x	2.9x	2.8x
AbbVie	ABBV	\$ 59.19	92,407	97,535	\$ 7,540	\$ 7,458	\$ 9,096	12.9x	13.1x	10.7x	5.2x	5.0x	4.5x
AZ	AZN	\$ 71.96	55,667	57,920	\$ 10,323	\$ 8,461	\$ 8,454	5.6x	6.8x	6.9x	2.2x	2.2x	2.3x
Bristol	BMJ	\$ 51.10	85,585	90,339	\$ 4,148	\$ 3,960	\$ 3,768	21.8x	22.8x	24.0x	5.6x	5.8x	5.9x
Glaxo	GSK	\$ 46.59	69,471	87,710	\$ 15,943	\$ 13,374	\$ 13,894	5.5x	6.6x	6.3x	2.0x	2.3x	2.2x
J&J	JNJ	\$ 107.10	302,053	320,203	\$ 23,292	\$ 25,312	\$ 26,550	13.7x	12.7x	12.1x	4.5x	4.3x	4.2x
Eli Lilly	LLY	\$ 65.48	73,273	74,656	\$ 6,974	\$ 4,829	\$ 5,513	10.7x	15.5x	13.5x	3.3x	3.8x	3.5x
Merck	MRK	\$ 59.39	172,039	181,478	\$ 21,062	\$ 20,870	\$ 20,432	8.6x	8.7x	8.9x	4.1x	4.2x	4.4x
Novartis	NVS	\$ 93.18	238,957	254,180	\$ 18,605	\$ 19,123	\$ 20,761	13.7x	13.3x	12.2x	4.4x	4.4x	4.4x
Pfizer	PFE	\$ 29.72	190,099	224,405	\$ 25,143	\$ 22,264	\$ 21,601	8.9x	10.1x	10.4x	4.5x	4.5x	4.6x
Big Pharma Average			\$134,271	\$ 145,416	\$ 13,822	\$ 13,108	\$ 13,593	11.4x	12.2x	11.6x	3.9x	3.9x	3.9x
Big Pharma (Excludes Co's with Neg Growth)					\$ 14,997	\$ 14,916	\$ 15,439	13.2x	13.2x	12.8x	4.5x	4.4x	4.4x

Source: ThomsonOne, JMP Securities LLC

FIGURE 8. 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
Uniqure NV	NR	QURE-O	\$ 9.11	\$ 162.40	\$ 72.06	2.25
OncoMed Pharmaceuticals Inc	NR	OMED-O	\$ 19.24	\$ 532.12	\$ 266.35	2.00
Conatus Pharmaceuticals Inc	MO	CNAT-O	\$ 6.04	\$ 92.89	\$ 46.96	1.98
Acura Pharmaceuticals Inc	NR	ACUR-O	\$ 0.71	\$ 34.19	\$ 17.36	1.97
Anthera Pharmaceuticals Inc	NR	ANTH-O	\$ 1.77	\$ 40.89	\$ 20.90	1.96
Achaogen Inc	NR	AKAO-O	\$ 8.00	\$ 142.39	\$ 74.50	1.91
AEterna Zentaris Inc	CIT	AEZS-O	\$ 1.33	\$ 85.67	\$ 45.75	1.87
Dendreon Corp	NR	DNDN-O	\$ 1.53	\$ 235.66	\$ 127.30	1.85
Five Prime Therapeutics Inc	NR	FPRX-O	\$ 12.10	\$ 258.46	\$ 140.58	1.84
Cytokinetics Inc	MO	CYTK-O	\$ 3.70	\$ 132.16	\$ 77.75	1.70
Venaxis Inc	NR	APPY-O	\$ 1.63	\$ 48.96	\$ 29.10	1.68
Arno Therapeutics Inc	NR	ARNI-5	\$ 1.30	\$ 26.48	\$ 15.84	1.67
Egalet Corp	MO	EGLT-O	\$ 6.17	\$ 114.94	\$ 69.26	1.66
Cumberland Pharmaceuticals Inc	NR	CPIX-O	\$ 5.00	\$ 87.89	\$ 53.88	1.63
Biodel Inc	MO	BIOD-O	\$ 1.71	\$ 39.03	\$ 24.48	1.59
OncoGenex Pharmaceuticals Inc	NR	OGXI-O	\$ 2.82	\$ 58.55	\$ 40.61	1.44
CytRx Corp	NR	CYTR-O	\$ 2.78	\$ 143.28	\$ 102.47	1.40
Vivus Inc	MP	VVUS-O	\$ 4.15	\$ 435.57	\$ 324.18	1.34
Onconova Therapeutics Inc	NR	ONTX-O	\$ 4.39	\$ 94.14	\$ 70.50	1.34
TETRALOGIC PHARMACEUTICALS CC	NR	TLOG-O	\$ 4.16	\$ 93.02	\$ 70.00	1.33
AMARIN CORPORATION PLC	NR	AMRN-O	\$ 1.11	\$ 195.03	\$ 150.53	1.30
AMAG Pharmaceuticals Inc	NR	AMAG-O	\$ 23.18	\$ 500.21	\$ 386.47	1.29
Exelixis Inc	NR	EXEL-O	\$ 1.56	\$ 302.42	\$ 245.73	1.23
OXiGENE Inc	NR	OXGN-O	\$ 2.12	\$ 44.10	\$ 36.27	1.22
Celsion Corp	NR	CLSN-O	\$ 2.97	\$ 59.87	\$ 49.77	1.20
Cerulean Pharma Inc	MO	CERU-O	\$ 3.94	\$ 72.25	\$ 64.27	1.12
ArQule Inc	NR	ARQL-O	\$ 1.13	\$ 70.31	\$ 63.20	1.11
Coronado Biosciences Inc	NR	CNDO-O	\$ 1.82	\$ 80.65	\$ 76.09	1.06
Rigel Pharmaceuticals Inc	NR	RIGL-O	\$ 1.97	\$ 178.22	\$ 176.03	1.01

Source: ThomsonOne, JMP Securities LLC

FIGURE 9. 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
Rigel Pharmaceuticals Inc		RIGL-O	\$ 1.97	\$ 178.22	\$ 176.03	0.99
KaloBios Pharmaceuticals Inc	N/R	KBIO-O	\$ 1.64	\$ 55.09	\$ 58.03	0.95
Aveo Pharmaceuticals Inc	NR	AVEO-O	\$ 1.17	\$ 60.14	\$ 64.94	0.93
Tenax Therapeutics Inc		N/A	\$ 1.80	\$ 54.79	\$ 26.12	0.48

