

Quarterly Industry Update

As of December 31, 2016

Industry: Oncology Pharmaceutical

Industry Summary

Cogent Valuation identified Oncology Pharmaceutical publicly traded companies, IPOs, and recent M&A transactions within the Oncology Pharmaceutical 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 December 31, 2015, the median 52-week share price return of the Oncology Pharmaceutical industry was -30.0%. Between December 31, 2014 and December 31, 2016, the median EV/EBITDA multiple decreased from 10.0 to 8.2. Furthermore, the median price-to-earnings multiple decreased from 20.5 to 16.5 over the same period.

Comparable Public Company Key Statistics

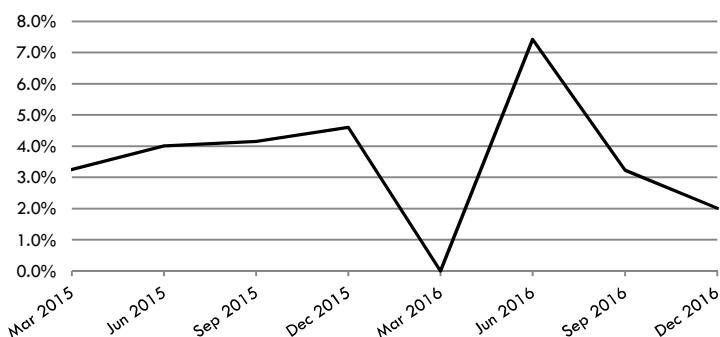
Median 52-Week Return	-30.0%	Median EV/Revenue Multiple	3.8x	Median Price/Earnings Multiple	16.5x
Median 3-Year CAGR Return	6.2%	Median EV/EBITDA Multiple	8.2x	Median EV/Gross CF Multiple	12.3x

Comparable Public Company Market Price Returns As of December 31, 2016

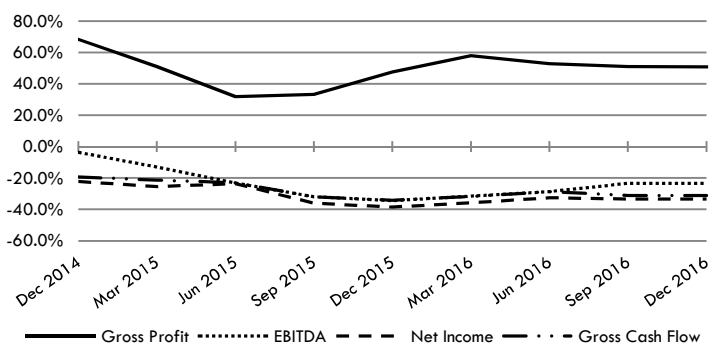
	YTD	3 Month	1 Year	2 Year	3 Year	5 Year	2015	2014	2013	2012	2011
Affimed N.V.	-74.7%	-35.3%	-74.7%	-46.1%	N/A	N/A	14.8%	N/A	N/A	N/A	N/A
Bellicum Pharmaceuticals, Inc.	-32.8%	-31.6%	-32.8%	-23.1%	N/A	N/A	-12.0%	N/A	N/A	N/A	N/A
Calithera Biosciences, Inc.	-57.6%	0.0%	-57.6%	-59.9%	N/A	N/A	-62.1%	N/A	N/A	N/A	N/A
GlobalImmune, Inc.	-92.5%	-76.8%	-92.5%	-80.5%	N/A	N/A	-49.0%	N/A	N/A	N/A	N/A
Incyte Corporation	-7.5%	6.3%	-7.5%	17.1%	25.6%	46.2%	48.3%	44.4%	204.8%	10.7%	-9.4%
Kite Pharma, Inc.	-27.2%	-19.7%	-27.2%	-11.8%	N/A	N/A	6.8%	N/A	N/A	N/A	N/A
Loxo Oncology, Inc.	12.9%	22.7%	12.9%	65.3%	N/A	N/A	142.1%	N/A	N/A	N/A	N/A
Luye Pharma Group Ltd.	-43.1%	-9.4%	-43.1%	-32.1%	N/A	N/A	-19.1%	N/A	N/A	N/A	N/A
Merrimack Pharmaceuticals, Inc.	-48.4%	-35.7%	-48.4%	-39.9%	-8.5%	N/A	-30.1%	112.0%	-12.5%	N/A	N/A
Nektar Therapeutics	-27.2%	-28.6%	-27.2%	-11.0%	2.6%	17.0%	8.7%	36.6%	53.2%	32.4%	-56.5%
SciClone Pharmaceuticals, Inc.	17.4%	5.4%	17.4%	11.0%	28.9%	20.3%	5.0%	73.8%	16.9%	0.5%	2.6%
Seattle Genetics, Inc.	17.6%	-2.3%	17.6%	28.2%	9.8%	25.9%	39.7%	-19.5%	72.2%	38.6%	11.8%
Spectrum Pharmaceuticals, Inc.	-26.5%	-5.1%	-26.5%	-20.0%	-20.6%	-21.3%	-13.0%	-21.7%	-20.9%	-23.5%	113.0%
Sucampo Pharmaceuticals, Inc.	-21.6%	10.1%	-21.6%	-2.6%	13.0%	25.1%	21.1%	51.9%	91.8%	10.6%	15.4%
Tokai Pharmaceuticals, Inc.	-88.8%	-36.1%	-88.8%	-74.2%	N/A	N/A	-40.8%	N/A	N/A	N/A	N/A
Vertex Pharmaceuticals Incorporated	-41.5%	-15.5%	-41.5%	-21.3%	-0.3%	17.3%	5.9%	59.9%	77.3%	26.2%	-5.2%
Median of Industry Public Companies	-30.0%	-12.5%	-30.0%	-20.6%	6.2%	20.3%	5.5%	48.2%	62.7%	10.7%	2.6%

