

Quarterly Industry Update

As of March 31, 2017

Industry: Monoclonal Antibodies

Industry Summary

Cogent Valuation identified Monoclonal Antibodies publicly traded companies, IPOs, and recent M&A transactions within the Monoclonal Antibodies industry, which provides a basis for market and transaction pricing that can be used by your firm in estimating market sentiment and its impact on your firm's value. Over the last year since March 31, 2016, the median 52-week share price return of the Monoclonal Antibodies industry was -8.9%. Between March 31, 2015 and March 31, 2017, the median EV/Revenue multiple increased from 5.4 to 8.6. This industry is not profitable and all other valuation multiples based on profitability metrics were not meaningful.

Comparable Public Company Key Statistics

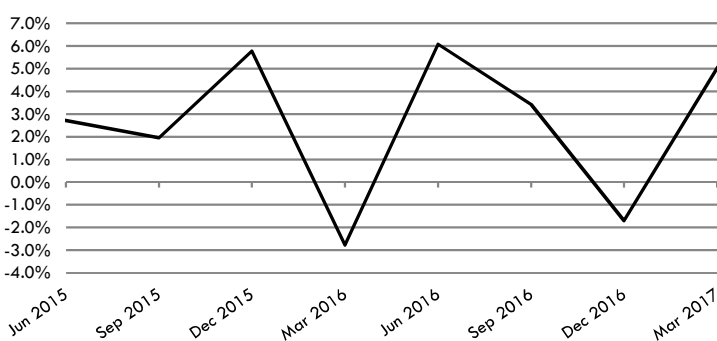
Median 52-Week Return -8.9% Median EV/Revenue Multiple 8.6x Median 3-Year CAGR Return -31.2%

Comparable Public Company Market Price Returns As of March 31, 2017

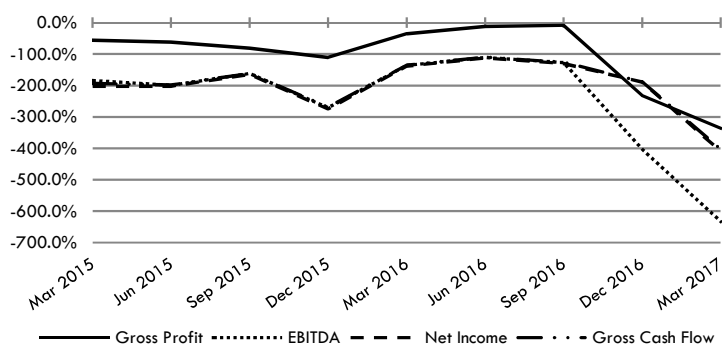
	YTD	3 Month	1 Year	2 Year	3 Year	5 Year	2016	2015	2014	2013	2012
Alder Biopharmaceuticals, Inc.	0.0%	0.0%	-15.1%	-15.1%	N/A	N/A	-37.0%	13.5%	N/A	N/A	N/A
AVEO Pharmaceuticals, Inc.	9.3%	9.3%	-35.9%	-36.2%	-26.6%	-45.6%	-57.1%	50.0%	-54.1%	-77.3%	-53.2%
Celldex Therapeutics, Inc.	2.0%	2.0%	-4.5%	-64.0%	-41.1%	-6.6%	-77.4%	-14.1%	-24.6%	260.8%	158.1%
Halozyme Therapeutics, Inc.	31.2%	31.2%	36.9%	-4.7%	0.7%	0.3%	-43.0%	79.6%	-35.6%	123.4%	-29.4%
Immunomedics, Inc.	76.3%	76.3%	158.8%	30.0%	15.4%	12.3%	19.5%	-36.0%	4.3%	57.5%	-12.3%
Infinity Pharmaceuticals, Inc.	139.3%	139.3%	-38.7%	-51.9%	-35.2%	-23.0%	-82.8%	-53.5%	22.3%	-60.5%	295.9%
Omeros Corporation	52.4%	52.4%	-1.4%	-17.2%	7.8%	8.8%	-36.9%	-36.5%	119.5%	117.5%	31.4%
OncoMed Pharmaceuticals, Inc.	19.5%	19.5%	-8.9%	-40.2%	-35.1%	N/A	-65.8%	3.6%	-26.3%	N/A	N/A
PDL BioPharma, Inc.	7.1%	7.1%	-31.8%	-43.2%	-35.1%	-18.6%	-40.1%	-54.1%	-8.6%	19.9%	13.5%
Peregrine Pharmaceuticals, Inc.	112.1%	112.1%	55.5%	-30.4%	-29.9%	3.9%	-73.6%	-15.8%	0.0%	5.3%	28.2%
Repligen Corporation	14.2%	14.2%	31.2%	7.7%	39.9%	42.9%	8.9%	42.9%	45.2%	117.2%	81.0%
Sorrento Therapeutics, Inc.	-19.4%	-19.4%	-26.6%	-41.5%	-32.5%	-23.2%	-43.7%	-13.5%	24.3%	116.0%	-25.0%
XOMA Corporation	68.5%	68.5%	-54.0%	-68.7%	-59.1%	-33.7%	-84.1%	-63.0%	-46.7%	180.4%	108.7%
Median of Industry Public Companies	19.5%	19.5%	-8.9%	-36.2%	-31.2%	-6.6%	-43.7%	-14.1%	-4.3%	116.0%	28.2%