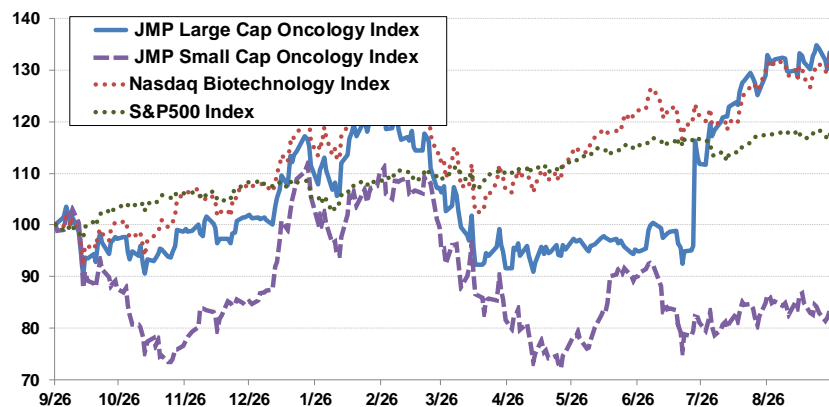
Source: ThomsonOne, JMP Securities LLC

FIGURE 10. Companies with Highest Short Interest

Myriad Genetics Inc	MP	MYGN-O	\$ 37.89	\$ 2,768.39	72.80	34.87	47.91%
Exact Sciences Corp	MO	EXAS-O	\$ 19.13	\$ 1,560.00	82.94	26.98	32.53%
Vivus Inc	MP	VVUS-O	\$ 4.15	\$ 435.57	103.46	33.64	32.51%
Auxilium Pharmaceuticals Inc	CIT	AUXL-O	\$ 31.03	\$ 1,530.28	50.36	15.69	31.16%
Aegerion Pharmaceuticals Inc	NR	AEGR-O	\$ 32.28	\$ 958.80	29.55	9.15	30.98%
Sarepta Therapeutics Inc	MO	SRPT-O	\$ 21.89	\$ 904.00	40.92	11.83	28.92%
ARIAD Pharmaceuticals Inc	MO	ARIA-O	\$ 5.69	\$ 1,007.99	187.01	51.50	27.54%
Raptor Pharmaceutical Corp	MO	RPTP-O	\$ 10.94	\$ 636.84	62.74	16.98	27.07%
Orexigen Therapeutics Inc	MO	OREX-O	\$ 4.53	\$ 557.52	122.53	31.60	25.79%
Dendreon Corp	NR	DNDN-O	\$ 1.53	\$ 235.66	160.31	39.79	24.82%
Arrowhead Research Corp	NR	ARWR-O	\$ 15.11	\$ 792.04	52.91	13.03	24.62%
Exelixis Inc	NR	EXEL-O	\$ 1.56	\$ 302.42	195.11	48.00	24.60%
Keryx Biopharmaceuticals Inc	MO	KERX-O	\$ 13.08	\$ 1,207.43	91.82	21.91	23.86%
Albany Molecular Research Inc	NR	AMRI-O	\$ 22.17	\$ 720.04	32.48	7.54	23.21%
Spectrum Pharmaceuticals Inc	NR	SPPI-O	\$ 8.25	\$ 537.02	65.73	15.11	22.99%
AMAG Pharmaceuticals Inc	NR	AMAG-O	\$ 23.18	\$ 500.21	21.96	4.95	22.56%
CytRx Corp	NR	CYTR-O	\$ 2.78	\$ 143.28	55.75	12.45	22.32%
AcelRx Pharmaceuticals Inc	MO	ACRX-O	\$ 5.41	\$ 291.49	43.38	9.27	21.36%
Celldex Therapeutics Inc	NR	CLDX-O	\$ 14.35	\$ 1,265.96	89.40	18.90	21.14%
PDL BioPharma Inc	CIT	PDLI-O	\$ 7.59	\$ 1,206.39	160.64	33.84	21.07%
Vanda Pharmaceuticals Inc	MO	VNDA-O	\$ 10.66	\$ 365.54	33.88	7.10	20.97%
NewLink Genetics Corp	NR	NLNK-O	\$ 23.27	\$ 669.54	27.91	5.82	20.86%
Inovio Pharmaceuticals Inc	NR	INO-O	\$ 10.10	\$ 630.57	60.40	12.11	20.05%
AMARIN CORPORATION PLC	NR	AMRN-O	\$ 1.11	\$ 195.03	174.13	33.81	19.42%
Insys Therapeutics Inc	MO	INSY-O	\$ 38.16	\$ 1,249.27	34.51	6.65	19.27%
Zogenix Inc	NR	ZGNX-O	\$ 1.18	\$ 165.02	141.05	27.13	19.23%
Theravance Inc	NR	THRX-O	\$ 17.81	\$ 2,041.50	115.01	21.62	18.80%
ZIOPHARM Oncology Inc	MP	ZIOP-O	\$ 2.77	\$ 269.99	100.74	18.82	18.68%
Omeros Corp	NR	OMER-O	\$ 12.97	\$ 437.19	34.00	6.32	18.59%
Ampio Pharmaceuticals Inc	NR	AMPE-A	\$ 3.35	\$ 179.82	51.97	9.61	18.48%
Mannkind Corp	MP	MNKD-O	\$ 6.10	\$ 2,482.69	402.38	74.29	18.46%
Achillion Pharmaceuticals Inc	MO	ACHN-O	\$ 11.16	\$ 1,067.85	97.79	17.76	18.16%
Ligand Pharmaceuticals Inc	NR	LGND-O	\$ 47.92	\$ 1,003.92	20.79	3.72	17.92%
Synergy Pharmaceuticals Inc	NR	SGYP-O	\$ 2.96	\$ 268.36	95.03	16.92	17.80%
Rockwell Medical Inc	NR	RMTI-O	\$ 9.19	\$ 374.20	40.90	7.27	17.78%
Galena Biopharma Inc	MO	GALE-O	\$ 2.13	\$ 250.59	118.21	20.97	17.74%
Geron Corp	CIT	GERN-O	\$ 2.13	\$ 332.68	156.92	27.51	17.53%
Merrimack Pharmaceuticals Inc	NR	MACK-O	\$ 8.08	\$ 823.10	104.59	18.32	17.51%
Arena Pharmaceuticals Inc	MP	ARNA-O	\$ 4.11	\$ 907.92	219.84	38.40	17.47%
Meridian Bioscience Inc	NR	VIVO-O	\$ 17.96	\$ 747.80	41.57	7.05	16.96%
Endocyte Inc	NR	ECYT-O	\$ 7.34	\$ 309.97	41.55	6.86	16.51%
ACADIA Pharmaceuticals Inc	MO	ACAD-O	\$ 25.89	\$ 2,556.52	99.44	16.36	16.46%
Repos Therapeutics Inc	NR	RPRX-O	\$ 10.48	\$ 207.06	23.11	3.79	16.41%
Navidea Biopharmaceuticals Inc	NR	NAVB-A	\$ 1.27	\$ 186.79	150.64	24.51	16.27%
Sequenom Inc	NR	SQNM-O	\$ 3.04	\$ 357.02	116.67	18.95	16.24%
Tekmira Pharmaceuticals Corp	NR	TKMR-O	\$ 21.71	\$ 540.96	22.07	3.54	16.04%
Cerus Corp	NR	CERS-O	\$ 3.81	\$ 287.31	74.05	11.01	14.87%
Halozyme Therapeutics Inc	MO	HALO-O	\$ 9.63	\$ 1,206.70	125.31	18.55	14.81%