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

Median Quarterly Revenue Growth of All Oncology Pharmaceutical Companies



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



Median Public Company Multiples of the Oncology Pharmaceutical Industry

Date:	12/31/2014	3/31/2015	6/30/2015	9/30/2015	12/31/2015	3/31/2016	6/30/2016	9/30/2016	12/31/2016
EV/Revenues Multiple	4.4x	6.1x	5.3x	4.8x	5.0x	5.2x	3.4x	4.6x	3.8x
EV/EBITDA Multiple	10.0x	18.2x	18.0x	17.5x	13.2x	10.6x	12.0x	9.5x	8.2x
Price/Earnings Multiple	20.5x	52.2x	36.4x	25.8x	23.8x	18.5x	20.4x	18.2x	16.5x
EV/Gross Cash Flows Multiple	15.5x	45.5x	29.4x	24.9x	20.2x	15.1x	14.6x	15.1x	12.3x

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Quarterly Industry Update

As of December 31, 2016

Industry: Oncology Pharmaceutical



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

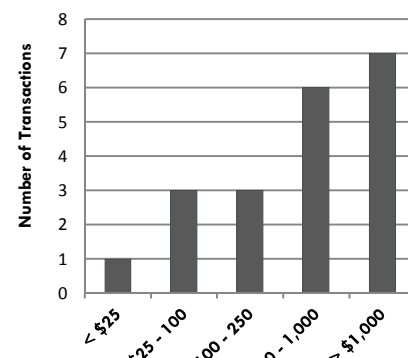
Offer Date	Company Name	Offer Price	Shares Offered	Amount Raised	Total Assets	Debt	LTM Revenues	LTM EBITDA	LTM Net Income	LTM Cash Flows
12/2/2016	SillaJen, Inc.	\$12.84	10.0	\$128.4	\$126.5	\$35.5	\$5.3	(\$30.3)	(\$47.3)	(\$29.9)
11/23/2016	Alligator Bioscience AB (publ)	\$3.50	12.9	\$45.3	\$44.7	\$0.0	\$6.3	(\$4.7)	(\$8.0)	(\$2.0)
9/23/2016	NOXXON Pharma N.V.	\$0.00	0.1	\$3.2	\$787.6	\$142.0	\$884.5	\$158.0	\$86.4	\$178.2
8/8/2016	Noxopharm Limited	\$0.15	30.0	\$4.6	\$787.6	\$142.0	\$884.5	\$158.0	\$86.4	\$178.2
7/11/2016	Race Oncology Limited	\$0.15	21.5	\$3.2	\$786.5	\$173.4	\$865.3	\$156.2	\$87.5	\$175.2
5/18/2016	Merus B.V.	\$10.00	5.5	\$55.0	\$38.5	\$0.7	\$2.1	(\$20.0)	(\$25.2)	(\$19.9)
5/12/2016	Oncobiologics, Inc.	\$6.00	5.8	\$35.0	\$31.3	\$15.5	\$3.3	(\$56.6)	(\$59.4)	(\$54.4)
Median of All IPOs		nm	nm	\$35.0	\$126.5	\$35.5	\$6.3	(\$4.7)	(\$8.0)	(\$2.0)