(Multiple year periods are calculated as the average annual return.)

Median Quarterly Revenue Growth of All Monoclonal Antibodies Companies



Median Gross Profit, EBITDA, Net Income and Gross Cash Flow Margins



Median Public Company Multiples of the Monoclonal Antibodies Industry

Date:	3/31/2015	6/30/2015	9/30/2015	12/31/2015	3/31/2016	6/30/2016	9/30/2016	12/31/2016	3/31/2017
EV/Revenues Multiple	5.4x	5.1x	5.8x	3.1x	1.5x	2.1x	2.1x	3.5x	8.6x

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Industry: Monoclonal Antibodies



Industry Initial Public Offerings (dollars in millions, except share prices)

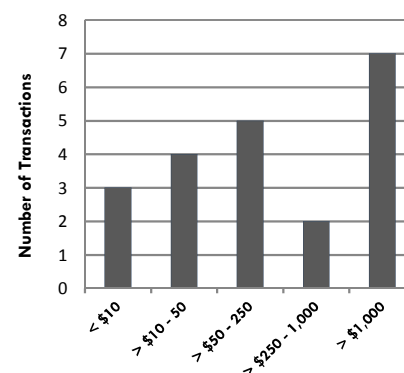
Offer Date	Company Name	Offer Price	Shares Offered	Amount Raised	Total Assets	Debt	LTM Revenues	LTM EBITDA	LTM Net Income	LTM Cash Flows
5/12/2016	Oncobiologics, Inc.	\$6.00	5.8	\$35.0	\$31.3	\$15.5	\$3.3	(\$56.6)	(\$59.4)	(\$54.4)
4/14/2016	GeNeuro SA	\$14.63	2.5	\$37.1	\$22.6	\$0.2	\$2.8	(\$4.7)	(\$4.9)	(\$4.6)
3/22/2016	Corvus Pharmaceuticals, Inc.	\$15.00	4.7	\$70.5	N/A	N/A	N/A	N/A	N/A	N/A
2/2/2016	BeiGene, Ltd.	\$24.00	6.6	\$158.4	\$135.6	\$20.6	\$5.5	(\$35.3)	(\$33.6)	(\$33.8)
12/10/2014	ALTEOGEN Inc.	\$23.53	0.9	\$21.2	\$14.9	\$1.2	\$6.2	\$1.4	\$1.2	\$1.6
11/13/2014	FibroGen, Inc.	\$18.00	8.1	\$145.8	\$344.4	\$114.1	\$133.9	(\$22.6)	(\$35.7)	(\$18.1)
Median of All IPOs		nm	nm	\$53.8	\$31.3	\$15.5	\$5.5	(\$22.6)	(\$33.6)	(\$18.1)