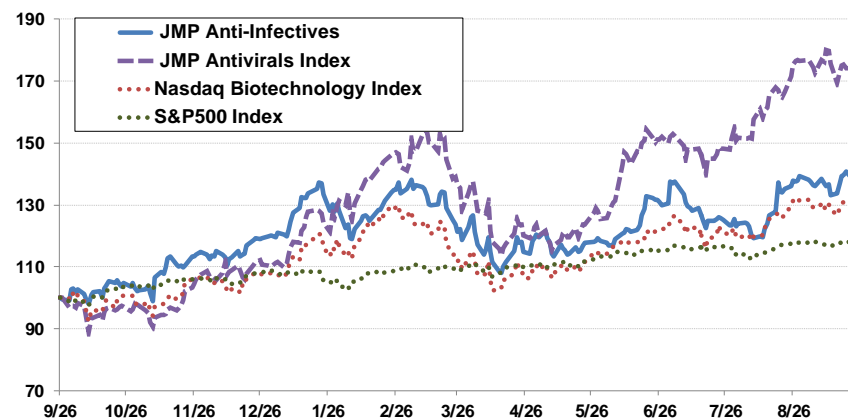
Source: ThomsonOne, JMP Securities LLC

FIGURE 11. JMP Oncology Indices



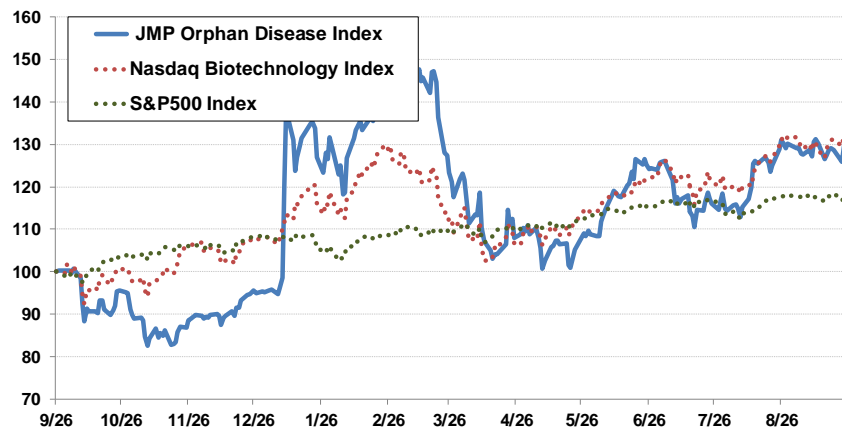
Source: ThomsonOne, JMP Securities LLC

FIGURE 12. JMP Infectious Disease Indices



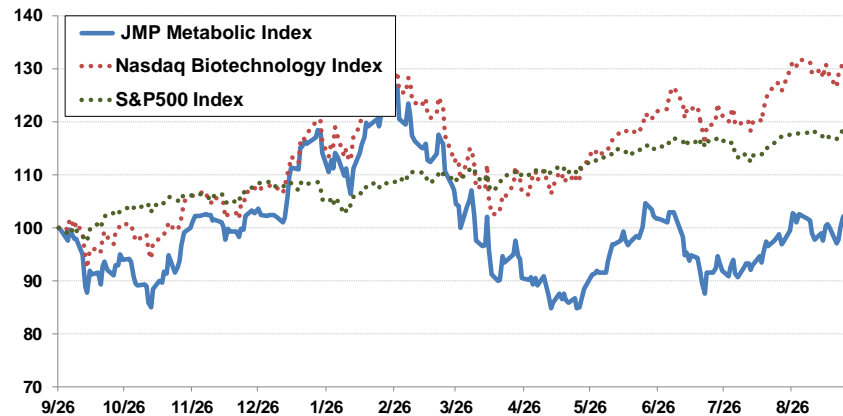
Source: ThomsonOne, JMP Securities LLC

FIGURE 13. JMP Orphan Disease Index

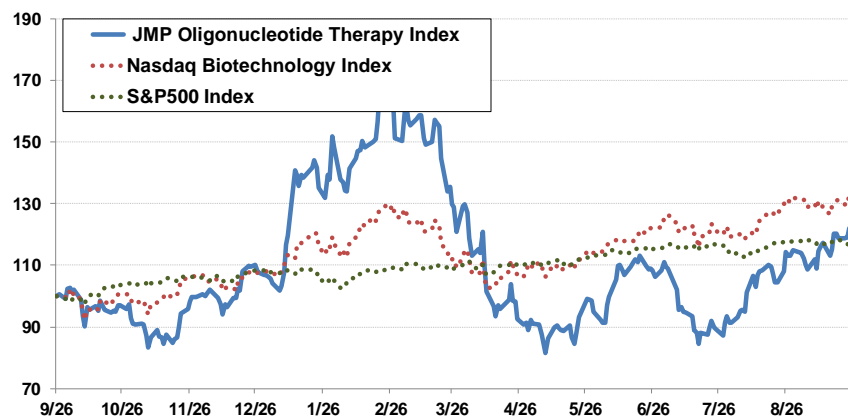


Source: ThomsonOne, JMP Securities LLC

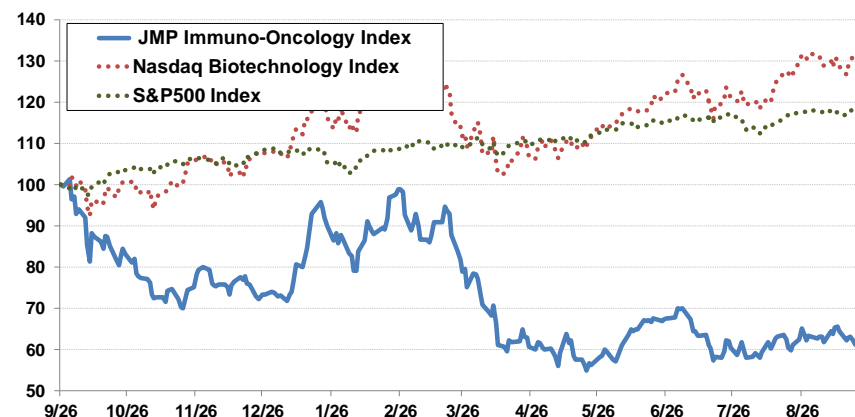
FIGURE 14. JMP Metabolic Index



Source: ThomsonOne, JMP Securities LLC

FIGURE 15. JMP Oligonucleotide Therapy Index


Source: ThomsonOne, JMP Securities LLC

FIGURE 16. JMP Immuno-Oncology Index


Source: ThomsonOne, JMP Securities LLC

FIGURE 17. JMP Oncology Large Cap Index

Company	JMP Rating	Ticker	Price	Mkt Cap (\$ MM)	Performance				
					Week	Month	Qtr	YTD	LTM
Amgen Inc	NR	AMGN	\$ 141.06	\$ 106,231.00	-2.0%	2.8%	18.4%	23.7%	21.3%
Bristol-Myers Squibb	NR	BMJ	\$ 51.10	\$ 85,585.19	-0.8%	0.6%	3.1%	-3.9%	4.8%
Celgene Corp	MO	CELG	\$ 94.46	\$ 74,482.31	0.6%	-1.2%	9.1%	11.8%	21.3%
Celldex Therapeutics	NR	CLDX	\$ 14.35	\$ 1,265.96	2.1%	-12.6%	-14.3%	-40.7%	-41.8%
Clovis Oncology Inc	NR	CLVS	\$ 42.49	\$ 1,359.24	-4.6%	-14.8%	2.2%	-29.5%	-25.4%
Incyte Corp	MO	INCY	\$ 49.70	\$ 8,194.91	0.8%	-9.9%	-11.2%	-1.8%	22.4%
Medivation Inc	MO	MDVN	\$ 97.50	\$ 7,472.33	-4.7%	10.0%	25.4%	52.8%	61.9%
Puma Biotechnology	NR	PBYI	\$ 246.07	\$ 7,676.12	-9.0%	-8.8%	305.3%	137.7%	458.2%
Pharmacyclics Inc	MO	PCYC	\$ 120.61	\$ 8,841.95	-2.4%	0.3%	37.0%	14.0%	-4.0%
Regeneron Pharmac	MO	REGN	\$ 358.18	\$ 35,932.84	-0.2%	1.2%	28.0%	30.1%	18.5%
Seattle Genetics Inc	NR	SGEN	\$ 41.37	\$ 5,052.72	1.9%	-6.2%	5.8%	3.7%	1.6%
JMP Large Cap Oncology Index			\$ 127.22	\$ 75,316.54	-1.7%	-3.5%	37.2%	18.0%	37.7%
Nasdaq Biotechnology Index					0.4%	0.5%	7.8%	22.0%	31.7%
S&P500 Index		.SPX-UT	\$ 1,982.85		-1.4%	-0.9%	1.1%	7.3%	16.7%