nm: not meaningful, N/A: not applicable

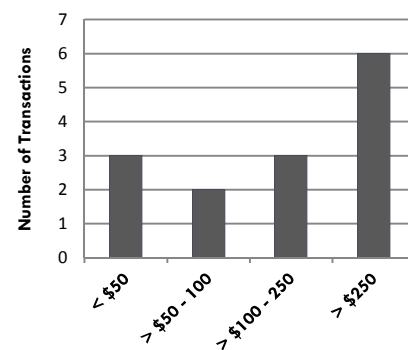
Recent Merger and Acquisition Transactions for a Majority Stake (dollars in millions)

Transaction Date	Target	Acquirer	Transaction Size	% Bought	LTM Revenues	EV/Revenues
2/15/2017	ARIAD Pharmaceuticals, Inc.	Takeda Pharmaceuticals	\$5,453.7	100%	\$186.2	27.6x
12/29/2016	Tetralogic Pharmaceuticals	Medivir AB	\$195.8	100%	N/A	N/A
11/29/2016	Kolltan Pharmaceuticals, Inc.	Celldex Therapeutics, Inc.	\$234.5	100%	N/A	N/A
10/29/2016	Infinity Pharmaceuticals	Verastem, Inc.	\$28.0	100%	N/A	N/A
10/21/2016	Genesis Care Ltd	Macquarie Group Limited	\$1,700.0	74%	N/A	N/A
9/27/2016	Medivation, Inc.	Pfizer Inc.	\$14,330.9	100%	\$1,027.1	13.6x
9/7/2016	Sequenom Inc.	Laboratory Corp. of America	\$414.0	100%	\$114.6	3.1x
7/14/2016	RedoxTherapies Inc.	Juno Therapeutics, Inc.	\$10.0	100%	N/A	N/A
7/5/2016	Cormorant Pharmaceuticals AB	Bristol-Myers Squibb	\$520.0	100%	N/A	N/A
6/3/2016	Baxalta Incorporated	Shire plc	\$36,219.9	100%	\$6,148.0	5.7x
12/4/2015	DARA BioSciences, Inc.	Midatech Pharma Plc	\$30.7	100%	\$2.4	8.8x
10/7/2015	AstraZeneca PLC, Caprelsa	Genzyme Corporation	\$300.0	100%	\$48.0	6.3x
7/23/2015	Sigma-Tau Pharma	Baxter International Inc.	\$900.0	100%	\$100.0	9.0x
5/26/2015	Pharmacyclics, Inc.	AbbVie Inc.	\$19,950.0	100%	\$816.1	23.4x
3/20/2015	EUSA Pharma, Inc.	Essex Woodlands Health	\$34.0	100%	\$27.0	1.3x
2/28/2014	Paladin Labs Inc.	Endo International plc	\$1,777.9	100%	\$263.0	5.8x
12/4/2013	Agila Specialties Private	Mylan, Inc.	\$1,850.0	100%	\$255.0	7.3x
10/24/2013	Optimer Pharmaceuticals	Cubist Pharmaceuticals	\$773.8	100%	\$76.9	9.1x
9/2/2013	Open Stock Company	LLC Garden Hills	\$215.6	52%	\$142.4	2.4x
7/16/2013	Cipla Medpro	Cipla Limited	\$538.5	100%	\$259.6	2.0x
Median of the 20 M&A Transaction Targets			\$529.2	100%	\$164.3	6.8x

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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