nm: not meaningful, N/A: not applicable

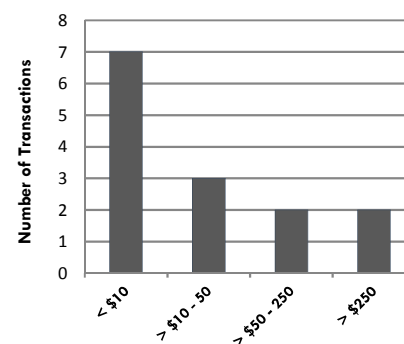
Recent Merger and Acquisition Transactions for a Majority Stake (dollars in millions)

Transaction Date	Target	Acquirer	Transaction Size	% Bought	LTM Revenues	EV/Revenues
12/20/2016	Ganymed Pharma	Astellas Pharma Inc.	\$1,401.6	100%	\$20.8	67.5x
6/30/2016	EPIDUS Biopharmaceuticals	Polpharma SA Pharmaceutical	\$3.5	100%	N/A	N/A
5/31/2016	Effimune SA	OSE Pharma SA	\$34.4	100%	N/A	N/A
4/18/2016	Biotie Therapies Corp.	Acorda Therapeutics, Inc.	\$341.6	100%	\$4.1	62.7x
1/22/2016	Dyax Corp.	Shire Pharmaceuticals	\$5,907.0	100%	\$97.5	57.4x
1/8/2016	Open Monoclonal Tech.	Ligand Pharmaceuticals	\$178.0	100%	N/A	N/A
11/23/2015	AxioMx Inc.	Abcam Plc	\$45.2	100%	N/A	N/A
10/30/2015	BioNovion B.V.	Aduro Netherlands	\$60.1	100%	\$6.6	9.2x
9/11/2015	PacificGMP, Inc.	Abzena Inc.	\$8.4	100%	\$3.0	2.8x
6/1/2015	X-BODY, Inc.	Juno Therapeutics, Inc.	\$42.8	100%	N/A	N/A
3/12/2015	KBI Biopharma Inc.	JSR Corporation; CMIC	\$100.0	100%	N/A	N/A
3/3/2015	SuppreMol GmbH	Baxter International Inc.	\$223.9	100%	N/A	N/A
9/23/2014	CFR Pharmaceuticals	Abbott Investments	\$2,659.3	73%	\$782.3	4.3x
4/30/2014	Shanghai PrimeGene	R&D Systems China	\$18.8	100%	\$4.0	4.7x
12/31/2013	Santarus, Inc.	Salix Pharmaceuticals	\$2,154.4	100%	\$337.8	5.9x
2/8/2013	YM BioSciences Inc.	Gilead Sciences Inc.	\$482.9	100%	\$1.1	N/A
8/2/2012	Human Genome Sciences Inc.	GlaxoSmithKline plc	\$3,682.2	100%	\$151.5	21.2x
4/18/2012	Epitomics, Inc.	Abcam Plc	\$153.9	100%	\$24.7	6.2x
3/5/2012	Micromet, Inc.	Amgen Inc.	\$1,016.4	100%	\$21.9	39.1x
2/10/2012	Inhibitex, Inc.	Bristol-Myers Squibb	\$2,579.0	100%	\$2.1	N/A
5/24/2011	MitoSciences Inc.	Abcam Plc	\$6.0	100%	\$2.1	2.9x
Median of the 21 M&A Transaction Targets			\$178.0	100%	\$13.7	7.7x

Size of M&A Transactions



LTM Revenues Reported



Definitions of Financial Terms Used in this Quarterly Industry Update:

Enterprise Value (EV): Market Value of Equity + Market Value of Debt - Cash

Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA): Profitability metric sometimes also referred to as operating profit or operating earnings.

Gross Cash Flows: Net Income + Depreciation and Amortization Expense

Latest Twelve Months (LTM): Financial information is as of the latest twelve months through the date of this Quarterly Industry Update.

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