Source: ThomsonOne, JMP Securities LLC

FIGURE 18. JMP Oncology Small Cap Index

Company	JMP Rating	Ticker	Price	Mkt Cap (\$ MM)	Performance				
					Week	Month	Qtr	YTD	LTM
Agenus Inc	MO	AGEN	\$ 2.95	\$ 181.77	1.0%	-6.6%	-17.4%	11.7%	13.0%
Agios Pharmaceuticals	NR	AGIO	\$ 63.76	\$ 1,841.78	30.4%	43.3%	44.9%	166.2%	140.4%
Ambit Biosciences C	NR	AMBI	\$ 8.20	\$ 150.12	-2.5%	17.5%	16.0%	-14.9%	-48.8%
ARIAD Pharmaceuticals	MO	ARIA	\$ 5.69	\$ 1,007.99	-1.4%	-12.5%	-10.9%	-16.6%	59.8%
Array Biopharma Inc	NR	ARRY	\$ 3.83	\$ 500.95	1.9%	-4.5%	-10.3%	-23.6%	-30.6%
Compugen Ltd	MO	CGEN	\$ 8.95	N/A	-2.1%	1.4%	-0.4%	0.0%	-13.3%
Curis Inc	NR	CRIS	\$ 1.40	\$ 121.27	-7.9%	-11.9%	-15.7%	-50.4%	-67.6%
CTI BioPharma Corp	NR	CTIC	\$ 2.54	\$ 371.83	-5.2%	-0.4%	-12.1%	33.0%	33.0%
Cyclacel Pharmaceu	MO	CYCC	\$ 3.12	\$ 73.33	-1.6%	-10.3%	2.6%	-22.4%	-13.6%
Dendreon Corp	NR	DNDN	\$ 1.53	\$ 235.66	2.0%	9.3%	-33.5%	-48.8%	-39.5%
Endocyte Inc	NR	ECYT	\$ 7.34	\$ 309.97	1.1%	6.7%	11.9%	-31.3%	-34.3%
Epizyme Inc	MO	EPZM	\$ 27.34	\$ 894.66	3.4%	-25.4%	-5.6%	31.4%	-30.0%
Exelixis Inc	NR	EXEL	\$ 1.56	\$ 302.42	-8.2%	-62.4%	-55.9%	-74.6%	-70.8%
Five Prime Therapeu	NR	FPRX	\$ 12.10	\$ 258.46	5.6%	-0.8%	-21.1%	-27.9%	-12.8%
Galena Biopharma Ir	MO	GALE	\$ 2.13	\$ 250.59	-2.7%	-9.0%	-30.2%	-57.1%	-4.5%
Geron Corp	CIT	GERN	\$ 2.13	\$ 332.68	-5.3%	-9.7%	-24.4%	-52.4%	-45.3%
Immunogen Inc	NR	IMGN	\$ 10.78	\$ 929.52	-5.0%	-11.5%	-8.6%	-26.5%	-39.0%
Infinity Pharmaceutical	MP	INFI	\$ 13.80	\$ 663.20	-1.1%	19.2%	10.0%	-0.1%	0.7%
Karyopharm Therape	MO	KPTI	\$ 42.10	\$ 1,244.73	6.4%	8.5%	-3.0%	83.7%	N/A
Merrimack Pharmace	NR	MACK	\$ 8.08	\$ 823.10	10.8%	19.9%	11.3%	51.6%	139.1%
Mirati Therapeutics I	NR	MRTX	\$ 18.21	\$ 240.10	-0.5%	N/A	1.0%	9.5%	5.5%
NEKTAR THERAPEUTICALS	NR	NKTR	\$ 12.71	\$ 1,604.00	-0.9%	-11.8%	-2.2%	12.0%	22.3%
OncoGenex Pharma	NR	OGXI	\$ 2.82	\$ 58.55	0.7%	-16.6%	-17.3%	-66.2%	-60.9%
OncoMed Pharmace	NR	OMED	\$ 19.24	\$ 532.12	12.1%	-3.4%	-17.4%	-34.8%	27.9%
Onconova Therapeu	NR	ONTX	\$ 4.39	\$ 94.14	-6.2%	-19.0%	-13.4%	-61.8%	-72.0%
Sunesis Pharmaceut	NR	SNSS	\$ 7.66	\$ 448.49	4.4%	2.3%	15.2%	61.6%	58.3%
Synta Pharmaceuticals	MO	SNTA	\$ 3.33	\$ 348.59	-6.2%	-18.6%	-19.0%	-36.5%	-48.0%
Stemline Therapeuti	NR	STML	\$ 12.17	\$ 157.51	-4.8%	5.3%	-18.8%	-37.9%	-60.9%
TG Therapeutics Inc	NR	TGTX	\$ 11.09	\$ 428.09	-1.1%	31.6%	17.1%	184.4%	177.9%
Threshold Pharmace	NR	THLD	\$ 3.84	\$ 223.22	-14.1%	-5.9%	-1.0%	-17.8%	-15.2%
TESARO Inc	NR	TSRO	\$ 27.09	\$ 911.89	-5.3%	-13.3%	-6.7%	-4.1%	-32.1%
Verastem Inc	MO	VSTM	\$ 8.82	\$ 228.96	-4.4%	-3.2%	-3.2%	-22.6%	-17.6%
Acceleron Pharma Ir	MO	XLRN	\$ 28.74	\$ 911.62	18.7%	0.7%	-17.4%	-27.4%	25.8%
ZIOPHARM Oncolog	MP	ZIOP	\$ 2.77	\$ 269.99	-5.1%	-15.5%	-31.6%	-36.2%	-23.5%
JMP Small Cap Oncology Index			\$ 20.71	\$ 862.05	0.2%	-3.3%	-8.5%	-4.3%	-2.3%
Nasdaq Biotechnology Index			NBI-O	\$ 2,891.72	0.4%	0.5%	7.8%	22.0%	31.7%
S&P500 Index			.SPX-UT	\$ 1,982.85	-1.4%	-0.9%	1.1%	7.3%	16.7%

Source: ThomsonOne, JMP Securities LLC

FIGURE 19. JMP Anti-Infective Index

Company	JMP Rating	Ticker	Price	Mkt Cap (\$ MM)	Performance				
					Week	Month	Qtr	YTD	LTM
Achaogen Inc	NR	AKAO	\$ 8.00	\$ 142.39	-9.6%	-10.7%	-46.3%	N/A	N/A
Anacor Pharmaceuticals Inc	NR	ANAC	\$ 24.73	\$ 1,023.01	-0.3%	9.8%	39.3%	47.4%	92.3%
Cubist Pharmaceuticals Inc	MO	CBST	\$ 65.91	\$ 5,000.67	-1.0%	-3.8%	-6.2%	-4.3%	3.7%
Cempra Inc	NR	CEMP	\$ 10.89	\$ 332.43	9.8%	7.8%	3.7%	-12.1%	-8.3%
Cellceutix Corp	NR	CTIX	\$ 2.69	\$ 269.17	17.5%	28.1%	59.2%	28.7%	52.0%
Dipexium Pharmaceuticals	NR	DPRX	\$ 10.23	\$ 87.34	-0.2%	6.1%	5.9%	N/A	N/A
Durata Therapeutics Inc	MO	DRTX	\$ 13.15	\$ 351.32	-5.5%	-21.6%	-22.6%	2.8%	40.0%
Genocea Biosciences Inc	NR	GNCA	\$ 8.90	\$ 156.68	-23.1%	-32.3%	-54.0%	N/A	N/A
Insmid Inc	MO	INSM	\$ 13.32	\$ 664.44	0.8%	-5.1%	-31.1%	-21.6%	-9.3%
KaloBios Pharmaceuticals	MO	KBIO	\$ 1.64	\$ 55.09	-3.5%	11.6%	-26.5%	-62.9%	-61.0%
NovaBay Pharmaceuticals	NR	NBY	\$ 0.75	\$ 37.32	-3.2%	-2.6%	-10.7%	-39.0%	-57.1%
PolyMedix Inc	NR	PYMX	\$ 0.02	\$ 0.04	0.5%	0.5%	0.5%	64.8%	0.5%
Salix Pharmaceuticals Ltd	MO	SLXP	\$ 161.77	\$ 10,593.36	-1.5%	2.6%	30.5%	79.9%	117.6%
Soligenix Inc	NR	SNGX	\$ 1.94	\$ 39.35	3.7%	-2.0%	-7.2%	7.8%	-3.5%
Titan Pharmaceuticals Inc	NR	TTNP	\$ 0.56	\$ 49.66	-0.7%	-16.0%	-26.8%	-8.1%	-38.2%
Tetraphase Pharmaceuticals	MO	TTPH	\$ 19.85	\$ 505.83	12.0%	60.2%	43.1%	46.8%	53.3%
JMP Anti-Infectives			\$ 107.58	\$ 7,216.51	-0.3%	2.1%	-3.3%	-1.7%	13.6%
Nasdaq Biotechnology Index		NBI-O	\$ 2,891.72		0.4%	0.5%	7.8%	22.0%	31.7%
S&P500 Index		.SPX-UT	\$ 1,982.85		-1.4%	-0.9%	1.1%	7.3%	16.7%

Source: ThomsonOne, JMP Securities LLC

FIGURE 20. JMP Antiviral Index

Company	JMP Rating	Ticker	Price	Mkt Cap (\$ MM)	Performance				
					Week	Month	Qtr	YTD	LTM
Achillion Pharmaceuticals	MO	ACHN	\$ 11.16	\$ 1,067.85	-3.0%	-5.0%	46.1%	236.2%	346.4%
Arrowhead Research Corp	NR	ARWR	\$ 15.11	\$ 792.04	-0.9%	-0.6%	6.3%	39.3%	89.1%
Biota Pharmaceuticals Inc	NR	BOTA	\$ 2.46	\$ 81.60	7.9%	1.7%	-14.6%	-41.3%	-39.1%
Chimerix Inc	NR	CMRX	\$ 29.05	\$ 1,016.58	6.5%	12.8%	28.1%	92.3%	84.9%
Dynavax Technologies Co	NR	DVAX	\$ 1.42	\$ 373.29	-1.4%	-2.1%	-9.6%	-27.6%	12.7%
Enanta Pharmaceuticals Inc	MP	ENTA	\$ 39.47	\$ 738.66	0.1%	-7.3%	-11.2%	44.7%	97.3%
Gilead Sciences Inc	NR	GILD	\$ 108.38	\$ 162,262.70	2.3%	2.0%	31.9%	44.3%	55.5%
Idenix Pharmaceuticals Inc	MP	IDIX	\$ 24.50	N/A	0.0%	0.0%	2.1%	309.7%	567.6%
NanoViricides Inc	NR	NNVC	\$ 3.27	\$ 172.88	-8.1%	-17.4%	-26.7%	-31.9%	-38.8%
Novavax Inc	NR	NVAX	\$ 4.19	\$ 989.41	-5.2%	-12.5%	-10.9%	-18.2%	45.5%
Tekmira Pharmaceuticals	NR	TKMR	\$ 21.71	\$ 540.96	7.7%	13.5%	61.3%	172.4%	127.6%
JMP Antivirals Index			\$ 103.54	\$ 153,384.19	0.6%	-1.5%	10.1%	51.0%	54.2%
Nasdaq Biotechnology Index		NBI-O	\$ 2,891.72		0.4%	0.5%	7.8%	22.0%	31.7%
S&P500 Index		.SPX-UT	\$ 1,982.85		-1.4%	-0.9%	1.1%	7.3%	16.7%

Source: ThomsonOne, JMP Securities LLC

FIGURE 21. JMP Orphan Disease Index

Company	JMP Rating	Ticker	Price	Mkt Cap (\$ MM)	Performance				
					Week	Month	Qtr	YTD	LTM
Aegerion Pharmaceuticals	NR	AEGR	\$ 32.28	\$ 958.80	-1.8%	4.2%	-0.8%	-54.5%	-64.5%
Agios Pharmaceuticals Inc	NR	AGIO	\$ 63.76	\$ 1,841.78	30.4%	43.3%	44.9%	166.2%	140.4%
Applied Genetic Technology	NR	AGTC	\$ 18.77	\$ 311.59	12.8%	4.0%	-33.5%	N/A	N/A
Alnylam Pharmaceuticals	MO	ALNY	\$ 78.80	\$ 5,913.25	1.3%	13.3%	22.8%	22.6%	29.7%
Alexion Pharmaceuticals Inc	NR	ALXN	\$ 167.65	\$ 32,809.57	3.8%	-2.7%	4.7%	26.2%	33.9%
Anthera Pharmaceuticals Inc	NR	ANTH	\$ 1.77	\$ 40.89	9.9%	-31.7%	-45.9%	-42.3%	-50.8%
Auspex Pharmaceuticals Inc	NR	ASPX	\$ 24.64	\$ 619.84	9.3%	13.9%	13.9%	N/A	N/A
BioCryst Pharmaceuticals	MO	BCRX	\$ 10.66	\$ 760.62	-2.5%	-22.2%	-14.2%	40.3%	62.5%
bluebird bio Inc	NR	BLUE	\$ 36.75	\$ 1,018.01	0.3%	-0.6%	-8.5%	75.2%	60.1%
BioMarin Pharmaceutical Inc	NR	BMRN	\$ 72.36	\$ 10,490.89	3.6%	1.1%	15.4%	2.9%	9.2%
Catalyst Pharmaceutical Inc	NR	CPRX	\$ 2.98	\$ 194.12	-3.6%	-0.3%	20.2%	52.8%	59.4%
Cytokinetics Inc	MO	CYTK	\$ 3.70	\$ 132.16	-10.6%	-15.5%	-22.4%	-43.1%	-44.0%
Dicerna Pharmaceuticals Inc	NR	DRNA	\$ 12.90	\$ 227.62	-2.1%	-11.3%	-32.8%	N/A	N/A
Fate Therapeutics Inc	NR	FATE	\$ 5.36	\$ 107.54	3.1%	2.7%	-17.9%	-14.6%	-22.0%
Amicus Therapeutics Inc	NR	FOLD	\$ 6.50	\$ 491.09	-1.7%	4.8%	121.1%	176.6%	186.3%
Synageva Biopharma Corp	NR	GEVA	\$ 68.10	\$ 2,149.12	5.1%	-11.5%	-33.5%	5.2%	14.7%
Hyperion Therapeutics Inc	MO	HPTX	\$ 25.95	\$ 525.45	5.4%	-0.2%	0.2%	28.3%	14.1%
Intercept Pharmaceuticals	NR	ICPT	\$ 245.84	\$ 5,230.43	-4.7%	-18.0%	2.7%	260.0%	317.2%
Isis Pharmaceuticals Inc	CIT	ISIS	\$ 39.93	\$ 4,744.73	-5.6%	-0.2%	9.8%	0.2%	12.7%
InterMune Inc	MO	ITMN	\$ 73.89	\$ 7,980.00	0.1%	1.2%	67.8%	401.6%	420.7%
NPS Pharmaceuticals Inc	NR	NPSP	\$ 27.55	\$ 2,917.65	1.5%	-6.2%	-16.2%	-9.3%	-6.9%
Ocera Therapeutics Inc	MO	OCRX	\$ 4.75	\$ 94.37	-13.8%	-18.2%	-34.5%	-63.4%	-41.2%
Protalix Biotherapeutics Inc	NR	PLX	\$ 2.37	\$ 226.67	-5.2%	-3.3%	-37.3%	-39.1%	-47.2%
Prothena Corporation PLC	NR	PRTA	\$ 22.57	\$ 609.39	-4.0%	-1.9%	1.2%	-14.9%	-4.4%
PTC Therapeutics Inc	NR	PTCT	\$ 46.34	\$ 1,337.21	13.2%	43.3%	73.0%	173.1%	123.8%
Uniqure NV	NR	QURE	\$ 9.11	\$ 162.40	-6.9%	-18.6%	-27.1%	N/A	N/A
Ultragenyx Pharmaceuticals	NR	RARE	\$ 57.20	\$ 1,778.59	4.5%	8.5%	28.0%	N/A	N/A
Prosensa Holding NV	NR	RNA	\$ 8.54	\$ 301.22	-1.4%	-9.1%	-32.3%	82.9%	97.9%
Raptor Pharmaceutical Corp	MO	RPTP	\$ 10.94	\$ 636.84	4.8%	-4.5%	-3.2%	-16.0%	-24.1%
SHIRE PLC	NR	SHPG	\$ 262.64	\$ 31,423.67	1.7%	7.4%	12.1%	85.9%	93.3%
Sarepta Therapeutics Inc	MO	SRPT	\$ 21.89	\$ 904.00	0.5%	-5.6%	-27.3%	7.5%	-48.8%
Vanda Pharmaceuticals Inc	MO	VNDA	\$ 10.66	\$ 365.54	-11.2%	-17.7%	-33.0%	-14.1%	25.4%
Vertex Pharmaceuticals Inc	MO	VRTX	\$ 113.60	\$ 26,255.62	9.5%	21.3%	21.9%	52.9%	47.9%
JMP Orphan Disease Index			\$ 158.03	\$ 28,698.08	1.4%	-0.9%	1.2%	41.2%	32.6%
Nasdaq Biotechnology Index			NBI-O	\$ 2,891.72	0.4%	0.5%	7.8%	22.0%	31.7%
S&P500 Index			.SPX-UT	\$ 1,982.85	-1.4%	-0.9%	1.1%	7.3%	16.7%

Source: ThomsonOne, JMP Securities LLC

FIGURE 22. JMP Metabolic Disease Index

Company	JMP Rating	Ticker	Price	Mkt Cap (\$ MM)	Performance				
					Week	Month	Qtr	YTD	LTM
Alkermes Plc	NR	ALKS	\$ 43.23	\$ 6,259.24	-7.5%	-4.1%	-13.7%	6.3%	19.6%
Arena Pharmaceuticals Inc	MP	ARNA	\$ 4.11	\$ 907.92	-1.2%	-3.3%	-29.5%	-29.7%	-13.5%
Biodel Inc	MO	BIOD	\$ 1.71	\$ 39.03	-2.3%	-10.9%	-19.0%	-25.0%	-33.7%
BioMarin Pharmaceutical Inc	NR	BMRN	\$ 72.36	\$ 10,490.89	3.6%	1.1%	15.4%	2.9%	9.2%
DiaMedica Inc	NR	DMA	\$ 0.40	\$ 24.81	-9.1%	-31.0%	-31.0%	-53.5%	-57.4%
Isis Pharmaceuticals Inc	CIT	ISIS	\$ 39.93	\$ 4,744.73	-5.6%	-0.2%	9.8%	0.2%	12.7%
Mannkind Corp	MP	MNKD	\$ 6.10	\$ 2,482.69	-1.6%	-16.9%	-42.3%	17.3%	14.6%
Orexigen Therapeutics Inc	MO	OREX	\$ 4.53	\$ 557.52	-5.0%	-23.1%	-24.1%	-19.5%	-16.8%
Transition Therapeutics Inc	MO	TTHI	\$ 6.99	\$ 251.24	-1.0%	-3.9%	1.9%	22.8%	36.5%
Vivus Inc	MP	VVUS	\$ 4.15	\$ 435.57	-0.2%	-3.0%	-18.1%	-54.3%	-55.8%
XOMA Corp	NR	XOMA	\$ 4.33	\$ 458.29	-4.6%	-1.6%	-5.7%	-35.7%	-8.1%
JMP Metabolic Index			\$ 47.01	\$ 6,742.88	-3.1%	-8.8%	-14.2%	-15.3%	-12.6%
Nasdaq Biotechnology Index		NBI-O	\$ 2,891.72		0.4%	0.5%	7.8%	22.0%	31.7%
S&P500 Index		.SPX-UT	\$ 1,982.85		-1.4%	-0.9%	1.1%	7.3%	16.7%

Source: ThomsonOne, JMP Securities LLC

FIGURE 23. JMP Oligonucleotide Therapy Index

Company	JMP Rating	Ticker	Price	Mkt Cap (\$ MM)	Performance				
					Week	Month	Qtr	YTD	LTM
Alnylam Pharmaceutica	MO	ALNY	\$ 78.80	\$ 5,913.25	1.3%	13.3%	22.8%	22.6%	29.7%
Regulus Therapeutics Inc	NR	RGLS	\$ 7.13	\$ 304.61	1.6%	-0.8%	-10.5%	-3.5%	-1.5%
Arrowhead Research Corp	NR	ARWR	\$ 15.11	\$ 792.04	-0.9%	-0.6%	6.3%	39.3%	89.1%
Dicerna Pharmaceutical	NR	DRNA	\$ 12.90	\$ 227.62	-2.1%	-11.3%	-32.8%	N/A	N/A
Isis Pharmaceuticals Inc	CIT	ISIS	\$ 39.93	\$ 4,744.73	-5.6%	-0.2%	9.8%	0.2%	12.7%
Tekmira Pharmaceutica	NR	TKMR	\$ 21.71	\$ 540.96	7.7%	13.5%	61.3%	172.4%	127.6%
Sangamo BioSciences Inc	MO	SGMO	\$ 11.46	\$ 760.03	0.1%	-22.6%	-25.6%	-17.5%	10.8%
JMP Oligonucleotide Therapy Index			\$ 52.44	\$ 4,467.16	0.3%	-1.2%	4.4%	20.2%	40.9%
Nasdaq Biotechnology Index		NBI-O	\$ 2,891.72		0.4%	0.5%	7.8%	22.0%	31.7%
S&P500 Index		.SPX-UT	\$ 1,982.85		-1.4%	-0.9%	1.1%	7.3%	16.7%

Source: ThomsonOne, JMP Securities LLC

FIGURE 24. JMP Immuno-Oncology Therapy Index

Company	JMP Rating	Ticker	Price	Mkt Cap (\$ MM)	Performance				
					Week	Month	Qtr	YTD	LTM
CellDex Therapeutics II	NR	CLDX	\$ 14.35	\$ 1,265.96	2.1%	-12.6%	-14.3%	-40.7%	-41.8%
Fate Therapeutics Inc	NR	FATE	\$ 5.36	\$ 107.54	3.1%	2.7%	-17.9%	-14.6%	-22.0%
Agenus Inc	MO	AGEN	\$ 2.95	\$ 181.77	1.0%	-6.6%	-17.4%	11.7%	13.0%
Xencor Inc	NR	XNCR	\$ 9.57	\$ 296.53	-1.2%	-8.0%	-12.5%	4.7%	N/A
Fate Therapeutics Inc	NR	FATE	\$ 5.36	\$ 107.54	3.1%	2.7%	-17.9%	-14.6%	-22.0%
Five Prime Therapeutic	NR	FPRX	\$ 12.10	\$ 258.46	5.6%	-0.8%	-21.1%	-27.9%	-12.8%
Lion Biotechnologies Ir	NR	LBIO	\$ 7.00	\$ 190.61	2.8%	6.1%	13.8%	-33.3%	29.4%
MacroGenics Inc	NR	MGNX	\$ 19.47	\$ 540.62	-9.7%	-12.8%	-14.0%	-29.0%	-29.2%
NewLink Genetics Corp	NR	NLNK	\$ 23.27	\$ 669.54	-9.0%	-17.2%	-13.7%	5.7%	35.1%
Stemline Therapeutics	NR	STML	\$ 12.17	\$ 157.51	-4.8%	5.3%	-18.8%	-37.9%	-60.9%
TESARO Inc	NR	TSRO	\$ 27.09	\$ 911.89	-5.3%	-13.3%	-6.7%	-4.1%	-32.1%
JMP Immuno-Oncology Index			\$ 17.38	\$ 749.98	-1.5%	-5.7%	-12.3%	-16.5%	-9.4%
Nasdaq Biotechnology Index		NBI-O	\$ 2,891.72		0.4%	0.5%	7.8%	22.0%	31.7%
S&P500 Index		.SPX-UT	\$ 1,982.85		-1.4%	-0.9%	1.1%	7.3%	16.7%

Source: ThomsonOne, JMP Securities LLC

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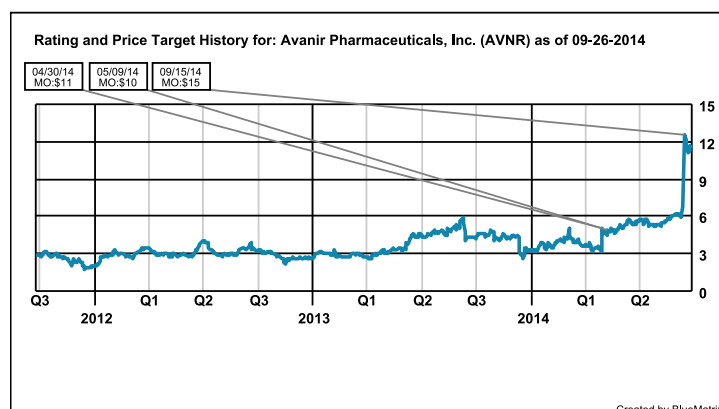
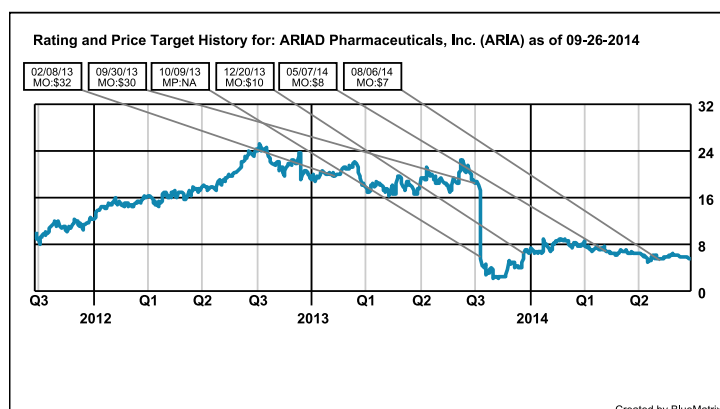
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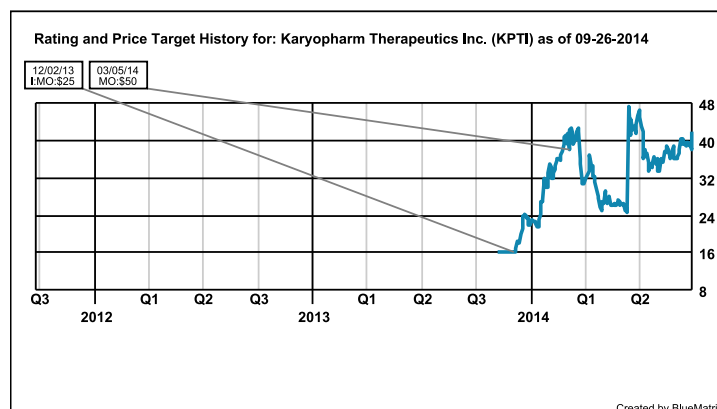
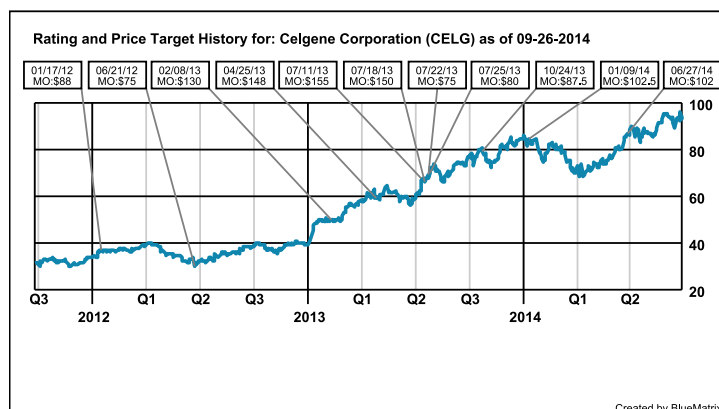
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JMP Rating	Regulatory Equivalent	# Co's Under Coverage	% of Total	Regulatory Equivalent	# Co's Under Coverage	% of Total	# Co's Receiving IB Services in Past 12 Months	% of Co's With This Rating
MARKET OUTPERFORM	Buy	274	60.62%	Buy	274	60.62%	100	36.50%
MARKET PERFORM	Hold	139	30.75%	Hold	139	30.75%	19	13.67%
MARKET UNDERPERFORM	Sell	3	0.66%	Sell	3	0.66%	0	0%
COVERAGE IN TRANSITION		36	7.96%		36	7.96%	0	0%
TOTAL:		452	100%		452	100%	119	26.33%

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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